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Air Force Institute of Technology Research Report 2005

Office of Research and Sponsored Programs, Graduate School of Engineering and Management, AFIT

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Air Force Institute of Technology
Research Report 2005

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Graduate School of Engineering and Management

GRADUATE SCHOOL OF ENGINEERING AND MANAGEMENT
AIR FORCE INSTITUTE OF TECHNOLOGY
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

AIR FORCE INSTITUTE OF TECHNOLOGY

Wright-Patterson Air Force Base, Ohio

This report was edited and produced by the Office of Research and Sponsored Programs, Graduate School of Engineering and Management, Air Force Institute of Technology. The Department of Defense, other federal government, and non-government agencies supported the work reported herein but have not reviewed or endorsed the contents of this report.

For additional information, please call or email:

937-255-3633
DSN 785-3633
research@afit.edu

or visit the AFIT website: www.afit.edu

Air Force Institute of Technology
Research Report 2005
Foreword

Research is the cornerstone of the dramatic advances in air, space, and cyber technology that underpin the nation's ability to meet the international and homeland security challenges of tomorrow. Research is also an integral part of graduate education, providing graduates with in-depth knowledge, critical thinking skills, and problem solving abilities. At the Air Force Institute of Technology (AFIT), our faculty and students engage in research with the goal of sustaining the technological supremacy of the United States Air Force (USAF) and the Department of Defense (DoD).

AFIT maintains active partnerships with our Air Force's organizations and operational communities as well as the Department of Defense and other federal agencies to maximize the contributions of our research programs to national needs. Our faculty and students also engage in collaborations with researchers at universities throughout the nation to advance the state-of-the-art in a variety of disciplines. AFIT cooperates with commercial enterprises to ensure timely transfer of new technology to US industry through Cooperative Research and Development Agreements (CRADAs) whenever appropriate.

This Research Report is prepared annually to report on the significant contributions of this institution; to solicit continued involvement and support from our Air Force, DoD, and other federal partners; and to encourage new sponsors to participate in AFIT's research programs. AFIT welcomes new opportunities to engage in research projects that are of mutual interest to our customers, faculty, and students.

ROBERT A. CALICO, JR.
Dean, Graduate School of Engineering and Management

MARK T. MATTHEWS, Brig Gen, USAF
Commandant
Air Force Institute of Technology

Table of Contents

1. INTRODUCTION

1.1 OVERVIEW

This Research Report presents the FY05 research statistics and contributions of the Graduate School of Engineering and Management (EN) at AFIT. AFIT research interests and faculty expertise cover a broad spectrum of technical areas related to USAF needs, as reflected by the range of topics addressed in the faculty and student publications listed in this report. In most cases, the research work reported herein is directly sponsored by one or more USAF or DoD agencies.

AFIT welcomes the opportunity to conduct research on additional topics of interest to the USAF and other DoD organizations when adequate manpower and financial resources are available and/or provided by a sponsor. In addition, AFIT provides research collaboration and technology transfer benefits to the public through Cooperative Research and Development Agreements (CRADAs). Interested individuals may discuss ideas for new research collaborations, potential CRADAs, or research proposals with individual faculty using the contact information in Appendix A.

Additional information on the research programs at AFIT may also be found on the research web home page at http://www.afit.edu/en/enr/. The Office of Research and Sponsored Programs, Graduate School of Engineering and Management can be reached at 937-255-3633, (DSN 785-3633) or by email: research@afit.edu. The primary points of contact are Mrs. Pamela A. Vargas, Director of Sponsored Programs, 937-255-3636 x4729, DSN 785-3636 x4729 and Dr. Heidi R. Ries, Dean for Research, 937-255-3636 x4544, DSN 785-3636 x4544.

1.2 THE GRADUATE SCHOOL OF ENGINEERING AND MANAGEMENT RESEARCH COLLABORATION

As detailed in the 2005-2006 catalog at http://www.afit.edu/en/ener/catalog.cfm, AFIT offers Master's and Doctoral programs in a variety of disciplines through six departments: the Department of Mathematics and Statistics (ENC), the Department of Electrical and Computer Engineering (ENG), the Department of Engineering Physics (ENP), the Department of Operational Sciences (ENS), the Department of Systems and Engineering Management (ENV), and the Department of Aeronautics and Astronautics (ENY). In all of these disciplines, research is an integral component of graduate education, developing an individual student's skills and providing new knowledge of interest to many.

AFIT distributes annual Research Activities Brochures (http://www.afit.edu/en/enr/resactivities.html) in an effort to involve sponsor organizations in research and education. A brief listing of each department's research areas of emphasis appears below. Please contact the faculty, relevant departmental office, or the Office of Research and Sponsored Programs for further information (see Appendices A & C).

The **Department of Aeronautics and Astronautics** invites research topic proposals and collaborative suggestions for the Aeronautical, Astronautical and Systems Engineering programs. The following list highlights the Department's research specialties:

Aeroelasticity and Design Optimization
Aerospace Structures and Materials
Analysis of Computer Turbines
Autonomous Control of UAVs
Computational Fluid Dynamics
Control of High Performance Aircraft
Dynamic Flight Simulation
Experimental Fluid Dynamics
Inflatable Space Structures
Materials and Structural Analysis
Mechanics of Materials and Structures
Rotocraft Aeromechanics
Reentry Dynamics
Satellite Cluster Dynamics, Navigation, & Control
Systems Engineering

The **Department of Electrical and Computer Engineering** invites research topic proposals and collaborative suggestions for the Electrical Engineering, Computer Engineering and Computer Science programs. The following list highlights the Department's research specialties:

Advanced Navigation Technology Center
Artificial Intelligence
Center for Information Security Education and Research
Communications/Radar
Computer Communication Networks
Electromagnetics/Low Observables
Evolutionary Algorithms
Guidance, Navigation and Control
Micro and Nanosystems
Parallel and Distributed Processing
Signal and Image Processing
Software Engineering, Information Visualization, Information Engineering, Exploitation, and Dissemination
Wireless Networks
Wireless Sensor Networks

The **Department of Engineering Physics** invites research topic proposals and collaborative suggestions for the Applied Physics, Nuclear Engineering, Electro-Optics (jointly operated with the Department of Electrical and Computer Engineering), and Materials Science (jointly operated with the Department of Aeronautics and Astronautics) programs. The following list highlights the Department's research specialties within these programs:

Center for Directed Energy (CDE)
Center for MASINT Studies and Research (CMSR)
Computational Physics
Counterproliferation
Electronic and Photonic Materials
Lasers and Electro-Optics
Nuclear Weapons and Effects
Remote Sensing & Signature Analysis
Space Weather

The **Department of Mathematics and Statistics** invites research topic proposals and collaborative suggestions for the following research specialties:

Applied Analysis
Applied Statistics
Numerical Analysis

The **Department of Operational Sciences** invites research topic proposals and collaborative suggestions within the areas of Operations Research and Logistics Management. The following list highlights the Department's research specialties:

Center for Operational Analysis (COA)
Applied/Multivariate Statistics
Decision and Risk Analysis
Information Operations/Information Warfare
Inventory Management/Theory
Math Programming and Optimization
Network Modeling
Operational Modeling and Simulation
Operational Problems and Heuristic Modeling
Sensor/Classifier Fusion
Space and International Logistics
Space Logistics Modeling
Stochastic Systems Analysis
Supply Chain Management

The **Department of Systems and Engineering Management** is seeking research topic proposals and collaborative suggestions for the Cost Analysis, Engineering Management, Environmental Engineering and Science, Information Resource Management, and Research and Development Management programs. The following list highlights the Department's research specialties:

Applied Environmental Sciences
Cost Analysis
Defense Product Development
Facility and Infrastructure Management
Information Assurance and Security
Knowledge&Strategic Information Management
Leadership and Management
Organizational Change and Theory
Economics and Finance
Sustainable Development
System Dynamics Modeling
Technology Development and Application

Another avenue for educational and research collaboration with the Graduate School of Engineering and Management is through association with one or more of **AFIT's Research Centers**. A brief listing of each Center's educational or research areas of emphasis appears below. Please contact the Centers directly (see Appendix C), or contact the Office of Research and Sponsored Programs for further information (937-255-3633, DSN 785-3633).

The **Advanced Navigation Technology (ANT) Center** is a forward-looking navigation research center seeking to identify and solve tomorrow's most challenging navigation problems by focusing on three research thrusts: multiple-vehicle autonomous navigation and control, non-GPS precision navigation, and robust GPS navigation.

The **Center for Directed Energy (CDE)** supports Air Force and Department of Defense agencies in transitioning high energy lasers and high power microwaves to the battlefield through vigorous scientific and engineering research, graduate education programs and diverse consulting activities.

The **Center for Information Security Education and Research (CISER)** is one of the National Security Agency (NSA) and Department of Homeland Security's designated Centers of Academic Excellence in Information Assurance Education (CAE/IAE). CISER is also a National Science Foundation Cyber Corp institution. CISER's objective is to increase the number of Information Assurance (IA) professionals through graduate-level education, degrees, and certificates in IA.

The **Center for MASINT Studies and Research (CMSR)** is focused on Air Force and Department of Defense Measurement and Signature Intelligence (MASINT) scientific, technical and operational activities through graduate research programs. CMSR is a national resource for educating a new generation of MASINT professionals.

The **Center for Operational Analysis (COA)** is dedicated to research and education in operational analysis with an emphasis on enhancing warfighter efficiency and effectiveness at all levels through applications of advanced modeling techniques, algorithms and technology.

The **Center for Systems Engineering (CSE)** is established to promote education, training, research, and consultation throughout the DoD in the best practices of Systems Engineering, Systems Architecture, Evolutionary Acquisition, Risk Management, and Total Life Cycle Project Management.

2. RESEARCH STATISTICS

2.1 RESEARCH ASSESSMENT QUESTIONNAIRE RESULTS

An AFIT Research Assessment Questionnaire, shown on the following page, was sent to each sponsor of a Master's thesis and doctoral dissertation project during FY 2005 to determine the project's contribution, significance and cost avoidance. Detailed results of the questions asked are shown in Table 2.1. The data in this table are based on 39 questionnaires returned out of the 238 questionnaires mailed.

Table 2.1: Sponsor Assessment of AFIT Research

QUESTION	EN
Did this research contribute to a current Air Force/DoD project? (Yes answers)	95%
The thesis work was:	
Highly significant	41%
Significant	49%
Slightly significant	8%
Not significant	3%
Average man-years of effort saved by the sponsors.	0.97
Average cost avoided per thesis/dissertation by the sponsors.	$197,239
Total cost avoided for all theses and dissertations sponsored (estimated).	$46.9 M
Rank of respondents	
Colonel (GM-15)	21%
Lt Col (GM-14)	54%
Major (GM-13)	8%
Captain (GS-12)	8%
Other	10%

RESEARCH ASSESSMENT QUESTIONNAIRE

TO:

Thank you for sponsoring the AFIT thesis or dissertation listed below. AFIT is working hard to keep its research focused on defense technologies of interest to the Air Force and to the nation.

Title:

Student Author: Designator:

Faculty Advisor:

Please help us determine the value and contribution of this research to your organization's mission by answering the questions below:

1. Did this research contribute to a current task or goal of interest to your organization? Y / N
2. Would you have completed this work if AFIT had not done it? Y / N
3. Regardless of your answers above, how would you rate this work?
   Highly significant
   Significant
   Slightly significant
   No significance
4. If AFIT had not done this work, please estimate what it would have cost your organization to perform it, either by using in-house resources or by contract. *Man-Years ____ $_____

   **Please note that typically an MS thesis requires 0.5MY of the student's time and one month of the faculty advisor's time. For a PhD dissertation the numbers are 2MY for the student and 4 months for the advisor.*

5. Would you like to make any remarks? (These will be shared with the academic department and the faculty chairperson.) (If necessary, please continue on reverse side.)

You may mail this to AFIT/ENR, 2950 Hobson Way, Wright-Patterson AFB OH 45433-7765, or fax it to 937-656-7139 (DSN 986-7139), or just e-mail your answers (only) to 1 to 5 to research@afit.edu
If you use e-mail, please include the designator above so that we might identify the project.

Thank you.

_____ _____
Name of Evaluator Office Symbol

_____
Grade/Rank of Evaluator

2.2 RESEARCH AND CONSULTING OUTPUT MEASURES

There are measurable indicators of AFIT's contribution to the engineering and scientific community and AFIT's success in staying well informed of technical possibilities and scientific opportunities. These indicators include the number and quality of technical publications accepted by the editors of journals; the number of presentations accepted for regional, national and international conferences; the number of research projects conducted; the number of consultations performed for Air Force and DoD customers; and finally, the number of student graduate research papers, MS theses, and PhD dissertations completed and submitted to the Defense Technical Information Center. For FY05, these output measures are shown in Table 2.2.

Table 2.2: Faculty Research and Sponsored Programs Output by Graduate School Department

		Graduate School by Department					
	Graduate School (EN) Totals	Mathe-matics (ENC)	Electrical & Comp Eng (ENG)	Physics Engineering (ENP)	Operational Sciences (ENS)	Sys & Eng Management (ENV)	Aeronautics & Astro (ENY)
Number of Faculty (FTE)*	132	16	34	19	24	20	19
Refereed Publications	115	14	25	27	23	10	16
Other Publications	171	8	81	24	10	11	37
Presentations	263	13	52	57	77	31	33
Sponsor Funded Projects	174	9	54	29	18	6	58
Substantial Consultations	52	3	23	5	0	14	7
Books	6	0	1	0	1	1	3
Chapters of Books	6	0	2	0	0	3	1
Patents	1	0	0	0	0	0	1
Doctoral Dissertations Advised	17	1	5	4	3	0	4
Master's Theses Advised	257	9	57	29	40	56	66
Graduate Research Papers Advised	39	0	6	0	29	1	3

*FTE: Full-time equivalent

2.3 RESEARCH AND CONSULTING SPONSORSHIP

As part of an Air Force institution, the faculty members of the Air Force Institute of Technology focus their research on current problems as well as future systems of the Air Force and other DoD organizations. Evidence of this focus is that 83% of technical, and 76% of all theses and dissertations listed in Table 2.2 are externally sponsored by Air Force, DoD and Government agencies. In addition, most of the research projects and consultations are carried out for Air Force and DoD units. The data are summarized in Table 2.3 and Figure 2.1.

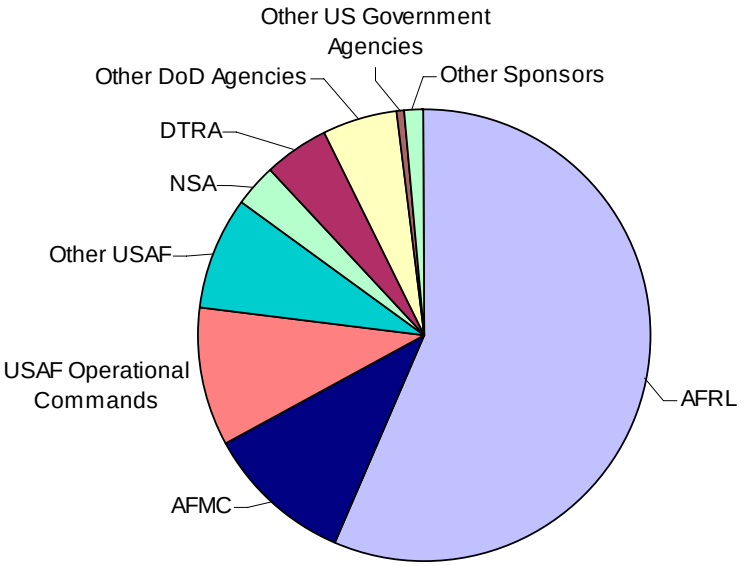


Figure 2.1: Sponsors of AFIT Theses and Dissertations

Table 2.3: Sponsorship of AFIT Research

SPONSOR ORGANIZATION	PhD Dissertations	Master's Theses	Graduate Research Papers	Funded Projects	Substantial Consultations
AIR FORCE		5	2	3	1
Office of the Secretary of the Air Force		2		6	
AIR EDUCATION AND TRAINING COMMAND		1			
AIR FORCE MATERIEL COMMAND		8		1	5
Air Combat Command	2	7	1	4	
National Air and Space Intelligence Center		1		4	1
Aeronautical Systems Center		2	2	5	2
Air Force Flight Test Center		2		2	
Air Force Research Laboratory (AFRL)		1			
Air Force Office of Scientific Research (AFOSR)	4	16	1	33	2
Air Vehicles Directorate (VA)		10		14	3
Directed Energy Directorate (DE)		1		5	1
Human Effectiveness Directorate (HE)	1	10		4	1
Information Directorate (IF)	1	6		3	2
Materials & Manufacturing Directorate (ML)	1	11		11	2
Munitions Directorate (MN)	2	9		9	3
Propulsion Directorate (PR)	2	14		9	1
Sensors Directorate (SN)	5	24		15	11
Space Vehicles Directorate (VS)		3		1	1
Warner Robins Air Logistics Center		1			
AIR FORCE SPACE COMMAND		1	3	2	
AIR MOBILITY COMMAND		4	4		
PACIFIC AIR FORCES		3	1		
US AIR FORCE ACADEMY		1			
US AIR FORCE OPERATING AGENCIES					1
Air Force Center for Environmental Excellence		6			1
Air Force Civil Engineer Support Agency		2			
Air Force C2ISR Center		1			
Air Force Communications Agency		3		1	
Air Force Cost Analysis Agency		2		1	
Air Force Logistics Management Agency		2			
Air Force Information Warfare Center		1		1	
Air Force Studies and Analyses		1		1	
Air Force Technical Application Center		3		3	
Air Force Weather Agency		1			
ARMY		1		1	
DEPARTMENT OF DEFENSE		6		15	2
Defense Threat Reduction Agency	1	9		3	
National Security Agency		7		6	1
US Central Command		1			
US Transportation Command		1	2		
DEPARTMENT OF ENERGY				1	1
DEPARTMENT OF COMMERCE					
National Oceanic and Atmospheric Administration				1	1
ENVIRONMENTAL PROTECTION AGENCY		1			
MARINE CORPS		1			
NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY				3	
NAVY		2		1	
NON-FEDERAL ORGANIZATIONS				4	9
Specialized Technical Services		1			
Idaho National Environmental and Engineering Laboratory		1			
Ohio Third Frontier Action Fund				1	
The Honeynet Project		1			
TOTALS	19*	197*	17	174	52

*Multiple Sponsors

See Appendix C for Selected Acronym List and Organization Name Changes

2.4 OUTSIDE FUNDING FOR THE GRADUATE SCHOOL OF ENGINEERING AND MANAGEMENT

Many of the Graduate School of Engineering and Management's theses and research projects completed under faculty supervision (sponsored or unsponsored) are funded in part by other Air Force, DoD and government units and agencies. Often this funding results from collaboration between faculty and thesis sponsors and occurs when the research project can be leveraged by the purchase of equipment or services not otherwise available. Tables 2.4 and 2.5 and Figure 2.2 summarize outside funding for FY05, and Figures 2.3 and 2.4 summarize the past five fiscal years of outside sponsored funding.

Table 2.4: Sponsoring Organizations for Funded Research

Sponsoring Organization	Funded Projects	Dollars ($)*
AFRL**	104	$3,337,093
Other USAF	26	$959,463
Other DoD	26	$1,649,404
ACC-Air Combat Command	8	$325,509
Other Federal Agencies	5	$150,326
Tech Transfer (CRADAs)	5	$135,721
TOTAL* **	**174**	**$6,557,516**

* Includes carry over funding from FY04 of $1,481,246; and does not include $1,429,631 for sponsored educational programs.
**See Table 2.5.
***DoD regulations limit AFIT's charges to DoD organizations. Accounting for these nonchargeable items, the cost of our research program at a comparable civilian university would have been approximately $15 million.

Table 2.5 AFRL Sponsorship by Directorate

AFRL Directorates	
Sponsor	**Dollars($)**
AFOSR	$1,647,692
VA	$216,982
DE	$138,801
HE	$177,240
IF	$86,796
ML	$240,781
MN	$164,288
PR	$123,270
SN	$511,243
VS	$30,000
Total	**$3,337,093**

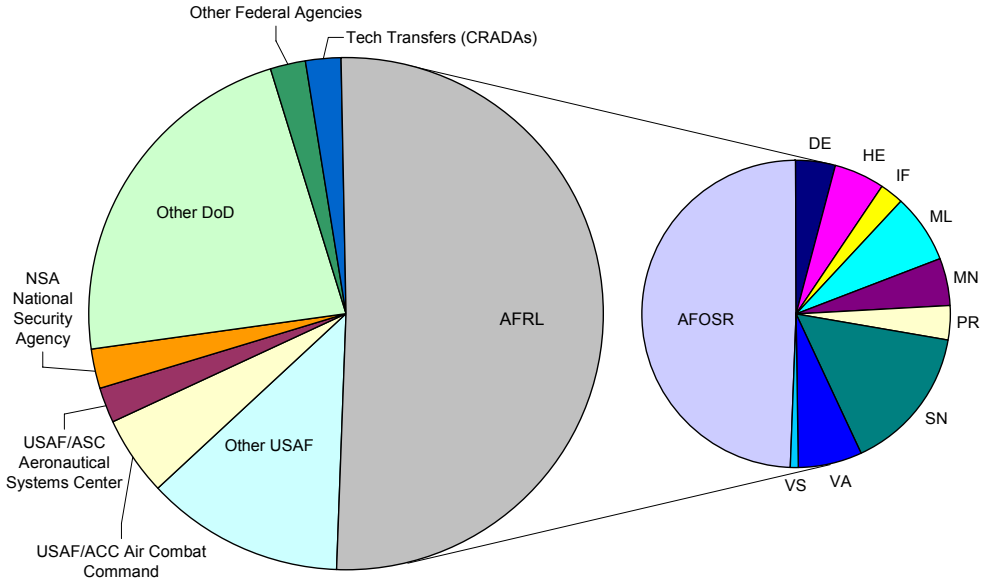
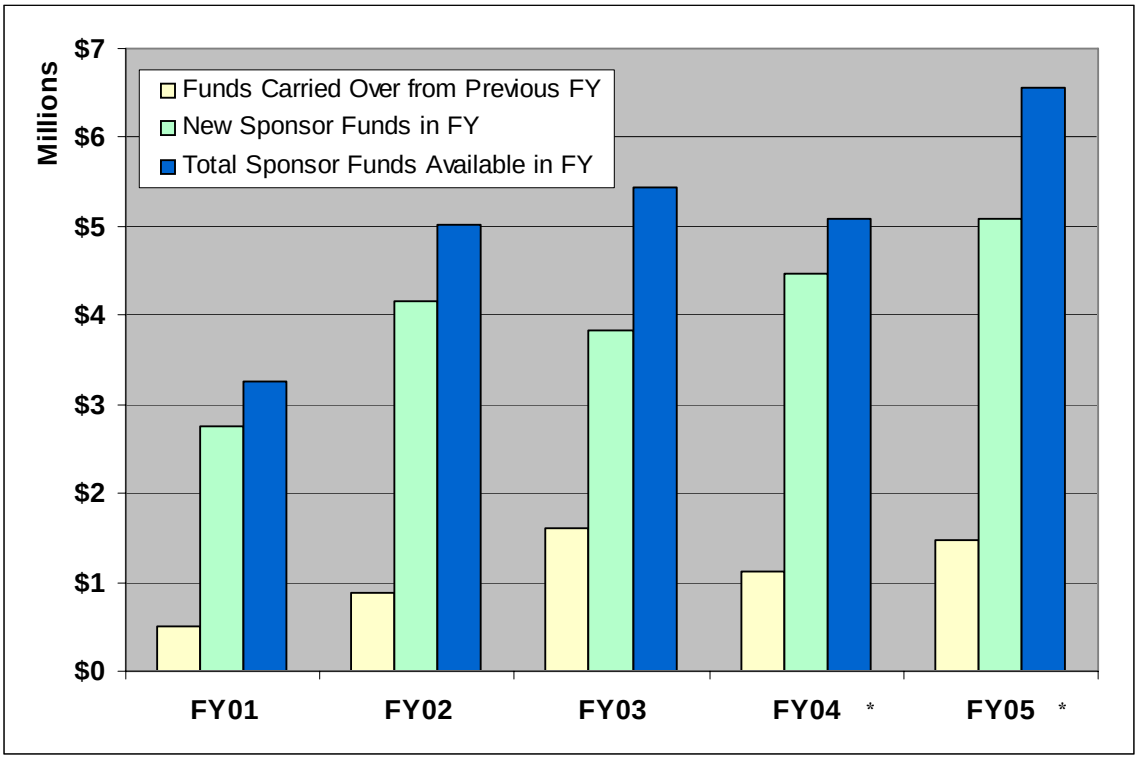


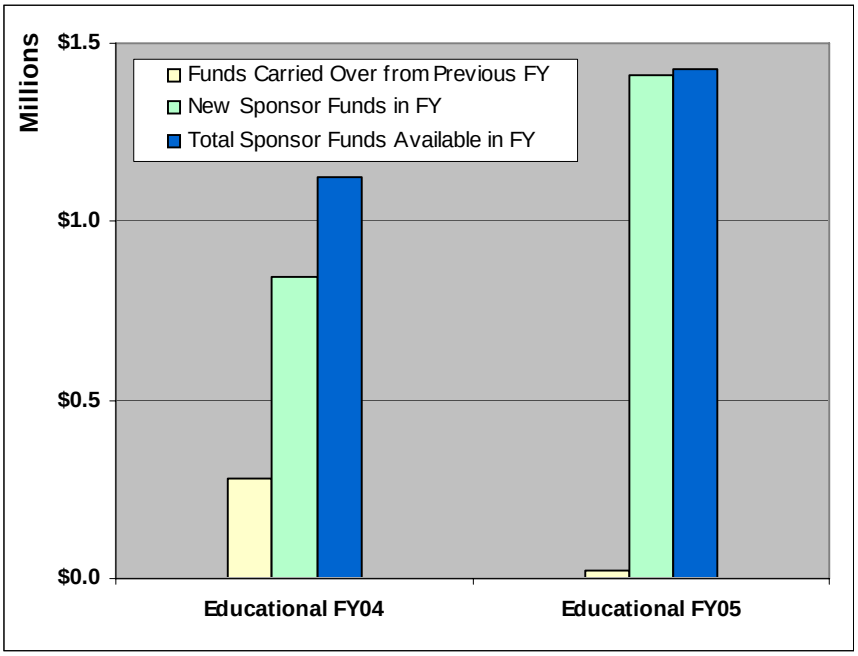
Figure 2.2: Sponsors of FY05 Funded Research

Figure 2.3: FY01-FY05 Sponsored Funding: Research Projects*



*Before FY04, Research and Educational Projects were not tracked separately. FY04 and after, Sponsored Projects were divided into Research and Educational categories and tracked separately.

Figure 2.4: FY04-FY05 Sponsored Funding: Educational Projects



2.5 FACULTY FELLOWS

Amend, Joseph H. III, Associate Professor of Civil Engineering, Department of Systems Engineering and Management, Fellow of the American Society of Civil Engineers.

Bridgman, Charles J., Professor Emeritus of Nuclear Engineering, Department of Engineering Physics, Fellow of the American Nuclear Society.

D'Azzo, John J., Professor Emeritus of Electrical Engineering, Department of Electrical and Computer Engineering, Fellow of the Institute of Electrical and Electronic Engineers.

Elrod, William E., Professor Emeritus of Aerospace Engineering, Department of Aeronautics and Astronautics, Fellow of American Society of Mechanical Engineers International.

Franke, Milton E., Professor of Aerospace Engineering, Department of Aeronautics and Astronautics, Fellow of the American Society of Mechanical Engineers International.

Houpis, Constantine H., Professor Emeritus of Electrical Engineering, Department of Electrical and Computer Engineering, Fellow of the Institute of Electrical and Electronic Engineers.

Lott, James A., Professor of Electrical Engineering, Department of Electrical and Computer Engineering, Fellow of the Institute of Electrical and Electronic Engineers.

Mall, Shankar, Professor, Department of Aeronautics and Astronautics, Fellow of the American Society of Mechanical Engineers International.

Maybeck, Peter S., Professor of Electrical Engineering, Department of Electrical and Computer Engineering, Fellow of the Institute of Electrical and Electronic Engineers.

Pachter, Meir, Professor of Electrical Engineering, Department of Electrical and Computer Engineering, Fellow of the Institute of Electrical and Electronic Engineers.

Palazotto, Anthony N., Professor of Aerospace Engineering, Department of Aeronautics and Astronautics, Fellow of the American Society of Civil Engineers.

Ruggles-Wrenn, Marina B., Associate Professor of Aerospace Engineering, Department of Aeronautics and Astronautics, Fellow of the American Society of Mechanical Engineers International.

Torvik, Peter J., Professor Emeritus of Aerospace Engineering and Engineering Mechanics, Department of Aeronautics and Astronautics, Fellow of the American Institute of Aeronautics and Astronautics, Fellow of American Society of Mechanical Engineers International.

2.6 PROFESSIONAL CERTIFICATION

Anthenien, Ralph A., Professional Engineer, State of Ohio

Baldwin, Rusty O., Professional Engineer, State of Ohio; and Certified Information Systems Security Professional (CISSP)

D'Azzo, John J., Professional Engineer, State of Ohio

England, Ellen C., Certified Industrial Hygienist, American Board of Industrial Hygiene, National Certification

England, Ellen C., Certified Safety Professional, Board of Certified Safety Professionals, National Certification

Goltz, Mark N., Hazardous Waste Management Specialty Certification as a Diplomate Environmental Engineer, American Academy of Environmental Engineers

Goltz, Mark N., Professional Engineer, State of Minnesota

Grimaila, Michael R., Gold Standard, Level 4, Security Essentials Certification (GSEC) from the SysAdmin, Audit, Network, Security Institute's (SANS) Global Information Assurance Certification (GIAC) Program

Grimaila, Michael R., Certified Information Security Manager (CISM), Information Systems Audit and Control Association (ISACA)

Heil, Michael L., Professional Engineer, State of Colorado

Houpis, Constantine H., Professional Engineer, State of Ohio

Kunz, Donald L., Professional Engineer, Commonwealth of Virginia

Macola, Carolyn M. Certified Hazardous Materials Manager, Master Level

Mullins, Barry E., Professional Engineer, State of Colorado

Palazotto, Anthony N., Professional Engineer, State of Ohio

Perram, Glen P., Professional Engineer, State of Ohio

Quinn, Dennis W., Professional Engineer, State of Ohio

Reeder, Mark F., Professional Engineer, State of Ohio

Tenney, Curtis G., Certified Housing Development Finance Professional, the Development Council

3. CONTRIBUTIONS TO THE AIR FORCE

3.1 DOCTORAL DISSERTATIONS

[*Denotes Multiple Sponsors]

*ALBRECHT, TIMOTHY W. *Combat Identification with Sequential Observations, Rejection Option, and Out-of-Library Targets.* AFIT/DS/ENS/05-03, Faculty Advisor: Dr. Kenneth W. Bauer, Jr., (937) 255-6565 x4328. Sponsor: AFRL/AFOSR/NM and ACC/DRSA.

CHO, YONG KUN *Developing New Multidimensional Knapsack Heurisitcs Based on Empirical Analysis of Legacy Heuristics.* AFIT/DS/ENS/05-01, Faculty Advisor: Dr. James T. Moore, (937) 255-3636 x4528. Sponsor: AFRL/AFOSR/NM.

*DAY, RICHARD O. *Explicit Building Block Multiobjective Evolutionary Computation: Methods and Applications.* AFIT/DS/ENG/05-03, Faculty Advisor: Dr. Gary B. Lamont, (937) 255-3636 x4718. Sponsor: AFRL/IFTA, AFRL/SNRW, and AFRL/MLPJE.

DILLS, ANTHONY N. *Classification of Battlespcae Detonations From Temporally Resolved Mutli-Band Imagery and Mid-Infrared Spectra.* AFIT/DS/ENP/05-03, Faculty Advisor: Dr. Glen P. Perram, (937) 255-3636 x4504. Sponsor: N/A.

FISHER, KENNETH A. *The Navigation Potential of Signals of Opportunity-Based Time Difference of Arrival Measurements.* AFIT/DS/ENG/05-02, Faculty Advisor: Dr. John F. Raquet, (937) 255-3636 x4580. Sponsor: AFRL/MN.

HOGSED, MICHAEL R. *Deep Level Defects in Electron-Irradiated Aluminum Gallium Nitride Grown by Molecular Beam Epitaxy.* AFIT/DS/ENP/05-01, Faculty Advisor: Dr. Yung Kee Yeo, (937) 255-3636 x4532. Sponsor: DTRA/CSNP.

KISH, BRIAN A. *Establishment of a System Operating Characteristics for Autononmous Wide Area Search Vehicles.* AFIT/DS/ENY/05-05, Faculty Advisor: Dr. David R. Jacques, (937) 255-3355 x3329. Sponsor: AFRL/MNGN.

KUCKO, JAY F. *Insulator Charging in RF MEMS Capacitive Switches.* AFIT/DS/ENP/05-02, Faculty Advisor: Dr. James C. Petrosky, (937) 255-3636, x4562. Sponsor: AFRL/SNHA.

*LAINE, TREVOR I. *Optimization of Automatic Target Recognition with a Reject Option Using Fusion and Correlated Sensor Data.* AFIT/DS/ENS/05-02, Faculty Advisor: Dr. Kenneth W. Bauer, (937) 255-6565 x4328. Sponsor: AFRL/AFOSR/NM and ACC/DRSA.

LAROCHELLE, KEVIN J. *Tensile Stress Rupture Behavior of a Woven Ceramic Matrix Composite in Humid Environments at Intermediate Temperature.* AFIT/DS/ENY/05-01, Faculty Advisor: Dr. Shankar Mall, (937) 255-3636 x4587. Sponsor: AFRL/PRTP.

*LUMINATI, JONATHAN E. *Wide-Angle Multistatic Synthetic Aperture Radar: Focused Image Fomation and Aliasing Artifact Mitigation.* AFIT/DS/ENG/05-04, Faculty Advisor: Maj Todd B. Hale, (937) 255-3636 x4639. Sponsor: AFRL/SNA and AFRL/SNRT.

NELSON, ERIC B. *Nonlinear Regression Methods for Estimation.* AFIT/DS/ENG/05-05, Faculty Advisor: Dr. Meir Pachter, (937) 255-6565 x7247. Sponsor: AFRL/SNAT.

RALEY, JEREMY A. *High-Temperature Ferromagnetism in Transition Metal Implanted Wide-Bandgap Semiconductors.* AFIT/DS/ENP/05-04, Faculty Advisor: Dr. Yung Kee Yeo, (937) 255-3636 x4532. Sponsor: AFRL/AFOSR/NE.

RUSSELL, CHRISTOPHER A. *Operator State Estimation for Adaptive Aiding in Uninhabited Combat Air Vehicles.* AFIT/DS/ENG/05-01, Faculty Advisor: Dr. Steven C. Gustafson, (937) 255-3636 x4598. Sponsor: AFRL/HECP.

SCHUBERT, CHRISTINE M. *Quantifying Correlation and its Effects on System Performance in Classifier Fusion*. AFIT/DS/ENC/05-01, Faculty Advisor: Dr. Mark Oxley, (937-255-3636 x4515, Sponsor: AFRL/SN.

TUCKER, KELLY C. *A Flash Vaporization System for Detonation of Hydrocarbon Fuels in a Pulse Detonation Engine.* AFIT/DS/ENY/05-03, Faculty Advisor: Dr. Paul I. King, (937) 255-3636 x4628. Sponsor: AFRL/PRTC.

WINTHROP, MICHAEL F. *Engineering Tools for Variable Stiffness Vibration Suppression and Isolation*. AFIT/DS/ENY/05-02, Faculty Advisor: Dr. Richard G. Cobb, (937) 255-3636 x4559. Sponsor: N/A.

3.2 MASTER'S THESES BY PROGRAM
[*Denotes Multiple Sponsors]

3.2.1 AERONAUTICAL ENGINEERING (GAE)

ALBINALI, SALMAN. *Effects of Temperature and Shot-Peening Intensity on Fretting Fatigue Behavior of Titanium Alloy Ti-6Al-4V*. AFIT/GAE/ENY/05-M25, Faculty Advisor: Dr. Shankar Mall, (937) 255-3636 x4587. Sponsor: AFRL/MLLP.

ALBRECHT, MEREDITH M. *The Effect of Aerodynamic Surfaces Versus Thrust Maneuvers on Re-entry Vehicles*. AFIT/GAE/ENY/05-S01, Faculty Advisor: Dr. Shankar Mall, (937) 255-3636 x4587. Sponsor: N/A.

ALLEN, KYLE S. *Evaluation Techniques for Determining Damping Mechanisms on Titanium Plates.* AFIT/GAE/ENY/05-M01, Faculty Advisor: Dr. Anthony N. Palazotto, (937) 255-3636 x4599. Sponsor: AFRL/PRTS.

ALLEN, WILLIAM H., Jr. *Fuel-Air Injection Effects on Combustion in Cavity-Based Flameholders in a Supersonic Flow*. AFIT/GAE/ENY/05-M02, Faculty Advisor: Dr. Paul King, (937) 255-3636 x4628. Sponsor: AFRL/PRAS.

BALCER, BRIAN E. *Boundary Layer Flow Control Using Plasma Induced Velocity.* AFIT/GAE/ENY/05-M03, Faculty Advisor: Dr. Milton E. Franke, (937) 255-3636 x4720. Sponsor: AFRL/PR.

BLOMER, MARK A. *Cost Comparison of Existing Coatings for a Hypervelocity Test Rail.* AFIT/GAE/ENY/05-J01, Faculty Advisor: Dr. Anothony N. Palazotto, (937) 255-3636 x4599. Sponsor: AFRL/AFOSR.

BULSECO, JONATHAN D. *Controlling Sideslip Angle to Reduce the Radar Exposure of a Tactical, Rotary Winged UAV*. AFIT/GAE/ENY/05-M26, Faculty Advisor: Dr. Richard G. Cobb, (937) 255-3636 x4559. Sponsor: AMSRD-AMR-AE.

COOLEY, WILLIAM G. *Application of Functionally Graded Materials in Aircraft Structures.* AFIT/GAE/ENY/05-M04, Faculty Advisor: Dr. Anthony N. Palazotto, (937) 255-3636 x4599. Sponsor: AFRL/VASM.

CRAFT, RYAN L. *Drag Estimates for the Joined-Wing Sensor Craft.* AFIT/GAE/ENY/05-J02, Faculty Advisor: Dr. Robert Canfield, (937) 255-6565 x4723. Sponsor: AFRL/VASD.

CROKER, BARRY A. *Development of a Higher-Order Upwind Algorithm for Compressible Fluid Flow.* AFIT/GAE/ENY/05-M05, Faculty Advisor: Maj Richard J. McMullan, (937) 255-3636 x4578. Sponsor: AFRL/AFOSR/NA.

CUNNINGHAM, SCOTT R. *Fatigue Behavior of a Functionally-Graded Titanium Matrix Composite.* AFIT/GAE/ENY/05-M06, Faculty Advisor: Dr. Shankar Mall, (937) 255-3636 x4587. Sponsor: AFRL/VASA.

DIXON, DION R. *Structures of Angled Aerated-Liquid Jets in Mach 1.94 Supersonic Cross Flow*. AFIT/GAE/ENY/05-M07, Faculty Advisor: Dr. Ralph A. Anthenien, (937) 255-3636 x4643. Sponsor: N/A.

DURHAM, FRANCES K. *Internal Damage Detection and Assessment in Beams Using Experimental Natural Frequencies.* AFIT/GAE/ENY/05-J03, Faculty Advisor: Dr. Anthony N. Palazotto, (937) 255-3636 x4599. Sponsor: AFRL/VASM.

GAMOE, TIMOTHY L. *Characterization of the Global Hawk Low Pressure Turbine First Rotor*. AFIT/GAE/ENY/05-S02, Faculty Advisor: Dr. Paul King, (937) 255-6565 x4628. Sponsor: AFRL/PRTT.

GEBBIE, DAVID A. *Experimental Study of the Subsonic Aerodynamics of a Blended Wing Body Air Vehicle with a Focus on Rapid Technology Assessment.* AFIT/GAE/ENY/05-M09, Faculty Advisor: Dr. Mark F. Reeder, (937) 255-3636 x4530. Sponsor: AFRL/VAAC.

GREENWOOD, ROGER T. *Numerical Analysis and Optimization of the Ultra Compact Combustors*. AFIT/GAE/ENY/05-M10, Faculty Advisor: Dr. Ralph A. Anthenien, (937) 255-3636 x4643. Sponsor: AFRL/AFOSR/NA.

IGUE, ROBERTO T. *Experimental Investigation of a Lift Augmented Ground Effect Platform.* AFIT/GAE/ENY/05-S04, Faculty Advisor: Dr. Milton E. Franke, (937) 255-3636 x4720. Sponsor: N/A.

JONES, BRETT L. *Experimental Investigation Into the Aerodynamic Ground Effect of a Tailless Chevron-shaped UCAV*. AFIT/GAE/ENY/05-J04, Faculty Advisor: Dr. Miltion E. Franke, (937) 255-3636 x4720. Sponsor: AFRL/VAAA.

KENNAN, ZACHARY A. *Determination of the Constitutive Equations for 1080 Steel and VascoMax 300.* AFIT/GAE/ENY/05-J05, Faculty Advisor: Dr. Anthony N. Palazotto, (937) 255-3636, ext. 4599. Sponsor: AFRL/AFOSR.

LEE, CHIA-HWA. *Effects of Variable Contact Load on Fretting Fatigue Behavior of Shot-peened and Un-peened Titanium Alloy.* AFIT/GAE/ENY/04-D01, Faculty Advisor: Dr. Shankar Mall, (937) 255-3636 x4587. Sponsor: AFRL/MLLP.

LEVERON, TROY A. *Characterization of a Rotary Flat Tail as a Spoiler and Parametric Analysis of Improving Directional Stability in a Portable UAV*. AFIT/GAE/ENY/05-J06, Faculty Advisor: Dr. Mark Reeder, (937) 255-3636 x4530. Sponsor: AFRL/MNAV.

MACK, JOHN D. *An Investigation of Starting Techniques for Inward Turning Inlets at Flight Speeds Below the On-Design Mach Number*. AFIT/GAE/ENY/05-J07, Faculty Advisor: Dr. Milton E. Franke, (937) 255-3636 x4720. Sponsor: AFRL/PRAT.

MISER, CHRISTEN L. *Pulse Detonation Engine Thrust Tube Heat Exchanger for Flash Vaporization and Supercritical Heating of JP-8.* AFIT/GAE/ENY/05-M11, Faculty Advisor: Dr. Paul I. King, (937) 255-3636 x4628. Sponsor: AFRL/PRTC.

MONTES, DANIEL R. *Mixing Effects of Pylon-Aided Fuel Injection Located Upstream of a Flameholding Cavity in Supersonic Flow*. AFIT/GAE/ENY/05-M12, Faculty Advisor: Dr. Paul I. King, (937) 255-3636 x4628. Sponsor: AFRL/PRAS.

MORGAN, MICHAEL T. *A Study in Drag Reduction of Close Formation Flight Accounting for Flight Control Trim Positions and Dissimilar Formations.* AFIT/GAE/ENY/05-M13, Faculty Advisor: Dr. David R. Jacques, (937) 255-3355 x3329. Sponsor: AF Test Pilot School (TPS).

*MUSIL, SEAN S. *Creep Behavior of an Oxide/Oxide Composite with Monazite Coating at Elevated Temperatures.* AFIT/GAE/ENY/05-M14, Faculty Advisor: Dr. Marina B. Ruggles-Wrenn, (937) 255-3636 x4641. Sponsor: AFRL/PRTC and AFRL/MLLN.

NEWCAMP, JEFFREY M. *Effects of Boundary Layer Flow Control Using Plasma Actuator Discharges.* AFIT/GAE/ENY/05-S05, Faculty Advisor: Dr. Milton E. Franke, (937) 255-3636 x4720. Sponsor: AFRL/PRTT.

NGUYEN, MINH C. *Analysis of Computational Methods for the Treatment of Material Interfaces.* AFIT/GAE/ENY/05-M15, Faculty Advisor: Dr. Anthony N. Palazotto, (937) 255-3636 x4599. Sponsor: AFRL/AFOSR.

OSTEROOS, RYAN K. *Full Capability Formation Flight Control*. AFIT/GAE/ENY/05-M16, Faculty Advisor: Dr. David R. Jacques, (937) 255-3355 x3329. Sponsor: AF Test Pilot School (TPS).

PLATT, STEPHEN C. *Parachute Extraction of a Generic Store from a C-130; a CFD Proof of Concept.* AFIT/GAE/ENY/05-M17, Faculty Advisor: Dr. Milton E. Franke, (937) 255-3636 x4720. Sponsor: N/A.

PRITCHARD, JAMES A. *A Redesigned Tail Rotor for Improvement of CH-53E High-Altitude Performance.* AFIT/GAE/ENY/05-M27, Faculty Advisor: Dr. Donald L. Kunz, (937) 255-3636 x4548. Sponsor: Naval Air Systems Command.

QUICK, ADAM P. *Characterization of Upstream Mixing Cavities and a Downstream Combustion Cavity in Supersonic Flow*. AFIT/GAE/ENY/05-M18, Faculty Advisor: Dr. Paul I. King, (937) 255-3636 x4628. Sponsor: AFRL/PRAS.

RICHARDSON, TYLER L. *Parametric Study of the Towline Shape of an Aircraft Decoy.* AFIT/GAE/ENY/05-J08, Faculty Advisor: Dr. Ralph Anthenien, (937) 255-3636 x4643. Sponsor: ASC/AANA.

RICKERD, GREGORY S. *An Investigation of a Simplified Gouging Model.* AFIT/GAE/ENY/05-M19, Faculty Advisor: Dr. Anthony N. Palazotto, (937) 255-3636 x4599. Sponsor: AFRL/AFOSR.

RIVERA PARGA, JOSE R. *Wind Tunnel Investigation of the Static Stability and Control Effectiveness of a Rotary Tail in a Portable UAV*. AFIT/GAE/ENY/04-D02, Faculty Advisor: Dr. Mark F. Reeder, (937) 255-3636 x4530. Sponsor: AFRL/MNAV.

ROBINSON, GRANT W. *High Temperature Chemical Degradation of PMR-15 Polymer Resins.* AFIT/GAE/ENY/05-J09, Faculty Advisor: Dr. Anthony N. Palazotto, (937) 255-3636 x4599. Sponsor: AFRL/Materials and Manufacturing Directorate.

ROPP, DANIEL D. *Computational Fluid Dynamic Analysis of Mk-84 Carriage Loads on an F-18C with LITENING Pod.* AFIT/GAE/ENY/05-J10, Faculty Advisor: Lt Col Raymond C. Maple, (937) 255-3636 x4577. Sponsor: NAVAIR.

ROSS, ERIK K. *Study of Magnetogasdynamic Flow Acceleration in a Scramjet Nozzle.* AFIT/GAE/ENY/05-J11, Faculty Advisor: Maj Richard J. McMullan, (937) 255-3636 x4578. Sponsor: AFRL/AFOSR/NA.

SCHROCK, CHRISTOPHER R. *Entropy Generation as a Means of Examining Continuum Breakdown.* AFIT/GAE/ENY/05-M20, Faculty Advisor: Maj Richard J. McMullan, (937) 255-3636 x4578. Sponsor: AFRL/VAAC.

SMITH, CHRISTOPHER K. *Boundary Layer Control of a Circular Cylinder Using a Synthetic Jet.* AFIT/GAE/ENY/05-J12, Faculty Advisor: Dr. Milton E. Franke, (937) 255-3636 x4720. Sponsor: N/A.

STORM, KEVIN G. *Validation of Turbulence Models in the Beggar Code for Unsteady Flow.* AFIT/GAE/ENY/05-M22, Faculty Advisor: Lt Col Raymond Maple, (937) 255-3636 x4577. Sponsor: 46 SK/SKE.

STULTS, JOSHUA A. *Computational Aerolastic Analysis of Micro Air Vehicle with Experimentally Determined Modes*. AFIT/GAE/ENY/05-M23, Faculty Advisor: Lt Col Raymond C. Maple, (937) 255-3636 x4577. Sponsor: AFRL/MNAV.

TRAD, ERIC M. *Dynamic Characterization of Thin Deformable PVDF Mirror.* AFIT/GAE/ENY/05-M24, Faculty Advisor: Dr. Richard G. Cobb, (937) 255-3636 x4559. Sponsor: AFRL/AFOSR.

WESTBERRY, CANDICE M. *Rate Dependence and Short Term Creep Behavior of PMR-15 Neat Resin at 23 and 288° C.* AFIT/GAE/ENY/05-S07, Faculty Advisor: Dr. Marina Ruggles-Wrenn, (937) 255-3636 x4641. Sponsor: AFRL/MLBCM.

3.2.2 APPLIED MATHEMATICS (GAM)

BETTISON, SUSAN E. *Noise Estimation in the Presence of BPSK Digital Burst Transmissions.* AFIT/GAM/ENC/05-03, Faculty Advisor: Dr. Lawrence K. Chilton, (937) 255-3098. Sponsor: N/A.

BJERKAAS, KRISTOPHER S. *Consistency Results for the ROC Curves of Fused Classifiers.* AFIT/GAM/ENC/05-01, Faculty Advisor: Dr. Mark E. Oxley, (937) 255-3636 x4515. Sponsor: AFRL/SNAT.

DIAS, BRANDON P. *Environmental Acoustic Transfer Functions and Filtering Acoustic Signals.* AFIT/GAM/ENC/05-02, Faculty Advisor: Dr. Mark Oxley, (937) 255-3636 x4515. Sponsor: N/A.

ERICH, ROGER A. *A Sampling and Transformation Approach to Solving Random Differential Equations.* AFIT/GAM/ENC/05-04, Faculty Advisor: Dr. Lawrence Chilton, (937) 255-3098. Sponsor: N/A.

OLADELE, JOSHUA O. *Finite Element Solvers for Nonlinear Elasticity.* AFIT/GAM/ENC/05-05, Faculty Advisor: Dr. Lawrence Chilton, (937) 255-3098. Sponsor: N/A.

3.2.3 APPLIED PHYSICS (GAP)

BELCHER, LACHLAN T. *Non-Adiabatic Energy Surfaces of the $B+H_2$ Systems.* AFIT/GAP/ENP/05-01, Faculty Advisor: Dr. David E. Weeks, (937) 255-3636 x4561. Sponsor: AFRL/AFOSR/NL.

BONO, JAMES M. *Development of a Defense Meteorological Satellite Program (DMSP) F-15 Disturbance StormTime (Dst) Index.* AFIT/GAP/ENP/05-02, Faculty Advisor: Maj Devin Della-Rose, (937) 255-2012. Sponsor: Air Force Weather Agency.

FUNGE, ALISTAIR D. *Daytime Detection of Space Objects.* AFIT/GAP/ENG/05-01, Faculty Advisor: Maj Matthew Goda, (937) 255-3636 x4614. Sponsor: N/A.

HOUTKOOPER, NINA M. *Detection of Bacillus Spores by Aptamer Selectivity Using Atomic Force Microscopy.* AFIT/GAP/ENP/05-03, Faculty Advisor: Dr. Larry W. Burggraf, (937) 255-3636 x4507. Sponsor: AFRL/HEPC.

JOST, THOMAS R. *Limitations in Time-Resolved Photoluminescence of Gallium Nitride Using a Streak Camera.* AFIT/GAP/ENP/05-04, Faculty Advisor: Dr. Michael A. Marciniak, (937) 255-3636 x4529. Sponsor: AFRL/AFOSR.

LEMASTER, DANIEL A. *Design and Model Verification of an Infrared Chromotomographic Imaging System.* AFIT/GAP/ENP/04-06, Faculty Advisor: Dr. Stephen C. Cain, (937) 255-3636 x4716. Sponsor: N/A.

MAHONEY, LORI A. *The Kinetics Following Photolysis of Nitrosyl Bromide.* AFIT/GAP/ENP/04-07, Faculty Advisor: Dr. Glen P. Perram, (937) 255-3636 x4504. Sponsor: N/A.

MARCHAND, KRISTA G. *Computational Model of One-Dimensional Dielectric Barrier Discharge.* AFIT/GAP/ENP/05-05, Faculty Advisor: Dr. William F. Bailey, (937) 255-3636 x4501. Sponsor: N/A.

OLSON, KIRK M. *Timing of Increasing Electron Counts from Geosynchronous Orbit to Low Earth Orbit.* AFIT/GAP/ENP/05-06, Faculty Advisor: Maj Devin Della-Rose, (937) 255-2012. Sponsor: AFRL/VSBXR.

SCHUMER, EVELYN A. *Customization of Discriminant Function Analysis for Prediction of Solar Flares.* AFIT/GAP/ENP/05-07, Faculty Advisor: Maj Devin Della-Rose, (937) 255-2012. Sponsor: N/A.

ZENS, TIMOTHY W. *Electrical Activation Studies of Silicon Implanted* $Al_xGa_{1-x}N$. AFIT/GAP/ENP/05-08, Faculty Advisor: Dr. Yung Kee Yeo, (937) 255-3636 x4532. Sponsor: N/A.

3.2.4 ASTRONAUTICAL ENGINEERING (GA)

BERLIN, BENJAMIN M. *Investigation of Aerobraking to Return the Space Maneuver Vehicle to Low Earth Orbit from Geotransfer Orbit.* AFIT/GA/ENY/05-M01, Faculty Advisor: Dr. William Wiesel, (937) 255-3636 x4312. Sponsor: HQ AFMC/DRX.

CALDWELL, RICHARD A. *Weight Analysis of Two-Stage-To-Orbit Reusable Launch Vehicles for Military Applications.* AFIT/GA/ENY/05-M02, Faculty Advisor: Dr. Milton E. Franke, (937) 255-3636 x4720. Sponsor: AFRL/PRAT.

COOK, BENJAMIN M. *Experimentation and Analysis of Composite Scarf Joint.* AFIT/GA/ENY/05-M03, Faculty Advisor: Dr. Anthony N. Palazotto, (937) 255-3636 x4599. Sponsor: AFRL/MLBCM.

EBER, CHALENE A. *Effect of Temperature and Steam Environment on Fatigue Behavior of an Oxide-Oxide Continuous Fiber Ceramic Composite.* AFIT/GA/ENY/05-M09, Faculty Advisor: Dr. Marina B. Ruggles-Wrenn, (937) 255-3636 x4641. Sponsor: AFRL/PRTC.

HANSEN, MICHAEL A. *Mechanical Behavior of Cracked Panels Repaired with Bonded Composite Patch.* AFIT/GA/ENY/05-J01, Faculty Advisor: Dr. Shankar Mall, (937) 255-3636 x4587. Sponsor: AFRL/VASA.

HARLEN, LEE B. *Creep-Rupture Behavior of an Oxide/Oxide Ceramic Matrix Composite at Elevated Temperatures in Air and Steam Environments.* AFIT/GA/ENY/05-M05, Faculty Advisor: Dr. Marina B. Ruggles-Wrenn, (937) 255-6565 x4641. Sponsor: AFRL/PRTC.

JENSEN, DANIEL M. *Biaxial Fatigue Behavior of NiTi Shape Memory Alloy.* AFIT/GA/ENY/05-M06, Faculty Advisor: Dr. Marina B. Ruggles-Wrenn, (937) 255-3636 x4641. Sponsor: AFRL/VASA.

MARAMBA, ERNEST M. *A Numerical Analysis for Passive Attitude Stabilization Using a Tethered Balloon on a Gravity Gradient Satellite.* AFIT/GA/ENY/05-M07, Faculty Advisor: Dr. WillIam E. Wiesel, (937) 255-3636 x4312. Sponsor: N/A.

MOELLER, CHAD R. *Design and Ground-Testing of an Inflatable-Rigidizable Structure Experiment in Preparation for Space Flight.* AFIT/GA/ENY/05-J02, Faculty Advisor: Dr. Richard G. Cobb, (937) 255-3636 x4559. Sponsor: N/A.

NILSEN, JAMES K. *Performance Study of Staging Variable on Two-Stage-To-Orbit Reusable Launch Vehicles.* AFIT/GA/ENY/05-M08, Faculty Advisor: Dr. Milton E. Franke, (937) 255-3636 x4720. Sponsor: AFRL/PRAS.

SMITH, JASON E. *Attitude Model of a Reaction Wheel/Fixed Thruster Based Satellite Using Telemetry Data.* AFIT/GA/ENY/05-M010, Faculty Advisor: Dr. Richard Cobb, (937) 255-3636 x4559. Sponsor: N/A.

STORCH, TARA R. *Maneuver Estimation Model for Relative Orbit Determination.* AFIT/GA/ENY/05-M011, Faculty Advisor: Dr. William E. Wiesel, (937) 255-3636 x4312. Sponsor: AFRL/Det 15.

WOODFORK, DENNIS W., II. *The Use of X-Ray Pulsars for Aiding GPS Satellite Orbit Determination.* AFIT/GA/ENG/05-01, Faculty Advisor: Dr. John F. Raquet, (937) 255-3636 x4580. Sponsor: HQ AFSPC/XPYA.

3.2.5 COMPUTER ENGINEERING (GCE)

CHABOYA, DAVID J. *Advance Network Intrusion Detection System (NIDS) Evasion Techniques and Solutions.* AFIT/GCE/ENG/05-02, Faculty Advisor: Dr. Richard A. Raines, (937) 255-6565 x4278. Sponsor: NSA/DIO.

HARLOW, FELICIA N. *A JBI Information Object Engineering Environment Utilizing Metadata Fragments for Refining Searches on Semantically-Related Object Types*. AFIT/GCE/ENG/05-03, Faculty Advisor: Lt Col Michael Talbert, (937) 255-2024. Sponsor: AFRL/IF.

LAWSON, JASON T. *Modeling Adaptive Middleware and Its Applications to Military Tactical Datalinks.* AFIT/GCE/ENG/05-08, Faculty Advisor: Dr. Richard Raines, (937) 255-6565 x4278. Sponsor: AFRL/IFTA.

LYONS, FRANCIS R. *Weapon Release Scheduling from Multiple-Bay Aircraft using Multi-Objective Evolutionary Algorithms.* AFIT/GCE/ENG/05-04, Faculty Advisor: Dr. Gary B. Lamont, (937) 255-3636 x4718. Sponsor: AFRL/MNAV.

MORRISON, JAMIE R. *A Line-Of-Slight Sensor Network for Wide Area Video Surveillance: Simulation and Evaluation.* AFIT/GCE/ENG/05-05, Faculty Advisor: Dr. Guna Seetharaman, (937) 255-3636 x4612. Sponsor: AFRL/HECV.

SWEENEY, PATRICK J. *Enabling Intrusion Detection in IPSEC Protected IPV6 Networks Through Secret-Key Sharing.* AFIT/GCE/ENG/05-06, Faculty Advisor: Dr. Richard A. Raines, (937) 255-6565 x4278. Sponsor: NSA.

VIDERGAR, ALEXANDER G. *Simple Public Key Infrastructure Protocol Analysis and Design.* AFIT/GCE/ENG/05-07, Faculty Advisor: Maj Robert Graham, (937) 255-3636 x7256. Sponsor: NSA.

3.2.6 COMPUTER SCIENCE / COMPUTER SYSTEMS (GCS)

BALDWIN, PATRICK D. *Modeling Information Quality Expectation in Unmanned Aerial Vehicle Swarm Sensor Databases.* AFIT/GCS/ENG/05-01, Faculty Advisor: Lt Col Michael L. Talbert, (937) 255-2024. Sponsor: AFRL/IF.

BEAVER, THERESA D. *The Analysis of a Link Between a Remote Local Area Network and its Server Resources*. AFIT/GCS/ENG/05-02, Faculty Advisor: Dr. Robert F. Mills, (937) 255-3636 x4527. Sponsor: N/A.

BIGGS, KEVIN M. *Real-Time Mapping Using Stereoscopic Vision Optimization.* AFIT/GCS/ENG/05-03, Faculty Advisor: Dr. Gilbert L. Peterson, (937) 255-6565 x4281. Sponsor: AFRL/SNRP.

CABUSAO, MICHAEL G. *Software Protection via Code Flattening Obfuscation*. AFIT/GCS/ENG/05-04, Faculty Advisor: Maj Robert Graham, (937) 255-3636 x7256. Sponsor: AFRL/SNTA.

CLARSON, JOHN R. *Geolocation of a Node on a Local Area Network.* AFIT/GCS/ENG/05-05, Faculty Advisor: Dr. Rusty O. Baldwin, (937) 255-6565 x4445. Sponsor: NSA.

CRUTHIRDS, JASON M. *Steady State Stress in a Coated Infinite Half-Space Subjected to a Moving Load.* AFIT/GCS/ENC/05-01, Faculty Advisor: Dr. William P. Baker, (937) 255-3636 x4517. Sponsor: AFRL/AFOSR.

GRAHAM, PAUL R. *Determination of Structure from Motion Using Aerial Imagery.* AFIT/GCS/ENG/05-06, Faculty Advisor: Dr. John F. Raquet, (937) 255-3636 x4580. Sponsor: AFRL/MNG.

JONES, CHRISTOPHER O. *A Proposed Method to Remove Security Through Obscurity from Software Watermarking.* AFIT/GCS/ENG/05-07, Faculty Advisor: Dr. Robert F. Mills, (937) 255-3636 x4527. Sponsor: AFRL/SNT.

JOSUE, THEODORE L. *Effects of Piconet Saturation on a Bluetooth Streaming Audio Channel.* AFIT/GCS/ENG/05-08, Faculty Advisor: Dr. Rusty O. Baldwin, (937) 255-6565 x4445. Sponsor: N/A.

KEBODEAUX, CLYDE E. *Reducing the Fog of War in the Single Integrated Air Picture through Improved Data Fusion.* AFIT/GCS/ENG/05-09, Faculty Advisor: Lt Col Michael L. Talbert, (937) 255-2024. Sponsor: Joint Single Integrated Air Picture (SIAP) Systems Engineering Office/JSSEO.

MCALISTER, MATTHEW J. *Historical Analysis of the Awareness and Key Issues of the Insider Threat to Information Systems.* AFIT/GCS/ENV/05-01, Faculty Advisor: Capt David D. Bouvin, (937) 255-2998. Sponsor: National Defense University.

MIGRALA, TRASI J. *Analysis and Evaluation of Red Team Reports Determining the Effectiveness of Protected Programs.* AFIT/GCS/ENG/05-11, Faculty Advisor: Dr. Richards A. Raines, (937) 255-6565 x4278. Sponsor: AFRL/SNT.

OWENS, KEVIN L. *Robot Mapping with Real-Time Incremental Localization Using Expectation Maximization.* AFIT/GCS/ENG/05-12, Faculty Advisor: Dr. Gilbert L. Peterson, (937) 255-3636 x4281. Sponsor: AFRL/SNRP.

PENNER, CHARLES G. *Assessing Information Trustability in a Secure Web Services Environment.* AFIT/GCS/ENG/05-14, Faculty Advisor: Lt Col Michael L. Talbert, (937) 255-2024. Sponsor: AFRL/IFSE.

RICKMON, AMBER J. *Evaluation of the AD HOC On-Demand Distance Vector Routing Protocol for Mobile AD HOC Networks.* AFIT/GCS/ENG/05-15, Faculty Advisor: Dr. Rusty O. Baldwin, (937) 255-6565 x4445. Sponsor: Air Force Communication Agency.

RUSSELL, MATTHEW A. *A Genetic Algorithm for UAV Routing Integrated with a Parallel Swarm Simulation.* AFIT/GCS/ENG/05-16, Faculty Advisor: Dr. Gary B. Lamont, (937) 255-3636 x4718. Sponsor: AFRL/SNZW.

SHAPIRO, JOSEPH M. *An Evolutionary Algorithm to Generate Ellipsoid Detectors for Negative Selection.* AFIT/GCS/ENG/05-20, Faculty Advisor: Dr. Gary B. Lamont, (937) 255-3636 x4718. Sponsor: N/A.

SMITH, ALEXANDER I. *A Framework for Routing and Topological Decision-Making Within a Transformational Communications Architecture*. AFIT/GCS/ENG/05-21, Faculty Advisor: Maj Scott Graham, (937) 255-3636 x4918. Sponsor: AFRL/AFOSR.

THOMPSON, JASON I. *A Three Dimensional Helmet Mounted Primary Flight Reference for Paratroopers.* AFIT/GCS/ENG/05-18, Faculty Advisor: Dr. John F. Raquet, (937) 255-3636 x4580. Sponsor: Specialized Technical Services.

YEE, JASON WEI SUNG. *Efficient Generation of Social Network Data from Computer-Mediated Communication Logs.* AFIT/GCS/ENG/05-19, Faculty Advisor: Dr. Robert Mills, (937) 255-3636 x4527. Sponsor: NSA.

3.2.7 COST ANALYSIS (GCA)

BUTLER, TODD C. *Cost-of-Delay Analysis (CoDA): Use and Implementation of This Decision Support Tool.* AFIT/GCA/ENV/05M-01, Faculty Advisor: Lt Col Ross T. McNutt, (937) 255-3636 x4648. Sponsor: N/A.

COMBS, RANDY C. *An Evaluation of Wind Turbine Technology at Peterson AFB.* AFIT/GCA/ENV/05M-02, Faculty Advisor: Lt Col Curtis G. Tenney, (937) 255-3636 x4799. Sponsor: N/A.

IRVINE, ROBERT J. *A Qualitative Study of Industry and Air Force Commodity Council Processes.* AFIT/GCA/ENV/05M-03, Faculty Advisor: Dr. Patricia G. Luna, (937) 255-2998. Sponsor: SAF/SB.

MONACO, JAMES V. *Predicting Schedule Risk: A Regression Approach.* AFIT/GCA/ENC/05-01, Faculty Advisor: Dr. Edward D. White, (937) 255-3636 x4540. Sponsor: AFCAA/Aircraft and Weapons System.

PEOPLES, JAMES H. *A Value Focused Thinking Approach to Evaluation of Alternatives for Border Security Air Operations.* AFIT/GCA/ENV/05M-4, Faculty Advisor: Lt Col Jeffery D. Weir, (937) 255-3636 x4538. Sponsor: N/A.

SMITH, SCOTT E. *Earned Value Management Schedule Performance Indicators in Units of Time: Evaluation of an Earned Schedule Theory.* AFIT/GCA/ENV/05M-06, Faculty Advisor: Lt Col Curtis G. Tenney, (937) 255-3636 x4799. Sponsor: N/A.

SWIDERSKI, STEVEN J. *Fit-To-Fight: Waist vs. Waist/Height Measurements to Determine an Individual's Fitness Level - A Study in Statistical Regression and Analysis.* AFIT/GCA/ENC/05-03, Faculty Advisor: Dr. Edward White, (937) 255-3636 x4540. Sponsor: N/A.

3.2.8 ELECTRICAL ENGINEERING (GE)

BACKSCHEIDER, ROBERT J. *Ultra Wide Band Signal Modeling for Radar Receiver Characterization.* AFIT/GE/ENG/04-28, Faculty Advisor: Dr. Michael A. Temple, (937) 255-3636 x4279. Sponsor: N/A.

DWYER, DEREK R. *Efficient Electromagnetic Material Characterization Via 2-D Rectangular Waveguide Reduction.* AFIT/GE/ENG/05-01, Faculty Advisor: Dr. Michael J. Havrilla, (937) 255-3636 x7252. Sponsor: AFRL/SNS.

EDMONDS, ANITA M. *Characterization of Commercial OFDM Signal Features Using Spectrally-Based Entropic Processing.* AFIT/GE/ENG/05-02, Faculty Advisor: Dr. Michael A. Temple, (937) 255-3636 x4279. Sponsor: AFRL/SNRW.

GAONA, CHARLES M. *Performance of a Spectrally Encoded Multi-Carrier Phase Shift Keying Communications System in a Frequency-Selective, Slowly-Fading Multipath Channel.* AFIT/GE/ENG/05-03, Faculty Advisor: Dr. Robert F. Mills, (937) 255-3636 x4527. Sponsor: AFRL/SNRW.

GOULD, MALCOLM G. *Reconstruction of Chromotomographc Imaging System Infrared Hyperspectral Scenes.* AFIT/GE/ENG/05-04, Faculty Advisor: Dr. Stephen Cain, (937) 255-3636 x4716. Sponsor: AFRL/SNJT.

GRONHOLZ, BRETT D. *Non-Cooperative Detection of Ultra Wideband Signals.* AFIT/GE/ENG/04-29, Faculty Advisor: Dr. Michael A. Temple, (937) 255-3636 x4279. Sponsor: AFRL/SNRP.

HAMILTON, JEREMY T. *Non-Destructive Evaluation of Metal Backed Layers Using a Waveguide Probe.* AFIT/GE/ENG/05-05, Faculty Advisor: Dr. Michael J. Havrilla, (937) 255-3636 x7252. Sponsor: AFRL/MLLP.

HANSON, RYAN D. *Using Multiple MEMS IMUs to Form a Distributed Inertial Measurement Unit.* AFIT/GE/ENG/05-06, Faculty Advisor: Dr. Meir Pachter, (937) 255-6565 x7247. Sponsor: AFRL/SNRP.

IZDEPSKI, GREGORY L. *An Examination of Range and Doppler Mismatch and their Effects on Radar Modeling.* AFIT/GE/ENG/05-07, Faculty Advisor: Maj Todd B. Hale, (937) 255-3636 x4639. Sponsor: AFRL/SNRT.

JEFFERS, SEAN E. *Accelerating Missile Threat Engagement Simulations Using Personal Computer Graphics Cards.* AFIT/GE/ENG/05-08, Faculty Advisor: Dr. Rusty O. Baldwin, (937) 255-6565 x4445. Sponsor: AFIWC/453 EWS/EWA.

JOFFRION, JACQUE M. *Head Tracking for 3D Audio Using a GPS-Aided MEMS IMU.* AFIT/GE/ENG/05-09, Faculty Advisor: Dr. John Raquet, (937) 255-3636 x4580. Sponsor: AFRL/HECB.

JOHNSON, EUGENE. *Trade Space Analysis of Antenna Array Architecture Using System Modeling Tools.* AFIT/GE/ENG/04-26, Faculty Advisor: Maj Todd B. Hale, (937) 255-3636 x4639. Sponsor: AFRL/VSSE.

KAIEDA, TETSUO. *Protein Impregnated Polymer (PIP) Film Infrared Sensor Using Suspended Microelectromechanical Systems (MEMS) Pixels*. AFIT/GE/ENG/05-10, Faculty Advisor: Lt Col James Fellows, (937) 255-3636 x7230. Sponsor: AFRL/MLPJE.

MARTINEZ, RUBEN. *Modeling the Infrared Intensity of a Large Commercial Aircraft.* AFIT/GE/ENP/05-01, Faculty Advisor: Dr. Michael A. Marciniak, (937) 255-3636 x4529. Sponsor: AFRL/SNS.

MCLEISH, MICHAEL C. *Objectives Quantification of Laser Induced Degradation in Charge Coupled Device Camera Imagery*. AFIT/GE/ENP/05-02, Faculty Advisor: Dr. Michael A. Marciniak, (937) 255-3636 x4529. Sponsor: AFRL/MLPJ.

MCMAHON, JASON R. *Doppler Aliasing Reduction in Wide-Angle Synthetic Aperture Radar Using a Linear Frequency Modulated Random Stepped-Frequency Waveform.* AFIT/GE/ENG/05-11, Faculty Advisor: Maj Todd B. Hale, (937) 255-3636 x4639. Sponsor: AFRL/SNA.

MEIDEL, KURT W. *GPS Signal Jamming Mitigation Through Multiple Model Adaptive Estimation Applied to Ultra-Tightly Coupled GPS/INS Architecture.* AFIT/GE/ENG/05-14, Faculty Advisor: Dr. Peter S. Maybeck, (937) 255-3636 x4581. Sponsor: AFRL/MNGN.

NELSON, RAYMOND P. *Feature Importance for Classifying Spectral Temporal Signatures.* AFIT/GE/ENG/05-15, Faculty Advisor: Dr. Steven Gustafson, (937) 255-3636 x4598. Sponsor: AFRL/SNJT.

SABO, DARREN R. *Development of a Robust Optical Image Registration Algorithm for Negating Speckly Noise Effects in Coherent Images Generated by a Laser Imaging System.* AFIT/GE/ENG/05-17, Faculty Advisor: Dr. Stephen C. Cain, (937) 255-3636 x4716. Sponsor: AFRL/SNJT.

SMITH, BRIAN D. *Multiple Model Adaptive Estimator Target Tracker for Maneuvering Targets in Clutter*. AFIT/GE/ENG/05-18, Faculty Advisor: Dr. Peter S. Maybeck, (937) 255-3636 x4581. Sponsor: AFRL/SNAT.

WALTER, MICHAEL D. *Deconvolution Analysis of Laser Pulse Profiles from 3-D LADAR Temporal Returns.* AFIT/GE/ENG/05-22, Faculty Advisor: Dr. Stephen Cain, (937) 255-3636 x4716. Sponsor: AFRL/SNJM.

WATERS, ANGELA M. *Modification of a Modulation Recognition Algorithm to Enable Multi-Carrier Recognition.* AFIT/GE/ENG/05-23, Faculty Advisor: Dr. Michael A. Temple, (937) 255-3636 x4279. Sponsor: AFRL/SNRW.

ZELINSKI, GREGORY M. *Finite Difference Time Domain (FDTD) Analysis of a Leaky Traveling Wave MicroStrip Antenna.* AFIT/GE/ENG/05-24, Faculty Advisor: Maj Michael L. Hastriter, (937) 255-2024. Sponsor: AFRL/SNRR.

3.2.9 ELECTRO-OPTICS (GEO)

CHAUVIN, DAREN J. *Electro-optic Beam Steering using Domain Engineered Lithium Tantalate.* AFIT/GEO/ENP/05-01, Faculty Advisor: Lt Col Thomas G. Alley, (937) 255-3636 x4649. Sponsor: AFRL/SNJW.

FELLER, BRIAN P. *Optical Investigation of Transition Metal Implanted Wide Band Gap Semiconductors.* AFIT/GEO/ENP/05-02, Faculty Advisor: Dr. Yung Kee Yeo, (937) 255-3636 x4532. Sponsor: N/A.

PERRY, MICHAEL J. *Using Liquid Crystal Spatial Light Modulators for Closed Loop Tracking and Beam Steering with Phase Holography.* AFIT/GEO/ENG/05-02, Faculty Advisor: Maj Matthew Goda, (937) 255-3636 x4614. Sponsor: AFRL/SNJM.

PHILLIPS, JAMES D. *Atmospheric Turbulence Simulation Using Liquid Crystal Spatial Light Modulators.* AFIT/GEO/ENG/05-01, Faculty Advisor: Maj Matthew Goda, (937) 255-3636 x4614. Sponsor: AFRL/DES.

WYSOCKI, BRYANT T. *Characterization of Electronic and Optical Blooming in an InSb Focal Array.* AFIT/GEO/ENP/05-03, Faculty Advisor: Dr. Michael A. Marciniak, (937) 255-3636 x4529. Sponsor: AFRL/MLPJ.

ZINGARELLI, JOHN C. *Detection of Residual Stress in SiC MEMS Using μ-Raman Spectroscopy.* AFIT/GEO/ENP/05-06, Faculty Advisor: Dr. Michael A. Marciniak, (937) 255-3636 x4529. Sponsor: AFRL/MNMF.

3.2.10 ENGINEERING MANAGEMENT (GEM)

BLEVINS, JASON E. *Informal Influences in the Process of IDIQ Contractor Selection for Task Award.* AFIT/GEM/ENV/05M-01, Faculty Advisor: Dr. Charles A. Bleckmann, (937) 255-3636 x4721. Sponsor: N/A.

BORDAS, JASON M. *Modeling Groundwater Flow and Contaminant Transport in Fractured Aquifers.* AFIT/GEM/ENV/05M-02, Faculty Advisor: Dr. Mark N. Goltz, (937) 255-3636 x4638. Sponsor: AFCEE/TD.

FLETCHER, RICHARD E. A. *Job Embeddedness: A Construct of Organizational and Community Attachment Utilized to Assess Voluntary Turnover.* AFIT/GEM/ENV/05M-03, Faculty Advisor: Maj Sharon G. Heilmann, (937) 255-3636 x7395. Sponsor: AMC/319 MXG/CD.

HASSELL, CHARLES E. *An Extension of the Theory of Job Embeddedness: An Investigation of Effects on Intent to Turnover of United States Air Force Members.* AFIT/GEM/ENV/05M-04, Faculty Advisor: Maj Sharon G. Heilmann, (937) 255-3636 x7395. Sponsor: AMC/319 MXG/CD.

HOFFMAN, GREG J. *Estimating Performance Time for Air Force Military Construction Projects.* AFIT/GEM/ENV/05M-05, Faculty Advisor: Dr. Alfred E. Thal, (937) 255-3636 x7401. Sponsor: AETC/CECT.

JEFSON, MATTHEW P. *Dynamic Modeling and Evaluation of Recurring Infrastructure Maintenance Budget Determination Methods.* AFIT/GEM/ENV/05M-06, Faculty Advisor: Dr. Michael L. Shelley, (937) 255-3636 x7387. Sponsor: N/A.

JEOUN, JIMMY J. *Using Value-Focused Thinking to Evaluate the Practicality of Ground-Source Heat Pumps at Military Installations.* AFIT/GEM/ENS/05M-11, Faculty Advisor: Lt Col Jeffery D. Weir, (937) 255-3636 x4538. Sponsor: AFCESA/CESM.

KASTENHOLZ, GUNTHER. *Usable Design of Civil Engineer Information Systems.* AFIT/GEM/ENV/05M-07, Faculty Advisor: Dr. Alfred E. Thal, (937) 255-3636 x7401. Sponsor: N/A.

KEEN, BEVIN J. *An Analysis of the Relationship Between Environmental Management and Environmental Compliance at Marine Corps Installations.* AFIT/GEM/ENV/05M-08, Faculty Advisor: Lt Col Ellen C. England, (937) 255-3636 x4711. Sponsor: Commandant of the Maine Corps.

QUEDDENG, ERIC A. *Decision Analysis Using Value-Focused Thinking to Select Renewable Alternative Fuels.* AFIT/GEM/ENV/05M-09, Faculty Advisor: Lt Col Ellen C. England, (937) 255-3636 x4711. Sponsor: AFCEE/ISA (FOA).

RICHARDS, DUSTIN C. *An Assessment of Force Protection Knowledge in Air Force Civil Engineer Officers.* AFIT/GEM/ENV/05M-10, Faculty Advisor: Dr. Alfred E. Thal, (937) 255-3636 x7401. Sponsor: AFCESA.

RILOVICK, CHRISTINE Y. *Effects of Career Plateauing on Turnover: A Test of a Model.* AFIT/GEM/ENV/05J-01, Faculty Advisor: Maj Sharon G. Heilmann, (937) 255-3636 x7395. Sponsor: N/A.

SALMOND, JACOB M. *Decision Analysis Method for Air Mobility Beddown Planning Scenarios.* AFIT/GEM/ENS/05M-02, Faculty Advisor: Dr. Alan W. Johnson, (937) 255-3636 x4703. Sponsor: HQ AMC/A75R.

SU, CHEN YEN. *An Examination of the Effects of Communication Media on Geographically Separated Mentors and Proteges: Does Distance Matter?* AFIT/GEM/ENV/05M-11, Faculty Advisor: Maj Sharon G. Heilmann, (937) 255-3636 x7395. Sponsor: N/A.

TENORIO, MONA A. *Decision Analysis Using Value-Focused Thinking For Infrastructure Prioritization.* AFIT/GEM/ENV/05M-12, Faculty Advisor: Dr. Alfred E. Thal, (937) 255-3636 x7401. Sponsor: HQ AFMC/MSEOM.

TRYON, JOHN E. *An Evaluation of Contingency Construction Methods Using Value Focused Thinking.* AFIT/GEM/ENV/05M-13, Faculty Advisor: Dr. Alfred E. Thal, (937) 255-3636 x7401. Sponsor: AFCEE/820th RED HORSE Squadron.

WOOD, RYAN C. *Modeling Application of Hydrogen Release Compound to Effect In Situ Bioremediation of Chlorinated Solvent-Contaminated Groundwater.* AFIT/GEM/ENV/05M-14, Faculty Advisor: Dr. Mark N. Goltz, (937) 255-3636 x4638. Sponsor: AFCEE/TD.

YAZZIE, WALTER K. *Information Technology Implementation and Sustainment Model: Data Collection Instrument.* AFIT/GEM/ENV/05M-15, Faculty Advisor: Dr. Alfred E. Thal, (937) 255-3636 x7401. Sponsor: HQ USAF/ILEI.

3.2.11 ENVIRONMENTAL ENGINEERING AND SCIENCE (GES)

BARNEY, ERIC G. *An Investigation into Palladium-Catalyzed Reduction of Perchlorate in Water.* AFIT/GES/ENV/05M-01, Faculty Advisor: Dr. Mark N. Goltz, (937) 255-3636 x4638. Sponsor: AFCEE/TD.

KIM, SEH J. *Validation of an Innovative Groundwater Contaminant Flux Measurement Method.* AFIT/GES/ENV/ 05M-02, Faculty Advisor: Dr. Mark N. Goltz, (937) 255-3636 x4638. Sponsor: AFCEE/TD.

ROBERTS, MICHAEL G. *Removal of Cyclohexane from a Contaminated Air Stream Using a Dense Phase Membrane Bioreactor.* AFIT/GES/ENV/05M-03, Faculty Advisor: Lt Col Ellen C. England, (937) 255-3636 x4711. Sponsor: N/A.

SHELLEY, JANICE M. *In Vitro Toxicity of Candmium Oxide Particles in BRL 3A Rat Liver Cells.* AFIT/GES/ENV/05M-04, Faculty Advisor: Lt Col Ellen C. England, (937) 255-3636 x4711. Sponsor: AFRL/HEPB.

TORRES, DAVID A. *Evaluation of Fuel Oxygenate Degradation in the Vadose Zone.* AFIT/GES/ENV/05M-05, Faculty Advisor: Dr. Charles A. Bleckmann, (937) 255-3636 x4721. Sponsor: EPA/National Risk Management Research Laboratory.

3.2.12 INFORMATION ASSURANCE (GIA)

KLEFFMAN, MICHAEL D. *Analysis of Effects of BGP Black Hole Routing on a Network like the NIPRNET.* AFIT/GIA/ENG/05-01, Faculty Advisor: Maj Robert Graham, (937) 255-3636 x7256. Sponsor: NSA.

SPISAK, MATTHEW D. *An Analysis of Perturbed Quantization Steganography in the Spatial Domain.* AFIT/GIA/ENG/05-04, Faculty Advisor: Dr. Richard Raines, (937) 255-6565 x4278. Sponsor: AFRL/IFEC.

STANLEY, JEFFREY E. *Enabling Network Centric Warfare Through Operational Impact Analysis Automation.* AFIT/GIA/ENG/05-05, Faculty Advisor: Dr. Robert Mills, (937) 255-3636 x4527. Sponsor: ACC/SCN.

STURAK, JONATHAN R. *Forensic Analysis of Digital Image Tampering.* AFIT/GIA/ENG/04-01, Faculty Advisor: Dr. Gilbert Peterson, (937) 255-3636 x4281. Sponsor: AFRL/IFEC.

SULLIVAN, MATTHEW W. *National Security Agency (NSA) Systems and Network Attack Center (SNAC) Security Guides versus Known Worms.* AFIT/GIA/ENG/05-07, Faculty Advisor: Dr. Rusty O. Baldwin, (937) 255-6565 x4445. Sponsor: NSA.

ZEITZ, BRIAN P. *Early Warning and Prediction of Internet Attacks and Exploits.* AFIT/GIA/ENG/05-06, Faculty Advisor: Dr. Rusty Baldwin, (937) 255-6565 x4445. Sponsor: The Honeynet Project.

3.2.13 INFORMATION RESOURCE MANAGEMENT/INFORMATION SYSTEMS MANAGEMENT (GIR/GIS)

ALLEN, DAVID J. *Using the Internet for Department of Defense Strategic Communication.* AFIT/GIR/ENS/05M-01, Faculty Advisor: Dr. Richard F. Deckro, (937) 255-6565 x4325. Sponsor: N/A.

BOYD, CHARLIE W. *Exploratory Inquiry: Disparate Air Force Base Area Network Architectures.* AFIT/GIR/ENV/05M-01, Faculty Advisor: Dr. Kevin L. Elder, (937) 255-3636 x7391. Sponsor: AFCA/SCOPE EDGE.

BUDAI, KEVIN G. *Assessing the Usefulness of the Decision Framework for Identifying and Selecting Knowledge Management Projects.* AFIT/GIR/ENV/05M-02, Faculty Advisor: Dr. Alan R. Heminger, (937) 255-3636 x7405. Sponsor: (EIS)/AFMC.

DESCHAINE, DARREN A. *An Analysis of Biometric Technology as an Enabler to Information Assurance.* AFIT/GIR/ENV/05M-03, Faculty Advisor: Capt David D. Bouvin, (937) 255-2998. Sponsor: N/A.

FELAX, GARY A. *Web Usability Guidelines for Air Force Knowledge Now Web Site.* AFIT/GIR/ENV/05M-04, Faculty Advisor: Dr. Kevin Elder, (937) 255-3636 x7391. Sponsor: HQ AFMC/TRCI.

GIOVANNETTI, ROBERT G. *An Analysis of Information Assurance Relating to the Department of Defense Radio Frequency Identification (RFID) Passive Network.* AFIT/GIR/ENV/05M-05, Faculty Advisor: Capt David D. Bouvin, (937) 255-2998. Sponsor: N/A.

HART, JAMES L. M. *An Historical Analysis of Factors Contributing to the Emergence of the Intrusion Detection Discipline and its Role in Information Assurance.* AFIT/GIR/ENV/05M-06, Faculty Advisor: Capt David D. Bouvin, (937) 255-2998. Sponsor: N/A.

HOBBS, BRIAN G. *Barriers to Electronic Records Management (ERM): An Exploratory Case Study Investigating ERM in the Deployed Environment During Operations Enduring Freedom and Iraqi Freedom.* AFIT/GIR/ENV/05M-07, Faculty Advisor: Lt Col Summer E. Bartczak, (937) 255-3636 x4826. Sponsor: HQ ACC/SCXP.

JAROS, JASON D. *Determining a Relationship Between Foreign News Media Reports Covering U.S. Military Events and Network Incidents Against DoD Networks.* AFIT/GIR/ENV/05M-08, Faculty Advisor: Capt David D. Bouvin, (937) 255-2998. Sponsor: N/A.

LEE, WILLIAM. *A Historical Context Analysis of Changes in Content Management Ideology.* AFIT/GIR/ENV/05M-09, Faculty Advisor: Capt David D. Bouvin, (937) 255-2998. Sponsor: N/A.

LOEBER, PAUL C. *An Investigation of GeoBase Mission Data Set Design, Implementation, and Usage within Air Force Civil Engineer Electrical and Utilities Work Centers.* AFIT/GIR/ENV/05M-10, Faculty Advisor: Lt Col Summer E. Bartczak, (937) 255-3636 x4826. Sponsor: USAFA/IITA.

MARTINSON, KURT W. *Passwords: A Survey on Usage and Policy.* AFIT/GIR/ENV/05M-11, Faculty Advisor: Dr. Dennis D. Strouble, (937) 255-3355 x3323. Sponsor: N/A.

MENDOZA, GEORGE A. *Key Issues in the Application of Knowledge Management in Education.* AFIT/GIR/ENV/05M-12, Faculty Advisor: Dr. Kevin L. Elder, (937) 255-3636 x7391. Sponsor: HQ AFMC/TRCI.

OLEKSIAK, PAUL G. *Medical Devices, Support Networks, and their Vulnerabilities: A Case Study of the Integration of Medical Networks into the Air Force Information Network.* AFIT/GIR/ENV/05M-13, Faculty Advisor: Kevin L. Elder, (937) 255-3636 x7391. Sponsor: N/A.

RAMMEL, AMY M. *Assessing the Usefulness of Visualization Tools to Investigate Hidden Patterns with Insider Attack Cases.* AFIT/GIR/ENV/05M-14, Faculty Advisor: Dr. Alan R. Heminger, (937) 255-3636 x7405. Sponsor: N/A.

RIDDLE, TERRY W., Jr. *Interaction Between the Process Used to Introduce Change and the Personality of Organizational Members: An International Test.* AFIT/GIR/ENV/05M-15, Faculty Advisor: Dr. Kevin L. Elder, (937) 255-3636 x7391. Sponsor: N/A.

SHARKEY, JAMIE P. *Effectively Managing the Air Force Enterprise Architecture.* AFIT/GIR/ENV/05M-16, Faculty Advisor: Dr. Kevin L. Elder, (937) 255-3636 x7391. Sponsor: Air Force Communications Agency/ECAI.

TATE, JOHN P. *Technology Acceptance and Use in a Knowledge Management Support System: An Exploratory Case Study of Air Force Knowledge Now Communities of Practice.* AFIT/GIR/ENV/05M-17, Faculty Advisor: Dr. Kevin L. Elder, (937) 255-3636 x7391. Sponsor: HQ AFMC/TRCI.

THIEM, LISA S. *A Study to Determine Damage Assessment Methods or Models on Air Force Networks.* AFIT/GIR/ENV/05M-18, Faculty Advisor: Dr. Dennis Strouble, (937) 255-3355 x3323. Sponsor: AFRL/HEC.

3.2.14 LOGISTICS MANAGEMENT (GLM)

ANDERSON, STEVEN C. and ALFRED P. MARTZ. *Analysis of USAF F-16 Aircraft Basing Alternatives on the Korean Peninsula*. AFIT/GLM/ENS/05-01, Faculty Advisor: Lt Col Marvin A. Arostegui, (937) 255-2549. Sponsor: 7AF/CC.

BARTHOL, DERRICK R. *An Analysis into the Effectiveness of Aircraft Maintenance Under the Combat Wing Structure.* AFIT/GLM/ENS/05-02, Faculty Advisor: Lt Col Stephan P. Brady, (937) 255-2549. Sponsor: N/A.

BOOHER, SHAWN K. *Pick-up and Delivery: A Comparison of Functional Alignments and the Impact on Customer Service and Vehicle Operator Utilization.* AFIT/GLM/ENS/05-03, Faculty Advisor: Maj Kirk A. Patterson, (937) 255-3636 x4653. Sponsor: HQ ACC/LGTVO.

DAWSON, KEVIN P. *Estimating Reusable Space Vehicle Main Engine Regeneration Times Using the Reliability and Maintainability Model.* AFIT/GLM/ENS/05-04, Faculty Advisor: Lt Col Stanley E. Griffis, (937) 255-2549. Sponsor: AFRL/VAOT.

DAWSON, MICHAEL C. *Minimizing Security Forces Response Times Through The Use of Facility Location Methodologies*. AFIT/GLM/ENS/05-05, Faculty Co-Advisors: Lt Col Jeffery D. Weir, (937) 255-3636 x4538, and Maj John E. Bell, (937) 255-3636 x4708. Sponsor: ACC/20 AF/LG.

EAGLE, WESLEY B. *Capturing Logistics Readiness Center Knowledge*. AFIT/GLM/ENS/05-06, Faculty Advisor: Lt Col Marvin A. Arostegui, (937) 255-2549. Sponsor: AFRL/HEAL.

FORD, WILLIAM C. *Comparing Management Approaches for Automatic Test Systems: A Strategic Missile Case Study*. AFIT/GLM/ENS/05-07, Faculty Co-Advisors: Maj John E. Bell, (937) 255-3636 x4708, and Dr. Alan Johnson, (937) 255-3636 x4703. Sponsor: AFLMA/LGM.

GILL, MATTHEW M. *Output Analysis and Comparison of Deployment Models with Varying Fidelity.* AFIT/GLM/ENS/05-08, Faculty Advisor: Dr. Alan Johnson, (937) 255-3636 x4703. Sponsor: HQ US Transportation Command.

HEATH, ERIC J. *Air Force JP-8 Fuel Distribution System: A Statistical Analysis to Determine Where and When to Sample*. AFIT/GLM/ENS/05-09, Faculty Advisor: Maj Bradley E. Anderson, (937) 255-3636 x4646. Sponsor: WR-ALC/AFT.

HOBBS, SARAH E. *Assessing Influences on Perceived Training Transfer: An Investigation of Perceptions of Air Force Logistics Readiness Officer Technical School Graduates.* AFIT/GLM/ENV/05M-1, Faculty Advisor: Lt Col Summer E. Bartczak, (937) 255-3636 x4826. Sponsor: HQ ACC/LGSW.

HOWE, JEREMY A. *Evaluating Management Strategies for Automated Test Systems/Equipment (ATS/E): An F-15 Case Study*. AFIT/GLM/ENS/05-11, Faculty Co-Advisors: Dr. Alan W. Johnson, (937) 255-3636 x4703, and Maj John E. Bell, (937) 255-3636 x4708. Sponsor: AFLMA/LGM.

IAKOVIDIS, KONSTANTINOS *Comparing F-16 Maintenance Scheduling Philosophies.* AFIT/GLM/ENS/05-12, Faculty Advisor: Maj John E. Bell, (937) 255-3636 x4708. Sponsor: PACAF/354 AMXS/CC.

LEE, ROBERT A. *A Case Study of the Degree of Collaboration Between Various Levels in the Repairable Chain in the United States Air Force.* AFIT/GLM/ENS/05-13, Faculty Co-Advisors: Lt Col Stephan P. Brady and Lt Col Marvin A. Arostegui, (937) 255-2549. Sponsor: HQ AF/ILID.

LEWIS, KEITH A. *Study on the Air Force's Ability to Field Senior Logistics Readiness Officers Experienced in Fuels Management.* AFIT/GLM/ENS/05-14, Faculty Advisor: Lt Col Marvin A. Arostegui, (937) 255-2549. Sponsor: HQ AF/ILGM.

MARTZ, ALFRED P. See ANDERSON, STEVEN C.

MAXWELL, DAVID R. *Estimating Resource Requirements to Support Multi-Echelon F-15E Deployments.* AFIT/GLM/ENS/05-16, Faculty Advisor: Dr. WillIam Cunningham, (937) 255-6565 x4283. Sponsor: AFRL/HEAL.

MCCONNELL, MICHAEL L. *An Approach for Optimizing the On-Orbit Servicing Architecture for the Space-Based Radar Constellation.* AFIT/GLM/ENS/05-17, Faculty Co-Advisors: Lt Col Stanley E. Griffis and Maj Victor D. Wiley, (937) 255-2549. Sponsor: Defense Advance Research Projects Agency.

MOORE, TERRY D. *Examining the Impact of Quality Assurance Manning Practices in USAF Aircraft Maintenance Units.* AFIT/GLM/ENS/05-18, Faculty Advisor: Dr. Alan Johnson, (937) 255-3636 x4703. Sponsor: ACC/LGQ.

O'ROURKE, PETER M. *A Multiple-Case Analysis of Lean Six Sigma Deployment and Implementation Strategies.* AFIT/GLM/ENS/05-19, Faculty Advisor: Lt Col Stanley E. Griffis, (937) 255-2549. Sponsor: N/A.

PATE, ANDREW H. *Determining PACAF Transportation Alternatives to the General Purpose Vehicle.* AFIT/GLM/ENS/05-20, Faculty Advisor: Lt Col Marvin A. Arostegui, (937) 255-2549. Sponsor: PACAF/LGRW.

PETERSON, ANDREW J. *An Examination of Reverse Logistics Factors Impacting the 463-L Pallet Program.* AFIT/GLM/ENS/05-21, Faculty Advisor: Maj Kirk A. Patterson, (937) 255-3636 x4653. Sponsor: HQ AMC/A43E.

SNOW, EDWARD C., Jr. *Using Depot Inventory Position to Determine Transportation Mode of Retrograde Reparable Assets.* AFIT/GLM/ENS/05-22, Faculty Advisor: Dr. William A. Cunningham, (937) 255-6565 x4283. Sponsor: HQ AFMC/LG.

3.2.15 NUCLEAR ENGINEERING (GNE)

BRETT, GARY T. *Surface Oxidation Study of Uranium Dioxide Under Wet and Dry Conditions.* AFIT/GNE/ENP/05-01, Faculty Advisor: Dr. Larry W. Burggraf, (937) 255-3636 x4507. Sponsor: Idaho National Environmental and Engineering Laboratory.

CHANCELLOR, RICHARD W. *A Comparison of Hazard Predication and Assessment Capability (HPAC) Software Dose-Rate Contour Plots to a Sample of Local Fallout Data From Test Detonations in the Continental United States, 1945-1962.* AFIT/GNE/ENP/05-02, Faculty Advisor: Dr. Charles J. Bridgman, (937) 255-3636 x4877. Sponsor: DTRA/TDOC.

ENGLERT, JOHN W. *In-line Particulate Transport and Dispersion Modeling Using the Regional Atmospheric Modeling System (RAMS).* AFIT/GNE/ENP/05M-03, Faculty Advisor: Lt Col Steven T. Fiorino, (937) 255-3636 x4506. Sponsor: AFTAC (Air Force Technical Appplications Center).

GOETZ, KRISTINA M. *Lethality of Bacillus Anthracis Spores Due to Short Duration Heating Measured Using Infrared Spectroscopy.* AFIT/GNE/ENP/05-04, Faculty Advisor: Dr. Larry W. Burggraf, (937) 255-3636 x4507. Sponsor: AFRL/HEPC.

JARZEN, THOMAS D. *Capacitance-Voltage Study on the Effects of Low Energy Electron Radiation on Al0.27Ga0.73N/GaN High Electron Mobility Transistor.* AFIT/GNE/ENP/05-05, Faculty Advisor: Dr. James C.Petrosky, (937) 255-3636 x4562. Sponsor: DTRA/CSNP.

KIMMEL, WARREN E. *Manufacture and Testing of an Activation Foil Package for Use in AFIDS.* AFIT/GNE/ENP/05-06, Faculty Advisor: Dr. James C. Petrosky, (937) 255-3636 x4562. Sponsor: DTRA HEADQUATERS.

MATTHEWS, JAMES S., IV. *Effect of Neutrons on the N-MOS Controlled Thyristor.* AFIT/GNE/ENP/05-07, Faculty Advisor: Dr. James C. Petrosky, (937)255-3636 x4562. Sponsor: AFRL/MNMF.

ROTHENBUSH, FRED D. *Improved Multinuclide Imaging of Special Nuclear Material Using a High Purity Germanium Double Sided Strip Detector.* AFIT/GNE/ENP/05-09, Faculty Advisor: Dr. Larry W. Burggraf, (937) 255-3636 x4507. Sponsor: DTRA/TD.

SANDMAN, KARSON A. *Development of 2-Dimensional Cloud Rise Model to Analyze Initial Nuclear Cloud Rise.* AFIT/GNE/ENP/05-11, Faculty Advisor: Lt Col Steven Fiorino, (937) 255-3636 x4506. Sponsor: AFTAC (Air Force Technical Applications Center).

*SCHOOLS, CHAD C. *Feasibility Analysis of a Compton Spectrometer System for Identification of Special Nuclear Material.* AFIT/GNE/ENP/05-12, Faculty Advisor: Dr. Larry W. Burggraf, (937) 255-3636 x4507. Sponsor: DTRA/TDND and AFTAC/TMAT.

SKAAR, ERIC T. *A Comparison of the Heft Subsurface and Delfic Particle Size Distributions and Effects in HPAC.* AFIT/ENP/GNE/05M-13, Faculty Advisor: Dr. Charles J. Bridgman, (937) 255-3636 x4877. Sponsor: DTRA/TDOC.

SPEAR, JEFFREY S. *Characterizing a Neutron Energy Spectrum using a "Forward Edge" Neutron Time-of-Flight Spectroscopy Technique.* AFIT/GNE/ENP/05-14, Faculty Advisor: Dr. James C. Petrosky, (937) 255-3636 x4562. Sponsor: DTRA.

TALKINGTON, ADAM S. *Blast Computation Methodologies Comparison in Visual Interactive Site Analysis Code (VISAC).* AFIT/GNE/ENP/05-15, Faculty Advisor: Dr. Ronald F. Tuttle, (937) 255-3636 x4536. Sponsor: DTRA/CSNP.

UHLMAN, TROY A. *Temperature Dependent Current-Voltage Measurements of Neutron Irradiated* $A1_{0.27}Ga_{0.73}N$*/GaN Modulation Doped Field Effect Transistors.* AFIT/GNE/ENP/05M-16, Faculty Advisor: Dr. James C. Petrosky, (937) 255-3636 x4562. Sponsor: DTRA/SCSNN.

3.2.16 OPERATIONS RESEARCH (GOR)

BEDNAR, EARL M. *Feasibility Study of Variance Reduction in the THUNDER Campaign-Level Model.* AFIT/GOR/ENS/05-01, Faculty Advisor: Dr. Kenneth W. Bauer, (937) 255-6565 x4328. Sponsor: AFSAA.

CHA, YOUNG-HO. *Optimization Model for Base-Level Delivery Routes and Crew Scheduling.* AFIT/GOR/ENS/05-02, Faculty Advisor: Lt Col Jeffery D. Weir, (937) 255-3636 x4538. Sponsor: N/A.

CHOW, DAVID. *Analysis of Online-Delaunay Navigation for Time Sensitive Targeting.* AFIT/GOR/ENS/05-03, Faculty Advisor: Dr. Sharif Melouk, (937) 255-3636 x4525. Sponsor: N/A.

CLARK, CLINTON R. *Modeling and Analysis of Cladestine Networks.* AFIT/GOR/ENS/05-04, Faculty Advisor: Dr. Richard F. Deckro, (937) 255-6565 x4325. Sponsor: AFRL/HE.

COOK, TIMOTHY J. *Optimal Maintenance for Stochastically Degrading Satellite Constellations.* AFIT/GOR/ENS/05-05, Faculty Advisor: Dr. Jeffrey P. Kharoufeh, (937) 255-3636 x4603. Sponsor: NRO.

DUNLAP, JOHN E. *On the Use of Surrogate Functions for Mixed Variable Optimization of Simulated Systems.* AFIT/GOR/ENS/05-06, Faculty Advisor: Dr. James W. Chrissis, (937) 255-3636 x4606. Sponsor: AFRL/AFOSR.

GULYAS, COLE W. *Stochastic Capability Models for Degrading Satellite Constellations.* AFIT/GOR/ENS/05-07, Faculty Advisor: Dr. Jeffrey P. Kharoufeh, (937) 255-3636 x4603. Sponsor: NRO.

HAWKES, ERIC M. *Predicting the Cost Per Flying Hour for the F-16 Using Programmatic and Operational Variables.* AFIT/GOR/ENC/05-01, Faculty Advisor: Dr. Edward D. White, (937) 255-3636 x4540. Sponsor: Cost Factors Branch, Air Force Cost Analysis Agency.

HETHERINGTON, CHERYL L. *Modeling Transnational Terrorists' Center of Gravity: An Elements of Influence Approach.* AFIT/GOR/ENS/05-09, Faculty Co-Advisors: Dr. Richard Deckro, (937) 255-6565 x4325, and Maj Victor D. Wiley, (937) 255-2549. Sponsor: N/A.

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*MINDRUP, FRANK M. *An Investigation of the Effects of Correlation and Autocorrelation in Classifier Fusion with Non-Declarations.* AFIT/GOR/ENS/05-13, Faculty Advisor: Dr. Kenneth W. Bauer, (937) 255-6565 x4328. Sponsor: AFRL/AFOSR/NM and ACC/DRSA.

OFFUTT, EDWIN J. *Selection and Application of Distorted Risk Measures.* AFIT/GOR/ENS/05-14, Faculty Advisor: Dr. Jeffrey P. Kharoufeh, (937) 255-3636 x4603. Sponsor: N/A.

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ROBBINS, MATTHEW J. *Investigating the Complexities of Nationbuilding: A Sub-national Regional Perspective.* AFIT/GOR/ENS/05-16, Faculty Advisor: Dr. Richard F. Deckro, (937) 255-6565 x4325. Sponsor: CCJB-AR, CENTCOM.

SERE, MICHAEL C. *Strategic Airlift En Route Analysis and Considerations to Support the Global War on Terrorism.* AFIT/GOR/ENS/05-17, Faculty Advisor: Lt Col Robert Brigantic, (937) 255-2549. Sponsor: AFRL/AFOSR/NM.

WHALEY, KEVIN J. *A Knowledge Matrix Modeling of the Intelligence Cycle.* AFIT/GOR/ENS/05-18, Faculty Advisor: Dr. J.O. Miller, (937) 255-6565 x4326. Sponsor: NSSO.

3.2.17 SPACE SYSTEMS (GSS)

BAKER, DON E. *Specialized Earth Observation Constellations for Regional Coverage.* AFIT/GSS/ENY/05-M01, Faculty Advisor: Dr. William E. Wiesel, (937) 255-3636 x4312. Sponsor: N/A.

BILBEY, CHARLES A. *Investigation of the Performance Characteristics of Re-Entry Vehicles.* AFIT/GSS/ENY/05-S01, Faculty Advisor: Dr. Richard Cobb, (937) 255-3636 x4559. Sponsor: N/A.

HESLIN, JOHN P. *Orbit Estimation Algorithms for a Microsatellite Rendezvous with a Non-Cooperative Target.* AFIT/GSS/ENY/05-M02, Faculty Advisor: Dr. Richard G. Cobb, (937) 255-3636 x4559. Sponsor: N/A.

MOOMEY, ERIC R. *Technical Feasibility of Loitering Lighter-Than-Air-Near-Space Maneuvering Vehicles.* AFIT/GSS/ENY/05-M03, Faculty Advisor: Dr. Richard G. Cobb, (937) 255-3636 x4559. Sponsor: AF/SBD.

SHULTZ, DAVID A. *Modeling and Simulation of Commercial Satellite Imagery Processes.* AFIT/GSS/ENY/05-M04, Faculty Advisor: Dr. Richard G. Cobb, (937) 255-3636 x4559. Sponsor: NASIC/SMS.

WIERSCHKE, KEVIN W. *Thermal Characteristics of Pitch Based Carbon Foam.* AFIT/GSS/ENY/05-M05, Faculty Advisor: Dr. Milton E. Franke, (937) 255-3636 x4720. Sponsor: AFRL/MLBC.

3.2.18 SYSTEMS MANAGEMENT (GSM)

EDMUNDS, BRYAN D. *Project Portfolio Management: An Investigation of One Air Force Product Center.* AFIT/GSM/ENV/05M-01, Faculty Advisor: Lt Col Ross T. McNutt, (937) 255-3636 x4648. Sponsor: N/A.

MANTERNACH, JONATHAN P. *Technology Transfer Programs: An Inductive Analysis of Air Force Technology Transfer Programs.* AFIT/GSM/ENV/05M-02, Faculty Advisor: Lt Col Ross T. McNutt, (937) 255-3636 x4648. Sponsor: N/A.

MILLETTE, CHAD A. *Status of Department of Defense Architecture Framework (DoDAF) Implementation within the Aeronautical Systems Center (ASC).* AFIT/GSM/ENV/05M-03, Faculty Advisor: Lt Col Ross T. McNutt, (937) 255-3636 x4648. Sponsor: ASC/XR.

3.2.19 STRATEGIC PURCHASING (GSP)

CLOHESSY, THOMAS M. *The Analysis of Air Force Institute of Technology Theses Related to Contracting.* AFIT/GSP/ENV/05M-01, Faculty Advisor: Lt Col Ross T. McNutt, (937) 255-3636 x4648. Sponsor: N/A.

ELDER, MITCHELL J. *An Eleven Year Retrospective of the Acquisition Review Journal.* AFIT/GSP/ENV/05M-02, Faculty Advisor: Lt Col Ross McNutt, (937) 255-3636 x4648. Sponsor: N/A.

JOHNSON, RYAN S. *Effects of Deployment on Homestation Job Stress and Burnout.* AFIT/GSP/ENV/05M-03, Faculty Advisor: Maj Bryan J. Hudgens, (937) 255-2998. Sponsor: N/A.

JOHNSON, SILINDA. *The Feasibility of the U.S. Air Force Mandating the Exclusive Use and Purchase of Forest Stewardship Council Certified Wood and Paper Containing 100% Post Consumer Content.* AFIT/GSP/ENV/05M-04, Faculty Advisor: Dr. Ellen C. England, (937) 255-3636 x4711. Sponsor: N/A.

PIGEON, NANCI R. *The Use of Alternative Dispute Resolution Techniques in the United States Air Force Environmental Conflicts.* AFIT/GSP/ENV/05M-08, Faculty Advisor: Lt Col Ellen C. England, (937) 255-3636 x4711. Sponsor: SAF/GCD.

POPE, DYLAN D. *Performance Based Service Acquisition: A Quantitative Evaluation of Implementation Goals and Performance in the United States Air Force.* AFIT/GSP/ENV/05M-05, Faculty Advisor: Lt Col Curtis G. Tenney, (937) 255-3636 x4799. Sponsor: HQ AFMC/PKV.

RHOADS, GRETCHEN R. *Initiating an Entrepreneurial Mindset in the Department of Defense (DoD): Testing a Comprehensive Model.* AFIT/GSP/ENV/05M-06, Faculty Advisor: Lt Col Ross T. McNutt, (937) 255-3636 x4648. Sponsor: N/A.

3.2.20 SYSTEMS ENGINEERING (GSE)

BEAL, ROBERT J., JEREMY P. HENDRIX, GARTH P. MCMURRAY, and WILLIAM C. STEWART. *Executable Architectures and their Application to a Geographically Distributed Air Operations Center.* AFIT/GSE/ENY/05-M03, Faculty Advisor: Lt Col John Colombi, (937) 255-3355 x3347. Sponsor: AFC2ISR/DOX.

COOPER, CORY A., MATTHEW L. EWOLDT, STEAVEN A. MEYER, and EDWARD W. TALLEY. *A Systems Architectural Model for Man-Packable/Operable Intelligence, Surveillance, and Reconnaissance Mini/Micro Aerial Vehicles.* AFIT/GSE/ENY/05-M02, Faculty Advisor: Maj Joerg Walter, (937) 255-3355 x3550. Sponsor: AFRL/MNAV.

DIAZ RODRIGUEZ, LUIS M. *Executable Model Development from Architectural Description with Application to the Time Sensitive Target Problem.* AFIT/GSE/ENY/05-M04, Faculty Advisor: Dr. David R. Jacques, (937) 255-3355 x3329. Sponsor: N/A.

EMERY, JOHN D., ELENA M. OBERG, KELLY A. ROBERTSON, DAVID H. SANCHEZ, and DAVID B. SMUCK. *The Utility and Logistics Impact of Small-Satellite Constellations in Matched Inclination Orbits.* AFIT/GSE/ENY/05-M01, Faculty Advisor: Dr. Richard Cobb, (937) 255-3636 x4559. Sponsor: AFRL/VS.

EWOLDT, MATTHEW L. See COOPER, CORY A.

HENDRIX, JEREMY P. See BEAL, ROBERT J.

MCMURRAY, GARTH P. See BEAL, ROBERT J.

MEYER, STEAVEN A. See COOPER, CORY A.

OBERG, ELENA M. See EMERY, JOHN D.

ROBERTSON, KELLY A. See EMERY, JOHN D.

SANCHEZ, DAVID H. See EMERY, JOHN D.

SMUCK, DAVID B. See EMERY, JOHN D.

STEWART, WILLIAM C. See BEAL, ROBERT J.

TALLEY, EDWARD W. See COOPER, CORY A.

3.3 SPONSORS OF MASTER'S THESES AND DOCTORAL DISSERTATIONS
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3.3.1 AIR FORCE

LEE, ROBERT A. *A Case Study of the Degree of Collaboration Between Various Levels in the Repairable Chain in the United States Air Force.* AFIT/GLM/ENS/05-13, Faculty Co-Advisors: Lt Col Stephan P. Brady and Lt Col Marvin A. Arostegui, (937) 255-2549. Sponsor: HQ AF/ILID.

LEWIS, KEITH A. *Study on the Air Force's Ability to Field Senior Logistics Readiness Officers Experienced in Fuels Management.* AFIT/GLM/ENS/05-14, Faculty Advisor: Lt Col Marvin A. Arostegui, (937) 255-2549. Sponsor: HQ AF/ILGM.

MOOMEY, ERIC R. *Technical Feasibility of Loitering Lighter-Than-Air-Near-Space Maneuvering Vehicles.* AFIT/GSS/ENY/05-M03, Faculty Advisor: Dr. Richard G. Cobb, (937) 255-3636 x4559. Sponsor: AF/SBD.

STORM, KEVIN G. *Validation of Turbulence Models in the Beggar Code for Unsteady Flow.* AFIT/GAE/ENY/05-M22, Faculty Advisor: Lt Col Raymond Maple, (937) 255-3636 x4577. Sponsor: 46 SK/SKE.

YAZZIE, WALTER K. *Information Technology Implementation and Sustainment Model: Data Collection Instrument.* AFIT/GEM/ENV/05M-15, Faculty Advisor: Dr. Alfred E. Thal, (937) 255-3636 x7401. Sponsor: HQ USAF/ILEI.

SECRETARY OF THE AIR FORCE

IRVINE, ROBERT J. *A Qualitative Study of Industry and Air Force Commodity Council Processes.* AFIT/GCA/ENV/05M-03, Faculty Advisor: Dr. Patricia G. Luna, (937) 255-2998. Sponsor: SAF/SB.

PIGEON, NANCI R. *The Use of Alternative Dispute Resolution Techniques in the United States Air Force Environmental Conflicts.* AFIT/GSP/ENV/05M-08, Faculty Advisor: Lt Col Ellen C. England, (937) 255-3636 x4711. Sponsor: SAF/GCD.

3.3.2 AIR COMBAT COMMAND

*ALBRECHT, TIMOTHY W. *Combat Identification with Sequential Observations, Rejection Option, and Out-of-Library Targets.* AFIT/DS/ENS/05-03, Faculty Advisor: Dr. Kenneth W. Bauer, (937) 255-6565 x4328. Sponsor: AFRL/AFOSR/NM and ACC/DRSA.

BOOHER, SHAWN K. *Pick-up and Delivery: A Comparison of Functional Alignments and the Impact on Customer Service and Vehicle Operator Utilization.* AFIT/GLM/ENS/05-03, Faculty Advisor: Maj Kirk A. Patterson, (937) 255-3636 x4653. Sponsor: HQ ACC/LGTVO.

DAWSON, MICHAEL C. *Minimizing Security Forces Response Times Through The Use of Facility Location Methodologies.* AFIT/GLM/ENS/05-05, Faculty Co-Advisors: Lt Col Jeffery D. Weir, (937) 255-3636 x4538 and Maj John E. Bell, (937) 255-3636 x4708. Sponsor: ACC/20 AF/LG.

HOBBS, BRIAN G. *Barriers to Electronic Records Management (ERM): An Exploratory Case Study Investigating ERM in the Deployed Environment During Operations Enduring Freedom and Iraqi Freedom.* AFIT/GIR/ENV/05M-07, Faculty Advisor: Lt Col Summer E. Bartczak, (937) 255-3636 x4826. Sponsor: HQ ACC/SCXP.

HOBBS, SARAH E. *Assessing Influences on Perceived Training Transfer: An Investigation of Perceptions of Air Force Logistics Readiness Officer Technical School Graduates.* AFIT/GLM/ENV/05M-1, Faculty Advisor: Lt Col Summer E. Bartczak, (937) 255-3636 x4826. Sponsor: HQ ACC/LGSW.

*LAINE, TREVOR I. *Optimization of Automatic Target Recognition with a Reject Option Using Fusion and Correlated Sensor Data.* AFIT/DS/ENS/05-02, Faculty Advisor: Dr. Kenneth W. Bauer, (937) 255-6565 x4328. Sponsor: AFRL/AFOSR/NM and ACC/DRSA.

*MINDRUP, FRANK M. *An Investigation of the Effects of Correlation and Autocorrelation in Classifier Fusion with Non-Declarations.* AFIT/GOR/ENS/05-13, Faculty Advisor: Dr. Kenneth W. Bauer, (937) 255-6565 x4328. Sponsor: AFOSR/NM and ACC/DRSA.

MOORE, TERRY D. *Examining the Impact of Quality Assurance Manning Practices in USAF Aircraft Maintenance Units.* AFIT/GLM/ENS/05-18, Faculty Advisor: Dr. Alan Johnson, (937) 255-3636 x4703. Sponsor: ACC/LGQ.

STANLEY, JEFFREY E. *Enabling Network Centric Warfare Through Operational Impact Analysis Automation.* AFIT/GIA/ENG/05-05, Faculty Advisor: Dr. Robert Mills, (937) 255-3636 x4527. Sponsor: ACC/SCN.

NATIONAL AIR AND SPACE INTELLIGENCE CENTER

SHULTZ, DAVID A. *Modeling and Simulation of Commercial Satellite Imagery Processes.* AFIT/GSS/ENY/05-M04, Faculty Advisor: Dr. Richard G. Cobb, (937) 255-3636 x4559. Sponsor: NASIC/SMS.

3.3.3 AIR EDUCATION AND TRAINING COMMAND

HOFFMAN, GREG J. *Estimating Performance Time for Air Force Military Construction Projects.* AFIT/GEM/ENV/05M-05, Faculty Advisor: Dr. Alfred E. Thal, (937) 255-3636 x7401. Sponsor: AETC/CECT.

AIR FORCE INSTITUTE OF TECHNOLOGY**

**Although no external sponsor is identified, in most cases, AFIT faculty sponsored the below projects due to their relevance to current or future USAF, DoD and/or Homeland Security requirements.

ALBRECHT, MEREDITH M. *The Effect of Aerodynamic Surfaces Versus Thrust Maneuvers on Re-entry Vehicles.* AFIT/GAE/ENY/05-S01, Faculty Advisor: Dr. Shankar Mall, (937) 255-3636 x4587. Sponsor: N/A.

ALLEN, DAVID J. *Using the Internet for Department of Defense Strategic Communication.* AFIT/GIR/ENS/05M-01, Faculty Advisor: Dr. Richard F. Deckro, (937) 255-6565 x4325. Sponsor: N/A.

BACKSCHEIDER, ROBERT J. *Ultra Wide Band Signal Modeling for Radar Receiver Characterization.* AFIT/GE/ENG/04-28, Faculty Advisor: Dr. Michael A. Temple, (937) 255-3636 x4279. Sponsor: N/A.

BAKER, DON E. *Specialized Earth Observation Constellations for Regional Coverage.* AFIT/GSS/ENY/05-M01, Faculty Advisor: Dr. William E. Wiesel, (937) 255-3636 x4312. Sponsor: N/A.

BARTHOL, DERRICK R. *An Analysis into the Effectiveness of Aircraft Maintenance Under the Combat Wing Structure.* AFIT/GLM/ENS/05-02, Faculty Advisor: Lt Col Stephan P. Brady, (937) 255-2549. Sponsor: N/A.

BEAVER, THERESA D. *The Analysis of a Link Between a Remote Local Area Network and its Server Resources*. AFIT/GCS/ENG/05-02, Faculty Advisor: Dr. Robert F. Mills, (937) 255-3636 x4527. Sponsor: N/A.

BLEVINS, JASON E. *Informal Influences in the Process of IDIQ Contractor Selection for Task Award.* AFIT/GEM/ENV/05M-01, Faculty Advisor: Dr. Charles A. Bleckmann, (937) 255-3636 x4721. Sponsor: N/A.

BETTISON, SUSAN E. *Noise Estimation in the Presence of BPSK Digital Burst Transmissions.* AFIT/GAM/ENC/05-03, Faculty Advisor: Dr. Lawrence K. Chilton, (937) 255-3098. Sponsor: N/A.

BILBEY, CHARLES A. *Investigation of the Performance Characteristics of Re-Entry Vehicles.* AFIT/GSS/ENY/05-S01, Faculty Advisor: Dr. Richard Cobb, (937) 255-3636 x4559. Sponsor: N/A.

BUTLER, TODD C. *Cost-of-Delay Analysis (CoDA): Use and Implementation of This Decision Support Tool.* AFIT/GCA/ENV/05M-01, Faculty Advisor: Lt Col Ross T. McNutt, (937) 255-3636 x4648. Sponsor: N/A.

CHA, YOUNG-HO. *Optimization Model for Base-Level Delivery Routes and Crew Scheduling.* AFIT/GOR/ENS/05-02, Faculty Advisor: Lt Col Jeffery D. Weir, (937) 255-3636 x4538. Sponsor: N/A.

CHOW, DAVID. *Analysis of Online-Delaunay Navigation for Time Sensitive Targeting.* AFIT/GOR/ENS/05-03, Faculty Advisor: Dr. Sharif Melouk, (937) 255-3636 x4525. Sponsor: N/A.

CLOHESSY, THOMAS M. *The Analysis of Air Force Institute of Technology Theses Related to Contracting.* AFIT/GSP/ENV/05M-01, Faculty Advisor: Lt Col Ross T. McNutt, (937) 255-3636 x4648. Sponsor: N/A.

COMBS, RANDY C. *An Evaluation of Wind Turbine Technology at Peterson AFB.* AFIT/GCA/ENV/05M-02, Faculty Advisor: Lt Col Curtis G. Tenney, (937) 255-3636 x4799. Sponsor: N/A.

DESCHAINE, DARREN A. *An Analysis of Biometric Technology as an Enabler to Information Assurance.* AFIT/GIR/ENV/05M-03, Faculty Advisor: Capt David D. Bouvin, (937) 255-2998. Sponsor: N/A.

DIAS, BRANDON P. *Environmental Acoustic Transfer Functions and Filtering Acoustic Signals.* AFIT/GAM/ENC/05-02, Faculty Advisor: Dr. Mark Oxley, (937) 255-3636 x4515. Sponsor: N/A.

DIAZ RODRIGUEZ, LUIS M. *Executable Model Development from Architectural Description with Application to the Time Sensitive Target Problem.* AFIT/GSE/ENY/05-M04, Faculty Advisor: Dr. David R. Jacques, (937) 255-3355 x3329. Sponsor: N/A.

DILLS, ANTHONY N. *Classification of Battlespcae Detonations From Temporally Resolved Mutli-Band Imagery and Mid-Infrared Spectra.* AFIT/DS/ENP/05-03, Faculty Advisor: Dr. Glen P. Perram, (937) 255-3636 x4504. Sponsor: N/A.

DIXON, DION R. *Structures of Angled Aerated-Liquid Jets in Mach 1.94 Supersonic Cross Flow*. AFIT/GAE/ENY/05-M07, Faculty Advisor: Dr. Ralph A. Anthenien, (937) 255-3636 x4643. Sponsor: N/A.

EDMUNDS, BRYAN D. *Project Portfolio Management: An Investigation of One Air Force Product Center.* AFIT/GSM/ENV/05M-01, Faculty Advisor: Lt Col Ross T. McNutt, (937) 255-3636 x4648. Sponsor: N/A.

ELDER, MITCHELL J. *An Eleven Year Retrospective of the Acquisition Review Journal.* AFIT/GSP/ENV/05M-02, Faculty Advisor: Lt Col Ross McNutt, (937) 255-3636 x4648. Sponsor: N/A.

ERICH, ROGER A. *A Sampling and Transformation Approach to Solving Random Differential Equations.* AFIT/GAM/ENC/05-04, Faculty Advisor: Dr. Lawrence Chilton, (937) 255-3098. Sponsor: N/A.

FELLER, BRIAN P. *Optical Investigation of Transition Metal Implanted Wide Band Gap Semiconductors.* AFIT/GEO/ENP/05-02, Faculty Advisor: Dr. Yung Kee Yeo, (937) 255-3636 x4532. Sponsor: N/A.

FUNGE, ALISTAIR D. *Daytime Detection of Space Objects.* AFIT/GAP/ENG/05-01, Faculty Advisor: Maj Matthew Goda, (937) 255-3636 x4614. Sponsor: N/A.

GIOVANNETTI, ROBERT G. *An Analysis of Information Assurance Relating to the Department of Defense Radio Frequency Identification (RFID) Passive Network.* AFIT/GIR/ENV/05M-05, Faculty Advisor: Capt David D. Bouvin, (937) 255-2998. Sponsor: N/A.

HART, JAMES L. M. *An Historical Analysis of Factors Contributing to the Emergence of the Intrusion Detection Discipline and its Role in Information Assurance.* AFIT/GIR/ENV/05M-06, Faculty Advisor: Capt David D. Bouvin, (937) 255-2998. Sponsor: N/A.

HESLIN, JOHN P. *Orbit Estimation Algorithms for a Microsatellite Rendezvous with a Non-Cooperative Target.* AFIT/GSS/ENY/05-M02, Faculty Advisor: Dr. Richard G. Cobb, (937) 255-3636 x4559. Sponsor: N/A.

HETHERINGTON, CHERYL L. *Modeling Transnational Terrorists' Center of Gravity: An Elements of Influence Approach.* AFIT/GOR/ENS/05-09, Faculty Co-Advisors: Dr. Richard Deckro, (937) 255-6565 x4325, and Maj Victor D. Wiley, (937) 255-2549. Sponsor: N/A.

IGUE, ROBERTO T. *Experimental Investigation of a Lift Augmented Ground Effect Platform.* AFIT/GAE/ENY/05-S04, Faculty Advisor: Dr. Milton E. Franke, (937) 255-3636 x4720. Sponsor: N/A.

JAROS, JASON D. *Determining a Relationship Between Foreign News Media Reports Covering U.S. Military Events and Network Incidents Against DoD Networks.* AFIT/GIR/ENV/05M-08, Faculty Advisor: Capt David D. Bouvin, (937) 255-2998. Sponsor: N/A.

JASTRZEMBSKI, ANDREW D. *Advanced Academic Degree Inventory Management (AADIM) Model.* AFIT/GOR/ENS/05-10, Faculty Advisor: Lt Col Raymond W. Staats, (937) 255-3636 x4624. Sponsor: N/A.

JEFSON, MATTHEW P. *Dynamic Modeling and Evaluation of Recurring Infrastructure Maintenance Budget Determination Methods.* AFIT/GEM/ENV/05M-06, Faculty Advisor: Dr. Michael L. Shelley, (937) 255-3636 x7387. Sponsor: N/A.

JOHNSON, RYAN S. *Effects of Deployment on Homestation Job Stress and Burnout.* AFIT/GSP/ENV/05M-03, Faculty Advisor: Maj Bryan J. Hudgens, (937) 255-2998. Sponsor: N/A.

JOHNSON, SILINDA. *The Feasibility of the U.S. Air Force Mandating the Exclusive Use and Purchase of Forest Stewardship Council Certified Wood and Paper Containing 100% Post Consumer Content.* AFIT/GSP/ENV/05M-04, Faculty Advisor: Dr. Ellen C. England, (937) 255-3636 x4711. Sponsor: N/A.

JOSUE, THEODORE L. *Effects of Piconet Saturation on a Bluetooth Streaming Audio Channel.* AFIT/GCS/ENG/05-08, Faculty Advisor: Dr. Rusty O. Baldwin, (937) 255-6565 x4445. Sponsor: N/A.

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LEE, WILLIAM. *A Historical Context Analysis of Changes in Content Management Ideology.* AFIT/GIR/ENV/05M-09, Faculty Advisor: Capt David D. Bouvin, (937) 255-2998. Sponsor: N/A.

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MANTERNACH, JONATHAN P. *Technology Transfer Programs: An Inductive Analysis of Air Force Technology Transfer Programs.* AFIT/GSM/ENV/05M-02, Faculty Advisor: Lt Col Ross T. McNutt, (937) 255-3636 x4648. Sponsor: N/A.

MARAMBA, ERNEST M. *A Numerical Analysis for Passive Attitude Stabilization Using a Tethered Balloon on a Gravity Gradient Satellite.* AFIT/GA/ENY/05-M07, Faculty Advisor: Dr. WillIam E. Wiesel, (937) 255-3636 x4312. Sponsor: N/A.

MARCHAND, KRISTA G. *Computational Model of One-Dimensional Dielectric Barrier Discharge.* AFIT/GAP/ENP/05-05, Faculty Advisor: Dr. William F. Bailey, (937) 255-3636 x4501. Sponsor: N/A.

MARKHAM, JAMES A. *Categorizing High Energy Laser Effects for the Joint Munitions Effectiveness Manual.* AFIT/GOR/ENS/05-11, Faculty Advisor: Dr. J.O. Miller, (937) 255-6565 x4326. Sponsor: N/A.

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OFFUTT, EDWIN J. *Selection and Application of Distorted Risk Measures.* AFIT/GOR/ENS/05-14, Faculty Advisor: Dr. Jeffrey P. Kharoufeh, (937) 255-3636 x4603. Sponsor: N/A.

OLADELE, JOSHUA O. *Finite Element Solvers for Nonlinear Elasticity.* AFIT/GAM/ENC/05-05, Faculty Advisor: Dr. Lawrence Chilton, (937) 255-3098. Sponsor: N/A.

OLEKSIAK, PAUL G. *Medical Devices, Support Networks, and their Vulnerabilities: A Case Study of the Integration of Medical Networks into the Air Force Information Network.* AFIT/GIR/ENV/05M-13, Faculty Advisor: Kevin L. Elder, (937) 255-3636 x7391. Sponsor: N/A.

O'ROURKE, PETER M. *A Multiple-Case Analysis of Lean Six Sigma Deployment and Implementation Strategies.* AFIT/GLM/ENS/05-19, Faculty Advisor: Lt Col Stanley E. Griffis, (937) 255-2549. Sponsor: N/A.

PEOPLES, JAMES H. *A Value Focused Thinking Approach to Evaluation of Alternatives for Border Security Air Operations.* AFIT/GCA/ENV/05M-4, Faculty Advisor: Lt Col Jeffery D. Weir, (937) 255-3636 x4538. Sponsor: N/A.

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RAMMEL, AMY M. *Assessing the Usefulness of Visualization Tools to Investigate Hidden Patterns with Insider Attack Cases.* AFIT/GIR/ENV/05M-14, Faculty Advisor: Dr. Alan R. Heminger, (937) 255-3636 x7405. Sponsor: N/A.

RHOADS, GRETCHEN R. *Initiating an Entrepreneurial Mindset in the Department of Defense (DoD): Testing a Comprehensive Model.* AFIT/GSP/ENV/05M-06, Faculty Advisor: Lt Col Ross T. McNutt, (937) 255-3636 x4648. Sponsor: N/A.

RIDDLE, TERRY W., Jr. *Interaction Between the Process Used to Introduce Change and the Personality of Organizational Members: An International Test.* AFIT/GIR/ENV/05M-15, Faculty Advisor: Dr. Kevin L. Elder, (937) 255-3636 x7391. Sponsor: N/A.

RILOVICK, CHRISTINE Y. *Effects of Career Plateauing on Turnover: A Test of a Model.* AFIT/GEM/ENV/05J-01, Faculty Advisor: Maj Sharon G. Heilmann, (937) 255-3636 x7395. Sponsor: N/A.

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SCHUMER, EVELYN A. *Customization of Discriminant Function Analysis for Prediction of Solar Flares.* AFIT/GAP/ENP/05-07, Faculty Advisor: Maj Devin Della-Rose, (937) 255-2012. Sponsor: N/A.

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SMITH, CHRISTOPHER K. *Boundary Layer Control of a Circular Cylinder Using a Synthetic Jet.* AFIT/GAE/ENY/05-J12, Faculty Advisor: Dr. Milton E. Franke, (937) 255-3636 x4720. Sponsor: N/A.

SMITH, JASON E. *Attitude Model of a Reaction Wheel/Fixed Thruster Based Satellite Using Telemetry Data.* AFIT/GA/ENY/05-M010, Faculty Advisor: Dr. Richard Cobb, (937) 255-3636 x4559. Sponsor: N/A.

SMITH, SCOTT E. *Earned Value Management Schedule Performance Indicators in Units of Time: Evaluation of an Earned Schedule Theory.* AFIT/GCA/ENV/05M-06, Faculty Advisor: Lt Col Curtis G. Tenney, (937) 255-3636 x4799. Sponsor: N/A.

SU, CHEN YU. *An Examination of the Effects of Communication Media on Geographically Separated Mentors and Proteges: Does Distance Matter?* AFIT/GEM/ENV/05M-11, Faculty Advisor: Maj Sharon G. Heilmann, (937) 255-3636 x7395. Sponsor: N/A.

SWIDERSKI, STEVEN J. *Fit-To-Fight: Waist vs. Waist/Height Measurements to Determine an Individual's Fitness Level - A Study in Statistical Regression and Analysis.* AFIT/GCA/ENC/05-03, Faculty Advisor: Dr. Edward White, (937) 255-3636 x4540. Sponsor: N/A.

WINTHROP, MICHAEL F. *Engineering Tools for Variable Stiffness Vibration Suppression and Isolation.* AFIT/DS/ENY/05-02, Faculty Advisor: Dr. Richard G. Cobb, (937) 255-3636 x4559. Sponsor: N/A.

ZENS, TIMOTHY W. *Electrical Activation Studies of Silicon Implanted* $Al_xGa_{1-x}N$. AFIT/GAP/ENP/05-08, Faculty Advisor: Dr. Yung Kee Yeo, (937) 255-3636 x4532. Sponsor: N/A.

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BERLIN, BENJAMIN M. *Investigation of Aerobraking to Return the Space Maneuver Vehicle to Low Earth Orbit from Geotransfer Orbit.* AFIT/GA/ENY/05-M01, Faculty Advisor: Dr. William Wiesel, (937) 255-3636 x4312. Sponsor: HQ AFMC/DRX.

BUDAI, KEVIN G. *Assessing the Usefulness of the Decision Framework for Identifying and Selecting Knowledge Management Projects.* AFIT/GIR/ENV/05M-02, Faculty Advisor: Dr. Alan R. Heminger, (937) 255-3636 x7405. Sponsor: (EIS)/AFMC.

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MENDOZA, GEORGE A. *Key Issues in the Application of Knowledge Management in Education.* AFIT/GIR/ENV/05M-12, Faculty Advisor: Dr. Kevin L. Elder, (937) 255-3636 x7391. Sponsor: HQ AFMC/TRCI.

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SNOW, EDWARD C., Jr. *Using Depot Inventory Position to Determine Transportation Mode of Retrograde Reparable Assets.* AFIT/GLM/ENS/05-22, Faculty Advisor: Dr. William A. Cunningham, (937) 255-6565 x4283. Sponsor: HQ AFMC/LG.

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AERONAUTICAL SYSTEMS CENTER

MILLETTE, CHAD A. *Status of Department of Defense Architecture Framework (DoDAF) Implementation within the Aeronautical Systems Center (ASC).* AFIT/GSM/ENV/05M-03, Faculty Advisor: Lt Col Ross T. McNutt, (937) 255-3636 x4648. Sponsor: ASC/XR.

RICHARDSON, TYLER L. *Parametric Study of the Towline Shape of an Aircraft Decoy.* AFIT/GAE/ENY/05-J08, Faculty Advisor: Dr. Ralph Anthenien, (937) 255-3636 x4643. Sponsor: ASC/AANA.

AIR FORCE FLIGHT TEST CENTER

MORGAN, MICHAEL T. *A Study in Drag Reduction of Close Formation Flight Accounting for Flight Control Trim Positions and Dissimilar Formations.* AFIT/GAE/ENY/05-M13, Faculty Advisor: Dr. David R. Jacques, (937) 255-3355 x3329. Sponsor: AF Test Pilot School (TPS).

OSTEROOS, RYAN K. *Full Capability Formation Flight Control.* AFIT/GAE/ENY/05-M16, Faculty Advisor: Dr. David R. Jacques, (937) 255-3355 x3329. Sponsor: AF Test Pilot School (TPS).

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STORCH, TARA R. *Maneuver Estimation Model for Relative Orbit Determination.* AFIT/GA/ENY/05-M011, Faculty Advisor: Dr. William E. Wiesel, (937) 255-3636 x4312. Sponsor: AFRL/Det 15.

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*ALBRECHT, TIMOTHY W. *Combat Identification with Sequential Observations, Rejection Option, and Out-of-Library Targets.* AFIT/DS/ENS/05-03, Faculty Advisor: Dr. Kenneth W. Bauer, (937) 255-6565 x4328. Sponsor: AFRL/AFOSR/NM and ACC/DRSA.

BELCHER, LACHLAN T. *Non-Adiabatic Energy Surfaces of the $B+H_2$ Systems.* AFIT/GAP/ENP/05-01, Faculty Advisor: Dr. David E. Weeks, (937) 255-3636 x4561. Sponsor: AFRL/AFOSR/NL.

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MILLER, JEFFREY R. *A Capacitated Facility Location Approach for the Tanker Employment Problem.* AFIT/GOR/ENS/05-12, Faculty Advisor: Dr. James T. Moore, (937) 255-3636 x4528. Sponsor: AFRL/AFOSR/NM.

*MINDRUP, FRANK M. *An Investigation of the Effects of Correlation and Autocorrelation in Classifier Fusion with Non-Declarations.* AFIT/GOR/ENS/05-13, Faculty Advisor: Dr. Kenneth W. Bauer, (937) 255-6565 x4328. Sponsor: AFRL/AFOSR/NM and ACC/DRSA.

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ROSS, ERIK K. *Study of Magnetogasdynamic Flow Acceleration in a Scramjet Nozzle.* AFIT/GAE/ENY/05-J11, Faculty Advisor: Maj Richard J. McMullan, (937) 255-3636 x4578. Sponsor: AFRL/AFOSR/NA.

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CRAFT, RYAN L. *Drag Estimates for the Joined-Wing Sensor Craft.* AFIT/GAE/ENY/05-J02, Faculty Advisor: Dr. Robert Canfield, (937) 255-6565 x4723. Sponsor: AFRL/VASD.

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DAWSON, KEVIN P. *Estimating Reusable Space Vehicle Main Engine Regeneration Times Using the Reliability and Maintainability Model.* AFIT/GLM/ENS/05-04, Faculty Advisor: Lt Col Stanley E. Griffis, (937) 255-2549. Sponsor: AFRL/VAOT.

DURHAM, FRANCES K. *Internal Damage Detection and Assessment in Beams Using Experimental Natural Frequencies.* AFIT/GAE/ENY/05-J03, Faculty Advisor: Dr. Anthony N. Palazotto, (937) 255–3636 x4599. Sponsor: AFRL/VASM.

GEBBIE, DAVID A. *Experimental Study of the Subsonic Aerodynamics of a Blended Wing Body Air Vehicle with a Focus on Rapid Technology Assessment.* AFIT/GAE/ENY/05-M09, Faculty Advisor: Dr. Mark F. Reeder, (937) 255-3636 x4530. Sponsor: AFRL/VAAC.

HANSEN, MICHAEL A. *Mechanical Behavior of Cracked Panels Repaired with Bonded Composite Patch.* AFIT/GA/ENY/05-J01, Faculty Advisor: Dr. Shankar Mall, (937) 255-3636 x4587. Sponsor: AFRL/VASA.

JENSEN, DANIEL M. *Biaxial Fatigue Behavior of NiTi Shape Memory Alloy.* AFIT/GA/ENY/05-M06, Faculty Advisor: Dr. Marina B. Ruggles-Wrenn, (937) 255-3636 x4641. Sponsor: AFRL/VASA.

JONES, BRETT L. *Experimental Investigation Into the Aerodynamic Ground Effect of a Tailless Chevron-shaped UCAV.* AFIT/GAE/ENY/05-J04, Faculty Advisor: Dr. Miltion E. Franke, (937) 255-3636 x4720. Sponsor: AFRL/VAAA.

SCHROCK, CHRISTOPHER R. *Entropy Generation as a Means of Examining Continuum Breakdown.* AFIT/GAE/ENY/05-M20, Faculty Advisor: Maj Richard J. McMullan, (937) 255-3636 x4578. Sponsor: AFRL/VAAC.

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GOETZ, KRISTINA M. *Lethality of Bacillus Anthracis Spores Due to Short Duration Heating Measured Using Infrared Spectroscopy.* AFIT/GNE/ENP/05-04, Faculty Advisor: Dr. Larry W. Burggraf, (937) 255-3636 x4507. Sponsor: AFRL/HEPC.

HOUTKOOPER, NINA M. *Detection of Bacillus Spores by Aptamer Selectivity Using Atomic Force Microscopy.* AFIT/GAP/ENP/05-03, Faculty Advisor: Dr. Larry W. Burggraf, (937) 255-3636 x4507. Sponsor: AFRL/HEPC.

JOFFRION, JACQUE M. *Head Tracking for 3D Audio Using a GPS-Aided MEMS IMU.* AFIT/GE/ENG/05-09, Faculty Advisor: Dr. John Raquet, (937) 255-3636 x4580. Sponsor: AFRL/HECB.

MAXWELL, DAVID R. *Estimating Resource Requirements to Support Multi-Echelon F-15E Deployments.* AFIT/GLM/ENS/05-16, Faculty Advisor: Dr. WillIam Cunningham, (937) 255-6565 x4283. Sponsor: AFRL/HEAL.

MORRISON, JAMIE R. *A Line-Of-Slight Sensor Network for Wide Area Video Surveillance: Simulation and Evaluation.* AFIT/GCE/ENG/05-05, Faculty Advisor: Dr. Guna Seetharaman, (937) 255-3636 x4612. Sponsor: AFRL/HECV.

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RUSSELL, CHRISTOPHER A. *Operator State Estimation for Adaptive Aiding in Uninhabited Combat Air Vehicles.* AFIT/DS/ENG/05-01, Faculty Advisor: Dr. Steven C. Gustafson, (937) 255-3636 x4598. Sponsor: AFRL/HECP.

SHELLEY, JANICE M. *In Vitro Toxicity of Candmium Oxide Particles in BRL 3A Rat Liver Cells.* AFIT/GES/ENV/05M-04, Faculty Advisor: Lt Col Ellen C. England, (937) 255-3636 x4711. Sponsor: AFRL/HEPB.

THIEM, LISA S. *A Study to Determine Damage Assessment Methods or Models on Air Force Networks.* AFIT/GIR/ENV/05M-18, Faculty Advisor: Dr. Dennis Strouble, (937) 255-3355 x3323. Sponsor: AFRL/HEC.

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BALDWIN, PATRICK D. *Modeling Information Quality Expectation in Unmanned Aerial Vehicle Swarm Sensor Databases.* AFIT/GCS/ENG/05-01, Faculty Advisor: Lt Col Michael L. Talbert, (937) 255-2024. Sponsor: AFRL/IF.

*DAY, RICHARD O. *Explicit Building Block Multiobjective Evolutionary Computation: Methods and Applications.* AFIT/DS/ENG/05-03, Faculty Advisor: Dr. Gary B. Lamont, (937) 255-3636 x4718. Sponsor: AFRL/IFTA, AFRL/SNRW, and AFRL/MLPJE.

HARLOW, FELICIA N. *A JBI Information Object Engineering Environment Utilizing Metadata Fragments for Refining Searches on Semantically-Related Object Types*. AFIT/GCE/ENG/05-03, Faculty Advisor: Lt Col Michael Talbert, (937) 255-2024. Sponsor: AFRL/IF.

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SPISAK, MATTHEW D. *An Analysis of Perturbed Quantization Steganography in the Spatial Domain.* AFIT/GIA/ENG/05-04, Faculty Advisor: Dr. Richard Raines, (937) 255-6565 x4278. Sponsor: AFRL/IFEC.

STURAK, JONATHAN R. *Forensic Analysis of Digital Image Tampering.* AFIT/GIA/ENG/04-01, Faculty Advisor: Dr. Gilbert Peterson, (937) 255-3636 x4281. Sponsor: AFRL/IFEC.

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ALBINALI, SALMAN. *Effects of Temperature and Shot-Peening Intensity on Fretting Fatigue Behavior of Titanium Alloy Ti-6Al-4V*. AFIT/GAE/ENY/05-M25, Faculty Advisor: Dr. Shankar Mall, (937) 255-3636 x4587. Sponsor: AFRL/MLLP.

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HAMILTON, JEREMY T. *Non-Destructive Evaluation of Metal Backed Layers Using a Waveguide Probe.* AFIT/GE/ENG/05-05, Faculty Advisor: Dr. Michael J. Havrilla, (937) 255-3636 x7252. Sponsor: AFRL/MLLP.

KAIEDA, TETSUO. *Protein Impregnated Polymer (PIP) Film Infrared Sensor Using Suspended Microelectromechanical Systems (MEMS) Pixels*. AFIT/GE/ENG/05-10, Faculty Advisor: Lt Col James Fellows, (937) 255-3636 x7230. Sponsor: AFRL/MLPJE.

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MCLEISH, MICHAEL C. *Objectives Quantification of Laser Induced Degradation in Charge Coupled Device Camera Imagery.* AFIT/GE/ENP/05-02, Faculty Advisor: Dr. Michael A. Marciniak, (937) 255-3636 x4529. Sponsor: AFRL/MLPJ.

*MUSIL, SEAN S. *Creep Behavior of an Oxide/Oxide Composite with Monazite Coating at Elevated Temperatures.* AFIT/GAE/ENY/05-M14, Faculty Advisor: Dr. Marina B. Ruggles-Wrenn, (937) 255-3636 x4641. Sponsor: AFRL/PRTC and AFRL/MLLN.

ROBINSON, GRANT W. *High Temperature Chemical Degradation of PMR-15 Polymer Resins.* AFIT/GAE/ENY/05-J09, Faculty Advisor: Dr. Anthony Palazotto, (937) 255-3636, ext. 4599. Sponsor: AFRL/ML.

WESTBERRY, CANDICE M. *Rate Dependence and Short Term Creep Behavior of PMR-15 Neat Resin at 23 and 288° C.* AFIT/GAE/ENY/05-S07, Faculty Advisor: Dr. Marina Ruggles-Wrenn, (937) 255-3636 x4641. Sponsor: AFRL/MLBCM.

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KISH, BRIAN A. *Establishment of a System Operating Characteristics for Autononmous Wide Area Search Vehicles.* AFIT/DS/ENY/05-05, Faculty Advisor: Dr. David R. Jacques, (937) 255-3555 x3329. Sponsor: AFRL/MNGN.

LEVERON, TROY A. *Characterization of a Rotary Flat Tail as a Spoiler and Parametric Analysis of Improving Directional Stability in a Portable UAV.* AFIT/GAE/ENY/05-J06, Faculty Advisor: Dr. Mark Reeder, (937) 255-3636 x4530. Sponsor: AFRL/MNAV.

LYONS, FRANCIS R. *Weapon Release Scheduling from Multiple-Bay Aircraft using Multi-Objective Evolutionary Algorithms.* AFIT/GCE/ENG/05-04, Faculty Advisor: Dr. Gary B. Lamont, (937) 255-3636 x4718. Sponsor: AFRL/MNAV.

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MEIDEL, KURT W. *GPS Signal Jamming Mitigation Through Multiple Model Adaptive Estimation Applied to Ultra-Tightly Coupled GPS/INS Architecture.* AFIT/GE/ENG/05-14, Faculty Advisor: Dr. Peter S. Maybeck, (937) 255-3636 x4581. Sponsor: AFRL/MNGN.

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STULTS, JOSHUA A. *Computational Aerolastic Analysis of Micro Air Vehicle with Experimentally Determined Modes.* AFIT/GAE/ENY/05-M23, Faculty Advisor: Lt Col Raymond C. Maple, (937) 255-3636 x4577. Sponsor: AFRL/MNAV.

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ALLEN, KYLE S. *Evaluation Techniques for Determining Damping Mechanisms on Titanium Plates.* AFIT/GAE/ENY/05-M01, Faculty Advisor: Dr. Anthony Palazotto, (937) 255-3636 x4599. Sponsor: AFRL/PRTS.

ALLEN, WILLIAM H., Jr. *Fuel-Air Injection Effects on Combustion in Cavity-Based Flameholders in a Supersonic Flow.* AFIT/GAE/ENY/05-M02, Faculty Advisor: Dr. Paul King, (937) 255-3636 x4628. Sponsor: AFRL/PRAS.

BALCER, BRIAN E. *Boundary Layer Flow Control Using Plasma Induced Velocity.* AFIT/GAE/ENY/05-M03, Faculty Advisor: Dr. Milton E. Franke, (937) 255-3636 x4720. Sponsor: AFRL/PR.

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EBER, CHALENE A. *Effect of Temperature and Steam Environment on Fatigue Behavior of an Oxide-Oxide Continuous Fiber Ceramic Composite.* AFIT/GA/ENY/05-M09, Faculty Advisor: Dr. Marina B. Ruggles-Wrenn, (937) 255-3636 x4641. Sponsor: AFRL/PRTC.

GAMOE, TIMOTHY L. *Characterization of the Global Hawk Low Pressure Turbine First Rotor.* AFIT/GAE/ENY/05-S02, Faculty Advisor: Dr. Paul King, (937) 255-6565 x4628. Sponsor: AFRL/PRTT.

HARLEN, LEE B. *Creep-Rupture Behavior of an Oxide/Oxide Ceramic Matrix Composite at Elevated Temperatures in Air and Steam Environments.* AFIT/GA/ENY/05-M05, Faculty Advisor: Dr. Marina B. Ruggles-Wrenn, (937) 255-6565 x4641. Sponsor: AFRL/PRTC.

LAROCHELLE, KEVIN J. *Tensile Stress Rupture Behavior of a Woven Ceramic Matrix Composite in Humid Environments at Intermediate Temperature.* AFIT/DS/ENY/05-01, Faculty Advisor: Dr. Shankar Mall, (937) 255-3636 x4587. Sponsor: AFRL/PRTP.

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MISER, CHRISTEN L. *Pulse Detonation Engine Thrust Tube Heat Exchanger for Flash Vaporization and Supercritical Heating of JP-8.* AFIT/GAE/ENY/05-M11, Faculty Advisor: Dr. Paul I. King, (937) 255-3636 x4628. Sponsor: AFRL/PRTC.

MONTES, DANIEL R. *Mixing Effects of Pylon-Aided Fuel Injection Located Upstream of a Flameholding Cavity in Supersonic Flow.* AFIT/GAE/ENY/05-M12, Faculty Advisor: Dr. Paul I. King, (937) 255-3636 x4628. Sponsor: AFRL/PRAS.

*MUSIL, SEAN S. *Creep Behavior of an Oxide/Oxide Composite with Monazite Coating at Elevated Temperatures.* AFIT/GAE/ENY/05-M14, Faculty Advisor: Dr. Marina B. Ruggles-Wrenn, (937) 255-3636 x4641. Sponsor: AFRL/PRTC and AFRL/MLLN.

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NILSEN, JAMES K. *Performance Study of Staging Variable on Two-Stage-To-Orbit Reusable Launch Vehicles.* AFIT/GA/ENY/05-M08, Faculty Advisor: Dr. Milton E. Franke, (937) 255-3636 x4720. Sponsor: AFRL/PRAS.

QUICK, ADAM P. *Characterization of Upstream Mixing Cavities and a Downstream Combustion Cavity in Supersonic Flow.* AFIT/GAE/ENY/05-M18, Faculty Advisor: Dr. Paul I. King, (937) 255-3636 x4628. Sponsor: AFRL/PRAS.

TUCKER, KELLY C. *A Flash Vaporization System for Detonation of Hydrocarbon Fuels in a Pulse Detonation Engine.* AFIT/DS/ENY/05-03, Faculty Advisor: Dr. Paul I. King, (937) 255-3636 x4628. Sponsor: AFRL/PRTC.

AFRL: SENSORS DIRECTORATE

BIGGS, KEVIN M. *Real-Time Mapping Using Stereoscopic Vision Optimization.* AFIT/GCS/ENG/05-03, Faculty Advisor: Dr. Gilbert L. Peterson, (937) 255-6565 x4281. Sponsor: AFRL/SNRP.

BJERKAAS, KRISTOPHER S. *Consistency Results for the ROC Curves of Fused Classifiers.* AFIT/GAM/ENC/05-01, Faculty Advisor: Dr. Mark E. Oxley, (937) 255-3636 x4515. Sponsor: AFRL/SNAT.

CABUSAO, MICHAEL G. *Software Protection via Code Flattening Obfuscation.* AFIT/GCS/ENG/05-04, Faculty Advisor: Maj Robert Graham, (937) 255-3636 x7256. Sponsor: AFRL/SNTA.

CHAUVIN, DAREN J. *Electro-optic Beam Steering using Domain Engineered Lithium Tantalate.* AFIT/GEO/ENP/05-01, Faculty Advisor: Lt Col Thomas G. Alley, (937) 255-3636 x4649. Sponsor: AFRL/SNJW.

*DAY, RICHARD O. *Explicit Building Block Multiobjective Evolutionary Computation: Methods and Applications.* AFIT/DS/ENG/05-03, Faculty Advisor: Dr. Gary B. Lamont, (937) 255-3636 x4718. Sponsor: AFRL/IFTA, AFRL/SNRW, and AFRL/MLPJE.

DWYER, DEREK R. *Efficient Electromagnetic Material Characterization Via 2-D Rectangular Waveguide Reduction.* AFIT/GE/ENG/05-01, Faculty Advisor: Dr. Michael J. Havrilla, (937) 255-3636 x7252. Sponsor: AFRL/SNS.

EDMONDS, ANITA M. *Characterization of Commercial OFDM Signal Features Using Spectrally-Based Entropic Processing.* AFIT/GE/ENG/05-02, Faculty Advisor: Dr. Michael A. Temple, (937) 255-3636 x4279. Sponsor: AFRL/SNRW.

GAONA, CHARLES M. *Performance of a Spectrally Encoded Multi-Carrier Phase Shift Keying Communications System in a Frequency-Selective, Slowly-Fading Multipath Channel.* AFIT/GE/ENG/05-03, Faculty Advisor: Dr. Robert F. Mills, (937) 255-3636 x4527. Sponsor: AFRL/SNRW.

GOULD, MALCOLM G. *Reconstruction of Chromotomographc Imaging System Infrared Hyperspectral Scenes.* AFIT/GE/ENG/05-04, Faculty Advisor: Dr. Stephen Cain, (937) 255-3636 x4716. Sponsor: AFRL/SNJT.

GRONHOLZ, BRETT D. *Non-Cooperative Detection of Ultra Wideband Signals.* AFIT/GE/ENG/04-29, Faculty Advisor: Dr. Michael A. Temple, (937) 255-3636 x4279. Sponsor: AFRL/SNRP.

HANSON, RYAN D. *Using Multiple MEMS IMUs to Form a Distributed Inertial Measurement Unit.* AFIT/GE/ENG/05-06, Faculty Advisor: Dr. Meir Pachter, (937) 255-6565 x7247. Sponsor: AFRL/SNRP.

IZDEPSKI, GREGORY L. *An Examination of Range and Doppler Mismatch and their Effects on Radar Modeling.* AFIT/GE/ENG/05-07, Faculty Advisor: Maj Todd B. Hale, (937) 255-3636 x4639. Sponsor: AFRL/SNRT.

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KUCKO, JAY F. *Insulator Charging in RF MEMS Capacitive Switches.* AFIT/DS/ENP/05-02, Faculty Advisor: Dr. James C. Petrosky, (937) 255-3636, x4562. Sponsor: AFRL/SNHA.

*LUMINATI, JONATHAN E. *Wide-Angle Multistatic Synthetic Aperture Radar: Focused Image Fomation and Aliasing Artifact Mitigation.* AFIT/DS/ENG/05-04, Faculty Advisor: Maj Todd B. Hale, (937) 255-3636 x4639. Sponsor: AFRL/SNA and AFRL/SNRT.

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MIGRALA, TRASI J. *Analysis and Evaluation of Red Team Reports Determining the Effectiveness of Protected Programs.* AFIT/GCS/ENG/05-11, Faculty Advisor: Dr. Richards A. Raines, (937) 255-6565 x4278. Sponsor: AFRL/SNT.

NELSON, ERIC B. *Nonlinear Regression Methods for Estimation.* AFIT/DS/ENG/05-05, Faculty Advisor: Dr. Meir Pachter, (937) 255-6565 x7247. Sponsor: AFRL/SNAT.

NELSON, RAYMOND P. *Feature Importance for Classifying Spectral Temporal Signatures.* AFIT/GE/ENG/05-15, Faculty Advisor: Dr. Steven Gustafson, (937) 255-3636 x4598. Sponsor: AFRL/SNJT.

OWENS, KEVIN L. *Robot Mapping with Real-Time Incremental Localization Using Expectation Maximization.* AFIT/GCS/ENG/05-12, Faculty Advisor: Dr. Gilbert L. Peterson, (937) 255-3636 x4281. Sponsor: AFRL/SNRP.

PERRY, MICHAEL J. *Using Liquid Crystal Spatial Light Modulators for Closed Loop Tracking and Beam Steering with Phase Holography.* AFIT/GEO/ENG/05-02, Faculty Advisor: Maj Matthew Goda, (937) 255-3636 x4614. Sponsor: AFRL/SNJM.

RUSSELL, MATTHEW A. *A Genetic Algorithm for UAV Routing Integrated with a Parallel Swarm Simulation.* AFIT/GCS/ENG/05-16, Faculty Advisor: Dr. Gary B. Lamont, (937) 255-3636 x4718. Sponsor: AFRL/SNZW.

SABO, DARREN R. *Development of a Robust Optical Image Registration Algorithm for Negating Speckly Noise Effects in Coherent Images Generated by a Laser Imaging System.* AFIT/GE/ENG/05-17, Faculty Advisor: Dr. Stephen C. Cain, (937) 255-3636 x4716. Sponsor: AFRL/SNJT.

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WALTER, MICHAEL D. *Deconvolution Analysis of Laser Pulse Profiles from 3-D LADAR Temporal Returns.* AFIT/GE/ENG/05-22, Faculty Advisor: Dr. Stephen Cain, (937) 255-3636 x4716. Sponsor: AFRL/SNJM.

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EMERY, JOHN D., ELENA M. OBERG, KELLY A. ROBERTSON, DAVID H. SANCHEZ, and DAVID B. SMUCK. *The Utility and Logistics Impact of Small-Satellite Constellations in Matched Inclination Orbits.* AFIT/GSE/ENY/05-M01, Faculty Advisor: Dr. Richard Cobb, (937) 255-3636 x4559. Sponsor: AFRL/VS.

JOHNSON, EUGENE. *Trade Space Analysis of Antenna Array Architecture Using System Modeling Tools.* AFIT/GE/ENG/04-26, Faculty Advisor: Maj Todd B. Hale, (937) 255-3636 x4639. Sponsor: AFRL/VSSE.

OLSON, KIRK M. *Timing of Increasing Electron Counts from Geosynchronous Orbit to Low Earth Orbit.* AFIT/GAP/ENP/05-06, Faculty Advisor: Maj Devin Della-Rose, (937) 255-2012. Sponsor: AFRL/VSBXR.

WARNER ROBINS AIR LOGISTICS CENTER

HEATH, ERIC J. *Air Force JP-8 Fuel Distribution System: A Statistical Analysis to Determine Where and When to Sample.* AFIT/GLM/ENS/05-09, Faculty Advisor: Maj Bradley E. Anderson, (937) 255-3636 x4646. Sponsor: WR-ALC/AFT.

3.3.5 AIR FORCE SPACE COMMAND

WOODFORK, DENNIS W., II. *The Use of X-Ray Pulsars for Aiding GPS Satellite Orbit Determination.* AFIT/GA/ENG/05-01, Faculty Advisor: Dr. John F. Raquet, (937) 255-3636 x4580. Sponsor: HQ AFSPC/XPYA.

3.3.6 AIR MOBILITY COMMAND

FLETCHER, RICHARD E. A. *Job Embeddedness: A Construct of Organizational and Community Attachment Utilized to Assess Voluntary Turnover.* AFIT/GEM/ENV/05M-03, Faculty Advisor: Maj Sharon G. Heilmann, (937) 255-3636 x7395. Sponsor: AMC/319 MXG/CD.

HASSELL, CHARLES E. *An Extension of the Theory of Job Embeddedness: An Investigation of Effects on Intent to Turnover of United States Air Force Members.* AFIT/GEM/ENV/05M-04, Faculty Advisor: Maj Sharon G. Heilmann, (937) 255-3636 x7395. Sponsor: AMC/319 MXG/CD.

PETERSON, ANDREW J. *An Examination of Reverse Logistics Factors Impacting the 463-L Pallet Program.* AFIT/GLM/ENS/05-21, Faculty Advisor: Maj Kirk A. Patterson, (937) 255-3636 x4653. Sponsor: HQ AMC/A43E.

SALMOND, JACOB M. *Decision Analysis Method for Air Mobility Beddown Planning Scenarios.* AFIT/GEM/ENS/05M-02, Faculty Advisor: Dr. Alan W. Johnson, (937) 255-3636 x4703. Sponsor: HQ AMC/A75R.

3.3.7 PACIFIC AIR FORCES

ANDERSON, STEVEN C. and ALFRED P. MARTZ. *Analysis of USAF F-16 Aircraft Basing Alternatives on the Korean Peninsula*. AFIT/GLM/ENS/05-01, Faculty Advisor: Lt Col Marvin A. Arostegui, (937) 255-2549. Sponsor: 7AF/CC.

IAKOVIDIS, KONSTANTINOS. *Comparing F-16 Maintenance Scheduling Philosophies.* AFIT/GLM/ENS/05-12, Faculty Advisor: Maj John Bell, (937) 255-3636 x4708. Sponsor: PACAF/354 AMXS/CC.

PATE, ANDREW H. *Determining PACAF Transportation Alternatives to the General Purpose Vehicle.* AFIT/GLM/ENS/05-20, Faculty Advisor: Lt Col Marvin A. Arostegui, (937) 255-2549. Sponsor: PACAF/LGRW.

3.3.8 US AIR FORCE ACADEMY

LOEBER, PAUL C. *An Investigation of GeoBase Mission Data Set Design, Implementation, and Usage within Air Force Civil Engineer Electrical and Utilities Work Centers.* AFIT/GIR/ENV/05M-10, Faculty Advisor: Lt Col Summer E. Bartczak, (937) 255-3636 x4826. Sponsor: USAFA/IITA.

3.3.9 USAF FIELD OPERATING AGENCIES

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE

BARNEY, ERIC G. *An Investigation into Palladium-Catalyzed Reduction of Perchlorate in Water.* AFIT/GES/ENV/05M-01, Faculty Advisor: Dr. Mark N. Goltz, (937) 255-3636 x4638. Sponsor: AFCEE/TD.

BORDAS, JASON M. *Modeling Groundwater Flow and Contaminant Transport in Fractured Aquifers.* AFIT/GEM/ENV/05M-02, Faculty Advisor: Dr. Mark N. Goltz, (937) 255-3636 x4638. Sponsor: AFCEE/TD.

KIM, SEH J. *Validation of an Innovative Groundwater Contaminant Flux Measurement Method.* AFIT/GES/ENV/ 05M-02, Faculty Advisor: Dr. Mark N. Goltz, (937) 255-3636 x4638. Sponsor: AFCEE/TD.

QUEDDENG, ERIC A. *Decision Analysis Using Value-Focused Thinking to Select Renewable Alternative Fuels.* AFIT/GEM/ENV/05M-09, Faculty Advisor: Lt Col Ellen C. England, (937) 255-3636 x4711. Sponsor: AFCEE/ISA (FOA).

TRYON, JOHN E. *An Evaluation of Contingency Construction Methods Using Value Focused Thinking.* AFIT/GEM/ENV/05M-13, Faculty Advisor: Dr. Alfred E. Thal, (937) 255-3636 x7401. Sponsor: AFCEE/820th RED HORSE Squadron.

WOOD, RYAN C. *Modeling Application of Hydrogen Release Compound to Effect In Situ Bioremediation of Chlorinated Solvent-Contaminated Groundwater.* AFIT/GEM/ENV/05M-14, Faculty Advisor: Dr. Mark N. Goltz, (937) 255-3636 x4638. Sponsor: AFCEE/TD.

AIR FORCE CIVIL ENGINEER SUPPORT AGENCY

JEOUN, JIMMY J. *Using Value-Focused Thinking to Evaluate the Practicality of Ground-Source Heat Pumps at Military Installations.* AFIT/GEM/ENS/05M-11, Faculty Advisor: Lt Col Jeffery D. Weir, (937) 255-3636 x4538. Sponsor: AFCESA/CESM.

RICHARDS, DUSTIN C. *An Assessment of Force Protection Knowledge in Air Force Civil Engineer Officers.* AFIT/GEM/ENV/05M-10, Faculty Advisor: Dr. Alfred E. Thal, (937) 255-3636 x7401. Sponsor: AFCESA.

AIR FORCE COMMAND AND CONTROL & INTELLIGENCE, SURVEILLANCE & RECONNAISSANCE CENTER

BEAL, ROBERT J., JEREMY P. HENDRIX, GARTH P. MCMURRAY, and WILLIAM C. STEWART. *Executable Architectures and their Application to a Geographically Distributed Air Operations Center.* AFIT/GSE/ENY/05-M03, Faculty Advisor: Lt Col John Colombi, (937) 255-3355 x3347. Sponsor: AFC2ISR/DOX.

AIR FORCE COMMUNICATIONS AGENCY

BOYD, CHARLIE W. *Exploratory Inquiry: Disparate Air Force Base Area Network Architectures.* AFIT/GIR/ENV/05M-01, Faculty Advisor: Dr. Kevin L. Elder, (937) 255-3636 x7391. Sponsor: AFCA/SCOPE EDGE.

RICKMON, AMBER J. *Evaluation of the AD HOC On-Demand Distance Vector Routing Protocol for Mobile AD HOC Networks.* AFIT/GCS/ENG/05-15, Faculty Advisor: Dr. Rusty O. Baldwin, (937) 255-6565 x4445. Sponsor: Air Force Communication Agency.

SHARKEY, JAMIE P. *Effectively Managing the Air Force Enterprise Architecture.* AFIT/GIR/ENV/05M-16, Faculty Advisor: Dr. Kevin L. Elder, (937) 255-3636 x7391. Sponsor: Air Force Communications Agency/ECAI.

AIR FORCE COST ANALYSIS AGENCY

HAWKES, ERIC M. *Predicting the Cost Per Flying Hour for the F-16 Using Programmatic and Operational Variables.* AFIT/GOR/ENC/05-01, Faculty Advisor: Dr. Edward D. White, (937) 255-3636 x4540. Sponsor: Cost Factors Branch, Air Force Cost Analysis Agency.

MONACO, JAMES V. *Predicting Schedule Risk: A Regression Approach.* AFIT/GCA/ENC/05-01, Faculty Advisor: Dr. Edward D. White, (937) 255-3636 x4540. Sponsor: AFCAA/Aircraft and Weapons System.

AIR FORCE LOGISTICS MANAGEMENT AGENCY

FORD, WILLIAM C. *Comparing Management Approaches for Automatic Test Systems: A Strategic Missile Case Study.* AFIT/GLM/ENS/05-07, Faculty Co-Advisors: Maj John E. Bell, (937) 255-3636 x4708, and Dr. Alan Johnson, (937) 255-3636 x4703. Sponsor: AFLMA/LGM.

HOWE, JEREMY A. *Evaluating Management Strategies for Automated Test Systems/Equipment (ATS/E): An F-15 Case Study.* AFIT/GLM/ENS/05-11, Faculty Co-Advisors: Dr. Alan W. Johnson, (937) 255-3636 x4703, and Maj John E. Bell, (937) 255-3636 x4708. Sponsor: AFLMA/LGM.

AIR FORCE INFORMATION WARFARE CENTER

JEFFERS, SEAN E. *Accelerating Missile Threat Engagement Simulations Using Personal Computer Graphics Cards.* AFIT/GE/ENG/05-08, Faculty Advisor: Dr. Rusty O. Baldwin, (937) 255-6565 x4445. Sponsor: AFIWC/453 EWS/EWA.

AIR FORCE STUDIES AND ANALYSES

BEDNAR, EARL M. *Feasibility Study of Variance Reduction in the THUNDER Campaign-Level Model.* AFIT/GOR/ENS/05-01, Faculty Advisor: Dr. Kenneth W. Bauer, (937) 255-6565 x4328. Sponsor: AFSAA.

AIR FORCE TECHNICAL APPLICATION CENTER

ENGLERT, JOHN W. *In-line Particulate Transport and Dispersion Modeling Using the Regional Atmospheric Modeling System (RAMS).* AFIT/GNE/ENP/05M-03, Faculty Advisor: Lt Col Steven T. Fiorino, (937) 255-3636 x4506. Sponsor: AFTAC (Air Force Technical Appplications Center).

SANDMAN, KARSON A. *Development of 2-Dimensional Cloud Rise Model to Analyze Initial Nuclear Cloud Rise.* AFIT/GNE/ENP/05-11, Faculty Advisor: Lt Col Steven Fiorino, (937) 255-3636 x4506. Sponsor: AFTAC (Air Force Technical Applications Center).

*SCHOOLS, CHAD C. *Feasibility Analysis of a Compton Spectrometer System for Identification of Special Nuclear Material.* AFIT/GNE/ENP/05-12, Faculty Advisor: Dr. Larry W. Burggraf, (937) 255-3636 x4507. Sponsor: DTRA/TDND and AFTAC/TMAT.

AIR FORCE WEATHER AGENCY

BONO, JAMES M. *Development of a Defense Meteorological Satellite Program (DMSP) F-15 Disturbance StormTime (Dst) Index.* AFIT/GAP/ENP/05-02, Faculty Advisor: Maj Devin Della-Rose, (937) 255-2012. Sponsor: Air Force Weather Agency.

3.3.10 DEPARTMENT OF DEFENSE

COOK, TIMOTHY J. *Optimal Maintenance for Stochastically Degrading Satellite Constellations.* AFIT/GOR/ENS/05-05, Faculty Advisor: Dr. Jeffrey P. Kharoufeh, (937) 255-3636 x4603. Sponsor: NRO.

GULYAS, COLE W. *Stochastic Capability Models for Degrading Satellite Constellations.* AFIT/GOR/ENS/05-07, Faculty Advisor: Dr. Jeffrey P. Kharoufeh, (937) 255-3636 x4603. Sponsor: NRO.

KEBODEAUX, CLYDE E. *Reducing the Fog of War in the Single Integrated Air Picture through Improved Data Fusion.* AFIT/GCS/ENG/05-09, Faculty Advisor: Lt Col Michael L. Talbert, (937) 255-2024. Sponsor: Joint Single Integrated Air Picture (SIAP) Systems Engineering Office/JSSEO.

MCALISTER, MATTHEW J. *Historical Analysis of the Awareness and Key Issues of the Insider Threat to Information Systems.* AFIT/GCS/ENV/05-01, Faculty Advisor: Capt David D. Bouvin, (937) 255-2998. Sponsor: National Defense University.

MCCONNELL, MICHAEL L. *An Approach for Optimizing the On-Orbit Servicing Architecture for the Space-Based Radar Constellation.* AFIT/GLM/ENS/05-17, Faculty Co-Advisors: Lt Col Stanley E. Griffis and Maj Victor D. Wiley, (937) 255-2549. Sponsor: Defense Advance Research Projects Agency.

WHALEY, KEVIN J. *A Knowledge Matrix Modeling of the Intelligence Cycle.* AFIT/GOR/ENS/05-18, Faculty Advisor: Dr. J.O. Miller, (937) 255-6565 x4326. Sponsor: NSSO.

DEFENSE THREAT REDUCTION AGENCY

CHANCELLOR, RICHARD W. *A Comparison of Hazard Predication and Assessment Capability (HPAC) Software Dose-Rate Contour Plots to a Sample of Local Fallout Data From Test Detonations in the Continental United States, 1945-1962.* AFIT/GNE/ENP/05-02, Faculty Advisor: Dr. Charles J. Bridgman, (937) 255-3636 x4877. Sponsor: DTRA/TDOC.

HOGSED, MICHAEL R. *Deep Level Defects in Electron-Irradiated Aluminum Gallium Nitride Grown by Molecular Beam Epitaxy.* AFIT/DS/ENP/05-01, Faculty Advisor: Dr. Yung Kee Yeo, (937) 255-3636 x4532. Sponsor: DTRA/CSNP.

JARZEN, THOMAS D. *Capacitance-Voltage Study on the Effects of Low Energy Electron Radiation on Al0.27Ga0.73N/GaN High Electron Mobility Transistor.* AFIT/GNE/ENP/05-05, Faculty Advisor: Dr. James C.Petrosky, (937) 255-3636 x4562. Sponsor: DTRA/CSNP.

KIMMEL, WARREN E. *Manufacture and Testing of an Activation Foil Package for Use in AFIDS.* AFIT/GNE/ENP/05-06, Faculty Advisor: Dr. James C. Petrosky, (937) 255-3636 x4562. Sponsor: DTRA HEADQUATERS.

ROTHENBUSH, FRED D. *Improved Multinuclide Imaging of Special Nuclear Material Using a High Purity Germanium Double Sided Strip Detector.* AFIT/GNE/ENP/05-09, Faculty Advisor: Dr. Larry W. Burggraf, (937) 255-3636 x4507. Sponsor: DTRA/TD.

*SCHOOLS, CHAD C. *Feasibility Analysis of a Compton Spectrometer System for Identification of Special Nuclear Material.* AFIT/GNE/ENP/05-12, Faculty Advisor: Dr. Larry W. Burggraf, (937) 255-3636 x4507. Sponsor: DTRA/TDND and AFTAC/TMAT.

SKAAR, ERIC T. *A Comparison of the Heft Subsurface and Delfic Particle Size Distributions and Effects in HPAC.* AFIT/ENP/GNE/05M-13, Faculty Advisor: Dr. Charles J. Bridgman, (937) 255-3636 x4877. Sponsor: DTRA/TDOC.

SPEAR, JEFFREY S. *Characterizing a Neutron Energy Spectrum using a "Forward Edge" Neutron Time-of-Flight Spectroscopy Technique.* AFIT/GNE/ENP/05-14, Faculty Advisor: Dr. James C. Petrosky, (937) 255-3636 x4562. Sponsor: DTRA.

TALKINGTON, ADAM S. *Blast Computation Methodologies Comparison in Visual Interactive Site Analysis Code (VISAC).* AFIT/GNE/ENP/05-15, Faculty Advisor: Dr. Ronald F. Tuttle, (937) 255-3636 x4536. Sponsor: DTRA/CSNP.

UHLMAN, TROY A. *Temperature Dependent Current-Voltage Measurements of Neutron Irradiated* $A1_{0.27}Ga_{0.73}N$*/GaN Modulation Doped Field Effect Transistors.* AFIT/GNE/ENP/05M-16, Faculty Advisor: Dr. James C. Petrosky, (937) 255-3636 x4562. Sponsor: DTRA/SCSNN.

NATIONAL SECURITY AGENCY

CHABOYA, DAVID J. *Advance Network Intrusion Detection System (NIDS) Evasion Techniques and Solutions.* AFIT/GCE/ENG/05-02, Faculty Advisor: Dr. Richard A. Raines, (937) 255-6565 x4278. Sponsor: NSA/DIO.

CLARSON, JOHN R. *Geolocation of a Node on a Local Area Network.* AFIT/GCS/ENG/05-05, Faculty Advisor: Dr. Rusty O. Baldwin, (937) 255-6565 x4445. Sponsor: NSA.

KLEFFMAN, MICHAEL D. *Analysis of Effects of BGP Black Hole Routing on a Network like the NIPRNET.* AFIT/GIA/ENG/05-01, Faculty Advisor: Maj Robert Graham, (937) 255-3636 x7256. Sponsor: NSA.

SULLIVAN, MATTHEW W. *National Security Agency (NSA) Systems and Network Attack Center (SNAC) Security Guides versus Known Worms.* AFIT/GIA/ENG/05-07, Faculty Advisor: Dr. Rusty O. Baldwin, (937) 255-6565 x4445. Sponsor: NSA.

SWEENEY, PATRICK J. *Enabling Intrusion Detection in IPSEC Protected IPV6 Networks Through Secret-Key Sharing.* AFIT/GCE/ENG/05-06, Faculty Advisor: Dr. Richard A. Raines, (937) 255-6565 x4278. Sponsor: NSA.

VIDERGAR, ALEXANDER G. *Simple Public Key Infrastructure Protocol Analysis and Design.* AFIT/GCE/ENG/05-07, Faculty Advisor: Maj Robert Graham, (937) 255-3636 x7256. Sponsor: NSA.

YEE, JASON WEI SUNG. *Efficient Generation of Social Network Data from Computer-Mediated Communication Logs.* AFIT/GCS/ENG/05-19, Faculty Advisor: Dr. Robert Mills, (937) 255-3636 x4527. Sponsor: NSA.

US CENTRAL COMMAND

ROBBINS, MATTHEW J. *Investigating the Complexities of Nationbuilding: A Sub-national Regional Perspective.* AFIT/GOR/ENS/05-16, Faculty Advisor: Dr. Richard F. Deckro, (937) 255-6565 x4325. Sponsor: CCJB-AR, CENTCOM.

US TRANSPORTATION COMMAND

GILL, MATTHEW M. *Output Analysis and Comparison of Deployment Models with Varying Fidelity.* AFIT/GLM/ENS/05-08, Faculty Advisor: Dr. Alan Johnson, (937) 255-3636 x4703. Sponsor: HQ US Transportation Command.

3.3.11 ARMY

BULSECO, JONATHAN D. *Controlling Sideslip Angle to Reduce the Radar Exposure of a Tactical, Rotary Winged UAV.* AFIT/GAE/ENY/05-M26, Faculty Advisor: Dr. Richard G. Cobb, (937) 255-3636 x4559. Sponsor: AMSRD-AMR-AE.

3.3.12 ENVIRONMENTAL PROTECTION AGENCY

TORRES, DAVID A. *Evaluation of Fuel Oxygenate Degradation in the Vadose Zone.* AFIT/GES/ENV/05M-05, Faculty Advisor: Dr. Charles A. Bleckmann, (937) 255-3636 x4721. Sponsor: EPA/National Risk Management Research Laboratory.

3.3.13 MARINE CORPS

KEEN, BEVIN J. *An Analysis of the Relationship Between Environmental Management and Environmental Compliance at Marine Corps Installations.* AFIT/GEM/ENV/05M-08, Faculty Advisor: Lt Col Ellen C. England, (937) 255-3636 x4711. Sponsor: Commandant of the Maine Corps.

3.3.14 NAVY

PRITCHARD, JAMES A. *A Redesigned Tail Rotor for Improvement of CH-53E High-Altitude Performance.* AFIT/GAE/ENY/05-M27, Faculty Advisor: Dr. Donald L. Kunz, (937) 255-3636 x4548. Sponsor: Naval Air Systems Command.

ROPP, DANIEL D. *Computational Fluid Dynamic Analysis of Mk-84 Carriage Loads on an F-18C with LITENING Pod.* AFIT/GAE/ENY/05-J10, Faculty Advisor: Lt Col Raymond C. Maple, (937) 255-3636 x4577. Sponsor: NAVAIR.

3.3.15 NON-FEDERAL ORGANIZATIONS

SPECIALIZED TECHNICAL SERVICES

THOMPSON, JASON I. *A Three Dimensional Helmet Mounted Primary Flight Reference for Paratroopers.* AFIT/GCS/ENG/05-18, Faculty Advisor: Dr. John F. Raquet, (937) 255-3636 x4580. Sponsor: Specialized Technical Services.

IDAHO NATIONAL ENVIRONMENTAL AND ENGINEERING LABORATORY

BRETT, GARY T. *Surface Oxidation Study of Uranium Dioxide Under Wet and Dry Conditions*. AFIT/GNE/ENP/05-01, Faculty Advisor: Dr. Larry W. Burggraf, (937) 255-3636 x4507. Sponsor: Idaho National Environmental and Engineering Laboratory.

THE HONEYNET PROJECT

ZEITZ, BRIAN P. *Early Warning and Prediction of Internet Attacks and Exploits*. AFIT/GIA/ENG/05-06, Faculty Advisor: Dr. Rusty Baldwin, (937) 255-6565 x4445. Sponsor: The Honeynet Project.

3.4 FUNDED PROJECTS

3.4.1 FUNDED RESEARCH PROJECTS

ABRAMSON, MARK A., Lt Col (ENC)

"Optimization Tools for DART Network Design." Sponsor: NOAA. Funding: $6,778.

ALLEY, THOMAS G., Lt Col (ENP)

"NLO Effects in Fibers and Their Application to High Energy Lasers." Sponsor: AFRL/AFOSR/MOA. Funding: $26,782.

ANTHENIEN, RALPH A., (ENY)

"Development of a Dynamic Model for a Towed Cable." Sponsor: AFMC/ASC/AANA. Funding: $5,000.

"Experimental Investigation of the Cavity-Vane Interaction in a Moderate Pressure Ultra Compact Combustor." Sponsor: AFMC/ASC/AANA. Funding: $5,000.

"Investigation of Cavity-Vane Interaction in an Ultra Compact Combustor." Sponsor: AFRL/AFOSR/NA. Funding: $44,541.

BALDWIN, RUSTY O., (ENG)

"Hardware-Accelerated Simulation." Sponsor: AFIWC. Funding: $16,738.

BAUER, KENNETH W., Jr (ENS)

"Sensor Fusion." Sponsor: AFMC/ACC/ESC. Funding: $17,000.

"Sensor Fusion." Sponsor: AFRL/AFOSR. Funding: $65,906.

BOHN, MATTHEW J., Lt Col (ENP)

"Covering TDY to New Mexico (Sandia National Lab)." Sponsor: CRADA: Batelle/Dept. of Energy. Funding: $1,000.

BURGGRAF, LARRY W., (ENP)

"Theoretical Studies on Oxidation Mechanisms and Spectroscopy for Ground State and Excited State SimCn Molecular Clusters." Sponsor: AFRL/AFOSR/NL. Funding: $1,270.

"Environmental Effects on the Spectroscopy and Stability of Uranium Compounds." Sponsor: AFTAC/TMN. Funding: $49,000.

"Spectroscopy and Kinetics of UO2 Fuel Oxidation, Hydrolysis and Radiolysis: Application to Radioactive Waste Management." Sponsor: DOE. Funding: $92,512.

CAIN, STEPHEN C., (ENG)

"Laser Vision Image Processing Algorithm Application." Sponsor: AFMC/ACC/ESC/SRCC. Funding: $14,008.

"Algorithm Study." Sponsor: AFMC/ACC/ESC/SRG/SPC. Funding: $10,000.

"Anisoplanatic Synthetic Aperature Image Reconstruction for Next Generation Laser Imaging Systems." Sponsor: AFRL/AFOSR/MOA. Funding: $26,587.

"3-D Synthetic Aperature Image Reconstruction." Sponsor: SAF/FMB. Funding: $53,412.

CANFIELD, ROBERT A., (ENY)

"Continuous Sensitivity Equations and Multi-Point Approximations for Coupled Aero-Structural Systems." Sponsor: AFRL/AFOSR/MOA. Funding: $27,307.

"Active Vibration Control of F-16 Ventral Fin." Sponsor: AFRL/VA. Funding: $23,959.

CHILTON, LAWRENCE K., (ENC)

"Outreach to Institutions of Higher Learning." Sponsor: High Performance Computing Modernization. Funding: $42,000.

CHRISSIS, JAMES W., (ENS)

"A Mixed Variable Generalized Pattern Search Approach for Optimization of Stochasitc Simulation Models." Sponsor: AFRL/AFOSR PM Discrete Mathematics & Optimization. Funding: $27,393.

COBB, RICHARD G., (ENY)

"Microsatellite Rendezvous with Non-Cooperative Targets." Sponsor: AFMC/ACC/NASIC. Funding: $20,000.

"Ballistic-Missile Reentry Dynamics Research." Sponsor: AFMC/ACC/NASIC/FT. Funding: $50,000.

"Closed-Loop Control of a Piezo Acutated Membrane Structure." Sponsor: AFRL/AFOSR/MOA. Funding: $36,904.

"Dynamics and Control of Tethered Formations." Sponsor: SAF/FMBMB. Funding: $20,000.

"Design and Operation of Near-Space Vehicles." Sponsor: SAF/FMBMB. Funding: $20,656.

DECKRO, RICHARD F., (ENS)

"AFIT/ENS and AFRL/HE Human Effectiveness Directorate MOA." Sponsor: AFRL/HEC. Funding: $100,000.

"Second Year of the Technology Development Effort Supporting the IOTC." Sponsor: NSA/CSS (NIETP). Funding: $80,791.

"Third Year of Technology Development Effort Supporting the IOTC." Sponsor: NSA/CSS (NIETP). Funding: $60,000.

"Operations Research in Support of the NSA." Sponsor: NSA/R55. Funding: $20,000.

DENHARD, DAVID R., Lt Col (ENS)

"AFIT Support to AFRL Effects-Based Operations Program." Sponsor: AFRL/IFSA. Funding: $23,795.

FELLOWS, JAMES A., Lt Col (ENG)

"Electrical and Optical Activation Studies of Acceptor Ion Implanted Wide Bandgap Semiconductors." Sponsor: AFRL/AFOSR/MOA. Funding: $30,909.

FICKUS, MATTHEW C., (ENC)

"Applications of Frames to Internet Coding, Wireless Communication, Speech Recognition and Quantum Information Theory." Sponsor: CRADA: University of Missouri-Columbia and NSF. Funding: $5,348.

FRANKE, MILTON E., (ENY)

"Study of Containers and Missile Release from a Cargo Aircraft." Sponsor: AFRL/MNAV. Funding: $10,000.

"Propulsion Concepts for Two Stage to Orbit Reusable Launch Vehicles." Sponsor: AFRL/PR. Funding: $12,500.

"Stage Separation in Combined Cycle Propulsion Systems for Reusable Launch Vehicles." Sponsor: AFRL/PR. Funding: $12,923.

"Propulsion Concepts for Reusable Launch Vehicles." Sponsor: AFRL/PRA. Funding: $15,000.

GERTS, DAVID W., Maj (ENP)

"Neutral Particle Transport for High Altitude Nuclear Detonations." Sponsor: AFTAC/TTA. Funding: $10,000.

GODA, MATTHEW E., Lt Col (ENG)

"Adaptive Optics Laboratory Test and Experimentation System." Sponsor: AFRL/AFOSR PIE DURIP. Funding: $110,770.

"Directed Energy Imaging and Atmospheric Propagation Support." Sponsor: AFRL/DE. Funding: $25,000.

"AFOSR BAA 2001-8, High-Energy Laser (HEL) Multi-Disciplinary Research Initiative (MRI)." Sponsor: AFRL/DE. Funding: $38,289.

"Ground -Based Spectral Imagery for Space Object Characterization." Sponsor: SWC/TCP. Funding: $886.

GOLTZ, MARK N., (ENV)

"Evaluation of Field Methods to Estimate Contaminant Mass Discharge." Sponsor: SERDP. Funding: $14,700.

"*In-Situ* Bioremediation of Perchlorate in Groundwater." Sponsor: SERDP. Funding: $24,244.

"Impacts of DNAPL Source Zone Treatment: Experimental and Modeling Assessment of the Benefits of Partial Source Removal." Sponsor: SERDP. Funding: $5,000.

GRAHAM, SCOTT R., Maj (ENG)

"Effective Utilization of Hybrid Communication Networks for Adaptive Military and Commercial Infrastructure." Sponsor: AFRL/AFOSR/MOA. Funding: $19,916.

GRIFFIS, STANLEY E., Lt Col (ENS)

"Study of Reusable Space Vehicle Logistics." Sponsor: AFRL/VAS (SOV ICO). Funding: $15,000.

GUSTAFSON, STEVE C., (ENG)

"Pattern Recognition Analysis of Toxicological Data." Sponsor: AFRL/HEST. Funding: $23,240.

HALE, TODD B., Maj (ENG)

"Wideband Waveform Diversity for Radar." Sponsor: AFRL/SN. Funding: $50,000.

"Technical Support, AFRL/SNRT." Sponsor: AFRL/SNRT. Funding: $28,050.

HAVRILLA, MICHAEL J., (ENG)

"Analysis of Waveguide Probes for Electromagnetic Material Characterization." Sponsor: AFRL/MLLP. Funding: $43,000.

"Enhancing Electromagnetic Waveguide Probes for Non-Destructive Evaluation." Sponsor: AFRL/MLLP. Funding: $10,533.

"Advancement of Electromagnetic Material Characterization Techniques." Sponsor: AFRL/SNA. Funding: $39,500.

"Advanced Coaxial and Waveguide Material Characterization Measurements." Sponsor: CRADA: Boeing DEF GRP. Funding: $42,110.

HOPKINSON, KENNETH M., (ENG)

"Effective Utilization of a Hybrid Communication Network." Sponsor: SAF/FMB. Funding: $49,720.

JACQUES, DAVID R., (ENY)

"Cooperative Control, Optimization and System Design for Autonomous Munitions." Sponsor: AFRL/MN. Funding: $15,000.

KHAROUFEH, JEFFREY P., (ENS)

"Remaining Lifetime Prognosis vis-a-vis Stochastic Degradation Models." Sponsor: AFRL/AFOSR/MOA. Funding: $11,742.

"Optimal Sampling of Chemical Hazard Area." Sponsor: AFRL/HEPC. Funding: $27,000.

"Degradation Based Lifetime Modeling." Sponsor: SAF/FMBMB-AFOY. Funding: $25,000.

KING, PAUL I., (ENY)

"Pulse Detonation Wave Propagation Through a Tube Array." Sponsor: AFRL/PRS. Funding: $2,847.

"Experimental Validation of WILDCAT Code Used for Optimization of Turbine." Sponsor: AFRL/PRTT. Funding: $5,000.

"Analysis of Dynamic Stability of Aerolastic Systems with Uncertainties." Sponsor: AFRL/VASD. Funding: $3,280.

KLADITIS, PAUL E., Maj (ENG)

"Protein Impregnated Polymer (PIP) Film Infrared Sensor Using Suspended Microelectromechanical Systems (MEMS) Pixels." Sponsor: AFRL/MLPJE. Funding: $6,277.

"Behavior-Based Power Scavenging Microrobots." Sponsor: AFRL/MNAV. Funding: $14,178.

"Design of Microscale Safe and Arm Devices ("S&A on a Chip")." Sponsor: AFRL/MNMF. Funding: $5,904.

KUNZ, DONALD L., (ENY)

"Performance Evaluation for Personal Recovery Vehicle (PRV)." Sponsor: AFMC/ASC/LUH. Funding: $25,796.

"Dynamics Modeling and Simulation of Automated Aerial Refueling." Sponsor: AFRL/VACD. Funding: $26,000.

LAMONT, GARY B., (ENG)

"Adaptive Filter using Wavelets with Genetic Algorithms." Sponsor: AFRL/IFTA. Funding: $33,000.

"Supplement for Proposal 2004-142." Sponsor: AFRL/SNDD. Funding: $5,000.

LIEBST, BRADLEY S., (ENY)

"HCF Behavior of Structural Materials for Gas Turbine Engines (Nicholas IPA)." Sponsor: AFMC/ASC/LPJ. Funding: $50,000.

"IPA Support for Dr. Nicholas, HCF Behavior of Structural Materials for Gas Turbine Engines at AFIT." Sponsor: AFRL/ML. Funding: $988.

"HCF Behavior of Structural Materials for Gas Turbine Engines, Nicholas IPA." Sponsor: AFRL/PRTS. Funding: $40,000.

"HCF Behavior of Structural Materials for Gas Turbine Engines (Nicholas IPA)." Sponsor: AFRL/VASM. Funding: $20,000.

LOTT, JAMES A., Lt Col (ENG)

"GaAs-Based Long Wavelength Quantum Dot Lasers." Sponsor: AFRL/AFOSR/MOA. Funding: $17,235.

"Reconfigurable Nano and Microsystems for Space." Sponsor: AFRL/VS. Funding: $30,000.

MALL, SHANKAR, (ENY)

"A Scanning Probe Based Technique for Simultaneous Mapping of Elastic and Adhesive Properties in Nanotube Reinforced Composites." Sponsor: AFRL/AFOSR/MOA. Funding: $39,532.

"Fretting Fatigue Damage Evaluation of Coatings." Sponsor: AFRL/ML. Funding: $20,000.

"Characterization of Fretting Fatigue Behavior in Titanium Alloys." Sponsor: AFRL/ML. Funding: $2,949.

"NDE Techniques for Fretting Fatigue Damage Evaluation." Sponsor: AFRL/ML. Funding: $30,000.

"Fretting Fatigue Damage Evaluation of Coatings." Sponsor: AFRL/MLBT. Funding: $20,000.

"Mechanical Behavior of Ceramics Matrix Composites under Combustion Atmosphere Environment." Sponsor: AFRL/MLLN. Funding: $100,000.

"Characterization of Creep Behavior of Oxide/Oxide." Sponsor: AFRL/PRTC. Funding: $5,000.

"Characterization of MEMS Switches." Sponsor: AFRL/SN. Funding: $10,000.

"Residual Strength Behavior of Cracked Panels Repaired with Bonded Composite Patch." Sponsor: AFRL/VASM. Funding: $23,657.

"Performance Degradation of MEMS Switches." Sponsor: NRO. Funding: $91,194.

MAPLE, RAYMOND C., Lt Col (ENY)

"Research Support to Air Force Seek Eagle Office." Sponsor: 46 SK/SKE. Funding: $12,388.

"Fluid-Structure Interaction in Low Reynolds Number Flapping Flight." Sponsor: AFRL/VASD. Funding: $16,039.

"Investigation of Store-Induced Limit Cycle Oscillation." Sponsor: AFRL/VASD. Funding: $5,939.

"Computational and Experimental Aerodynamic Study of AFT Store Release for a Common Aero Vehicle Under Supersonic Conditions." Sponsor: AFRL/VAAI. Funding: $10,000.

MARCINIAK, MICHAEL A., (ENP)

"Time-Resolved Luminescence Spectroscopy to Determine Carrier Dynamics in Mid-Infrared Semiconductor Quantum Well Opto-Electronic Devices for Air Force Applications." Sponsor: AFRL/AFOSR/MOA. Funding: $68,578.

"Stress Analysis of SiC MEMS Fuzes Using Raman Spectroscopy." Sponsor: AFRL/MNGS. Funding: $5,534.

MATHEWS, KIRK A., (ENP)

"AFTAC/TM -- AFIT/EN MOA 2005 Research." Sponsor: AFTAC/TMA. Funding: $50,000.

MAYBECK, PETER S., (ENG)

"Cost-Function-Based Gaussian Mixture Reduction Applied to Target Tracking." Sponsor: AFRL/AFOSR/NM. Funding: $81,868.

MCMULLAN, RICHARD J., Maj (ENY)

"Scramjet Flow Field Control Using Magnetogasdynamics." Sponsor: AFRL/AFOSR/MOA. Funding: $38,213.

"Investigation on Coupling Direct Simulation Monte Carlo and Continuum CFD Solvers." Sponsor: AFRL/VAAC. Funding: $5,000.

MCNUTT, ROSS T., Lt Col (ENV)

"Project Angel Fire Development." Sponsor: USSTRATCOM/J3XR. Funding: $500,000.

MILLER, JOHN O., (ENS)

"Air Force Standard Analysis Toolkit (AFSAT) Support." Sponsor: AFMC/ASC/SIMAF. Funding: $50,000.

"Air Force Standard Analysis Toolkit (AFSAT) Support." Sponsor: AFSAA. Funding: $65,000.

"Research Support for NSSA." Sponsor: NSSA. Funding: $7,090.

MILLS, ROBERT F., (ENG)

"Development of an Insider Threat Laboratory." Sponsor: NSA/CSS. Funding: $20,000.

MOORE, JAMES T., (ENS)

"Application of Metaheuritstics to Air Force Problems." Sponsor: AFRL/AFOSR/NM. Funding: $82,776.

MULLINS, BARRY E., (ENG)

"Technical Support, Air Force Communication Systems Modeling." Sponsor: AFCA/ITAI. Funding: $64,000.

NIDAY, THOMAS A., Capt (ENP)

"Modeling and Simulation of the Dynamics and Applications of Light Filaments." Sponsor: AFRL/AFOSR/MOA. Funding: $30,229.

OXLEY, MARK E., (ENC)

"Multiple Look Fusion for Improved Collaborative Tracking." Sponsor: AFRL/SNAT. Funding: $20,000.

"Mathematical Theory of the Integration of Sensing, Processing, and Exploitation." Sponsor: DARPA. Funding: $37,859.

PACHTER, MEIR, (ENG)

"Cooperative Control and Estimation." Sponsor: AFRL/AFOSR/MOA. Funding: $72,095.

"Cooperative Control, Optimization and System Design for Autonomous Munitions." Sponsor: AFRL/MN. Funding: $15,000.

"Cooperative Control." Sponsor: AFRL/VACA. Funding: $20,000.

PALAZOTTO, ANTHONY N., (ENY)

"Gouging Mitigation by Considering the Effects of Coatings, Nonequilibrium Thermodynamics and Material Failure." Sponsor: AFRL/AFOSR/NM. Funding: $119,526.

"Thermal Evaluations of Polymers." Sponsor: AFRL/MLBC. Funding: $5,000.

"High Cycle Fatigue." Sponsor: AFRL/PRTS. Funding: $25,000.

"Acoustic Effects on Plates." Sponsor: AFRL/VASM. Funding: $18,108.

"Functionally Graded Material (FGM)." Sponsor: AFRL/VASM. Funding: $20,000.

PATTERSON, KIRK A., Maj (ENS)

"Customer Relationship Management Study." Sponsor: AFMC/LGSP. Funding: $6,450.

PERRAM, GLEN P., (ENP)

"Manufacture of YBCO Tapes: Gas Phase Optical Diagnostics." Sponsor: AFRL/AFOSR/NL. Funding: $58,134.

"Closed Cycle Chemical Laser: ElectriCOIL." Sponsor: AFRL/AFOSR/NL. Funding: $143,924.

"High Energy Laser Weapons: Modeling and Simulation Phase IIB, Delivery of Engagement Codes." Sponsor: HEL-JTO. Funding: $216,587.

"Passive Ranging Using Atmospheric Oxygen Absorption Spectrum." Sponsor: HEL-JTO. Funding: $420,000.

"Multi-Band Imagery and Spectral Signatures of Flashless Gunpowder." Sponsor: NAVY/Naval Surface Warefare Center/Crane Center (TPL, Inc.). Funding: $18,896.

"Hyperspectral Imaging using Chromotomography." Sponsor: NRO. Funding: $60,000.

PERRY, MARCUS B., (ENS)

"Battle Damage Assessment (BDA) Enhancement Methodology." Sponsor: ARMY HQ C4ISR FACT (Army Model and Simulation Office). Funding: $70,000.

PETERSON, GILBERT L., (ENG)

"Multi-Vehicle Cooperative Control in an Adversarial Environment." Sponsor: AFRL/AFOSR/MOA. Funding: $28,957.

"Support for Multiple Vehicle Mapping and Target Localization." Sponsor: AFRL/SNAT. Funding: $8,000.

PETROSKY, JAMES C., (ENP)

"Studies and Educational Activities in Applied Nuclear Sciences." Sponsor: DTRA/Consequence Assessment Branch. Funding: $90,000.

QUINN, DENNIS W., (ENC)

"Determining and Modeling Gene/Protein Networks." Sponsor: AFRL/AFOSR/MOA. Funding: $24,737.

"Transitioning DARPA BioSpice: The Application of BioSpice Tools in Solving Problems of Interest to the DoD Research Community." Sponsor: DARPA. Funding: $49,520.

RAINES, RICHARD A., (ENG)

"Additional Travel Request in Support of AFIT Proposal 2005-095." Sponsor: NSA/CSS (NIETP). Funding: $7,262.

RAQUET, JOHN F., (ENG)

"Advanced GPS Technology and Use of Pseudolites for Flight Reference System Development." Sponsor: 746TS. Funding: $3,822.

"Initial JPALS TSPI System Development." Sponsor: 746TS. Funding: $45,000.

"Improved Algorithms for Target Tracking." Sponsor: AFRL/AFOSR. Funding: $7,430.

"Advanced Navigation Technology Sensor Suite." Sponsor: AFRL/AFOSR PIE DURIP. Funding: $104,774.

"Real-Time MEMS INS/GPS Intergration for Head Tracking." Sponsor: AFRL/HECB. Funding: $27,000.

"Alternative Navigation Techniques." Sponsor: AFRL/MNGI. Funding: $50,000.

"INS Simulation and Modeling for Hardware-in-the-loop Simulation." Sponsor: AFRL/SNR. Funding: $23,464.

"Characterizing the Impact of Precision Time and Range Measurements on Network Position Solutions." Sponsor: SAF/FMB. Funding: $34,700.

"Initial JPALS TSPI System Development." Sponsor: SMC/GPU. Funding: $50,000.

"Canis-Related Navigation Research Projects for the ANT Laboratory." Sponsor: AFRL/SN. Funding: $100,000.

REEDER, MARK F., (ENY)

"Analysis of the Static Directional Stability of the E-8C Joint STARS Aircraft." Sponsor: AFMC/ACC/ESC/JTF/DY. Funding: $14,500.

"Effect of Flow Control on Submerged Inlet Performance Utilizing Advanced Flow Diagnostics." Sponsor: AFRL/AFOSR/NA. Funding: $15,000.

"Combined Computational and Experimental Aerodynamic Study of a Micro Air Vehicle." Sponsor: AFRL/MNAV. Funding: $25,000.

"Determination of Aeroelastic Effects of Flexible Wings on Low Reynolds Number Aerodynamics." Sponsor: AFRL/VAAA. Funding: $10,000.

"Wright Center of Innovation Projects Related to Power and Propulsion." Sponsor: CRADA: Ohio Third Frontier Action Fund. Funding: $30,000.

ROH, WON B., (ENP)

"Nonlinear Optical Effects in Fibers and Their Applications to High Energy Lasers." Sponsor: AFRL/DEL. Funding: $75,512.

RUGGLES-WRENN, MARINA B., (ENY)

"Effects of Physical Aging and Chemical Degradation on Mechanical Behavior of High-Temperature Polymer Matrix Composites." Sponsor: AFRL/AFOSR/MOA. Funding: $29,368.

"Rate-Sensitivity and Short Term Relaxation Behavior of PMR-15 Polymer at Room Temperature and at 550 deg F." Sponsor: AFRL/MLBCM. Funding: $2,034.

"Creep and Creep Fatigue Behavior of Oxide-Oxide Ceramic Composites at Elevated Temperature." Sponsor: AFRL/PRTC. Funding: $5,000.

SEO, JOHN Maj (ENY)

"JFCOM-Joint Fires Systems Engineering Support." Sponsor: JFCOM (J8). Funding: $10,000.

STARMAN, LaVERN A., Capt (ENG)

"Autonomous Power Scavenging Microrobots." Sponsor: AFRL/SND. Funding: $25,947.

TALBERT, MICHAEL L., Lt Col (ENG)

"Investigation of Microstrip and Strip Transmission Lines with Thick Center Conductors." Sponsor: AFRL/AFOSR/MOA. Funding: $17,539.

TEMPLE, MICHAEL A., (ENG)

"Technical Support: Platform Connectivity Branch, Software Defined Radios." Sponsor: AFRL/IFGD. Funding: $30,000.

"Graduate Research Support, AFRL/SNHE: Radar Waveform Diversity." Sponsor: AFRL/SNHE. Funding: $10,000.

"Phase II Technical Support, RF Sensor Technology Division." Sponsor: AFRL/SNR. Funding: $36,162.

TENNEY, CURTIS G., Lt Col (ENV)

"Cost Analysis Research in Support of OSD Program Analysis and Evaluation." Sponsor: OSD/PA&E. Funding: $12,865.

"Research in Support of Cost Estimating and Resource Analysis at AFIT." Sponsor: OSD/PA&E/CAIG. Funding: $25,000.

TERZUOLI, ANDREW J., Jr (ENG)

"Remote Sensing and Communications for MASINT." Sponsor: AFMC/ACC/NASIC/DEM. Funding: $100,000.

"ECM Against Passive Radar." Sponsor: AFRL/SNR. Funding: $26,000.

TUTTLE, RONALD F., (ENP)

"Signatures of Underground Facilities." Sponsor: AFMC/ACC/NASIC/DEM. Funding: $100,000.

"Cross-Modal Analysis of Planning Meetings." Sponsor: CRADA: NSA/VACE (ARDA). Funding: $57,263.

WALTER, JOERG Maj (ENY)

"Architectural Design for Micro-Aerial Vehicle Systems." Sponsor: AFRL/MNAV. Funding: $23,672.

"Mini/Micro Unmanned Aerial Vehicle Architecture Development." Sponsor: AFRL/SNAR. Funding: $10,000.

WHITE, EDWARD D., III (ENC)

"Regression Modeling of Cost and Schedule Predictions." Sponsor: AFCAA. Funding: $23,700.

WOOD, AIHUA W., (ENC)

"The Stability of Three-Dimensional Electromagnetic Computations Using Time-Domain Hybrid Methods." Sponsor: AFRL/AFOSR/MOA. Funding: $31,374.

YEO, YUNG KEE, (ENP)

"SiC and SiO_2 Characterization for Device Applications (Continuation of 2002-003)." Sponsor: AFRL/AFOSR. Funding: $29,524.

"Magnetic Properties of Cr- and Mn-Implanted GaN." Sponsor: AFRL/AFOSR/MOA. Funding: $176,850.

3.4.2 FUNDED EDUCATIONAL PROJECTS

PERRAM, GLEN P., (ENP)

"2005 AFIT E2S2I DE Internships." Sponsor: Directed Energy Professional Society's Educational Committee. Funding: $30,000.

"High Energy Laser Weapons Systems Short Course." Sponsor: Directed Energy Professional Society's Educational Committee. Funding: $100,000.

PETROSKY, JAMES C., (ENP)

"Studies and Educational Activities in Applied Nuclear Sciences." Sponsor: DTRA. Funding: $116.

"Studies and Educational Activities in Applied Nuclear Sciences." Sponsor: DTRA. Funding: $17,770.

RAINES, RICHARD A., (ENG)

"Technical, Teaching and Resource Support for the Software Protection Initiative and Center for INFOSEC Education and Research." Sponsor: AFRL/SNA. Funding: $238,240.

"Tuition and Resource Support for the AFIT Center for Information Security Education and Research (CISER)." Sponsor: NSA/CSS (NIETP). Funding: $326,424.

SEO, JOHN Maj (ENY)

"Systems Architecture Course Development and Architectural Design for Global Force Management." Sponsor: AF HQ SSG/ILMP. Funding: $18,824.

"Systems Architecture Course Development and Architectural Design for Global Force Management." Sponsor: AF/XIWA. Funding: $70,000.

TUTTLE, RONALD F., (ENP)

"Advance Geospatial Intelligence Education." Sponsor: NGA. Funding: $750,000.

"Online MASINT Journal." Sponsor: NGA. Funding: $30,000.

"Online MASINT Journal." Sponsor: NGA. Funding: $8,000.

3.5 REFEREED JOURNAL PUBLICATIONS

[*Denotes duplicate entry, multiple faculty authors.]

ALLEY, THOMAS G., Lt Col (ENP)

*Grime, B. W., W. B. Roh, and T. G. Alley, "Phasing of a Two-Channel Continuous-Wave Master Oscillator-Power Amplifier by Use of a Fiber Phase-Conjugate Mirror," *Optics Letters, 30*(18):2415-2417 (Sep 2005).

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Josyula, E. and William F. Bailey, "Vibrational Population Enhancement in Nonequilibrium Dissociating hypersonic Nozzle Flows," *Journal of Thermophysics and Heat Transfer, 18*(4):550-552 (Oct 2004).

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McMullen, P. and J. E. Bell, "Ant Colony Optimization Techniques for the Vehicle Routing Problem," *Advanced Engineering Informatics*, Dec 2004, Vol. 18, No. 1, pp. 41-48.

CAIN, STEPHEN C., (ENG)

*Abel, Nathan J., Michael A. Marciniak, Mitchell B. Haeri, and Stephen C. Cain**,** **"**Wave-Optics Modeling of Aberration Effects in Optical Cross Section Measurements," *Optical Engineering*, Aug 2005, Vol. 44, No. 8, SPIE Paper #084302.

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*Scott, Matthew A., Richard F. Deckro, and James W. Chrissis, "Modeling and Analysis of Multicommodity Network Flows via Goal Programming," *INFOR: Information Systems and Operational Research*, (Special Issue: *Goal Programming Model: Theory and Application Part III*), May 2005, Vol. 43, No. 2, pp. 93-110.

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*Moody, D. C., R. A. Raines, R. G. Cobb, and A. N. Palazotto, "The Design and Analysis of a Space-Based Experiment for Inflatable Structures," *Transactions of the Association of Old Crows*, Oct 2004, Vol. 1, No. 1, pp. 106-134.

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DELLA-ROSE, DEVIN J., Maj (ENP)

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3.6 OTHER PUBLICATIONS

[*Denotes duplicate entry, multiple faculty authors.]

3.6.1 GRADUATE RESEARCH PAPERS

(NOTE: Students in non-thesis graduate program at AFIT may write graduate research papers. Substantive papers are reported here upon the recommendation of the department.)

3.6.1.1 APPLIED COMPUTING (IGAC)

DEMERS, DARREN J. *An FPGA-Based Communication Protocol with CRC Error Detection.* AFIT/IGAC/ENG/05-01, Faculty Advisor: Maj Matthew Goda, (937) 255-3636 x4614. Sponsor: N/A.

3.6.1.2 COMMAND, CONTROL, COMMUNICATIONS, COMPUTERS AND INTELLIGENCE (C4I) SYSTEMS (IC4)

BOWMAN, ERIK C. *Multi-Level Security Distributed Architecture for the Single Integrated Space Picture (SISP).* AFIT/IC4/ENG/05-01, Faculty Advisor: Lt Col Michael L. Talbert, (937) 255-2024. Sponsor: AFSPC/DRNC.

GOLOVACH, JOSEPH M., Jr. *Security of RSA Cryptography*. AFIT/IC4/ENG/05-02, Faculty Advisor: Dr. Henry Potoczny, (937) 255-3636 x4282. Sponsor: N/A.

MULLIGAN, DAVID L. *Requirements Feasibility Analysis for Use of a Phased Array Antenna in the Air Force Satellite Control System.* AFIT/IC4/ENG/05-03, Faculty Advisor: Dr. Robert Mills, (937) 255-3636 x4527. Sponsor: AFSPC/DRZN.

NARUM, JERALD H. *IEEE 802.11 Wireless Security Implications of DoD Directive 8100.2.* AFIT/IC4/ENG/05-04, Faculty Advisor: Dr. Richard A. Raines, (937) 255-6565 x4278. Sponsor: AF-CIO/PO.

SASSAMAN, DARYL A. *Model of Information Flow to the Director of Mobility Forces (DIRMOBFOR) for Operational Decision Making.* AFIT/IC4/ENG/05-05, AFIT/EN/TR-06-03, Faculty Advisor: Dr. Robert Mills, (937) 255-3636 x4527. Sponsor: N/A.

3.6.1.3 COMPUTER SCIENCE / COMPUTER SYSTEMS (GCS)

MELLARS, DOUGLAS J. *Concept to Improve the Efficiency and Effectiveness of the Air Force Evaluation Process.* AFIT/GCS/ENV/05J-01G, Faculty Advisor: Dr. Alan R. Heminger, (937) 255-3636 x7405. Sponsor: N/A.

3.6.1.4 GRADUATE MOBILITY MANAGEMENT (GMO)

BRIGGS, RAYMOND E. *Multiple Criteria Decision Making in the Air Force Logistics Balanced Scorecard*. AFIT/GMO/ENS/05-01, Faculty Advisor: Lt Col Stanley E. Griffis, (937) 255-2549. Sponsor: HQ AMC/A4.

COLLETT, CHRISTOPHER B. *Analysis of C-17 Strategic Brigade Airdrop from Strategic Warning to Launch*. AFIT/GMO/ENS/05-02, Faculty Advisor: Dr. James T. Moore, (937) 255-3636 x4528. Sponsor: N/A.

DOW, JODY B. *The Emergence of the Air Force Contingency Response Group*. AFIT/GMO/ENS/05-03, Faculty Advisor: Lt Col Stephan P. Brady, (937) 255-2549. Sponsor: N/A.

FLETCHER, ROBERT L. *Transforming Air Mobility Command*. AFIT/GMO/ENS/05-04, Faculty Advisor: Dr. Michael T. Rehg, (937) 255-3636 x4574. Sponsor: N/A.

HASSTEDT, STEVEN C. *The Distribution Process Owner: A First Step Towards Single Process Support*. AFIT/GMO/ENS/05-05, Faculty Advisor: Lt Col Stephan P. Brady, (937) 255-2549. Sponsor: USTRANSCOM/TCDC.

HENDERSON, CHARLES R. *CONUS Prepositioned Afloat Aircraft Carriers: A Concept for Mobilizing Heavy Brigades*. AFIT/GMO/ENS/05-06, Faculty Advisor: Lt Col Stephan P. Brady, (937) 255-2549. Sponsor: USTRANSCOM/TCDC.

LANDIS, DALE L., Jr. *Integrated Flight Management and Departure Reliability*. AFIT/GMO/ENS/05-07, Faculty Advisor: Dr. James T. Moore, (937) 255-3636 x4528. Sponsor: AMC/A3.

LOCKHART, WILLIAM D., IV. *The Medium Lift Airlift Gap: Finding a Niche for the C-27 J*. AFIT/GMO/ENS/05-08, Faculty Advisor: Dr. James T. Moore, (937) 255-3636 x4528. Sponsor: N/A.

MONGOLD, MICHAEL B. *Impact of the Pure Pallets on the Effectiveness and Efficiency of the Defense Transportation System*. AFIT/GMO/ENS/05-09, Faculty Advisor: Dr. Alan W. Johnson, (937) 255-3636 x4703. Sponsor: N/A.

MOTT, DAVID R. *Formulating a Strategy to Retain the Mobility Pilot*. AFIT/GMO/ENS/05-10, Faculty Advisor: Dr. Alan W. Johnson, (937) 255-3636 x4703. Sponsor: AMC/A1.

PHILLIPS, WILL H., III. *Outsourcing and Privatization: Its Role w/Causing the Vehicle Operations Career Field (2T1XX) to Become an AEF Stressed Career Field*. AFIT/GMO/ENS/05-11, Faculty Advisor: Lt Col Stephan P. Brady, (937) 255-2549. Sponsor: N/A.

ROTH, JOSEPH R. *Using Future Total Force Concepts to Increase Strategic Airlift Availability.* AFIT/GMO/ENS/05-12, Faculty Advisor: Dr. Alan R. Heminger, (937) 255-3636 x7405. Sponsor: N/A.

STARK, ANDREW J. *Generating Base Opening and Operating Capacity for Air Mobility Force Delivery: Improving Materiel Handling*. AFIT/GMO/ENS/05-13, Faculty Advisor: Lt Col Stephan P. Brady, (937) 255-2549. Sponsor: N/A.

TWIFOLD, JAMES R. *Reengineering Nuclear Airlift*. AFIT/GMO/ENS/05-14, Faculty Advisor: Dr. Alan R. Heminger, (937) 255-3636 x7405. Sponsor: N/A.

VOIGT, JEANETTE M. *Optimization of Strategic Airlift En Route Throughput to Support the Global War on Terrorism*. AFIT/GMO/ENS/05-15, Faculty Advisor: Lt Col Robert T. Brigantic, (937) 255-2549. Sponsor: N/A.

VOIGT, KYLE D. *AMC'S Aircrew/Aircraft Tasking System: A Research-Oriented Design Improvement.* AFIT/GMO/ENS/05-16, Faculty Advisor: Lt Col Stephan P. Brady, (937) 255-2549. Sponsor: AMC/A3.

3.6.1.5 LOGISTICS MANAGEMENT (IMLM)

ALSING, MAURICE O. *A Heuristic Decision Making Model to Mitigate Adverse Consequences in a Network Centric Warfare / Sense and Respond System.* AFIT/MLM/ENS/05-01, Faculty Advisor: Maj John Bell, (937) 255-3636 x4708. Sponsor: N/A.

FISCH, JOHN N. and DAVID M. KOCH. *Towards an Effective Management Strategy for Passive RFID Implementation.* AFIT/MLM/ENS/04-05, Faculty Advisor: Dr. William A. Cunningham, (937) 255-6565 x4283. Sponsor: N/A.

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KUENZLI, DAVID P. *Analysis of Allowance Cabin Load Planning Factors for Strategic Contingency Airlift Missions.* AFIT/MLM/ENS/05-07, Faculty Advisor: Dr. Alan Johnson, (937) 255-3636 x4703. Sponsor: AFRL/AFOSR/NM.

LEWIS, JEREMY R. *Performance Evaluation of a Forward Arming and Refueling Point (FARP) Using Discrete Event Simulation.* AFIT/MLM/ENS/05-08, Faculty Advisor: Maj John Bell, (937) 255-3636 x4708. Sponsor: N/A.

SUNDVALL, TIMOTHY J. *En Route Maintenance Support for Fighter Deployments: Is Esta the Only Answer?* AFIT/MLM/ENS/05-11, Faculty Advisor: Dr. Alan W. Johnson, (937) 255-6565, x4703. Sponsor: N/A.

THATCHER, SCOTT A. *Using Simulation Modeling to Demonstrate the Theory of Constraints on Joint Undergraduate Naval Flight Officer Training.* AFIT/MLM/ENS/05-12, Faculty Advisor: Maj Kirk A. Patterson, (937) 255-3636 x4653. Sponsor: N/A.

3.6.1.6 OPERATIONAL SCIENCES (IGOS)

ALFORD, LEWIS E. and BRIAN A. DUDAS. *Developing a Validation Methodology for Tacair Soar Agents in EAAGLES.* AFIT/GOS/ENS/05-01, Faculty Advisor: Dr. J.O. Miller, (937) 255-6565 x4326. Sponsor: ASC/XR.

BARNÉS, WALDEMAR F. *C-17 Centerlining – Analysis of Paratrooper Trajectory.* AFIT/GOS/ENS/05-02, Faculty Advisor: Dr. J.O. Miller, (937) 255-6565 x4326. Sponsor: ASC/ENFA/ATTLA (Air Transportability Test Loading Agency).

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FATUR, ROY P. *Influencing Trasnational Terrorist Organizations: Using Influence Nets to Prioritize Factors.* AFIT/GOS/ENS/05-06, Faculty Advisor: Dr. Richard F. Deckro, (937) 255-6565 x4325. Sponsor: N/A.

GARNER, RUSSELL S. and PAUL A. VILLEM. *Fighter Pilot Inventory and Requirements Model; A Ten Year Look with Impact of UAV Increase.* AFIT/ENS/GOS-05, AFIT/EN/TR-05-02, Faculty Advisor: Lt Col David Denhard, (937) 255-3636 x4624. Sponsor: AFPC/DPAO.

HASSLER, ROBERT T. *An Excel-Based Surveillance Planning and Scoring Tool for the Scud Hunting Mission.* AFIT/GOS/ENS/05-08, Faculty Co-Advisors: Lt Col Jeffery D. Weir, (937) 255-3636 x4538, and Dr. J.O. Miller, (937) 255-6565 x4326. Sponsor: ACC/DRY.

JANSONS, JURIS L. *A Primer and Guide to Modeling for Operators.* AFIT/GOS/ENS/05-09, Faculty Advisor: Dr. John O. Miller, (937) 255-6565 x4326. Sponsor: N/A.

UMSTEAD, ROBERT K. *Effects-Based Decision Making the War on Terror.* AFIT/GOS/ENS/05-15, Faculty Advisor: Lt Col David Denhard, (937) 255-3636 x4624. Sponsor: United States Pacific Command J3.

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3.6.1.7 SYSTEMS ENGINEERING (ISE)

CONNER, KEVIN P., PAUL C. LAMBERSTON, and MATTHEW S. ROBERSON. *Analyzing the Air Operations Center (AOC) Air Tasking Order (ATO) Process Using Theory of Constraints (TOC).* AFIT/ISE/ENY/05-J01, Faculty Advisor: Lt Col John Colombi, (937) 255-3355 x3477. Sponsor: 505th Training Squadron.

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JAMISON, THERESA A., PHILLIP A. LAYMAN, BRICE T. NISKA, and STEVEN P. WHITNEY. *Evaluation of Enterprise Architecture Interoperability.* AFIT/ISE/ENY/05-J02, Faculty Advisor: Lt Col John Colombi, (937) 255-3355 x3347. Sponsor: N/A.

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NISKA, BRICE T. See JAMISON, THERESA A.

PAVEK, DWIGHT F. See DOBRONSKI, STEPHEN J.

ROBERSON, MATTHEW S. See CONNER, KEVIN P.

WARD, SCOTT L. See DOBRONSKI, STEPHEN J.

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3.6.2 FACULTY PAPERS

ALLEY, THOMAS G., Lt Col (ENP)

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*Nilsen, J. K., M. E. Franke, R. A. Anthenien, and J. P. Barnett, "Staging Variables on Two-Stage-To-Orbit Reusable Launch Vehicles," *AIAA Space 2005 Conference and Exposition*, Paper # AIAA-2005-6685, 11 pps, Long Beach, CA, 31 Aug – 1 Sep 2005.

Lin, K. C., D. R. Dixon, C. D. Carter, T. A. Jackson and R. A. Anthenien, "Effects of Injection Angle on Structures of Aerated-Liquid Jets in Supersonic Crossflow," *18th Annual Institute for Liquid Atomization and Spray Systems Conference*, Irvine, CA, May 2005.

Greenwood, R., R. A. Anthenien and J. Zelina, "Computational Analysis of the Ultra Compact Combustor," *43rd Aerospace Sciences Meeting*, Paper # AIAA-2005-0220, Reno, NV, 11-15 Jan 2005.

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Josyula, E. and William F. Bailey, "Multiquantum Vibrational Energy Exchanges in Nonequilibrium Hypersonic flows," *Proceedings of the AIAA Thermophysics Conference*, AIAA Paper # 2005-5204, Toronto, Canada, Jun 2005.

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*Butts, J. W., R. F. Mills, and R. O. Baldwin, "Developing an Insider Threat Model Using Functional Decomposition," *Proceedings of the Third International Workshop on Mathematical Methods, Models and Architectures for Computer Networks Security Workshop*, MMM-ACNS, pp. 412-417, St. Petersburg, Russia, Sep 2005.

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*Lawson, J. T., R. A. Raines, R. O. Baldwin, T. C. Hartrum, and K. Littlejohn, "Modeling Adaptive Middleware and Its Application to Military Tactical Datalinks," *2004 IEEE Military Communications Conference(MILCOM 2004*), pp. 975-980, Monterey, CA, Oct-Nov 2004.

Redwine, S. T. (ed.), R. O. Baldwin, M. L. Polydys, S. T. Redwine, and D. P. Shoemaker, "Secure Common Body of Knowledge: Development, Sustainment, and Acquisition," Workforce Education and Training Group, Department of Defense and Department of Homeland Security, 239 pp., Sep 2005.

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Downey, J. P. and S. E. Bartczak, "Toward a Comprehensive Framework: EUC Research Issues and Trends (1990-2000)," *Advanced Topics in Organizational and End User Computing (EUC)*, Vol. 4, 2005.

BELL, JOHN E., Maj (ENS)

*Griffis, Stanley E. and John E. Bell, "A Comparison of Algorithms for Logistics-Oriented Vehicle Routing Problems," *Annual Conference Proceedings of the Western Decision Science Institute*, Vancouver, B.C., Canada, Mar 2005.

BLECKMANN, CHARLES A., (ENV)

*Sitzabee, W. E., C. A. Bleckmann and E. C. England, "An Evaluation of Endangered Species Act Exemptions in the Department of Defense and the U.S. Air Force," *Federal Facilities Environmental Journal*, *15*:19-28, 2004.

BLUE, PAUL A., Maj (ENY)

*Larson, R. A., M. J. Mears, and P. A. Blue, "Path Planning for Unmanned Air Vehicles to Goal States in Operational Environments," *AIAA Infotech@Aerospace Conference*, Washington, DC, 26-29 Sep 2005.

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Beck, Eric V., Larry W. Burggraf, and Jean-Phillippe Blaudeau, "The Effect of Uranium 5d Electrons on Theoretical Calculations of the Ground and Excited States of the Uranyl (UO_2^{2+}) Ion," *Proceedings of the American Nuclear Society Winter National Meeting*, Nuclear Engineering Education Research, Washington D.C., Nov 2004.

Khaskelis, Anthony, Larry W. Burggraf, Rich Schueneman, and Gary Brett, "Uranium Oxide Weathering," *Proceedings of the American; Nuclear Society Winter National Meeting*, Nuclear Engineering Education Research, Washington D.C., Nov 2004.

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Sabo, D. and S. Cain, "Registration Techniques for Speckle Suppression in 2-D LIDAR Image Sequences," *Proceedings of SPIE - The International Society for Optical Engineering*, vol. 5672, Jan 2005.

*Blake, T., M. Goda, S Cain, V. Gamiz, and K. Jerkatis, "Analysis and First-Order Model of the Aura Spectral Imaging Sensor," *2005 Space Control Conference*, Lexington, MA.

MacDonald, A. and S. Cain, "Derivation and Application of an Anisoplanatic Optical Transfer Function for Blind Deconvolution of Laser Radar Imagery," *Proceedings of SPIE - The International Society for Optical Engineering*, vol. 5896, Aug 2005.

*Blake, T., S. Cain, M. Goda, and V. Gamiz, "Spectral Image Deconvolution Using Sensor Models," *Proceedings of SPIE - The International Society for Optical Engineering*, vol. 5896, Aug 2005.

Strong, D. and S. Cain, "Spatial Frequency Bounds of a Polarimetric Sensor," *Air Force Maui Optical and Supercomputing Site (or Maui Space Surveillance Site) (AMOS) Technical Conference*, Sep 2005.

CANFIELD, ROBERT A., (ENY)

*Canfield, Robert A., Shawn D. Morgenstern and Donald L. Kunz, "Alleviation of Buffet-Induced Vibration Using Piezoelectric Actuators," *II ECCOMAS Thematic Conference on Smart Structures and Materials*, Lisbon, Portugal, 18-21 Jul 2005.

*Dreher, Peter, Robert A. Canfield, and Raymond Maple, "Dynamic Response of a Munition to a Low Pressure Airbag," *46th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference*, Paper # 2005–2047, Austin, TX, 18-21 Apr 2005.

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Sriver, T. and J. Chrissis, "Combined Pattern Search and Ranking and Selection for Simulation Optimization," *Proceedings of the 2004 Winter Simulation Conference*, Washington, DC, Dec 2004.

COOPER, MARTHA C., (ENS)

Cooper, Martha C., John Santosa, Angela Lewis and Angelisa Gillyard, "Career Patterns of Women in Logistics," *Council of Logistics Management Conference Proceedings*, (CD-ROM), Philadelphia, PA, Oct 2004.

DECKRO, RICHARD F., (ENS)

Deckro, Richard, "Factory to Foxhole Meets Supply Chain Management," *Phalanx*, Vol. 38, No. 3, pp. 4 and 29, Sep 2005.

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Deckro, Richard, "New Thinking," *Phalanx*, Vol. 38, No. 1, p. 4, Mar 2005.

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ENGLAND, ELLEN C., Lt Col (ENV)

*Duke, J., E. England, and E. Weir, "Value-Focused Energy Solutions," *The Military Engineer*, *96*(631):49-50, Sep-Oct 2004.

Morgan, B. and E. C. England, "Green Roofs for Healthy Living," *The Military Engineer*, *97*(633):29-30, Jan-Feb 2005.

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TEMPLE, MICHAEL A., (ENG)

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TITUS, NATHAN A., Lt Col, (ENY)

Titus, N. A., "Efficient Base Control for Spacecraft-Mounted Manipulators," *AIAA Guidance, Navigation, and Control Conference*, Paper # AIAA-2005-6242, San Francisco, CA, 15-18 Aug 2005.

TORVIK, PETER J., (ENY)

Torvik, P. J., "The Evolution of Air Force Aerospace Education at the Air Force Institute of Technology," *40th Aerospace Sciences Meeting and Exhibit*, AIAA Paper #2002-0563, Reno, NV, 15 Jan 2002.

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TUTTLE, RONALD F., (ENP)

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3.7 SUBSTANTIAL CONSULTATIONS

[*Denotes Duplicate Entry, Multiple Faculty Members]

ABRAMSON, MARK A., Lt Col (ENC)

Abramson, Mark A., "Optimal Positioning of Seismic Sensor Buoys for Early Detection of Tsunamis," National Oceanic and Atmospheric Administration, May-Sep 2005.

Abramson, Mark A., "Quantitative Object Reconstruction for X-ray Imaging," Los Alamos National Laboratories, Mar-Sep 2005.

BALDWIN, RUSTY O., (ENG)

Redwine, S. T. (ed.), R. O. Baldwin, M. L. Polydys, S. T. Redwine, and D. P. Shoemaker, "Secure Common Body of Knowledge: Development, Sustainment, and Acquisition," Workforce Education and Training Group, Department of Defense and Department of Homeland Security, 239 pp., Sep 2005.

BARTCZAK, SUMMER E., Lt Col (ENV)

*Bartczak, Summer E. and Alan R. Heminger, "Develop Tracks, Review Presentation Submissions, and Chair Sessions," Academic advisors, in cooperation with Air Force Material Command, for 1st Annual AF Knowledge Management Conference, Tuscon, AZ, Apr 2005.

CAIN, STEPHEN C., (ENG)

Cain, Stephen C., "Resolution Enhancement of 3-D LADAR Imagery," Mr. Richard Richmond, AFRL-SNJM, Wright-Patterson AFB OH.

FIORINO, STEVEN T., Lt Col (ENP)

Fiorino, Steven T., "Historical Weather Observations for Houston, Texas, and Atmospheric Thermodynamics Effects," Dr. Allan T. Mense, Senior Engineering Fellow, Chief Scientist, Space Technology, Raytheon Missile Systems, Tucson, AZ, Jan 2005.

FRANKE, MILTON E., (ENY)

Franke, Milton E., "Chair of the Committee on Organization and Rules for the American Society of Mechanical Engineers," Sep-Oct 2005.

Franke, Milton E., "Weapons Release from Aircraft," AFRL/MNAV.

Franke, Milton E., "Aerodynamic Ground Effects," AFRL/VAAA.

Franke, Milton E., "Infiltrated Foam Heat Transfer," AFRL/MLBC.

Franke, Milton E., "Reusable Launch Vehicles," AFRL/PRAT.

GOLTZ, MARK N., (ENV)

Goltz, Mark N., Consultant on "Contamination Source Removal Research Project," AF Center for Environmental Excellence (AFCEE), 2004-2005.

GRIMAILA, MICHAEL R., (ENV)

Grimaila, Michael R., "Expert Witness Consultation - TiVo, Inc. vs. DishNetworks Inc. et. al." Godwin and Gruber, L.L.P., Houston, TX, 2005.

Grimaila, Michael R., "Expert Witness Consultation - EWI, Inc. vs. PRE Solutions Inc.," Alston and Bird, L.L.P., Atlanta, GA, 2005.

Grimaila, Michael R., "Consultant on Data Modeling Objective Driven Information Security Management," Texas A&M University (TAMU) Center for Information Assurance and Security (CIAS) 2004-2005.

HEMINGER, ALAN R., (ENV)

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HICKS, MICHAEL J., (ENV)

Hicks, Michael and Mark L. Burton, "The Residential and Commercial Benefits of Rural Broadband: Evidence from Central Appalachia," West Virginia Development Office, Jun 2005.

Burton, Mark L., Michael J. Hicks, Cal Kent, and Chris Riche, "Regional Markets for FutureGen Products," West Virginia Development Office and the U.S. Department of Energy, Apr 2005.

Hicks, Michael J., "A Note on Productivity and Staffing of Foreign Military Sales," Air Force Material Command, Foreign Military Sales Office, Feb 2005.

Hicks, Michael J., Cal Kent, and Christine Riche, "Determinants of Industrial Park Success," Center for Business and Economic Research, Marshall University, Feb 2005.

KIM, YONG C., (ENG)

Kim, Yong, "Modular Digital Radio Frequency System (MoDRFS) Technical Support & Mission Specific Process," Dr. Greg Creech, Sensors Directorate, Air Force Research Laboratory.

LOTT, JAMES A., Lt Col (ENG)

Lott, J. A., "Long-Wavelength Semiconductor Lasers," Directed Energy Directorate, Air Force Research Laboratory.

Lott, J. A., "Quantum Well and Dot Infrared Photodetectors," Materials and Manufacturing Directorate, Air Force Research Laboratory.

Lott, J. A., "Quantum Dot Sensors and Systems," Sensors Directorate, Air Force Research Laboratory.

Lott, J. A., "Reconfigurable Electronics for Space," Space Vehicles Directorate, Air Force Research Laboratory.

MARCINIAK, MICHAEL A., (ENP)

Marciniak, Michael A., "Infrared Signature Model of Commercial Transport Aircraft" and "Infrared Optical Signature Measurement Research," Lt Col Gordon C. Griffin, USAF, Signature Division, Sensors Directorate, Air Force Research Laboratory, Wright-Patterson AFB OH, Jan and Sep 2005.

Marciniak, Michael A., "Objective Quantification of Laser-Induced Degradation in Charge-Coupled-Device Camera Imagery," "Characterization of Electronic and Optical Blooming in an Indium Antimonide (InSb) Focal Plane Array," "Quantification of the Degradation of Optical Sensors Due to Laser Jamming," and "Quantification of Laser Jamming Effects Due to Ghosting, Multiple Reflections and Optical Scatter," Marc C. Martin, Sensor Materials Branch, Survivability and Sensor Materials Division, Materials and Manufacturing Directorate, Air Force Research Laboratory, Wright-Patterson AFB OH, Apr and Sep 2005.

Marciniak, Michael A., "Time-Resolved Luminescence Spectroscopy to Determine Carrier Dynamics in Mid-infrared Semiconductor Quantum Well Optoelectronic Devices for Air Force Applications," Howard R. Schlossberg, Air Force Office of Scientific Research, Arlington, VA, Jul 2005.

Marciniak, Michael A., "Stress Snalysis of Silicon Carbide (SiC) Micro-Electromechanical Systems (MEMS) Fuzes Using Raman Spectroscopy," Jason R. Foley, Seeker Branch, Advanced Guidance Division, Air Force Research Laboratory, Eglin AFB FL, Jan 2005.

MAYBECK, PETER S., (ENG)

Maybeck, Peter S., "Multiple Model Algorithms Applied to Sensor/Actuator Failure Detection and Controller Reconfiguration for Survivable Flight Controller Design," AFRL/VAC.

Maybeck, Peter S., "Multiple Model Algorithms Applied to Detection/Compensation of Jamming/Spoofing of GPS-Aided Inertial Navigation Systems," AFRL/SNAR.

Maybeck, Peter S., "Multiple Model Algorithms Applied to Design of Ultra-Tightly Coupled GPS-Aided Inertial Navigation Systems for the Next Generation of Miniature Munition Systems," AFRL/MNGN and AFOSR.

Maybeck, Peter S., "Multiple Model Algorithms Applied to Tracking of Maneuvering Targets in Clutter Using Electronically Agile Radar," AFRL/SNAT, AFOSR.

MCNUTT, ROSS T., Lt Col (ENV)

McNutt, Ross T., "Project Angel Fire: a Rapid Development Effort for Providing Tactical Situational Awareness to Soldiers," Los Alamos National Labs and USSTRATCOM, Jan 2005.

McNutt, Ross T. and Capt Todd Butler, "F-16 Squadron Radar System Improvement: Cost of Delay Analysis," Feb 2005.

McNutt, Ross T., "Structuring a Project Portfolio Tracking System," ASC/Commanders Action Group, Oct 2005.

MILLS, ROBERT F., (ENG)

Mills, R. F., "National Telecommunications and Information Systems Security Committee (NTISSC) Training/Education Standards for Information Security Systems Engineer (ISSE) Professionals Development Team Member," Dr. V. MacConachy, National Security Agency, Oct 2004.

PACHTER, MEIR, (ENG)

Pachter, M., "Regular Consultant," AFRL/VACA and AFRL/SNAT on a regular basis.

SEETHARAMAN, GUNA, (ENG)

*McNutt, Ross and Guna Seetharaman, "Project Angel Fire: A Very High Resolution, Close-in Imaging Platform for Urban Area Surveillance," STRATCOMM.

Seetharaman, G., “Vector Signal Image Processing Libraries for High Performance Embedded Computing Systems,” Dr. Richard Linderman, Information Directorate, Air Force Research Laboratory

Seetharaman, G., “Advanced Architecture for Next Generation of Night Vision Systems and Increased Situation Awareness,” Dr. Davip Post and Jeffrey Craig, AFRL/HECV, (DOD AFRL SBIR BAA Topic AF06-22).

SHELLEY, MICHAEL L., (ENV)

Shelley, Michael L., “Systems Dynamics Approaches Applicable to Weapon Systems Acquisition Processes,” Air Force Center for Acquisition Excellence (AFCAE), Aug 2005.

TEMPLE, MICHAEL A., (ENG)

Temple, M. A., “Graduate Research Support: Radar Waveform Diversity,” Dr. Murali Rangaswamy, Sensors Directorate, Air Force Research Laboratory, Hanscom AB, MA.

Temple, M. A., “Innovative Research Award: IED Terminator,” Dr. Stephen Schneider, Sensors Directorate, Air Force Research Laboratory, Wright-Patterson AFB OH.

Temple, M. A., “Innovative Research Award: Char of Spurious Emissions from RF Remotely Controlled Devices Used for IED Detonation,” Mr. Jim Stephens, Sensors Directorate, Air Force Research Laboratory, Wright-Patterson AFB OH.

Temple, M. A., and R. F. Mills, “Technical Support: Platform Connectivity Branch, Software Defined Radios,” Mr. Mark Minges, Information Directorate, Air Force Research Laboratory, Wright-Patterson AFB OH.

TERZUOLI, ANDREW J., Jr (ENG)

Terzuoli, A. J., Jr., “MASINT,” National Air and Space Intelligence Center.

Terzuoli, A. J., Jr., “RF Sensor Enhancement,” Sensors Directorate, Air Force Research Laboratory, AFRL/SNR on a regular basis.

TORVIK, PETER J., (ENY)

Torvik, Peter J., “Evaluation of Damping Properties of Coatings, Part I: Room Temperature,” Mar 2002, 24 pages, for Universal Technology, Inc., Dayton, OH.

Torvik, Peter J., “An Investigation of Sources of Error in the Experimental Determination of the Modulus of Free Layer Coatings,” Sep 2005, 38 pages, for Universal Technology, Inc., Dayton, OH.

VASQUEZ, JUAN R., Lt Col (ENG)

Vasquez, J. R., “GBU-10 Laser Guided Bomb Technical Review,” Capt Scott Fitzner, Paveway II Program Manager, 84th Munitions Support Group, Hill AFB UT.

WRIGHT, SAMUEL A., Maj (ENC)

Wright, Samuel A., “Statistical Consulting on C-5 Vulnerability to Man Portable Air Defense System (MANPADS),” ASC/ENMM, Wright-Patterson AFB OH, Jun-Jul 2005.

3.8 PRESENTATIONS

[*Denotes duplicate entry, multiple faculty authors.]

ABRAMSON, MARK A., Lt Col (ENC)

Abramson, Mark A., "Mixed-Variable Optimization of a Load-Bearing Thermal Insulation System," invited talk, Los Alamos National Laboratory, Los Alamos, NM, 29 Jun 2005.

Abramson, Mark A., "Second Order Convergence of some Direct Search Methods," SIAM Conference on Optimization, Stockholm, Sweden, 15-19 May 2005.

Abramson, Mark A., Olga A. Brezhneva, and John Dennis, Jr., "Pattern Search Methods under the Presence of Degeneracy," SIAM Conference on Optimization, Stockholm, Sweden, 15-19 May 2005.

Abramson, Mark A., "Introduction to Applied Optimization," tutorial, 1st AIAA Multidisciplinary Design Optimization Specialist Conference, 46th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, Austin, TX, 18-21 Apr 2005.

Abramson, Mark A., "Direct Search Methods for Engineering Optimization," invited talk, Miami University, Oxford, OH, 24 Mar 2005.

Abramson, Mark A., "Direct Search Methods for Engineering Optimization," 53rd Test Wing Scientist and Engineer Conference, Eglin AFB FL, 8-10 Feb 2005.

ALLEY, THOMAS G., Lt Col (ENP)

*Grime, B. E., T. G. Alley, and W. B. Roh, "Beam Phasing of a Multi-Channel Amplifier Using a Fiber SBS Phase-Conjugate Mirror," 2005 SSDLTR - Solid State and Diode Laser Technology Review, Los Angeles, CA, 7-9 Jun 2005.

*Terry, N. B., B. W. Grime, T. G. Alley, and W. B. Roh, "Single-Mode Operation of Multi-Mode Fiber Raman Laser," 2005 SSDLTR - Solid State and Diode Laser Technology Review, Los Angeles, CA, 7-9 Jun 2005.

ANTHENIEN, RALPH A., Jr (ENY)

Richardson, T. and R. A. Anthenien, Jr., "Development of a Model to Predict the Position of an Aircraft Decoy Towline," 30th AIAA Dayton-Cincinnati Aerospace Sciences Meeting, Dayton, OH, 8 Mar 2005.

AROSTEGUI, MARVIN A., Lt Col (ENS)

Arostegui, Marvin A., "Graduate Logistics Education," Logistics Officers Association National Meeting, Las Vegas, NV, Oct 2004.

BARTCZAK, SUMMER E., Lt Col (ENV)

Syler, R. A., S. E. Bartczak, and J. A. Rodriguez, "Exploring AF On-line Communities of Practice: An Examination of Content Management Practices," Americas Conference on Information Systems, Omaha, NE, Aug 2005.

*Yee, J., R. F. Mills, G. L. Peterson, and S. E. Bartczak, "Automatic Generation of Social Network Data from Electronic-Mail Communications," Tenth International Command and Control Research and Technology Symposium, McLean, VA, Jun 2005.

*Oliver, M. L., S. E. Bartczak, and E. E. England, "Implementing an Enterprise-wide Geographic Information System Using and IRM-centric Approach: A Case Study of the US Air Force GeoBase Program," Information Resource Management Association International Conference, San Diego, CA, May 2005.

BAUER, KENNETH W., Jr (ENS)

*Bednar, Earl J., K. W. Bauer, Jr., and J. O. Miller, "Feasibility Study of Variance Reduction in the THUNDER Campaign Level Model," 73rd Military Operations Research Society (MORS) Symposium, West Point, NY, 21 – 23 Jun 2005.

*Bednar, Earl J., K. W. Bauer, Jr., and J. O. Miller, "Feasibility Study of Variance Reduction in the THUNDER Campaign Level Model," THUNDER User's Group Meeting, Arlington, VA, 7 - 9 Jun 2005.

Albrecht, T. and K. Bauer, "Classification of Sequenced SAR Target Images via Hidden Markov Models with Decision Fusion," Proceedings of SPIE - The International Society for Optical Engineering, Algorithms for Synthetic Aperture Radar Imagery XII, Vol. 5808, Orlando, FL, 28 Mar - 1 Apr 2005.

*Schubert, Christine M., Mark E. Oxley, and Kenneth W. Bauer, Jr., "Quantifying the Performance of Fused Correlated Multiple Classifiers," Proceedings of SPIE - The International Society for Optical Engineering, Signal Processing, Sensor Fusion, and Target Recognition XIV, Ed: Ivan Kadar, Vol. 5809, Orlando, FL, 28 Mar -1 Apr 2005.

*Schubert, Christine M., Mark E. Oxley, and Kenneth W. Bauer, Jr., "The Inclusion of Correlation Effects in the Performance of Multiple Sensor and Classifier Systems," IEEE Aerospace Conference, Paper # 1077, Big Sky, MT, 8-11 Mar 2005.

*Schubert, Christine M., Mark E. Oxley, and Kenneth W. Bauer, Jr., "Dependency Effects of the Majority Vote Classifier Fusion Rule and its Receiver Operating Characteristic Curve," Hawaii International Conference on Statistics, Mathematics and Related Fields (HICS2005), Honolulu, HI, Paper # on compact disc, 9-11 Jan 2005.

*Oxley, Mark E., Christine M. Schubert, and Kenneth W. Bauer, Jr., "Classifier Fusion and its Free Receiver Operating Characteristic Curve," Hawaii International Conference on Statistics, Mathematics and Related Fields (HICS2005), Honolulu, HI, Paper # on compact disc, 9-11 Jan 2005.

Laine, Trevor I. and Kenneth W. Bauer, Jr., "A Comparison of 2 Neural Fusion Models Using an Optimization Framework to Assess Rejection and ROC Thresholds for Correlated Temporal Data," Proceedings of the Artificial Neural Networks in Engineering Conference (ANNIE 2004), Eds: C. Dagli, D. Enke, A. Buczak, M. Embrechts, and O. Ersoy, St. Louis, MO, 8-10 Nov 2004.

Albrecht, Timothy and Kenneth W. Bauer, Jr., "Target Identification through Time Using Hidden Markov Models," Proceedings of the Artificial Neural Networks in Engineering Conference (ANNIE 2004), Eds: C. Dagli, D. Enke, A. Buczak, M. Embrechts, and O. Ersoy, pp. St. Louis, MO, 8-10 Nov 2004.

*Leap, Nathan J., Paul P. Clemans, Kenneth W. Bauer, Jr., and Mark E. Oxley, "An Investigation of the Effects of Correlation and Autocorrelation on Classifier Fusion and Optimal Classifier Ensembles," Proceedings of the Artificial Neural Networks in Engineering Conference (ANNIE 2004), Eds: C. Dagli, D. Enke, A. Buczak, M. Embrechts, and O. Ersoy, pp. 149-154, St. Louis, MO, 8-10 Nov 2004.

*Schubert, Christine M., Mark E. Oxley, and Kenneth W. Bauer, Jr., "A Comparison of ROC Curves for Label-Fused Within and Across Classifier Systems," 8th International Conference on Information Fusion (FUSION 2005), Philadelphia, PA, 25 – 29 Jul 2004.

BELL, JOHN E., Maj (ENS)

Bell, J. E. and A. W. Johnson, "Metaheuristic Approaches for Solving the Vehicle Routing Problem," Military Operations Research Symposium, West Point, NY, Jun 2005.

BRADY, STEPHAN P., Lt Col (ENS)

Brady, Stephan P. and Wendy S. Kierpiec, "Case Study: The F-15 Reparable Chain—Opportunities for Collaboration," The GS1/US uConnect Conference, Dallas, TX, 7-9 Jun 2005.

Kierpiec, Wendy S., Stephan P. Brady, Michael J. Martindale, and Jasper E. Pennington, "Analysis of Air Force Inventory Models for Application to an Interplanetary Supply Chain, "Massachusetts Institute of Technology, Aerospace and Astronautics Department, Interplanetary Supply Chain Management Review Meeting, 8 Sept 2005.

Martindale, Michael J., Stephan P. Brady, Jasper E. Pennington , and Wendy S., Kierpiec, "US Navy Submarine Logistics as an Analogy for Interplanetary Supply Chain Management," Massachusetts Institute of Technology, Aerospace and Astronautics Department, Interplanetary Supply Chain Management Review Meeting, 8 Sept 2005.

Pennington, Jasper E., Stephan P. Brady, Wendy S., Kierpiec, and Michael J. Martindale, "Reliability Analysis to Balance Component: Redundancy with Spares Pre-Positioning," Massachusetts Institute of Technology, Aerospace and Astronautics Department, Interplanetary Supply Chain Management Review Meeting, 8 Sept 2005.

BRIGANTIC, ROBERT T., Lt Col (ENS)

Brigantic, Robert T, "A Comparison and Contrast pf Bayesian Classification and Bayesian Classification with Augmentation by Contextual Information," Classification and Data Analysis Group (CLADAG) 2005 Annual Conference, Parma, Italy, Jun 2005.

Brigantic, Robert T, "A Detailed Assessment of Range/Payload Metrics for Strategic Airlift Aircraft," Institute for Operations Research and the Management Sciences (INFORMS) Conference, Denver, CO, 24-27 Oct 2004.

BURGGRAF, LARRY W., (ENP)

Blaudeau, Jean-Philippe, Eric V. Beck, Eric A. Stahlberg, Gary S. Kedziora, Scott R. Brozell, and Larry W. Burggraf, "Recent Developments in the COLUMBUS Programs and Applications to Uranium Oxides," Relativistic Effects in Heavy Elements (REHE) Annual Meeting, Duesseldorf, Germany, 6-10 Apr 2005.

Burggraf, Larry W., Frank X. Duan, David Weeks, John Boyd, John Roberts, and Paul Adamson, "A Method to Predict Processing Chemistry for Aerospace Electronics," 2005 Air Force Office of Scientific Research (AFOSR) Molecular Dynamics and Theoretical Chemistry Contractor's Meeting, Monterey, CA, 22-24 May 2005.

CANFIELD, ROBERT A., (ENY)

*Canfield, Robert A., Shawn D. Morgenstern, and Donald L. Kunz, "Alleviation of Buffet-Induced Vibration Using Piezoelectric Actuators," II ECCOMAS Thematic Conference on Smart Structures and Materials, Lisbon, Portugal, 18-21 Jul 2005.

Canfield, Robert A., "Design of High Altitude, Long Endurance Sensorcraft," University of Manitoba, 18 May 2005.

Canfield, Robert A., "Design of High Altitude, Long Endurance Sensorcraft," University of Victoria, British Columbia, 17 May 2005.

Canfield, Robert A., "Multidisciplinary Design Optimization of a Joined-Wing Sensor-Craft," User Productivity Enhancement and Technology Transfer (PET) Multidisciplinary Design Optimization Workshop, Wright-Patterson AFB OH, 25 Feb 2005.

CHRISSIS, JAMES W., (ENS)

Sriver, T. and J. Chrissis, "A Framework for Mixed-Variable Optimization Under Uncertainty Using Surrogates and Statistical Selection," 10th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, Albany, NY, Sep 2004.

Sriver, T. and J. Chrissis, "Combined Pattern Search and Ranking and Selection for Simulation Optimization," 2004 Winter Simulation Conference, Washington, DC, Dec 2004.

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MELOUK, SHARIF H., (ENS)

Chow, David S. and S. Melouk, "Analysis of Online-Delaunay Navigation for Time-Sensitive Targeting," Industrial Engineering Research Conference, Atlanta, GA, May 2005.

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MILLER, JOHN O., (ENS)

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Miller, J. O. "Constructive Combat Models: Climbing the Pyramid," High Energy Laser Joint Technology Office (HEL/JTO) Modeling and Simulation Technical Area Working Group (TAWG) Program Review, Air Force Institute of Technology,, Wright-Patterson AFB OH, , 15 – 16 Jun 2005.

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MILLS, ROBERT F., (ENG)

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MOORE, JAMES T., (ENS)

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OXLEY, MARK E., (ENC)

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PERRY, MARCUS B., (ENS)

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PETERSON, GILBERT L., (ENG)

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RAINES, RICHARD A., (ENG)

Raines, Richard A., "Educating and Producing Information Assurance/Operations Warriors," Director of the Advanced Technology Office, Joint Task Force Global Network Operations, Arlington, VA, Sep 2005.

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REEDER, MARK F., (ENY)

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ROH, WON B., (ENP)

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SEETHARAMAN, GUNA, (ENG)

Seetharaman, Guna, "Distributed Sensor Networks for Smart Surveillance and Super-Resolution Imaging," Department of Mathematics, Wright State University, Fairborn, OH, 28 Jan, 2005.

Seetharaman, Guna, "Nanotechnology and Parallel Architecture for Three Dimensional Image Displays," The Center for Advanced Computer Studies, University of Louisiana at Lafayette, Lafayette, LA, 14 Jan 2005.

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SMITH, JEFFREY S., Maj (ENV)

Smith, Jeffrey S. and Mark H. Tuttle, "Disaggregated Business Fixed Investment - The Response of Structures and Equipment to Macroeconomic Fluctuations," Southwest Economics Association, New Orleans, LA, Mar 2005.

SMITHTRO, CHRISTOPHER G., Maj (ENP)

Smithtro, C., T. Berkey, D. Thompson, J. J. Sojka, R. W. Schunk, "Observation and Modeling of Mid-Latitude Ionospheric Dynamics During Solar X-Ray Flares," Space Weather Week, Boulder, CO, 5-8 Apr 2005.

STAATS, RAYMOND W., Lt Col (ENS)

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STARMAN, LaVERN A., Capt (ENG)

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TENNEY, CURTIS G., Lt Col (ENV)

Tenney, Curtis G., "Teaching Methods," Mini-Course, Academic Instructor School, Air Force Institute of Technology, Dayton, OH, Sep 2005.

Tenney, Curtis G., "Fundamentals of Great Problem Solving," Seminar, United States Air Force Financial Analysis Center of Expertise Major Command Conference, Washington, DC, Aug 2005.

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TORVIK, PETER J., (ENY)

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WEEKS, DAVID E., (ENP)

*Larry Burggraf, Frank X. Duan, David Weeks, John Boyd, John Roberts, and Paul Adamson, "A Method to Predict Processing Chemistry for Aerospace Electronics," AFOSR Molecular Dynamics Contractor's Review, Monterey, CA, 22-24 May 2005.

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Mayer, G. and J. D. Weir, "Modeling Science Technology Selection Using Value Focused Thinking," Invited Session, Institute for Operations Research and the Management Sciences (INFORMS) Conference, Denver, CO, 24-27 Oct 2004.

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WHITE, EDWARD D., III (ENC)

Tracy, S. P. and E. D. White, "Risk Management: Predicting Estimate at Completion," 38th Annual Department of Defense Cost Analysis Symposium, Williamsburg, VA, 15-18 Feb 2005.

*White, E. D., T. F. Reid, and D. E. Reynolds, "Exploring a Student's Question," 4th Annual Hawaii International Conference on Statistics, Mathematics, and Related Fields, Conference Proceedings (ISSN#: 1550 – 3747), Honolulu, HI, 9-11 Jan 2005.

WILEY, VICTOR D., Maj (ENS)

*Deckro, Richard and Victor Wiley, "Modeling and Analysis of Post-Conflict Reconstruction," 22ndInternational Symposium on Military Operations Research, New Place, Shirrell Heath, Southampton Hampshire, United Kingdom, 29 Aug – 2 Sept 2005.

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WILLIAMS, PAUL D., Capt (ENG)

Williams, Paul D., "CuPIDS enhances StUPIDS: Exploring a Co-processing Paradigm Shift in Information System," 2005 IEEE West Point Information Assurance Workshop, Jun 2005.

YEO, YUNG KEE, (ENP)

*Hogsed, Michael R., M. Ahoujja, Mee-Yi Ryu, Y. K. Yeo, J. C. Petrosky, and R. L. Hengehold, "Electrical and Optical Properties of 1 MeV-electron Irradiated $Al_xGa_{1-x}N$," Fall Meeting of the Materials Research Society, Boston, MA, 29 Nov – 3 Dec 2004.

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*Ryu, Mee-Yi, Y. K. Yeo, M. A. Marciniak, R. L. Hengehold, and T. D. Steiner, "Optical and Electrical Investigation of Si-Ion Implanted $Al_xGa_{1-x}N$," 6th International Conference on Nitride Semiconductors, Bremen, Germany, 28 Aug-2 Sep 2005.

*Raley, Jeremy A., Y. K. Yeo, R. L. Hengehold, Mee-Yi Ryu, and T. D. Steiner, "Room Temperature Ferromagnetic Properties of Transition Metal Implanted $Al_{0.35}Ga_{0.65}N$," 2005 European Materials Research Society Fall Meeting, Warsaw, Poland, 5-9 Sep 2005.

3.9 OTHER SIGNIFICANT PROFESSIONAL ACTIVITIES

ABRAMSON, MARK A., Lt Col (ENC)

Technical Paper Referee: *Society for Industrial and Applied Mathematics (SIAM) Journal on Optimzation*

ANTHENIEN, RALPH A., Jr (ENY)

Executive Co-chair: 31st Dayton-Cincinnati Aerospace Sciences Symposium

Technical Program Co-chair: 30th Dayton-Cincinnati Aerospace Sciences Symposium

BALDWIN, RUSTY O., (ENG)

Faculty Advisor: Local Chapter of Eta Kappa Nu Honor Society

Reviewer: *IEEE Computer; International Conference on Computer Communications and Networks; The Journal of Systems and Software;* and *Transactions on Mobile Computing*

BARTCZAK, SUMMER E., Lt Col (ENV)

Reviewer: Information Resources Management Association Conference; American Conference on Information Systems

Member: University of Dayton, Management Information System (MIS) Advisory Board

BELL, JOHN E., Maj (ENS)

Technical Paper Reviewer: *Military Operations Research*; and *Western Decision Science*

Advisor: AFIT Sigma Iota Epsilon Chapter

Member: Decision Science Institute; INFORMS; Council of Supply Chain Management Professionals; and Logistics Officers Association

BLECKMANN, CHARLES A., (ENV)

Reviewer: Ohio Environmental Education Fund Proposals

Technical Paper Referee: *Journal of Contaminant Hydrology*

Editorial Board: *Journal of Industrial Microbiology & Biotechnology*

BRADY, STEPHAN P., Lt Col (ENS)

Member: Collaborative Planning, Forecasting and Replenishment (CPFR) Committee, Voluntary Inter-industry Commerce Standards (VICS) Association; and Educational Advisory Committee, Collaborative Commerce Standards Institute

Manuscript Reviewer: Council of Logistics Management Educators Conference

Reviewer: *Journal of Business Logistics*

BRIGANTIC, ROBERT T., Lt Col (ENS)

Session Chair: Institute of Operations Research and Management Science (INFORMS) Annual Conference; and Western Decision Science Institute (WDSI) Annual Conference

Paper Reviewer: Computers and Operations Research, and Western Decision Science Institute (WDSI)

BULUTOGLU, DURSUN A., (ENC)

Technical Paper Referee: *Annals of Statistics* and *Technometrics*

CAIN, STEPHEN C., (ENG)

Session Organizer: 2006 IEEE Aerospace Conference

CANFIELD, ROBERT A., (ENY)

Chair: AIAA Multidisciplinary Design Optimization Technical Committee

Technical Paper Referee: *AIAA Journal*; *Journal of Aircraft*; and *Journal of Fluids and Structures*

Conference Paper Referee: AIAA Structures, Structural Dynamics and Materials (SDM) Conference

Session Chair: AIAA Aerospace Sciences Meeting, Reno, NV, Jan 2005; Dayton-Cincinnati Aerospace Sciences Symposium, Mar 2005; and AIAA SDM Conference, Austin, TX, Apr 2005

CHRISSIS, JAMES W., (ENS)

Member: AIAA Multidisciplinary Design Optimization (MDO) Technical Committee (TC)

Technical Paper Reviewer: Sept 2004 AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference; MDO sessions at the Jan 2005 AIAA Aerospace Sciences Meeting; and Apr 2005 AIAA SDM Conference/1st MDO Specialist Conference

Tutorial Session Chair: Optimization Methods, Apr 2005 AIAA 1st MDO Specialist Conference

Sessions Chair: AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference; and Jan 2005 AIAA Aerospace Sciences Meeting

Member: AIAA Multidisciplinary Design Optimization Technical Committee (MDO/TC) Education Subcommittee

COBB, RICHARD G., (ENY)

Session Chair: Dayton-Cincinnati Aerospace Sciences Symposium

Technical Paper Referee: *AIAA Journal*

COOMBER, PATRICIA K., Col (ENS)

AFIT Representative: AETC/AU/19 AF/2 AF Integrated Learning Environment High Performance Team (chaired by Lt Gen Regni)

Advisor: Department of Homeland Security's Educational Strategies & Workforce Learning Efforts

Collaborative Author: DoD Office of Net Assessment: *Government Policies on Bio-Terror Vaccines* with MIT, Health and Human Services, DTRA, OSD/Health Affairs, and National Institute of Health

Member: Promotion Board for AF Guard and Reserves Majors Board, 2005; and AF 61S Career Field Development Team

COOPER, MARTHA C., (ENS)

Outside Reviewer & Committee Member: Dissertations in Denmark and in Canada

Committee Member: DVD on Careers in Logistics, National Council of Logistics Management; and Past Presidents Committee, Council of Logistics Management Columbus Roundtable

Committee Chair: Scholarship Selection Committee, and Council of Logistics Management Columbus Roundtable

Member: *Journal of Business Logistics* Editorial Board Meeting, Transportation and Logistics Educators Conference; Board of Advisors of the International Society of Logistics; Education Committee of the International Society of Logistics; Eccles Service Award Selection Committee; and the Editorial Advisory Board, *Supply Chain Management Review*

Technical Paper Reviewer & Member of Editorial Review Boards: *Journal of Business Logistics*, *Journal of Transportation Management*, and *Supply Chain Forum: an International Journal*

Reviewer: *European Journal of Operational Research*, and *Journal of the Operational Management*

Technical Paper Reviewer: *European Journal of Operational Research; Journal of the Operational Management;* American Marketing Association (AMA) Winter Educators Conference; *Journal of Operations Management*; and *Logistics and Transportation Review*, Transportation Research Part E

Award Reviewer: South Central Regional Maintenance Center (SCRMC) 2004 Doctoral Dissertation Award, and Council of Logistics Management (CLM) Undergraduate Paper Award 2004

Chair: Doctoral Dissertation Award Selection, and Education Committee of the International Society of Logistics

CUNNINGHAM, WILLIAM A., III (ENS)

Editorial Review Board Member: *Journal of Marketing Theory and Practice*, and *Journal of Transportation Management*

Executive Board Member: Tri-Rivers Waterway Development Association

DECKRO, RICHARD F., (ENS)

Editor: *Military Operations Research*

President: Military Applications Society, INFORMS

Area Editor: Service Systems, *Computers & Industrial Engineering*

Member: MORS Publication Committee; Organizing Committees for three MORS Workshops: *Agent-Based Models and Other Analytic Tools in Support of Stability Operations* and *Operations Analysis Support to Network Centric Operations* and *Global War on Terrorism*; Synthesis Group for MORS Workshop, *Global War on Terrorism*

Proposal Evaluator: AFSOR STTR Topic "Algorithmic Tools for Adversarial Games," May 2005

Attendee: Air Intelligence Agency / Director of Operations – Technical Directorate (AIA/DO-TD) NetWar Project, 17 May 2005

Invited Attendee: AFOSR Workshop on Decision Making in Adversarial Domains, May 2005

DELLA-ROSE, DEVIN J., Maj (ENP)

Technical Advisor: Joint NASA/DOD Space Weather Modeling Center

DENHARD, DAVID R., Lt Col (ENS)

Technical Paper Reviewer: *MORS*

FICKUS, MATTHEW C., (ENC)

Technical Paper Referee: *IEEE Transactions on Information Theory*

FIORINO, STEVEN T., Lt Col (ENP)

President: Wright Memorial Chapter, American Meteorological Society

FRANKE, MILTON E., (ENY)

American Society of Mechanical Engineers (ASME) Representative to the American Association for the Advancement of Science (AAAS)

Member: AIAA Technical Committee on Weapon Systems Effectiveness

GOLTZ, MARK N., (ENV)

City of Beavercreek Environmental Advisory Committee

Member: Engineering Education Committee, American Academy of Environmental Engineering

GRAHAM, SCOTT R., Maj (ENG)

Demo Session Chair: *Sixth Association of Computing Machinery (ACM), International Symposium on Mobile Ad Hoc Networking and Computing* (MobiHoc) May 2005

GRIFFIS, STANLEY E., Lt Col (ENS)

Reviewer: *Journal of Business Logistics*

Reviewer: Council of Supply Chain Management Professionals Educator's Conference; Society of Marketing Advances Annual Conference; and Society of Logistics Engineers Dissertation Proposal Award

GRIMAILA, MICHAEL R., (ENV)

Editorial Advisory Board Member: *Information System Security Association (ISSA) Journal*

Invited Editor: *The Handbook of Information Security*

Working Group Member: International Systems Security Engineering Association (ISSEA) Metrics Working Group

Reviewer: Prentice Hall Books

Referee: IEEE Transactions on Engineering Management

HALE, TODD B., Maj (ENG)

Tau Beta Pi Faculty EE Advisor: Tau Beta Pi

Technical Paper Referee: *IEE Electronic Letters; IEE Proceedings on Communication; IEE Proceedings: Radar, Sonar & Navigation; IEEE Transactions on Aerospace & Electronic Systems (AES);* and *IEEE Signal Processing Letters*

Tutorial Program Chair: 2006 Waveform Diversity and Design Conference Committee

Organizing Committee Member: 2005 Sensor Technology Algorithm Research (STAR) Workshop

Consultant: National Air and Space Intelligence Center (NASIC)

HALLORAN, TIMOTHY J., Lt Col (ENG)

Reviewer: *IEEE Transactions on Software Engineering*, and *Hawaii International Conference on System Sciences (2005)*

HAVRILLA, MICHAEL J., (ENG)

Session Chair: "Material and Structures," Antennas, Radar, and Wave Propagation (ARP) Conference, Banff, Alberta, CA, Jul 2005; and "Material Design, Measurement and Instrumentation," Antenna Measurement Techniques Association (AMTA), Oct 2004

Reviewer: IEEE Transactions on Antennas and Propagation; IEEE Transactions on Education; and *Journal of Electromagnetic Waves and Applications*

HENGEHOLD, ROBERT L., (ENP)

Chair: Honors and Awards Committee; Executive Committee of the Ohio Section of the American Physical Society

Member: Executive Committee, Ohio Section of the American Physical Society

Co-Chair: Ohio Section, American Physical Society Spring Meeting, Dayton, OH, 8-9 Apr 2005

HICKS, MICHAEL J., (ENV)

Current Referee: *Mid-American Journal of Business, Managerial and Decision Economics; Review of Regional Studies; Journal of Economics and Finance Education: Energy Journal;* and *Education Economics*

Editorial Board: *Applied Research in Economic Development*, 2002-present

West Virginia Special Reclamation Fund Advisory Council (Senate confirmation, Mar 2003)

HOLT, DANIEL T., Maj (ENV)

Technical Paper Referee: *Human Resource Management Journal* and *Journal of Organizational and Occupational Psychology*

HOPKINSON, KENNETH M., (ENG)

Reviewer: 2005 IEEE Midwest Symposium on Circuits and Systems Conference (MWSCAS)

JACQUES, DAVID R., (ENY)

Member: AIAA Guidance, Navigation and Control Technical Committee

Reviewer of Journals and Conference Papers: AIAA; IEEE; and INCOSE

Member: Corporate Board, INCOSE

Technical Program Co-Chair: Conference on Systems Engineering Research, Hoboken, NJ, Mar 2005

JOHNSON, ALAN W., (ENS)

Co-chair: Invited Session in Supply Management, IFORS Triennial, Honolulu, HI, 11-15 Jul 2005

Manuscript Reviewer: *Military Operations Research Journal* and *IEEE Transactions on Reliability*

KHAROUFEH, JEFFREY P., (ENS)

Associate Editor: *IEEE Transactions on Reliability*

Reviewer: *Computers and Industrial Engineering*; *IEEE Transactions on Reliability; IIE Transactions;* and *Operations Research Letters*

Immediate Past President: Cincinnati/Dayton Chapter of the Institute for Operations Research and Management Science (INFORMS), Fall 2004-present

President: Cincinnati/Dayton Chapter of the Institute for Operations Research and Management Science (INFORMS), Fall 2004-Fall 2005

KIM, YONG CHANG, (ENG)

Program Committee Member: IEEE International Symposium on Circuits and Systems (ISCAS)

Review Committee Member: IEEE International Symposium on Circuits and Systems (ISCAS)

Reviewer: IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems; IEEE Transactions on VLSI Systems; and International Symposium on VLSI Design

Session Chair: "Placement & Routing," IEEE International Symposium on Circuits and Systems (ISCAS), May 2005

Session Co-Chair: "Emerging Area in CAD I," IEEE International Symposium on Circuits and Systems (ISCAS), May 2005

KUNZ, DONALD L., (ENY)

Technical Paper Referee: *Journal of Sound and Vibration; AIAA Journal; Journal of Aircraft*; and *ASME Journal of Vibration and Acoustics*

LAMONT, GARY B., (ENG)

Member: Executive Committee, AFIT Tau Beta Pi Executive Committee 1992 to present

Program Committee Member: Evolutionary Multi-Criterion Optimization (EMO) 2005, Genetic and Evolutionary Computation Conference (GECCO) 2004

Technical Paper Reviewer: Genetic and Evolutionary Computation Conference (GECCO), 2003 and 2004; *Journal of Evolutionary Computation*, MIT Press 2001 to present; IEEE Congress on Evolutionary Computation (CEC), 2003 and 2004; and IEEE Transactions on Evolutionary Computation, 2000 to present

LIEBST, BRADLEY S., (ENY)

Technical Paper Referee: *AIAA Journal; Journal of Aircraft;* and *Journal of Guidance, Control and Dynamics*

Member: Board of Directors, Honors Seminars of Metropolitan Dayton, Inc.

LOTT, JAMES A., Lt Col (ENG)

Technical Paper Reviewer: IEEE *Journal of Selected Topics in Quantum Electronics*; IEEE *Journal of Quantum Electronics*; *IEE Electronics Letters*, and *IEEE Photonics Technology Letters*

Technical Program Organizer: 3rd Nanomaterials for Defense Applications Symposium, Feb 2005

Conference Chair: "Quantum Dots, Particles, and Nanoclusters," SPIE - The International Society for Optical Engineering Photonics West, San Jose, Jan 2005

Session Chair: "Vertical Cavity Surface Emitting Lasers," Pacific Rim Conference on Lasers and Electro-Optics (CLEO), Tokyo, Jun 2005

Member: Semiconductor Laser Committee (paper selection), 18th IEEE Lasers and Electro-Optics Society (LEOS), Piscataway, NJ, Aug 2005

MAPLE, RAYMOND C., Lt Col (ENY)

Session Chair: Dayton-Cincinnati Aerospace Sciences Symposium

Technical Paper Referee: *AIAA Journal*

MARCINIAK, MICHAEL A., (ENP)

Session Chair: Ohio Section, American Physical Society Spring Meeting, Dayton, OH, 8-9 Apr 2005

External Reviewer: Promotion and Tenure Committee, School of Engineering, University of Dayton, Aug 2005

MARTIN, RICHARD K., (ENG)

Technical Paper Referee: *IEEE Communications Letters; IEEE Transactions on Signal Processing; IEEE Signal Processing Letters; IEEE Transactions on Communications; IEEE Transactions on Wireless Comm; IEEE Transactions on Circuits and Systems II; EURASIP Journal of Applied Signal Processing; Communications in Information and Systems;* and the sixth *IEEE International Workshop on Signal Processing Advances in Wireless Communications*

Student Branch Advisor: AFIT IEEE, Dec. 2004-Present

MATHEWS, KIRK A., (ENP)

Member: Satellite Sensor Review Panel (SSRP), Air Force Technical Applications Center

MAYBECK, PETER S., (ENG)

Member: AFIT/EN Academic Rank Promotion and Tenure Committee; AFIT/ENG Steering Committee; AFIT/ENG Head Search Committee; AFIT/ENG Faculty Search Committee; AFIT/EN Scheduling/Registration Faculty Committee; AFIT/EN Academic Support Committee; and AFIT/EN Classified Research at AFIT Committee

Chair: AFIT/ENG Academic Rank Promotion and Tenure Committee, and AFIT/ENG Guidance and Control Curriculum Committee

Representative: AFIT/EN Doctoral Council, AFIT/ENG

Chair and Member: Dayton Section IEEE Student Activities and Section's Executive Committee (consistently since 1975)

MCMULLAN, RICHARD J., Maj (ENY)

Career Enhancement Chair: Dayton-Cincinnati AIAA Section

Session Chair: AIAA Aerospace Sciences Meeting, and Dayton-Cincinnati Aerospace Sciences Symposium

Technical Paper Referee: *AIAA Journal* and *Journal of Aircraft*

MCNUTT, ROSS T., Lt Col (ENV)

Director: Project Angel Fire and Operational Technology Program

Member: Frontier Technology Inc. Advisory Board for SBIR for DoD Lean Implementation tools

MELOUK, SHARIF H., (ENS)

Session Chair: Industrial Engineering Research Conference

Reviewer: *European Journal of Operations Research* and *International Journal of Production Economics*

MILLER, JOHN O., (ENS)

AFIT Representative: 2nd AF M&S Conference at Air Force Agency Modeling and Simulation (AFAMS), Mar 2005

Director: Center of Operational Analysis

Mentor: Wright Scholar Summer 2004

Session Chair: 2004 Winter Simulation Conference Military Track

Judge: MORS Rist Prize 2005

Technical Paper Reviewer: *MORS Journal*

Presenter: OR Applications to Honor Seminars of Metropolitan Dayton, Feb 2005

MOORE, JAMES T., (ENS)

Associate Editor: *Military Operations Research*

MULLINS, BARRY E., (ENG)

Technical Paper Referee: American Society for Engineering Education Annual Conference

NEHER, ROBERT E., Jr., Maj (ENC)

Technical Paper Referee: *IEEE Transactions on Geoscience and Remote Sensing*

OXLEY, MARK E., (ENC)

Member: Steering Committee for Southeastern Atlantic Regional Conference on Differential Equations (SEARCDE); SPIE Conference Program Committee for *Intelligent Computing: Theory and Applications III*, Orlando, FL, Apr 2005

PACHTER, MEIR, (ENG)

Associate Editor: *Journal of Optimization Theory and Applications*

Technical Papers Referee: AIAA and IEEE

Session Chairman: IEEE and AIAA conferences

Proposal Reviewer: AFOSR

PERRAM, GLEN P., (ENP)

Member: High Energy Laser Joint Technology Office

Chairman: Technical Area Working Group on Modeling and Simulation

Technical Chairman: Directed Energy Professional Society, Directed Energy Modeling and Simulation Conference 2005

PERRY, MARCUS B., (ENS)

Technical Papers Reviewer: *Computers and Industrial Engineering; Military Operations Research; IEEE Transactions on Reliability; IIE Transactions on Quality and Reliability;* and *Quality and Reliability Engineering International*

PETERSON, GILBERT L., (ENG)

Reviewer: Florida Artificial Intelligence Research Society (FLAIRS); IFIP WG 11.9 Digital Forensics; and Digital Forensic Research Workshop (DFRWS)

RAINES, RICHARD A., (ENG)

Member: Organizing Committee, International Conference on Information Warfare and Security (ICIW), Maryland, Mar 2006

Technical Paper Referee: *IEEE Journal on Selected Areas in Communications; Computer Communications Journal;* and *IEEE Communications Letters*

RAQUET, JOHN F., (ENG)

Board of Advisors and Technical Paper Referee: Global Positioning System (GPS) Solutions

Eastern Region Vice President: Institute of Navigation

Session Chair: ION GNSS-2005, Long Beach, CA, Sep 2005

Technical Paper Referee: IEEE Transactions on Aerospace and Electronics Systems

REEDER, MARK F., (ENY)

Technical Paper Referee: *ASME Journal of Fluids Engineering; AIAA Journal; AIAA Journal of Propulsion and Power;* and *AIAA Journal of Aircraft*

Panelist: USAF Developmental Test and Evaluation Summit, Nov 2004

RUGGLES-WRENN, MARINA B., (ENY)

Publicity Chair: ASME Pressure Vessel and Piping Division

Symposium Organizer: Composite Materials and Structures, Design and Analysis, ASME 2005 Pressure Vessel and Piping Conference

Session Chair: ASME 2005 Pressure Vessel and Piping Conference

Technical Paper Referee: ASME 2005 Pressure Vessel and Piping Conference; *Composites Part A: Applied Science and Manufacturing; ASME Journal of Pressure Vessel Technology;* and *Composites Science and Technology*

SEETHARAMAN, GUNA, (ENG)

Charter Member: Team CajubBot Dynamic Tactical Routing Algorithms, DARPA Grand Challenge: Autonomous Ground Vehicles Navigating through the Mojave Desert

Member: Steering Committee and Program Committee, IEEE Seventh International Workshop on Computer Architecture for Machine Perception (CAMP) Sicily, Italy, Jul 2005; Program Committee, International Computer Vision, International Conference on Computer Vision (ICCV) 2005 Bejing, China

Reviewer: IEEE Transactions on Computers; and *International Journal of Distributed and Parallel Computing*

Participant: 2-weeks long summer school on Nano Technology, NSF-DOE Consortium for Nanotechnology, Pacific Northwestern National Laboratory, May 16-27, 2005

SMITH, JEFFREY S., Maj (ENV)

Reviewer: *Journal of Cost Analysis and Management*

Chair: Applied Econometric Session, Southwest Economic Association Conference, New Orleans, LA, Mar 2005

SMITHTRO, CHRISTOPHER G., Maj (ENP)

Scientific Advisor: NASA's Community Coordinated Modeling Center (CCMC) Steering Group, Aug 2005 – present

Member: Extreme-ultraviolet Variability Experiment (EVE) Science Team, 2002-present

STAATS, RAYMOND W., Lt Col (ENS)

Technical Paper Referee: *International Transactions in Operational Research*

TEMPLE, MICHAEL A., (ENG)

Reviewer: *IEEE Journal in Selected Areas of Communications; IEEE Communications Letters; IEE Electronic Letters; and IEEE Journal in Selected Areas of Communications*

Member: AFRL Technology Review Board (TRB)

TENNEY, CURTIS G., Lt Col (ENV)

Member: Air Force Financial Management Transformation Team 05-1, Financial Management Education, Training, and Development; Air Force Financial Management Center of Expertise Induction Course Team; Air Force Financial Management Transformation Team 04-5, Re-engineer Financial Management Cost Analysis Education

Reviewer: *Journal of Cost Analysis and Management*

TERZUOLI, ANDREW J., Jr (ENG)

Chair: Local Chapter, Joint IEEE Societies Antennas and Propagation Society (APS), Microwave Theory and Techniques (MTT), Geoscience and Remote Sensing (GRS)

Technical Paper Referee: *IEEE Transactions on Antennas and Propogation*

Chair: WPAFB MASINT Development Consortium

TITUS, NATHAN A., Lt Col (ENY)

Session Chair: AIAA Guidance, Navigation, and Control Conference 2005

VASQUEZ, JUAN R., Lt Col (ENG)

Program Co-Chair: Optics and Photonics, San Diego, CA, Aug 2005

WHITE, EDWARD D., III (ENC)

Associate Editor: *Journal of Cost Analysis and Management*

Technical Paper Referee: *Journal of Cost Analysis and Management* and *Military Operations Research*

WIESEL, WILLIAM E., (ENY)

Secretary and Member: Board of Directors, Honors Society of Metropolitan Dayton, Inc.

WOLF, PAUL J., (ENP)

Councilor: American Physical Society Council

Member: Executive Committee, Ohio Section of the American Physical Society, 2005-present

WRIGHT, SAMUEL A., Maj (ENC)

Technical Paper Referee: *IEEE Transactions on Reliability*

3.10 SPECIAL RESEARCH AWARDS OR RECOGNITION

3.10.1 FACULTY

BALDWIN, RUSTY O., (ENG)

Lt. General Gordon T. Gould Jr. Award, 2004 IEEE Military Communications Conference, MILCOM 2004, Monterey, CA

BARTCZAK, SUMMER E., Lt Col (ENV)

Sigma Iota Epsilon (AFIT Sigma Beta Chapter) Management Professor of the Year 2005

Dr. Leslie M. Norton Teaching Excellence Award (presented by AFIT Student Association) 2005

CANFIELD, ROBERT A., (ENY)

Department Instructor of the Quarter, Summer 2005 (AFIT Student Association)

Dr. Leslie M. Norton Award for Excellence in Teaching 2005 (AFIT Student Association)

Third Place, AIAA Graduate Team Aircraft Design Competition 2004-2005 for *Morphing Navy Uninhabited Combat Aerial Vehicle* (Advisor to AFIT Design Team)

American Institute of Aeronautics and Astronautics Distinguished Service Award, 2003–2005

Gage H. Crocker Outstanding Professor Award 2004 (AFIT Board of Visitors), Mar 2005

Outstanding Engineers and Scientists Award, Education Category, Affiliates Society Council of the Engineering and Science Foundation of Dayton, Feb 2005

COBB, RICHARD G., (ENY)

Lt. General Gordon T. Gould Jr. Award, 2004 IEEE Military Communications Conference, MILCOM 2004, Monterey, CA

DECKRO, RICHARD F., (ENS)

"Modeling and Analysis of Clandestine Networks," *73rd MORS Symposium*, USMA, Jun 2005 (Selected as best working group presentation – WG 8 Information Operations/Information Warfare)

"Distorted Risk Measures with Application to Military Capability Shortfalls," *73rd MORS Symposium*, USMA, Jun 2005 (Selected as best working group presentation – WG 21 Readiness Assessment and Force Management Tools)

DUCKRO, DONALD E., Lt Col (ENC)

Dr. Wilbur B. Payne Memorial Special Award for Excellence in Analysis, Department of the Army

Department of Defense Modeling and Simulation (M&S) Award

GRIMAILA, MICHAEL R., (ENV)

Appointed to Senior Member of the Institute of Electrical and Electronics Engineers (IEEE), 19 Feb 2005

HALE, TODD B., Maj (ENG)

2004 AFIT Field Grade Officer of the Year

2004 AFIT Nominee for the Air Force Outstanding Science and Engineering Educator Award

HAVRILLA, MICHAEL J., (ENG)

Best Paper, AMTA 2003, S. Dorey, M. Havrilla, L. Frasch, C. Choi and E. Rothwell, "Stepped-Waveguide Electromagnetic Material Characterization Technique," Antenna Measurement Techniques Association (AMTA) Conference Proceedings, pp. 232-237, Irvine, CA, Oct 2003

IEEE Senior Member, Jan 2005

KHAROUFEH, JEFFREY P., (ENS)

"Distorted Risk Measures with Application to Military Capability Shortfalls," *73rd MORS Symposium*, USMA, Jun 2005 (Selected as best working group presentation – WG 21 Readiness Assessment and Force Management Tools)

MAYBECK, PETER S., (ENG)

Best Paper in a Session of the Institute of Navigation (ION) Global Navigation Satellite System (GNSS) 2005 Conference, Long Beach, California, Sep 2005

MCNUTT, ROSS T., Lt Col (ENV)

Selected for Leadership Ohio, state-wide professional development program

MILLS, ROBERT F., (ENG)

Lt. General Gordon T. Gould Jr. Award, 2004 IEEE Military Communications Conference, MILCOM 2004, Monterey, CA

NIDAY, THOMAS A., Capt (ENP)

AFIT Instructor of the Quarter for Summer 2005

PERRY, MARCUS B., (ENS)

"Modeling and Analysis of Clandestine Networks," *73rd MORS Symposium*, USMA, Jun 2005 (Selected as best working group presentation – WG 8 Information Operations/Information Warfare)

RAINES, RICHARD A., (ENG)

General Bernard E. Schriever Award, Wright Memorial Chapter Air Force Association—for advancing aerospace power, technology, Air Force doctrine, and military as a profession—Apr 2005

National Security Agency re-designated Center of Academic Excellence in Information Assurance Education 2005-2008—led team that sought and gained prestigious national recognition—one of 67 schools in U.S. recognized

Eta Kappa Nu Electrical Engineering Instructor of the Year

Certified Ethical Hacker—Infosec Institute

SEETHARAMAN, GUNA, (ENG)

Charter Member of Team CajubBot. Dynamic Tactical Routing Algorithms, DARPA Grand Challenge: Autonomous Ground Vehicles Navigating through the Mojave Desert. In the 2005 round, the team was among the 23 finalists selected from 193 participants

TEMPLE, MICHAEL A., (ENG)

Lt. General Gordon T. Gould Jr. Award, 2004 IEEE Military Communications Conference, MILCOM 2004, Monterey, CA

TERZUOLI, ANDREW J., Jr (ENG)

IEEE Certificate of Appreciation, MTT Society

WEIR, JEFFERY D., Lt Col (ENS)

"Modeling and Analysis of Clandestine Networks," *73rd MORS Symposium*, USMA, Jun 2005 (Selected as best working group presentation – WG 8 Information Operations/Information Warfare)

3.10.2 STUDENTS

Bednar, Earl M., 1Lt

Military Operations Research Society (MORS) Award (MS-Mar 2005)

Clark, Clinton R., Capt

AFIT Graduate School for Engineering and Management Dean's Award Winner from the Department of Operational Sciences (MS-2005)

"Modeling and Analysis of Clandestine Networks," *73rd MORS Symposium*, USMA, Jun 2005 (Selected as best working group presentation – WG 8 Information Operations/Information Warfare)

Selected as 2005 Air Force Analyst of the Year

Combs, Randy C.

Cost Analysis Award sponsored by the Society of Cost Estimating and Analysis for the best thesis within the field of cost analysis (2005)

Cobb, William Capt

Association of Old Crows Electronic Warfare Research Excellence Award (2004)

Croker, Barry A., Capt

1st Place in AIAA CFD Student Paper Competition at 17th AIAA Computational Fluid Dynamics (CFD) Conference, Toronto, Canada, 6-9 Jun 2005

DiGiovacchino, LT John, Capt Joseph Hank, Capt Ron Pendleton, ENS Brett Jones, and ENS Troy Leveron

Third Place, AIAA Graduate Team Aircraft Design Competition 2004-2005 for *Morphing Navy Uninhabited Combat Aerial Vehicle*

Duke, James S., Capt

Toumin Young Author Award, Society of Military Engineers for publication in *The Military Engineer* (2005)

Fletcher, Richard, E. A., Capt

Department of Systems and Engineering Management winner of the Louis F. Polk award recognizing contributions to advancing objectives of the National Defense Industrial Association (2005)

Hoffman, Greg J., Capt

Dimitroff Award for the thesis providing the most significant contribution to the Air Force Civil Engineering career field (2005)

Jeffers, Sean, Maj

Polk Award for Research Excellence (2005)

Lindsey, Martin F., Maj

Best Presentation in Aircraft Control at 30th Dayton-Cincinnati Aerospace Science Symposium, 8 Mar 2005

McConnell, Michael L., Capt

International Society of Logistics Jerome G. Peppers, Jr., Outstanding Student Award (MS-Mar 2005)

McFarland, Charles B., Maj

International Society of Logistics Jerome G. Peppers, Jr., Outstanding Student Award (IDE-Jun 2005)

Millette, Chad

Outstanding Thesis, Project Management Institute

Offut, Edward, Maj

"Distorted Risk Measures with Application to Military Capability Shortfalls," *73rd MORS Symposium*, USMA, Jun 2005 (Selected as best working group presentation – WG 21 Readiness Assessment and Force Management Tools)

Overbeek, Robert J., Richard A. Chancellor, and Eric T. Skaar

"Nuclear Fallout Modeling Using HPAC," *American Nuclear Society Student Conference*, Columbus, OH, 14-16 Apr 2005 (Presented by Robert J. Overbeek, awarded 2nd place for outstanding paper in session)

Schrock, Christopher R.

American Institute of Aeronautics and Astronautics (AIAA) Graduate Student Award for Research Excellence (2005) and AFIT Graduate School of Engineering and Management Dean's Award Winner from the Department of Aeronautics and Astronautics (Mar 2005)

Uhlman, Troy A.

"Temperture Dependent Current-Voltage Measurements of Neutron Irradiated $Al_xGa_{1-x}N$/GaN Modulation Doped Field Effect Transistors," *American Nuclear Society Student Conference*, Columbus, OH, 14-16 Apr 2005 (Awarded best student presentation in radiation effects division)

Voigt, Jeanette M., Maj

Military Operations Research Society (MORS) Award (GMO-Jun 2005)

Wood, Ryan C., 1st Lt

AFIT Graduate School of Engineering and Management Dean's Award Winner from the Department of Systems and Engineering Management (2005)

Wysocki, Bryant T.

Association of Old Crows (AOC), Local Kittyhawk Chapter Academic Research Excellence Award winner (2005)

3.11 BOOKS AND CHAPTERS IN BOOKS

BARTCZAK, SUMMER E., Lt Col (ENV)

*Bartczak, S. E. and E. C. England, "Challenges in Developing a Knowledge Management Strategy for the Air Force Material Command," book chapter in *Case Studies in Knowledge Management*, Murray Jennex, Idea Group Publishing: 2005.

BRIGANTIC, ROBERT T., Lt Col (ENS)

Brigantic, R. T. and J. M. Mahan, Eds. *Defense Transportation: Algorithms, Models, and Applications for the 21st Century*. Elsevier: Amsterdam, 2004.

CANFIELD, ROBERT A., (ENY)

Bae, Ha-Rok, Ramana V. Grandhi, and Robert A. Canfield. *Structural Uncertainty Quantification and Optimization Using Evidence Theory*. Tech Science Press: Forsyth, GA, 2005.

ENGLAND, ELLEN C., Lt Col (ENV)

*Bartczak, S. E. and E. C. England, "Challenges in Developing a Knowledge Management Strategy for the Air Force Material Command," book chapter in *Case Studies in Knowledge Management*, Murray Jennex, Idea Group Publishing: 2005.

GOLTZ, MARK N., (ENV)

Goltz, M. N., J. W. Park, P. P. Feng, and H. C. Young, "Organic Chemicals in Groundwater: Modeling Fate and Transport," book chapter in *Environmental Impact Assessment of Recycled Wastes on Surface and Ground Waters, Vol. 3, Engineering Modeling and Sustainability*, T. A. Kassim, Ed., Springer-Verlag: Berlin, 2005.

HICKS, MICHAEL J., (ENV)

Lafaivre, Michael and Michael Hicks. *MEGA: A Retrospective Assessment*. Mackinac Center for Public Policy: 2005. ISBN 1-890624-43-8, pp. 1-141.

LAMONT, GARY B., (ENG)

Lamont, Gary B. and Carlos Coello, Eds. *Applications of Multi-Objective Evolutionary Algorithms: Advances in Natural Computation - Vol. 1*. World Scientific Publishing: 2004.

Lamont, Gary B. and Carlos Coello, "An Introduction to Multi-Objective Evolutionary Algorithms (MOEAs) and Their Applications," book chapter 1 in *Applications of Multi-Objective Evolutionary Algorithms: Advances in Natural Computation – Vo.1*, Lamont, Gary B. and Carlos Coello, Eds., World Scientific Publishing: 2004.

Lamont, Gary B., Richard Day, and Mark Kleeman, "Multi-Objective Evolutionary Algorithms (MOEAs) for Computer Science Applications," book chapter 19 in *Applications of Multi-Objective Evolutionary Algorithms: Advances in Natural Computation – Vo.1*, Lamont, Gary B. and Carlos Coello, Eds., World Scientific Publishing: 2004.

MAYER, CHRISTOPHER B., Maj (ENG)

Mayer, Christopher B., K. Selçuk Candan, Venkastesh Sangam, "Effects of User Request Patterns and a Multimedia Delivery System," book chapter in *Multimedia Tools and Applications*. Kluwer Academic Publishers: 2004. Vol. 24, No. 3 pp. 233-251.

PACHTER, MEIR, (ENG)

*Schulz, C. S., D. Jacques, and M. Pachter, "Cooperative Control Simulation Validation Using Applied Probability Theory," book chapter in *Theory and Algorithms for Cooperative Systems*. World Scientific: 2005. pp. 481-498.

RUGGLES-WRENN, M. B., (ENY)

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TORVIK, PETER J., (ENY)

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APPENDICES

APPENDIX A FACULTY CREDENTIALS

ABRAMSON, MARK A., Lt Col, Deputy Head, Assistant Professor of Mathematics, Department of Mathematics and Statistics, AFIT Appointment Date: 2002 (AFIT/ENC); BS, Brigham Young University, 1987; MS (2), Air Force Institute of Technology, 1994; MA, Rice University, 2001; PhD, Rice University, 2002. Lt Col Abramson's research interests include optimization and numerical analysis, particularly as applied to engineering design problems. His recent research has focused primarily on direct search algorithms for solving nonlinear and mixed variable programming problems. Lt Col Abramson's previous military assignments have been in test and evaluation, logistics policy analysis, and computer simulation and analysis of war plans. Tel. 937-255-3636 x4524 (DSN 785-3636 x4524), email: Mark.Abramson@afit.edu.

ALLEY, THOMAS G., Lt Col, Assistant Professor of Physics, Department of Engineering Physics, AFIT Appointment Date: 2003 (AFIT/ENP); BA, University of Utah, 1984; MS, Air Force Institute of Technology, 1987; PhD, University of New Mexico, 1998. Lt Col Alley's main research interests include nonlinear optics and laser devices. Specific application areas include fiber lasers, nonlinear optical effects in glass and fibers, and thermal electric field poling in glass. He previously taught at the US and Argentine Air Force Academies and has conducted and managed research in nonlinear optics and solid state lasers at the Air Force Research Laboratory. He has published 21 technical papers and reports. He is a member of the Optical Society of America and Directed Energy Professional Society. Tel. 937-255-3636 x4649 (DSN 785-3636 x4649), email: Thomas.Alley@afit.edu.

AMEND, JOSEPH H., III, Col, Department Head, Department of Systems and Engineering Management, AFIT Appointment Date: 1997 (AFIT/ENV) and Associate Professor of Civil Engineering, BS in Civil Engineering, AFIT Appointment Date: 1971; MS in Civil Engineering, 1972; PhD in Civil Engineering, 1975 from Virginia Polytechnic Institute and State University; and Air Command and Staff College, Montgomery, AL, 1988. Col Amend's research interests include engineering and facility management, groundwater flow, subsurface remediation and environmental management. Tel. 937-255-2998 (DSN 785-2998).

ANDERSON, BRADLEY E., Maj, Assistant Professor of Logistics Management, Department of Operational Sciences, AFIT Appointment Date: 2002 (AFIT/ENS); BS, Meteorology, University of Wisconsin - Madison, 1990; MS, Logistics Management, Air Force Institute of Technology, 1996; PhD, Business, Indiana University - Bloomington, 2002. Maj Anderson's research interests include reparable inventory management, mixed integer programming, network models, supply chain management, and evolutionary algorithms. Tel. 937-255-3636 x4646 (DSN 785-3636 x4646), email: Bradley.Anderson@afit.edu.

ANTHENIEN, RALPH A. Jr., Assistant Professor of Aerospace Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 2001 (AFIT/ENY); BS, University of California (UC) at Berkeley, 1993; MS UC Berkeley, 1996; PhD, UC Berkeley, 1998. Dr. Anthenien's research interests include development of advanced combustors for gas turbine engines, heterogeneous combustion, combustion diagnostics, and fire safety as well as thermal management and novel propulsion technologies. He is a licensed professional engineer of the state of Ohio. He is a member of the AIAA, ASME, SAE and the Combustion Institute. Tel. 937-255-3636 x4643 (DSN 785-3636 x4643), email: Ralph.Anthenien@afit.edu.

AROSTEGUI, MARVIN A., Lt Col, Assistant Professor of Logistics Management, Department of Operational Sciences, AFIT Appointment Date: 2003 (AFIT/ENS); BA, Applied Mathematics, University of California at Berkeley, 1987; MS, Logistics Management, Air Force Institute of Technology, 1992; PhD, Operations Management, University of Houston, 1997. Lt Col Arostegui's research interests include inventory theory, forecasting management, and supply chain management. Tel. 937-255-2549 (DSN 785-2549).

BAILEY, WILLIAM F., Associate Professor of Physics, Department of Engineering Physics, AFIT Appointment Date: 1978 (AFIT/ENP); BS, United States Military Academy, 1964; MS, The Ohio State University, 1966, PhD, Air Force Institute of Technology, 1978. Professor Bailey's research interest center on weakly ionized gases and reactive kinetics, with special applications to semiconductor processing in gas discharges, shock characterization in ionized flows and solutions of the inhomogeneous electron kinetic equation. Dr. Bailey has published over 20 papers in refereed conference proceedings and international journals and chaired over 25 theses and dissertations. He is a member of Tau Beta Pi, Sigma Pi Sigma, and Sigma Xi. Tel. 937-255-3636 x 4501 (DSN 785-3636 x 4501), email: William.Bailey@afit.edu.

BAKER, WILLIAM P., Associate Professor of Mathematics, Department of Mathematics and Statistics, AFIT Appointment Date: 1994 (AFIT/ENC); BA, University of California at Irvine, 1969; MA, University of California at Irvine, 1970; PhD, Northwestern University, 1987. Dr. Baker's research interests include asymptotic and perturbation methods, wave propagation and scattering theory, applied mathematics, functional analysis, low observables, and numerical analysis. Dr. Baker's current research is in acoustical and electromagnetic scattering, and vibrational dynamics of composite sandwich material. His recent papers are on fractional derivative models of viscoelastic materials. Dr. Baker is a Master Navigator with prior military assignments in flight test, satellite communications, cruise missile and radar analysis. Tel. 937-255-3636 x4517 (DSN 785-3636 x4517), email: William.Baker@afit.edu.

BALDWIN, RUSTY O., Associate Professor of Computer Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 1999 (AFIT/ENG), BSEE, New Mexico State University, 1987; MS, Computer Engineering, Air Force Institute of Technology, 1992; PhD, Virginia Polytechnic Institute and State University, 1999. His research interests include computer communication networks, information warfare, performance modeling, and analysis and simulation of real-time communication systems. Tel. 937-255-6565 x 4445 (DSN 785-6565 x4445), email: Rusty.Baldwin@afit.edu.

BARR, DAVID R., Associate Professor Emeritus of Statistics, Department of Mathematics and Statistics (AFIT/ENC); BA, Miami University, 1954; MA, Miami University, 1954; MS, Miami University, 1957; PhD, State University of Iowa, 1964. Dr. Barr's research interests include probability, statistics and stochastic processes, as well as the design of experiments. Tel. 937-255-3098 (DSN 785-3098).

BARTCZAK, SUMMER E., Lt Col, Assistant Professor of Information Resource Management, AFIT Appointment Date: 2002 (AFIT/ENV); BS, United States Air Force Academy, CO, 1986; MS in Information of Resource Management, Air Force Institute of Technology, Dayton, OH, 1990; Masters of Military Operational Art, Air Command and Staff College, Air University, Montgomery, AL, 1998; PhD in Management Information Systems, Auburn University, Auburn, AL, 2002. Lt Col Bartczak's research interests include information technology (IT)/knowledge management (KM) implementation and IT/KM strategy, innovation, and change. Tel. 937-255-3636 x4826 (DSN 785-3636 x4826), email: Summer.Bartczak@afit.edu.

BAUER, KENNETH W., Jr., Professor of Operations Research, Department of Operational Sciences, AFIT Appointment Date: 1996 (AFIT/ENS); BS, Miami University (Ohio), 1976; MEA, University of Utah, 1980; MS, Air Force Institute of Technology, 1981; PhD, Purdue University, 1987. Dr. Bauer's research interests include the statistical aspects of simulation, design of experiments, neural networks, and multivariate statistics. Tel. 937-255-6565 x4328 (DSN 785-6565 x4328), email: Kenneth.Bauer@afit.edu.

BAUMERT, STEPHEN E., Assistant Professor of Operations Research, Department of Operational Sciences, AFIT Appointment Date: 2004 (AFIT/ENS); BS, Mathematics, Rhodes College, 1998; MS, Industrial and Operations Engineering, University of Michigan, 2004; PhD, Industrial and Operations Engineering, University of Michigan, 2004. Dr. Baumert's research interests include the practice and the theory of stochastic global optimization algorithms and stochastic processes. Tel. 937 255-3636 x4539 (DSN 785-3636 x4539), email: Stephen.Baumert@afit.edu.

BELL, JOHN E., Maj, Assistant Professor of Logistics Management, Department of Operational Sciences, AFIT Appointment Date: 2003 (AFIT/ENS), Center for Operational Analysis (COA); BS, History, United States Air Force Academy, 1990; MS, Logistics Management, Air Force Institute of Technology, 1998; PhD, Management, Auburn University, 2003. Maj Bell's research interests include international logistics, location analysis, hazardous materials transportation, vehicle routing and heuristic search methods. Tel. 937-255-3636 x4708 (DSN 785-3636 x4708), email: John.Bell@afit.edu.

BIRJANDI ROSA H., Assistant Professor of Logistics Management, Department of Operational Sciences, AFIT Appointment Date: 2003 (AFIT/ENS); BS, Mathematics; MS, Applied Mathematics; PhD, Management Science /Operations Management, University of Maryland at College Park, 1998. Dr. Birjandi is interested in the areas of inventory planning, production, distribution, and mathematical programming models. Tel. 937-255-3636 x4512 (DSN 785-3636 x4512), email: Rosa.Birjandi@afit.edu.

BLECKMANN, CHARLES A., Associate Professor of Engineering and Environmental Management, Department of Systems and Engineering Management, AFIT Appointment Date: 1993 (AFIT/ENV); BA, Secondary Education (Biology), University of Evansville, 1967; MS, Biology, Incarnate Word College, 1971; PhD, Botany, University of Arizona, 1977. Dr. Bleckmann's research interests include water and wastewater analyses and treatment, hazardous waste identification and management, land treatment of wastes, groundwater monitoring and remediation, biodegradation of wastes, fuels microbiology, and bioassays. Tel. 937-255-3636 x4721 (DSN 785-3636 x4721), email: Charles.Bleckmann@afit.edu.

BLUE, PAUL A., Maj, Instructor of Aerospace Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 2004 (AFIT/ENY); BS, University of Nebraska - Lincoln, 1993; MS, University of Minnesota - Twin Cities, 1995; PhD (ABD), University of Minnesota - Twin Cities, 2004. Maj Blue's research interests include the guidance and control of aerospace vehicles and the flight-testing of advanced control concepts. His current research is focused on autonomous control and path planning for UAVs and flight testing UAV autonomous control. Maj Blue's prior assignments include Flight Control Research Engineer at the Air Vehicles Directorate of the Air Force Research Laboratory and Exchange Engineer at the German Aerospace Center. He has several publications, including a textbook on robust control with Prof. Juergen Ackermann et al. Tel. 937-255-3636 x4714 (DSN 785-3636 x4714), email: Paul.Blue@afit.edu.

BOHN, MATTHEW J., Lt Col, Assistant Professor of Physics, Department of Engineering Physics, AFIT Appointment Date: 2005 (AFIT/ENP); BS, United States Air Force Academy, 1988; MS, University of New Mexico, 1993; PhD, University of New Mexico, 1998. Lt Col Bohn's main research interests include remote sensing and femtosecond lasers. Specific application areas include femtosecond lifetimes in semiconductor materials, femtosecond pump-probe techniques, femtosecond laser gyroscopes, mid-infrared optical parametric oscillators, chaotic encryptic communication, optical pumping of Vertical Cavity Surface Emitting Lasers (VCSELs), Fourier Transform spectroscopy for remote sensing, millimeter wave spectroscopy for remote sensing, fluorescent spectroscopy for remote sensing, gas phase dynamics for lasers, spectroscopy and gain measurements in gas phase lasers. He previously taught at the US Air Force Academy and has conducted and research in optics, lasers and remote sensing at the Air Force Research Laboratory, Air Force Technical Applications Center and Deutsches Zentrum fur Luft und Raumfahrt. He has published 16 technical papers and reports and holds one patent on ring laser gyroscopes. He is a member of the Optical Society of America and the American Institute of Physicists. Tel. 937-255-3636 x4573 (DSN 785-3636 x4573), email: Matthew.Bohn@afit.edu.

BOUVIN, DAVID D., Capt, Assistant Professor of Information Resource Management, Department of Systems and Engineering Management, AFIT Appointment Date: 2004 (AFIT/ENV); BA, Psychology (HCI Focus), Roberts Wesleyan College, 1992; MBA, Management, University of Sarasota, 1998; DBA, Information Systems, University of Sarasota, 2000; Post Doctoral Research, Information Systems, Harvard University, 2001. Research interests include eSpace technologies, information assurance and security, web-based technologies, business, and management. Tel. 937-255-2998 (DSN 785-2998).

BRADY, STEPHAN P., Lt Col, Assistant Professor of Logistics Management, Department of Operational Sciences, AFIT Appointment Date: 1999 (AFIT/ENS); BA, Political Science, Western Maryland College, 1985; MPA, Public Administration, University of New Hampshire, 1994; MS, Logistics Management, Air Force Institute of Technology, 1992; PhD, Business Administration, Pennsylvania State University, 1999. Certified Professional Logistician (CPL) 1994. Lt Col Brady's research interests include: transportation, logistics and collaborative supply chain management and innovative adoption, Interplanetary Supply Chain Management and Space Logistics, consumable and reparable inventory management, simulation, and modeling. Tel. 937-255-2549 (DSN 785-2549).

BRANAM, RICHARD D., Maj, Assistant Professor of Aeronautical Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 2005 (AFIT/ENY); BS, Aerospace Engineering, The Ohio State University, 1993; MS, Aeronautical Engineering, Air Force Institute of Technology, 1997; PhD, Aerospace Engineering, The Pennsylvania State University, 2005. Rocket propulsion and hypersonics. Investigation of aspects and performance in these areas through numerical techniques to inlcude conventional computation fluid dynamics as well as molecular dynamic simulations. Working closely with researchers to compare experimental results with models and explore techniques and procedures for improving both model and rocket performance. Tel. 937-255-3636 x7485 (DSN 785-3636 x7485), email: Richard.Branam@afit.edu.

BRIDGMAN, CHARLES J., Professor Emeritus of Nuclear Engineering, Department of Engineering Physics, (AFIT/ENP); BS, United States Naval Academy, 1952; MS, North Carolina State University, 1958; PhD, North Carolina State University, 1963. Dr. Bridgman's interests center around nuclear weapon effects and military nuclear power applications. He has been associated with nuclear weapon defense since 1952. He was a member of the first military team to be operational on the H-bomb. His current research interest is nuclear weapon fallout modeling. He is the author of a text book "Introduction to the Physics of Nuclear Weapons Effects" and of numerous technical articles in a wide variety of journals. In his 38 years on the AFIT faculty, he has chaired over 120 MS theses and PhD dissertations. He has received several awards including Tau Beta Pi Teacher of the Year and the Gage H. Crocker Outstanding Professor Award. Dr. Bridgman is a Fellow of the American Nuclear Society. Tel. 937-255-3636 x4877 (DSN 785-3636 x4877), email: Charles.Bridgman@afit.edu.

BRIGANTIC, ROBERT T., Lt Col, Assistant Professor of Operations Research, Department of Operational Sciences, AFIT Appointment Date: 2003 (AFIT/ENS); BS, Chemical Engineering, Oregon State University, 1983; MS, Space Operations, Air Force Institute of Technology, 1987; PhD, Operations Research, Air Force Institute of Technology, 1997. Lt Col Brigantic's research interests include Probability and Statistics, Modeling and Simulation, Artificial Intelligence and Pattern Recognition, Adaptive Optics, Digital Image Processing, Space Operations and Rocket Propulsion. Tel. 937-255-2549 (DSN 785-2549).

BULUTOGLU, DURSUN A., Assistant Professor of Statistics, Department of Mathematics and Statistics, AFIT Appointment Date: 2004 (AFIT/ENC); BS, University of Maryland at College Park, 1996; PhD, University of California, Berkeley, 2001. Dr.Bulutoglu's research interests include design of experiments and combinatorial problems in statistics. His recent papers are on optimization algorithms for finding E(s^2) optimal supersaturated designs. Tel. 937-255-3636 x4704 (DSN 785-3636 x4704), email: Dursun.Bulutoglu@afit.edu.

BUNCK, BENJAMIN F., Visiting Assistant Professor of Mathematics, Contractor, Department of Mathematics and Statistics, (AFIT/ENC); BS, University of Kansas, 1999; MS, Wichita State University 2001; PhD, Wichita State University, 2004. Dr. Bunck's current research interests include numerical analysis, numerical partial differential equations, and spectral methods in partial differential equations. Tel. 937-255-6565 x4516 (DSN 785-6565 x4516), email: Benjamin.Bunck@afit.edu.

BURGGRAF, LARRY W., Professor of Chemical Physics and Engineering Physics, Department of Engineering Physics, AFIT Appointment Date: 1991 (AFIT/ENP); BA, Chemistry, Olivet Nazarene University, 1968; MS, Chemistry, Ohio State University, 1971; MA, Applied Mathematics, University of West Florida, 1977; PhD, Chemistry, University of Denver, 1981; Postdoctoral Associate, Computational Chemistry, Iowa State University, 1994. Dr. Burggraf conducts experimental and theoretical research in surface chemistry, surface spectroscopy and nuclear radiation spectroscopy to solve DoD and DOE problems in various areas including semiconductor chemistry; chemical, biochemical, and nuclear sensors; radiation imaging; and nuclear fuels chemistry. Dr. Burggraf's research currently applies physical chemistry tools including positron spectroscopy, photoluminescence, secondary ion mass spectrometry, photoluminescence spectroscopy, infrared spectroscopy, Raman spectroscopy, atomic force microscopy, spectro-electrochemistry, and gamma spectrometry to problems in MEMS chemical and biological sensors, anthrax spores and cell toxicity, nuclear fuels detection, SiC defect spectroscopy, uranium oxide surface chemistry, and gamma imaging of nuclear materials. Theoretical research to model surfaces and clusters centers on applying hybrid molecular mechanics / quantum mechanics models to predict structures, energies, dynamics and spectroscopy on surfaces of silicon, silicon carbide and uranium oxides. Dr. Burggraf has more than 30 publications. Tel. 937-255-3636 x4507 (DSN 785-3636 x4507), email: Larry.Burggraf@afit.edu.

CAIN, STEPHEN C., Assistant Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2003 (AFIT/ENG); BSEE, University of Notre Dame, 1992; MSEE, Michigan Technological University, 1994; PhD, University of Dayton, 2001. His research interests include electro-optics, remote sensing, and signal processing. Tel. 937-255-3636 x4716 (DSN 785-3636 x4716), email: Stephen.Cain@afit.edu.

CALICO, ROBERT A., Jr., Professor of Aerospace Engineering and Dean of Graduate School of Engineering and Management, AFIT Appointment Date: 1972 (AFIT/EN); BS, University of Cincinnati, 1966; MS, University of Cincinnati, 1968; PhD, University of Cincinnati, 1971. Dr. Calico's research interests include aircraft stability and control, analytical dynamics, stability of non-linear systems, satellite dynamics, control theory, and vibration analysis. Tel. 937-255-3025 (DSN 785-3025), email: Robert.Calico@afit.edu.

CANFIELD, ROBERT A., Associate Professor in Aeronautics and Astronautics, Department of Aeronautics and Astronautics, AFIT Appointment Date: 2000 (AFIT/ENY); BSE, Mechanical Engineering, Duke University, 1983; MS, Aeronautics and Astronautics, Stanford University, 1984; PhD, Engineering Mechanics, Virginia Polytechnic Institute and State University, 1992. Dr. Canfield's research interests include structural optimization, multidisciplinary analysis and design methods, structural dynamics and controls, and aeroelasticity. He has published twenty-four journal articles and forty-two papers in conference proceedings on these topics. Dr. Canfield is the former Program Manager for Computational Mathematics at the Air Force Office of Scientific Research (AFOSR) and AFOSR Director of Policy and Integration. He is an Associate Fellow of the American Institute of Aeronautics and Astronautics. Tel. 937-255-3636 x4723, (DSN 785-3636 x4723), email: Robert.Canfield@afit.edu.

CHILTON, LAWRENCE K., Associate Professor of Mathematics, Department of Mathematics and Statistics, AFIT Appointment Date: 2003 (AFIT/ENC); BA, University of California at San Diego, 1981; MS, University of Illinois at Urbana-Champaign, 1988; PhD, University of Maryland, Baltimore County, 1997. Dr. Chilton's research interests include finite element analysis, numerical analysis and scientific computing. His recent papers are on mixed finite element methods and mortar finite elements. Tel. 937-255-3098 (DSN 785-3098).

CHRISSIS, JAMES W., Associate Professor of Operations Research, Department of Operational Sciences, AFIT Appointment Date: 1987 (AFIT/ENS); BS, University of Pittsburgh, 1975; MS, Virginia Polytechnic Institute and State University, 1977; PhD, Virginia Polytechnic Institute and State University, 1980. Dr. Chrissis' research interests include engineering optimization, mathematical programming, simulation, stochastic systems, and industrial engineering. Dr. Chrissis has been a member of the faculties of Virginia Tech and the University of South Florida. He is a member of the Institute for Operations Research and Management Sciences (INFORMS), The Society for Industrial and Applied Mathematics (SIAM), the Military Operations Research Society (MORS), The American Institute for Aeronautics and Astronautics (AIAA), and Sigma Xi. Tel. 937-255-3636 x4606 (DSN 785-3636 x4606), email: James.Chrissis@afit.edu

COBB, RICHARD G., Assistant Professor of Aerospace Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 2001 (AFIT/ENY); BS, the Pennsylvania State University, 1988; MS, Air Force Institute of Technology, 1992; PhD, Air Force Institute of Technology, 1996. Research interests include dynamics and control of flexible space structures, vibration isolation and suppression, system identification techniques and applied applications of optimal control theory. Prior to teaching at AFIT, Dr. Cobb was responsible for the establishment of an Air Force wide Reliability Centered Maintenance program to enhance jet engine reliability. In recognition of his accomplishments, Dr. Cobb was selected as the 2001 Senior Military Engineer of the Year for the Aeronautical Systems Center. Prior to his assignment at WPAFB in Sep 1999, Dr. Cobb served as program manager for the Air Force Research Laboratory's TechSat 21 program, a revolutionary satellite technology program investigating the feasibility of using distributed micro-satellite constellations to satisfy Air Force global sensing requirements. While at Kirtland AFB NM, Dr. Cobb also served as the technical advisor for the Space Vehicles Technology Branch, and Chief of the Dynamic Systems Group. Tel. 937-255-3636 x4559 (DSN 785-3636 x4559), email: Richard.Cobb@afit.edu.

COLOMBI, JOHN M., Lt Col, Assistant Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2003 (AFIT/ENG), BSEE, University of Lowell, 1986; MSEE, Air Force Institute of Technology, 1992; PhD, Air Force Institute of Technology, 1996. His current research interest is systems architecturing of C2ISR Systems. Tel. 937-255-3355 x3347 (DSN 785-3355 x3347), email: John.Colombi@afit.edu.

COOMBER, PATRICIA, K., Col, Assistant Professor of Biology, Department of Operational Sciences, AFIT Appointment Date: 2004 (AFIT/ENS), BS, Zoology, Louisiana State University, 1978; MA, Management, Webster University, 1985; MS, Biology, University of Colorado at Colorado Springs, 1989; PhD, Neuroendocrinology, University of Texas, 1995. Col Coomber's professional and research interests include biological counterproliferation, homeland security, bioterrorism, and biotechnology issues. Tel. 937-255-3636 x7302 (DSN 785-3636 x7302), email: Patricia.Coomber@afit.edu.

CRITTENDEN, PAUL E., Visiting Assistant Professor of Mathematics, Contractor, Department of Mathematics and Statistics, (AFIT/ENC); BS, Mechanical Engineering, University of Nebraska at Lincoln, 1992; MS, Engineering Mechanics, University of Nebraska at Lincoln, 1995; PhD, Mathematics, University of Nebraska at Lincoln. Dr. Crittenden's research interests include scattering of electromagnetic waves, heat transfer, design of experiments, applied mathematics, asymptotic and perturbation methods and numerical analysis. Tel. 937-255-3636 x4702 (DSN 785-3636 x4702), email: Paul.Crittenden@afit.edu.

CUNNINGHAM, WILLIAM A., III, Professor of Logistics Management, Department of Operational Sciences, AFIT Appointment Date: 1994 (AFIT/ENS); BS, Business Administration, Missouri Southern State College, 1976; MS, Economics, Oklahoma State University, 1979; PhD, Economics, University of Arkansas, 1986. Dr. Cunningham's research interests include transportation, strategic mobility, activity-based costing, logistics management, public policy analysis, privatization, third-party logistics, international logistics, and international trade. Tel. (937) 255-6565 x4283 (DSN 785-6565 x4283), email: William.Cunningham@afit.edu.

CUSUMANO, SALVATORE J., Assistant Professor of Optical Engineering, Director of the Center for Directed Energy, AFIT Appointment Date: 2005 (AFIT/ENP); B.S. in Electrical Engineering, United States Air Force Academy, 1971; M.S. in Electrical Engineering, Air Force Institute of Technology, 1977; Ph.D. in Control Theory, University of Illinois, 1988. Dr. Cusumano's research interests are in Beam Control, Phased Arrays, Adaptive Optics, and Active Tracking and Pointing. He holds two patents, jointly, in Beam Control for Phased Arrays. Other interests include Beam Propagation, Radiometry and Remote Sensing. He is published in refereed archival journals and conference proceedings. He is a member of Eta Kappa Nu. Tel. 937-255-3636 x7294 (DSN 785-3636 x7294), email: Salvatore.Cusumano@afit.edu.

DAVIS, NATHANIEL J., IV, Professor and Head, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2005 (AFIT/ENG); BSEE, Virginia Polytechnic Institute and State University, 1976; MSEE, Virginia Polytechnic Institute and State University, 1977; Ph.D., Purdue University, 1985. His research interests include computer communications networks, computer security, parallel and distributed computing, and high performance computer architectures. Tel. 937-255-3636 x7218 (DSN 785-3636x7218), email: Nathaniel.Davis@afit.edu.

D'AZZO, JOHN J., Professor Emeritus, Department of Electrical and Computer Engineering, (AFIT/ENG); BEE, College of City of New York, 1941; MS, The Ohio State University, 1950; PhD, University of Salford, England, 1978. His research interests include guidance and control of aerospace vehicles, application of control theory to engineering systems, modal control theory, applications of flight control systems, formation flight control, digital control systems, and synthesis of multivariable control systems using digital controllers. Dr. D'Azzo is the co-author of a widely used series of textbooks on control theory. He is a Fellow of the IEEE and Associate Fellow of the AIAA. Tel. 937-255-2024 (DSN 785-2024), email: John.DAzzo@afit.edu.

DECKRO, RICHARD F., Professor of Operations Research, Department of Operational Sciences, AFIT Appointment Date: 1994 (AFIT/ENS); BSIE, State University of New York at Buffalo, 1972; MBA, Kent State University, 1973; DBA, Kent State University, 1976. Dr. Deckro's research and consulting interests are in the areas of information operations, applied mathematical programming and optimization, campaign planning, stabilization and reconstruction, scheduling, network models, project management, engineering management, technology selection and management, and multi-criteria decision making. He is the Editor of *Military Operations Research* and Area Editor for Service Systems for *Computers & Industrial Engineering*. Dr. Deckro also currently is the President of the INFORMS Military Applications Society. Tel. 937-255-6565 x4325 (DSN 785-6565 x4325), http://www.afit.edu/en/ens/deckro/, email: Richard.Deckro@afit.edu.

DELLA-ROSE, DEVIN J., Maj, Assistant Professor of Atmospheric Physics, Department of Engineering Physics, AFIT Appointment Date: 1999 (AFIT/ENP); BS, Astronomy and Physics, Texas Christian University, 1985; BS, Meteorology, The Pennsylvania State University, 1987; MS, Upper Atmospheric Physics, Utah State University, 1993; PhD, Physics, Utah State University, 1999. Maj Della-Rose's research interests include: space environment modeling, geomagnetism, ionospheric electrodynamics, and magnetospheric physics. Maj Della-Rose is a member of the American Geophysical Union. Tel. 937-255-2012 (DSN 785-2012).

DENHARD, DAVID R., Lt Col, Assistant Professor of Operations Research, Department of Operational Sciences, AFIT Appointment Date: 2004 (AFIT/ENS); BS, Carnegie Mellon University, 1988; MS, Air Force Institute of Technology, 1995; PhD, Air Force Institute of Technology, 2001. Lt Col Denhard's research interests include combat modeling, applied statistics, modeling and simulation, probabilistic modeling, and decision and risk analysis. Tel. 937-255-3636 x4624 (DSN 785-3636 x4624), email: David.Denhard@afit.edu

DeVILBISS, STEWART L., Lt Col, Assistant Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2005 (AFIT/ENG); BS in Electrical Engineering, University of Missouri, Summa Cum Laude, 1986 (ROTC DG) MS in Electrical Engineering, Purdue University, 1987, (Control Theory); PhD in Electrical Engineering, Ohio State University, 1994, Control Theory with Signal Processing Minor. Lt Col DeVilbiss is rejoining AFIT having previously taught from 1995-1998 in the guidance, navigation, and control areas. He now teaches in the signal processing and communications curriculum. His research interests include GPS signal processing applications and automatic target recognition. Tel. 937-255-3636 x7257 (DSN 785-3636 x7257), email: Stewart.Devilbiss@afit.edu.

DUCKRO, DONALD E., Lt Col, Assistant Professor of Statistics, Department of Mathematics and Statistics, AFIT Appointment Date: 2004 (AFIT/ENC); BChE, University of Dayton, 1984; BS, Louisiana Tech University, 1986; MS, University of Dayton, 1990; PhD, Air Force Institute of Technology, 1999. Lt Col Duckro's research interests include decision theory, particularly as applied to planning and programming; and statistical evaluation of neural networks. His recent research has focused primarily on capacity analysis for Base Realignment and Closure. Lt Col Duckro's previous military assignments involve satellite development, aircraft acquisition, a joint cross-service group for BRAC, and faculty positions at USAFA and NPS. Tel. 937-255-3636 x3320 (DSN 785-3636 x3320), email: Donald.Duckro@afit.edu.

ELDER, KEVIN LEE, Assistant Professor, Department of Systems and Engineering Management, AFIT Appointment Date: 2003 (AFIT/ENV); BS, Computer Applications, California State University, Fresno; MS, Management Information Systems, California State University, Fresno; Ph.D., Management Information Systems, University of Arizona. Dr. Elder's research interests are in the areas of IS curriculum, teaching methods, systems development, knowledge management, enterprise architecture, organizational strategy and Electronic Business. Tel. 937-255-3636 x7391 (DSN 785-3636 x7391), email: Kevin.Elder@afit.edu.

ENGLAND, ELLEN C., Lt Col, Assistant Professor, Department of Systems and Engineering Management, AFIT Appointment Date: 2002 (AFIT/ENV); BS, Industrial Engineering, University of Iowa, 1986; MS, General Administration, Central Michigan University, 1991; MS, Environmental Health, University of Minnesota, 1996; PhD, Environmental Engineering, University of Missouri-Rolla, Rolla, MO; 2003. Lt Col England's research interests include worker exposure assessment to hazardous chemicals, green technologies, and membrane bioreactor applications. Her previous assignments include Chief of Bioenvironmental Engineering Grand Forks and Malmstrom AFBs and Senior Industrial Hygienist, AFIERA, Brooks, AFB. Tel. 937-255-3636 x4711 (DSN 785-3636 x4711), email: Ellen.England@afit.edu.

FELLOWS, JAMES A., Lt Col, Assistant Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2004 (AFIT/ENG); BSEE, Clarkson University, 1987; MSEE, AFIT, 1993, PhD, AFIT, 2001. His research interests include semiconductor material and device characterization, optoelectronics, and nanotechnology. Tel. 937-255-3636 x7230 (DSN 785-3636 x7230), email: James.Fellows@afit.edu.

FICKUS, MATTHEW C., Assistant Professor of Mathematics, Department of Mathematics and Statistics, AFIT Appointment Date: 2004 (AFIT/ENC); BS, University of Maryland, Baltimore County, 1995; MS, University of Maryland, Baltimore County, 1997; PhD, University of Maryland, College Park, 2001. Dr. Fickus's research interests include pure and applied harmonic analysis, Fourier series, wavelets and frames. Tel. 937-255-3636 x4513 (DSN 785-3636 x4513), email: Matthew.Fickus@afit.edu.

FIORINO, STEVEN T., Lt Col, Assistant Professor of Atmospheric Physics, Department of Engineering Physics, AFIT Appointment Date: 2003 (AFIT/ENP); BS, Geography (Climatology), The Ohio State University, 1987; BS, Meteorology, Florida State University, 1989; MS, Atmospheric Dynamics, The Ohio State University, 1993; PhD, Physical Meteorology, Florida State University, 2002. Lt Col Fiorino's research interests include retrieval of environmental parameters via microwave remote sensing, development of signal processing algorithms to fuse meteorological data collection with non-weather ISR platforms, evaluating uncertainty in high-energy laser engagement due to atmospheric effects, and improving microphysical characterizations for nuclear fallout, transport, and dispersion. He has published broadly in meteorological, directed energy and military journals. Lt Col Fiorino is a member of the American Meteorological Society and additionally holds a Master of Military Operational Art and Science from Air University (2003). Tel. 937-255-3636 x 4506 (DSN 785-3636 x 4506), email: Steven.Fiorino@afit.edu.

FRANKE, MILTON E., Professor of Aerospace Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 1959 (AFIT/ENY); BME, University of Florida, 1952; MSME, University of Minnesota, 1954; PhD, The Ohio State University, 1967. Research interests include fluid transmission lines, thrust vector control, high lift aerodynamics, fluidics, cavity acoustics, thrust augmenting ejectors, heat transfer, electrostatic cooling, boundary layers, ground-vehicle aerodynamics, lean initiatives, reusable launch vehicles, and engineering of complex systems. Dr. Franke has authored or co-authored over 100 technical articles. He holds five patents, was the recipient of the AFIT Charles A. Stone Award in 1986, and the AFIT Bernard A. Schriever Award in 1993. Dr. Franke is a retired colonel in the Air Force Reserve. He is chair of the Committee on Organization and Rules (a committee of the ASME Board of Governors), a past Vice President for Communications of the ASME (1990-1992), past Vice President for Systems and Design of the ASME (1993-1996), a Fellow of the ASME, and Associate Fellow of the AIAA. Tel. 937-255-3636 x4720 (DSN 785-3636 x4720), email: Milton.Franke@afit.edu.

GERTS, DAVID W., Maj, Assistant Professor of Nuclear Engineering, Department of Engineering Physics, AFIT Appointment Date: 2004 (AFIT/ENP); BS/BS, Michigan State University, 1994; MS, Air Force Institute of Technology, 1999; PhD, Air Force Institute of Technology, 2002. Major Gerts's main research interests include neutral particle transport and computational physics. Specific application areas include nuclear detonation detection from satellites and computation of neutron and gamma ray cross sections. He previously led the research, development, and analysis branch for detecting world-wide nuclear detonations for the DoD and DoS. He is a member of the American Nuclear Society. Tel. 937-255-3636 x4571 (DSN 785-3636 x4571), email: David.Gerts@afit.edu.

GODA, MATTHEW E., Lt Col, Assistant Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2002 (AFIT/ENG); BS in Physics, University of Rochester, 1989; MSEE, Tufts University, 1996; PhD, University of Arizona, 2002. Lt Col Goda's research interests include Electro-optics, Image Processing, and Multi Resolution Representation. Tel. 937-255-3636 x4614 (DSN 785-3636 x4614), email: Matthew.Goda@afit.edu.

GOLTZ, MARK N., Professor of Engineering and Environmental Management and Interim Head**,** Department of Systems and Engineering Management, AFIT Appointment Date: 1996 (AFIT/ENV); BS, Cornell University, 1972; MS, University of California, Berkeley, 1973; PhD, Environmental Engineering and Science, Stanford University, 1986. Dr. Goltz specializes in modeling the physical, chemical, and biological processes that affect the fate and transport of organic contaminants in the subsurface. He is also interested in the implementation and commercialization of innovative groundwater remediation technologies. Tel. 937-255-3636 x4638 (DSN 785-3636 x4638), email: Mark.Goltz@afit.edu.

GRAHAM, ROBERT P., Jr., Maj, Assistant Professor of Computer Science and Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2002 (AFIT/ENG); BS Computer Science, Virginia Polytechnic Institute and State University, 1986; MS, Air Force Institute of Technology, 1988; PhD, Air Force Institute of Technology, 1997. Maj Graham's research interests include knowledge-based software engineering, formal methods, algebraic methods, and algorithm design. Tel. 937-255-3636 x7256 (DSN 785-3636 x7256), email: Robert.Graham@afit.edu.

GRAHAM, SCOTT R., Maj, Assistant Professor of Computer Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2004 (AFIT/ENG); BSEE, Brigham Young University, 1993; MSEE, Air Force Institute of Technology, 1999; PhD, University of Illinois Urbana-Champaign 2004. His research interests include networking, topology control, architecture, and systems integration. Tel. 937-255-3636 x4918 (DSN 785-3636 x4918), email: Scott.Graham@afit.edu.

GRIFFIS, STANLEY E., Lt Col, Assistant Professor of Logistics Management, Department of Operational Sciences, AFIT Appointment Date: 2001 (AFIT/ENS); BA, History, Assumption College, 1988; MS, Logistics Management, Air Force Institute of Technology, 1996; PhD, Business Administration, The Ohio State University, 2001. Research interests include logistics performance measurement, supply chain management, logistics information management. Tel. 937-255-2549 (DSN 785-2549).

GRIMAILA, MICHAEL R., Assistant Professor of Information Resource Management, Department of Systems Engineering and Management, AFIT Appointment Date: 2004 (AFIT/ENV), Center for Information Security Education and Research (CISER); BS, Texas A&M University, 1993; MS, Texas A&M University, 1995; PhD, Texas A&M University, 1999. Dr. Grimaila's research interests include the development, implementation, management, and maintenance of enterprise Information Assurance (IA) programs; strategic IA resource allocation; development of standardized IA metrics; data mining for fraud and misuse detection; and development of effective IA education, training, and awareness campaigns. Tel. 937-255-3636 x4800 (DSN 785-3636 x4800), email: Michael.Grimaila@afit.edu.

GUSTAFSON, STEVEN C., Associate Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 1998 (AFIT/ENG); BS, University of Minnesota, 1967; MS, Duke University, 1969; PhD, Duke University, 1974. Dr. Gustafson is an author of more than 200 publicly available technical papers, proceedings, and reports, most of which relate to optical processing and pattern recognition technology. He has been initiator and principal investigator on more than $2 million in research contracts in these areas since 1990. Tel. 937-255-3636 x4598 (DSN 785-3636 x4598), email: Steven.Gustafson@afit.edu.

HALE, TODD B., Maj, Associate Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2002 (AFIT/ENG); BSEE, Milwaukee School of Engineering, 1993; MSEE, Air Force Institute of Technology, 1997; PhD, Air Force Institute of Technology, 2002. Maj Hale's areas of expertise are radar, radar signal processing, adaptive interference suppression, space-time adaptive processing, waveform design, and synthetic aperture radar. Tel. 937-255-3636 x4639 (DSN 785-3636 x4639), email: Todd.Hale@afit.edu.

HALLORAN, TIMOTHY, J., Lt Col, Academic Instructor of Computer Science, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2004 (AFIT/ENG); B.S. in Computer Science, United States Air Force Academy, 1987; M.S. in Computer Engineering, Air Force Institute of Technology, 1993; Ph.D. in Software Engineering (expected 2006), Carnegie Mellon University. His research interests include assurance of reliability and security properties of software, collaborative software development tools, and the empirical study of software development. Tel. 937-255-3636 x7255 (DSN 785-3636 x7255), email: Timothy.Halloran@afit.edu.

HALVERSON, KENT C., Maj, Assistant Professor of Management, Department of Systems Engineering and Management, AFIT Appointment Date: 2004 (AFIT/ENV); B.S. in Civil Engineering, United States Air Force Academy, 1990; M.S. in Structural Engineering, University of Illinois at Champaign-Urbana, 1995; PhD in Business Management, University of Florida, 2005. His research interests include leadership, social networks, and groups. Tel. 937-255-3636 x4709 (DSN 785-3636 x4709), email: Kent.Halverson@afit.edu.

HARTRUM, THOMAS C., Associate Professor Emeritus of Electrical Engineering, Department of Electrical and Computer Engineering, (AFIT/ENG); BEE, The Ohio State University, 1969; MS, The Ohio State University, 1969; MBA, Wright State University, 1979; PhD, The Ohio State University, 1973. Dr. Hartrum's research interests include parallel and distributed computing, and formal methods in software engineering. He has authored or co-authored over 20 conference and journal articles. He is currently conducting research in object-oriented modeling and formal methods in software engineering. He is a member of the IEEE. Tel. 937-255-2024 (DSN 785-2024), email: Thomas.Hartrum@afit.edu.

HASTRITER, M. LARKIN, Maj, Assistant Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2003 (AFIT/ENG); BSEE, Brigham Young University, 1993; MSEE, Air Force Institute of Technology, 1997; PhD, University of Illinois, 2003. Maj Hastriter's areas of interest are computational electromagnetics, radar cross section, signature analysis, and scattering centers. Tel. 937-255-2024 (DSN 785-2024).

HAVRILLA, MICHAEL J., Assistant Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2002 (AFIT/ENG); BS, Michigan State University, 1987; MSEE, Michigan State University, 1989; PhD, Michigan State University, 2001. His research interests include electromagnetics, guided-wave theory, electromagnetic radiation and scattering, material characterization and transient electromagnetics. He is a senior member of the IEEE. Tel. 937-255-3636 x7252 (DSN 785-3636 x7252), email: Michael.Havrilla@afit.edu.

HEIL, MICHAEL L., Assistant Professor of Aerospace Engineering, Department of Aeronautics and Astronautics, and Director, Center for Space Studies and Research, AFIT Appointment Date: 2005 (AFIT/ENY); BS, United States Air Force Academy, 1975; MS, Columbia University, 1976; PhD, Air Force Institute of Technology, 1986; Dr. Heil's research interests include fatigue and fracture, spacecraft systems, and rocket and space propulsion. His dissertation work investigated fatigue crack growth in nickel-based superalloys under thermal-mechanical cycling. Prior to joining the AFIT faculty, Dr. Heil served as Commander of Phillips Laboratory and the Arnold Engineering Development Center, Commandant of the Air Force Institute of Technology, and Director of the Air Force Research Laboratory Propulsion Directorate. He is an Associate Fellow of AIAA and a licensed professional engineer in the State of Colorado. Tel. 937-255-3636 x7478 (DSN 785-3636 x7478), email: Michael.Heil@afit.edu.

HEILMANN, SHARON, G., Maj, Assistant Professor of Management**,** Department of Systems and Engineering Management, AFIT Appointment Date: 2005 (AFIT/ENV); BS, Organizational Communication, Eastern Michigan University, 1988; MA, Organizational Communication, Ohio University, 1989; MS, Logistics Management, Air Force Institute of Technology, 1998; Master of Business, Indiana University-Bloomington, 2003; PhD, Organizational Behavior / Human Resource Management, Indiana University-Bloomington, 2005. Maj Heilmann's research interests include human resource management, sexual harassment and whistle-blowing, mentoring, and organizational turnover. Tel. 937-255-3636 x7395 (DSN 785-3636 x7395), email: Sharon.Heilmann@afit.edu.

HEMINGER, ALAN R., Associate Professor, Department of Systems and Engineering Management, AFIT Appointment Date: 1994 (AFIT/ENV); BA, Philosophy, University of Michigan, 1966; MS, Educational Psychology, California State University at Hayward, 1978; PhD, Management Information Systems, University of Arizona, 1988. Dr. Heminger's research interests include information resource management, computers and group problem-solving, reengineering, and long-term access to information. Tel. 937-255-3636 x7405 (DSN 785-3636 x7405), email: Alan.Heminger@afit.edu.

HENGEHOLD, ROBERT L., Professor of Physics and Head, Department of Engineering Physics, AFIT Appointment Date: 1961 (AFIT/ENP); BA, Thomas More College, 1956; MS, University of Cincinnati, 1961; PhD, University of Cincinnati, 1965. Professor Hengehold's research areas center on experimental solid state physics, semiconductor physics, optical diagnostics and electron and laser spectroscopy. He is the author of over 86 archival publications and over 200 presentations at technical meetings. He has served as advisor on over 17 doctoral dissertations and 80 Master's theses. He is currently carrying out studies of (1) compound semiconductor materials and superlattice structures for mid-infrared diode lasers and detectors using hot electron spectroscopy, and (2) wide bandgap semiconductors for UV detectors using cathodo- and photo-luminescence. This work involves collaborative efforts with the Directed Energy and the Sensors Directorates of AFRL and the MIT Lincoln Laboratory. He has received the Air University Commander's Award for Faculty Achievement in 1982, the Gage H. Crocker Outstanding Professor Award in 1996, the Outstanding Professional Achievement Award from the Affiliate Society Council of the Engineering and Science Foundation of Dayton in 1997, and the General Bernard A. Schriever Award for 1999. Tel. 937-255-2012 (DSN 785-2012), email: Robert.Hengehold@afit.edu.

HICKS, KERRY D., Lt Col, Assistant Professor of Aerospace Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 2004 (AFIT/ENY); BS Aeronautical and Astronautical Engineering, University of Illinois (UIUC), 1985; MS Astronautical Engineering, Air Force Institute of Technology, 1986; PhD Astronautical Engineering, Air Force Institute of Technology, 1989. Lt Col Hicks' research interests include astrodynamics, re-entry dynamics, and electric space propulsion with emphasis on numerical solutions and mathematical modeling. He has published several conference papers and journal articles as well as DoD publications. He is a member of Tau Beta Pi and a Senior Member of AIAA. Tel. 937-255-3636 x4568 (DSN 785-3636 x4568), email: Kerry.Hicks@afit.edu.

HICKS, MICHAEL J., Assistant Professor of Economics, Department of Systems and Engineering Management, AFIT Appointment Date: 2004 (AFIT/ENV); BS Economics, 1984, Virginia Military Institute; MA Economics, University of Tennessee, 1997; PhD Economics, University of Tennessee, 1998. U.S. Army Command and General Staff College, 2003. Dr. Hicks' research interests include public finance, regional economics, non-market valuation techniques in environmental and infrastructure analysis. Tel. 937-255-3636 x4605 (DSN 785-3636 x4605), email: Michael.Hicks@afit.edu.

HOLT, DANIEL T., Maj, Assistant Professor of Management, Department of Systems and Engineering Management, AFIT Appointment Date: 2002 (AFIT/ENV); BS, Electrical Engineering, University of Louisville, 1989; MA, Human Resource Development, Webster University, 1993; MS, Air Force Institute of Technology, 1995; PhD, Management Auburn University, 2002. Maj Holt's research interests include organizational change, organizational development, human resource management, and attitude measurement. Tel. 937-255-3636 x7396 (DSN 785-3636 x7396), email: Daniel.Holt@afit.edu.

HOPKINSON, KENNETH M., Assistant Professor of Computer Science, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2004 (AFIT/ENG); BS, Computer Science, Rensselaer Polytechnic Institute, 1997; MS, Computer Science, Cornell University, 2002; PhD, Computer Science, Cornell University 2004. His research interests include distributed systems, networking, and simulation. Tel. 937-255-3636 x4579 (DSN 785-3636 x4579), email: Kenneth.Hopkinson@afit.edu.

HOUPIS, CONSTANTINE H., Professor Emeritus of Electrical Engineering, Department of Electrical and Computer Engineering, (AFIT/ENG); BS, University of Illinois, 1947; MS, University of Illinois, 1948; PhD, University of Wyoming, 1971. His research interests include guidance and control of aerospace vehicles, application of optimal control theory to engineering systems, flight control systems, digital control systems, computational and numerical methods for control system design, linear and nonlinear control theory, multivariable theory, and quantitative feedback theory. Professor Houpis has published numerous technical articles and textbooks. He is a registered professional engineer and a Fellow of the IEEE. Tel. 937-255-3636 x4550 (DSN 785-3636 x4550), email: Constantine.Houpis@afit.edu.

HUDGENS, BRYAN J., Maj, Director, Graduate Strategic Purchasing Program, Instructor of Strategic Purchasing and Supply Chain Management, Department of Systems and Engineering Management, AFIT Appointment Date: 2003 (AFIT/ENV); BA, Math, University of Pennsylvania, 1989; MS, Contract Management, AFIT, 1997; Doctoral Candidate, Marketing and Supply Chain Management, The University of Oklahoma. Major Hudgens' research focuses on supply chain relationships both within and between the commercial and governmental arenas, with special emphasis on the "upstream" (supplier) component of supply chains. He also enjoys exploring how organizations learn about their environments, recognize opportunities within the environment, and act on those opportunities. Finally, he has a research interest in government acquisition processes, especially when and how to transform those processes for greater effectiveness and efficiency. Tel. 937-255-2998 (DSN 785-2998).

JACQUES, DAVID R., Assistant Professor of Aerospace Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 1999 (AFIT/ENY); BSME, Lehigh University, 1983; MSAE, Air Force Institute of Technology, 1989; PhD, Air Force Institute of Technology, 1995. Dr. Jacques' primary research is in the field of stability and control of air and space vehicles. He has published several papers on constrained optimal control synthesis, and co-authored a software toolbox that utilized his synthesis techniques. Current research addresses cooperative behavior and control for air and space vehicles, and general Systems Engineering theory and application. Dr. Jacques has extensive experience in munition system development and analysis, as well as ballistic system test. He is the curriculum chair for Systems Engineering and serves as Chief, Education and Training Division, AF Center for Systems Engineering. Tel. 937-255-3355 x3329 (DSN 785-3355 x3329), email: David.Jacques@afit.edu.

JOHN, GEORGE, Professor Emeritus of Nuclear Engineering, Department of Engineering Physics, (AFIT/ENP); BSc, Ohio State University, 1948; PhD, Ohio State University, 1952. Professor John's research areas are applications of nuclear radiation and radionuclides to problems in science and engineering. This includes applications of Mössbauer spectrometry to problems in materials sciences, analysis of radionuclides in the environment, development of nuclear radiation detectors and general techniques for detecting and analyzing nuclear radiation. Current research emphases are on applications of Mössbauer Spectrometry in the development of lubricants in collaboration with the Air Force Research Laboratory Materials Directorate at WPAFB. Other areas of interest are: the natural radiation background and health physics. Tel. 937-255-3636 x 4877 (DSN 785-3636 x 4877), email: George.John@afit.edu.

JOHNSON, ALAN W., Associate Professor of Logistics Management, Department of Operational Sciences, AFIT Appointment Date: 2004 (AFIT/ENS); BS, Mechanical Engineering, Montana State University, 1982; MS, Systems Management, Air Force Institute of Technology, 1989; PhD, Industrial and Systems Engineering, Virginia Polytechnic Institute and State University, 1996. Dr. Johnson's research interests include strategic mobility, discrete-event simulation, logistics management, reliability and maintainability, and discrete optimization and heuristics. Tel. 937-255-3636 x4703 (DSN 785-3636 x4703), email: Alan.Johnson@afit.edu.

KABRISKY, MATTHEW, Professor Emeritus, Department of Electrical and Computer Engineering, (AFIT/ENG); BEE, Polytechnic Institute of Brooklyn, 1951; MEE, Polytechnic Institute of Brooklyn, 1952; PhD, University of Illinois, 1964. His areas of expertise include information processing in the human central nervous system and mathematical models of the man machine interface. Dr. Kabrisky is the author and co-author of two books and 60 technical articles. He has chaired over 100 theses and dissertations in his 30+ years in the Department. Tel. 937-255-2024 (DSN 785-2024).

KAZISKA, DAVID M., Capt, Assistant Professor of Statistics, Department of Mathematics and Statistics, AFIT Appointment Date: 2005 (AFIT/ENC); BS, Gannon University, 1987; MA, University of Pittsburgh, 1989; JD, University of Pittsburgh School of Law, 1994; PhD, Florida State University, 2005. Capt Kaziska's research interests are statistical shape analysis with application to gait recognition, and human detection in images beyond the visual spectrum. In his previous military assignments, he worked in ASC/XR at Wright-Patterson, conducting a concept call addressing future Air Force Special Operations technology needs. He was later assigned to the 422 Test and Evaluation Squadron at Nellis AFB, NV, where he worked as an analyst supporting A-10, F-15E and F-16 operational tests. Tel. 937-255-3636 x7124 (DSN 785-3636 x7124), email: David.Kaziska@afit.edu

KHAROUFEH, JEFFREY P., Associate Professor of Operations Research, Department of Operational Sciences, AFIT Appointment Date: 2001 (AFIT/ENS); BS, Ohio University, 1995; MS, Ohio University, 1997; PhD, Pennsylvania State University, 2001. Dr. Kharoufeh's primary research interest is the development and analysis of stochastic models in operations research. His application areas include reliability theory, optimal maintenance, and queueing systems. Tel. 937-255-3636 x4603 (DSN 785-3636 x4603), email: Jeffrey.Kharoufeh@afit.edu.

KIM, YONG C., Assistant Professor of Computer Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2003 (AFIT/ENG); BSCE, University of Washington, 1995; MSECE, University of Wisconsin, 1997; PhD, University of Wisconsin, 2002. His areas of interest are advanced computer architecture, VLSI design, test, design for testability, synthesis, CAD tools, reconfigurable and fault-tolerant computing. Tel. 937-255-3636 x4620 (DSN 785-3636 x4620), email: Yong.Kim@afit.edu.

KINNEY, GARY W. Jr., Capt, Assistant Professor of Operations Research, Department of Operational Sciences, AFIT Appointment Date: 2005 (AFIT/ENS); BGS, Computer Science, University of Nebraska at Omaha, 1995; MS, Operational Analysis, Air Force Institute of Technology, 2000; Ph.D., Operations Research and Industrial Engineering, The University of Texas at Austin, 2005. Capt Kinney teaches courses in integer programming and heuristic search methods. His research interests include discrete optimization, large scale optimization and metaheuristics. Tel. 937-255-3636 x4601 (DSN 785-3636 x4601), email: Gary.Kinney@afit.edu.

KING, PAUL I., Professor of Aerospace Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 1991 (AFIT/ENY); BS, Arizona State University, 1971; MS, Air Force Institute of Technology, 1972; PhD, Oxford University, England, 1986. Former faculty member at the U.S. Air Force Academy and Cleveland State University, Cleveland, Ohio. Dr. King's research interests include internal and external aerodynamics and heat transfer (wings and bodies, turbomachinery and other applications). His research emphasizes experimentation and instrumentation. He has published over 100 articles and reports and chaired over 60 theses and dissertations. Tel. 937-255-3636 x4628 (DSN 785-3636 x4628), email: Paul.King@afit.edu.

KLADITIS, PAUL E., Maj, Associate Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2001 (AFIT/ENG); BSEE, Wright State University, 1996; MSEE, Air Force Institute of Technology, 1997; PhD Mechanical Engineering, University of Colorado at Boulder, 2001. His areas of expertise include the design and fabrication of micro-electro-mechanical systems. He is a member of IEEE and Tau Beta Pi. Tel. 937-255-2024 (DSN 785-2024).

KUNZ, DONALD L., Associate Professor of Aerospace Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 2003 (AFIT/ENY); BS, Syracuse University, 1971; MS, Georgia Institute of Technology, 1972; PhD, Georgia Institute of Technology, 1976. Dr. Kunz's research interests include: rotorcraft dynamics, vibrations and loads, structural dynamics, aeroelasticity, multibody dynamics, smart structures, and computational structural mechanics. He has published more than 60 journal articles, conference papers, and technical reports. Prior to coming to AFIT, Dr. Kunz worked at the US Army Aeroflightdynamics Directorate, McDonnell Douglas Helicopter Company, Old Dominion University, and the US Army Aviation and Missile Command. He is an Associate Fellow of AIAA; a member of AHS, ASME, and ASEE; and a licensed professional engineer in the Commonwealth of Virginia. Tel. 937-255-3636 x4548 (DSN 785-3636 x4548), email: Donald.Kunz@afit.edu.

LAGRAFFE, DAVID A., LTC, Assistant Professor of Engineering Physics, Department of Engineering Physics, AFIT Appointment Date: 2005 (AFIT/ENP); B.Sc., Syracuse University, 1985; Ph.D., Syracuse University 1990. LTC LaGraffe is an Army nuclear and counterproliferation officer assigned to duty at AFIT from the Defense Threat Reduction Agency. LTC LaGraffe's research interests include the electric and magnetic properties of materials and radiation interactions with materials. His previous positions include assistant professor at the United States Military Academy and AF research fellow, Hanscom AFB. He has published over 20 technical papers and reports. He is a member of the American Physical Society. Tel. 937-255-3636 x7308 (DSN 785-3636 x-7308), email: David.Lagraffe@afit.edu.

LAIR, ALAN V., Professor of Mathematics and Head, Department of Mathematics and Statistics, AFIT Appointment Date: 1982 (AFIT/ENC); BA, North Texas State University, 1970; MS, Texas Tech University, 1972; PhD, Texas Tech University, 1976. Dr. Lair's research interests include parabolic and elliptic partial differential equations, functional analysis, applied mathematics, and nonlinear diffusion. Dr. Lair has published several papers on the properties of solutions of various nonlinear equations. Tel. 937-255-3636 x4519 (DSN 785-3636 x4519), email: Alan.Lair@afit.edu.

LAMONT, GARY B., Professor of Electrical and Computer Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 1970 (AFIT/ENG); BA, of Physics, 1961; MSEE, 1967; PhD, 1970; University of Minnesota. His research interests include: parallel/distributed computation, combinatorial optimization problems, formal methods, software engineering, digital signal processing, analog and digital control systems, intelligent and distributed control systems, computational and numerical methods, evolutionary computation, and computer-aided design. Dr. Lamont has authored textbooks as well as over 125 papers on the above topics and on educational techniques. He has chaired over 200 MS theses and 25 PhD dissertations. Dr. Lamont was an engineering systems analyst for the Honeywell Corp. for six years. Tel. 937-255-3636 x4718 (DSN 785-3636 x4718), email: Gary.Lamont@afit.edu.

LEACH, SONIA E., Maj, Assistant Professor of Industrial Engineering, Department of Systems and Engineering Management, AFIT Appointment Date: 2005 (AFIT/ENV); BS, Mathematics – Applied Analysis, The Pennsylvania State University, 1991; MS, Operations Research, Air Force Institute of Technology, 1997; Ph.D., Industrial Engineering, Arizona State University, 2005. Maj Leach's research interests include the role of modeling, simulation and analysis in the product development arena. Tel. 937-255-3636 x7390 (DSN 785-3636 x7390), email: Sonia.Leach@afit.edu.

LEARN, ANDREW W., Maj, Academic Instructor of Computer Science, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2003 (AFIT/ENG); BS, Pennsylvania State University, 1989; MS, Air Force Institute of Technology, 1999; MS, University of Rochester, 2001. Maj Learn's areas of interest include artificial intelligence, machine learning, and natural language grounding. Tel. 937-255-3636 x4541 (DSN 785-3636 x4541), email: Andrew.Learn@afit.edu.

LIEBST, BRADLEY S., Professor of Aerospace Engineering and Head, Department of Aeronautics and Astronautics, AFIT Appointment Date: 1989 (AFIT/ENY); BS, Wichita State University, 1978; MS, Massachusetts Institute of Technology, 1979; PhD, Massachusetts Institute of Technology, 1981. Dr. Liebst's research interests include eigenstructure assignment and control, stability and control of aerospace vehicles, passive and active control of large flexible structures, and aircraft handling qualities. He has published over 30 articles and reports and chaired over 40 theses and dissertations. Prior to teaching at AFIT, Professor Liebst was Assistant Professor of Aerospace Engineering for 6 years at the University of Minnesota where he was voted the 1987 Best Institute of Technology (U of M) Professor. Tel. 937-255-3636 x4636 (DSN 785-3636 x4636), email: Bradley.Liebst@afit.edu.

LOTT, JAMES A., Lt Col, Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 1993 (AFIT/ENG); BSEECS, University of California at Berkeley, 1985; MSEE, Air Force Institute of Technology, 1987; PhD, University of New Mexico, Albuquerque, 1993. Lt Col Lott's research interests include integrated micro- and nano-materials, devices, and systems. His areas of expertise include epitaxial crystal growth, quantum device physics, micro- and nano-device fabrication, laser diodes and sensors, and integrated micro-opto-electro-mechanical systems. Tel. 937-255-2024 (DSN 785-2024).

LOWTHER, RONALD P., Lt Col, Deputy Head, Department of Engineering Physics and Assistant Professor of Atmospheric Physics, AFIT Appointment Date: 2000 (AFIT/ENP); BS, Computer Science, Chapman University, 1983; MS, Meteorology, Texas A&M University, 1989; PhD, Meteorology, Texas A&M University, 1998. Lt Col Lowther has chaired MS theses in the areas of numerical weather prediction model validation, long-range forecasting, seasonal weather predictions, severe storm forecasts, low cloud and visibility prediction, tropical storm intensity forecasting, and data mining of climatic parameters for both short and long-range predictive patterns. Lt Col Lowther's research interests are in the field of applied climatology concentrating on seasonal forecasting using global teleconnection patterns, especially the effects of weather and climate on DoD operations and weapon system performance. Lt Col Lowther is a member of the American Meteorological Society, National Weather Association, Air Weather Association, and the Association of American Geographers (Military Geographers). Tel. 937-255-2012 (DSN 785-2012).

MACOLA, CAROLYN M., Maj, Assistant Professor of Public Policy, Department of Systems and Engineering Management, AFIT Appointment Date: 2004 (AFIT/ENV); BS, Chemical Engineering, University of California (Davis), 1984; Masters – Public Administration, Troy State University – European Division, 1989; Doctorate of Public Administration - University of Southern California, 1999. Maj Macola's research interests include public notification as a means of regulatory compliance, training and organizational development, public policy, environment, safety, and occupational health issues. Tel. 937-255-3636 x4511 (DSN 785-3636 x4511), email: Carolyn.Macola@afit.edu.

MALL, SHANKAR, Professor, Department of Aeronautics and Astronautics, AFIT Appointment Date: 1986 (AFIT/ENY); BS, Mechanical Engineering, Banaras Hindu University, India, 1964; MS, Mechanical Engineering, Banaras Hindu University, 1966; PhD, Mechanical Engineering, University of Washington, 1977. Dr. Mall's research centers on composite and smart materials, fatigue and fracture. Dr. Mall has authored over 100 papers and has been the co-editor of a book and five conference proceedings. He is a Fellow of ASME, Associate Fellow of AIAA. He is also the Principal Materials Research Engineer, Materials and Manufacturing Directorate, Air Force Research Laboratory. He is associate editor of several journals. Tel. 937-255-3636 x4587 (DSN 785-3636 x4587), email: Shankar.Mall@afit.edu.

MAPLE, RAYMOND C., Lt Col, Associate Professor of Aerospace Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 2002 (AFIT/ENY); BS, Cornell University, 1985; MS, Air Force Institute of Technology, 1989; PhD, Air Force Institute of Technology, 2002. Lt Col Maple's interests include computational fluid dynamics and parallel computing, with an emphasis on algorithm development, visualization, fluid-structure interaction, and aircraft store separation applications. Lt Col Maple is a senior member of the American Institute of Aeronautics and Astronautics (AIAA). Tel. 937-255-3636 x4577 (DSN 785-3636 x4577), email: Raymond.Maple@afit.edu.

MARCINIAK, MICHAEL A., Associate Professor of Engineering Physics, Department of Engineering Physics AFIT Appointment Date: 1999 (AFIT/ENP); BS, St. Joseph's College, 1981; BSEE, University of Missouri, 1983; MSEE, Air Force Institute of Technology, 1987; PhD, Air Force Institute of Technology, 1995. Dr. Marciniak's research interests center on military infrared countermeasure and counter-countermeasure technologies including semiconductor lasers, focal-plane-array detectors, photonic band-gap devices, and infrared signature measurement and control techniques. He is a retired Lt Col, USAF, and a member of the American Physical Society, SPIE - The International Society for Optical Engineering, Tau Beta Pi and Eta Kappa Nu. Tel. 937-255-3636 x 4529 (DSN 785-3636 x 4529), email: Michael.Marciniak@afit.edu.

MARTIN, RICHARD K., Assistant Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2004 (AFIT/ENG); BSEE & BS Physics, University of Maryland at College Park, 1999; MSEE, Cornell University, 2001; PhD, Cornell University, 2004. His research interests include signal processing and communication systems. Tel. 937-255-3636 x4625, (DSN 785-3636 x4625), email: Richard.Martin@afit.edu.

MATHEWS, KIRK A., Professor of Nuclear Engineering, Department of Engineering Physics, AFIT Appointment Date: 1987 (AFIT/ENP); BS, California Institute of Technology, 1971; MS, Air Force Institute of Technology, 1982; PhD, Air Force Institute of Technology, 1983. Dr. Mathews' research interests center on computational methods for neutral particle radiation transport, and include blast and shock, nuclear weapons effects simulation, and deconvolution of radiation spectra. Dr. Mathews has published 14 papers in refereed journals and 16 conference proceedings, and has chaired 28 theses and 9 dissertations. He is a member of Tau Beta Pi. Tel. 937-255-3636 x4508 (DSN 785-3636 x4508), email: Kirk.Mathews@afit.edu.

MAYBECK, PETER S., Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 1973 (AFIT/ENG); BS, Massachusetts Institute of Technology, 1968; PhD, Massachusetts Institute of Technology, 1972. Dr. Maybeck's research interests include optimal estimation and stochastic control, Kalman filtering, adaptive estimation, pointing and tracking, optimally aided inertial navigation systems, multiple model adaptive filtering. He is the author of the widely recognized three-volume reference text, "Stochastic Models, Estimation and Control" and of over 100 technical articles. Dr. Maybeck has received numerous national and local awards including the C. Holmes MacDonald Distinguished Young Electrical Engineering Teacher and the ASEE Frederick Emmons Terman Award as the outstanding Electrical Engineering Professor in the US for 1985. He is a Fellow of the IEEE. Tel. 937-255-3636 x4581 (DSN 785-3636 x4581), email: Peter.Maybeck@afit.edu.

MAYER, CHRISTOPHER B., Maj, Assistant Professor of Computer Science, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2003 (AFIT/ENG); BSEE, Texas A&M University, 1992; MSEE, Air Force Institute of Technology, 1997; PhD, Arizona State University 2005. His research interests include data mining, pattern detection, and bio-inspired computation, especially as apply to cross-discipline topics such as bi-static radars. Tel. 937-255-3636 x4542 (DSN 785-3636 x4542), email: Christopher.Mayer@afit.edu

MCMULLAN, RICHARD J., Maj, Assistant Professor of Aeronautical Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 2002 (AFIT/ENY); BS, Mechanical Engineering, Clemson University, 1991; MS, Aeronautical Engineering, Air Force Institute of Technology, 1996; PhD, Aerospace Engineering, North Carolina State University, 2002. His research interests include computational fluid dynamics, high-speed aerodynamics, magnetogasdynamic flow control of scramjet propulsion systems, and unsteady supersonic mixed compression inlet flows. Tel. 937-255-3636 x4578 (DSN 785-3636 x4578), email: Richard.McMullan@afit.edu.

MCNUTT, ROSS T., Lt Col, Assistant Professor of Systems Design and Management, Department of Systems and Engineering Management, AFIT Appointment Date: 2004 (AFIT/ENV); BS, Math and Physics, US Air Force Academy, 1987; MS, Aeronautical and Astronautical Engineering, Massachusetts Institute of Technology, 1992; MS Technology and Policy, Massachusetts Institute of Technology, 1992; PhD, Technology Management and Policy, Massachusetts Institute of Technology, 1998. Lt Col McNutt's research interests include defense product development, product development cycle time reduction, technology development and application, lean aerospace initiative, Cost of Delay analysis, schedule based tools and incentives, and project portfolio management practices. Additional information at http://www.afit.edu/en/env/GRDnew/CycleTimeReductionResearch, Tel. 937-255-3636 x4648 (DSN 785-3636 x4648), email: Ross.McNutt@afit.edu.

MELOUK, SHARIF H., Assistant Professor of Operations Research, Department of Operational Sciences, AFIT Appointment Date: 2003 (AFIT/ENS); BS, Oklahoma State University, 1993; MBA, Oklahoma State University, 1997; PhD, Texas A&M University, 2003. Dr. Melouk's research interests include simulation modeling and analysis with respect to manufacturing and logistics issues as well as distributed simulation. He is a member of the Institute for Operations Research and the Management Sciences (INFORMS) and the Institute of Industrial Engineers (IIE). Tel. 937-255-3636 x4525 (DSN 785-3636 x4525), email: Sharif.Melouk@afit.edu.

MILLER, J. O., Associate Professor of Operations Research, Director Center for Operational Analysis, Department of Operational Sciences, AFIT Appointment Date: 2002 (AFIT/ENS); BS, United States Air Force Academy, 1980; MBA, University of Missouri at Columbia, 1983; MS, Air Force Institute of Technology, 1987; PhD, The Ohio State University, 1997. Dr. Miller's research interests include simulation, ranking and selection, combat modeling, and nonparametric statistics. Tel. 937-255-6565 x4326 (DSN 785-6565 x4326), email: John.Miller@afit.edu.

MILLS, ROBERT F., Assistant Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2003 (AFIT/ENG), Center for Information Security Education and Research (CISER); BSEE, Montana State University, 1983; MSEE, Air Force Institute of Technology, 1987; PhD, University of Kansas, 1994. His areas of interest include digital and spread spectrum communications, radar systems, C4ISR architectures, information assurance (insider threat mitigation). Tel. 937-255-3636 x4527 (DSN 785-3636 x4527), email: Robert.Mills@afit.edu.

MOORE, ALBERT H., Professor Emeritus, Department of Mathematics and Statistics, (AFIT/ENC); BME, Pratt Institute, 1942; MS, New York University, 1949; PhD, The Ohio State University, 1972. Dr. Moore's research interests include order statistics, maximum likelihood estimation, Bayes estimation, numerical solution of partial differential equations, admissible estimators, adaptive robust estimation, sequential tests of hypotheses, confidence limits for system reliability, nonparametric density estimation, goodness-of-fit tests, military operations research, stochastic processes, applied mathematics, numerical analysis, operations research, probability and statistics, design of experiments, and maintainability. Tel. 937-255-3098 (DSN 785-3098).

MOORE, JAMES T., Professor of Operations Research, Department of Operational Sciences, AFIT Appointment Date: 1998 (AFIT/ENS); BA, University of Colorado, 1974; MBA, University of Wyoming, 1978; MS, Air Force Institute of Technology, 1981; PhD, The University of Texas at Austin, 1988. Dr. Moore's research interests include optimization theory, integer programming, scheduling, heuristics, and mobility modeling. Tel. 937-255-3636 x4528 (DSN 785-3636 x4528), email: James.Moore@afit.edu.

MULLINS, BARRY E., Assistant Professor of Computer Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2004 (AFIT/ENG); BS Computer Engineering, University of Evansville, 1983; MS Computer Engineering, Air Force Institute of Technology, 1987; PhD, Virginia Polytechnic Institute and State University, 1997. His research interests include wireless sensor networks, computer communication networks, UAV communication protocols, wireless networks, and performance modeling, analysis, and simulation of real-time communication systems. Dr. Mullins received the U.S. Air Force Academy's Outstanding Academy Educator award, as well as the Brig. Gen. R. E. Thomas' award for outstanding contribution to cadet education twice. He is a member of Tau Beta Pi, Eta Kappa Nu, and a senior member of IEEE. Tel. 937-255-3636 x7979 (DSN 785-3636 x7979), email: Barry.Mullins@afit.edu.

NEHER, ROBERT E. Jr., **Maj,** Assistant Professor of Statistics, Department of Mathematics and Statistics, AFIT Appointment Date: 2004 (AFIT/ENC); BS, Purdue University, 1989; MS, Air Force Institute of Technology, 1996; PhD, The Florida State University, 2004. Maj Neher's research interests include reliability and maintainability from a statistical view point, and image analysis, particularly hyperspectral imagery. Maj Neher's previous military assignments have been in missile operations, test and evaluation, and weapons analysis. Tel. 937-255-3636 x4526 (DSN 785-3636 x4526), email: Robert.Neher@afit.edu.

NIDAY, THOMAS A., Capt, Assistant Professor of Physics, Department of Engineering Physics, AFIT Appointment Date: 2004 (AFIT/ENP); BS, Physics and Applied Mathematics, California Institute of Technology, 1997; MS, Applied Physics, distinguished graduate, Air Force Institute of Technology, 1999; MS, Optical Science, University of Arizona, 2002; PhD, Optical Science, University of Arizona, 2004. Capt Niday's research interests include modeling and simulation of the atmospheric propagation of ultrashort, high power laser pulses. Such pulses, or light filaments, have potential applications in remote sensing, adaptive optics, and electromagnetic discharge control. Other areas of interest include the exploitation of data from novel hyperspectral imaging sensors. Tel. 937-255-3636 x 4828 (DSN 785-3636 x 4828), email: Thomas.Niday@afit.edu.

OXLEY, MARK E., Professor of Mathematics, Department of Mathematics and Statistics, AFIT Appointment Date: 1987 (AFIT/ENC), and Researcher, Sensor Fusion Laboratory, Center for Operational Analysis (COA); BS, Cumberland College, 1978; MS, Purdue University, 1980; PhD, North Carolina State University, 1987. Dr. Oxley's research interests include partial differential equations, free and moving boundary value problems, finite time extinction problems, functional analysis, optimization, artificial neural networks, groundwater modeling, wavelet analysis, classifier fusion, sensor fusion and evaluation of fusion techniques. Dr. Oxley has been funded by AFOSR to work on data reduction techniques, AFRL/SNAT to work on classifier fusion, DAGSI to work on Automatic Target Recognition using invariants analysis, DAGSI to work on wavelet transform algorithms for real-time processing of images, and DARPA to work on integration of sensing and processing. Several of his students have written theses related to optimal remediation of pump-and-treat systems, binaural listening, measuring the capability of artificial neural networks and most recently the fusion of multiple classifiers. Tel. 937-255-3636 x4515 (DSN 785-3636 x4515), email: Mark.Oxley@afit.edu.

PACHTER, MEIR, Professor, Department of Electrical and Computer Engineering, AFIT Appointment Date: 1993 (AFIT/ENG); BS, Israel Institute of Technology, 1967; MS, Israel Institute of Technology, 1969; PhD, Israel Institute of Technology, 1975. Dr. Pachter's fields of expertise include automatic control of aircraft and missiles, adaptive control and system identification, inertial and GPS Navigation, autonomous control/neural networks/fuzzy logic control, nonlinear control and applied mathematics. Dr. Pachter has published papers in these areas and in differential games, robotics, and the theory of computational geometry. Tel. 937-255-3636 x7247 (DSN 785-3636 x7247), email: Meir.Pachter@afit.edu.

PALAZOTTO, ANTHONY N., Professor of Aerospace Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 1975 (AFIT/ENY); BS, New York University, 1955; MS, Brooklyn Polytechnic Institute, 1961; PhD, New York University, 1968. Professor Palazotto's interests include nonlinear mechanics, shell analysis, finite elements, composite materials, viscoplasticity and nonlinear dynamics. Dr. Palazotto is the co-author of a textbook, "The Nonlinear Analysis of Shell Structures," published in 1992 by the AIAA. In addition he has authored over 165 archival technical publications and more than 330 technical reports and manuscripts. Dr. Palazotto received the Hetanyi Award in 1982 from the Society of Experimental Mechanics, the Cleary Award in 1981 from the Air Force Materials Lab, and the Structures and Materials Award from the ASCE in 1986. Dr. Palazotto is a Fellow of the ASCE and an Associate Fellow of the AIAA. He is a registered Professional Engineer. Tel. 937-255-3636 x4599 (DSN 785-3636 x4599), email: Anthony.Palazotto@afit.edu.

PATTERSON, KIRK A., Maj, Assistant Professor of Logistics Management, Department of Operational Sciences, AFIT Appointment Date: 2002 (AFIT/ENS); BS, Auburn University, 1985; MS, Auburn University, 1988; MS, Air Force Institute of Technology, 1997; PhD, University of Maryland, 2002. Maj Patterson's research interests include supply chain management, transportation, strategic mobility, and logistics information management systems. Tel. 937-255-3636 x4653 (DSN 785-3636 x4653), email: Kirk.Patterson@afit.edu

PERRAM, GLEN P., Professor of Physics, Department of Engineering Physics, AFIT Appointment Date: 1989 (AFIT/ENP); BS, Cornell University, 1980; MS, Air Force Institute of Technology, 1981; PhD, Air Force Institute of Technology, 1986. Dr. Perram's research interests include high power chemical lasers, including the Chemical Oxygen-Iodine Laser and the Airborne Laser, infrared gas-phase lasers for counter-measure missions, reaction kinetics, atomic and molecular spectroscopy, environmental science, photochemistry, molecular dynamics, optical diagnostics, and remote sensing. He has advised 16 PhD and 28 MS students, received 22 research grants and published over 60 papers during his fifteen years on the AFIT faculty. Tel. 937-255-3636 x4504 (DSN 785-3636 x4504), email: Glen.Perram@afit.edu.

PERRY, MARCUS B., Assistant Professor of Operations Research, Departmentof Operational Sciences, AFIT Appointment Date: 2004 (AFIT/ENS); BS, Southern Illinois University, 1998; MS, Southern Illinois University, 2000; PhD, Florida State University, 2004. Dr. Perry's research interests include empirical modeling and analysis, experimental design, response surface methods, simulation, and quality control. He is a member of ASQ and a professional member of INFORMS and IIE. Tel. 937-255-3636 x4588 (DSN 785-3636 x4588), email: Marcus.Perry@afit.edu.

PETERSON, GILBERT L., Assistant Professor of Computer Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2002 (AFIT/ENG); BS Architecture University of Texas at Arlington, 1995; MS, Computer Science, University of Texas at Arlington, 1998; PhD, University of Texas at Arlington, 2001. His research interests include uncertainty in artificial intelligence, robotics, machine learning, datamining, and parallel processing. Tel. 937-255-6565 x4281 (DSN 785-6565 x4281), email: Gilbert.Peterson@afit.edu.

PETROSKY, JAMES C., Assistant Professor of Engineering Physics, Department, AFIT Appointment Date: 2000 (AFIT/ENP); B.A, Engineering Physics/Computer Science, Millersville University of Pennsylvania, 1984; M.S. Engineering Physics, Rensselaer Polytechnic Institute, 1992; Ph.D, Engineering Physics, Rensselaer Polytechnic Institute, 1995. Dr.Petrosky's research interest is in radiation effects on electronic devices, EMP, experimental design, radiation detection, and nuclear weapon effects. Dr. Petrosky_s research spans narrow and wide band gap materials, using combinations of electrical, optical and absorption spectroscopy to gain information on the damaging effects of ionizing and non-ionizing radiation. Experimental techniques include: I-V(T), C-V(T), photoluminescence spectroscopy, Hall Effect, and Electron Spin Resonance spectroscopy (EPR); applications of measurement techniques in harsh environments/in-situ measurements and obtaining real-time data. Applications include electronic switches and actuators, RF/IR sensors, force transducers, and electronics controls for use in the space and nuclear weapons environment. Tel. 937- 255-3636 x 4562 (DSN 785-3636 x 4562), email: James.Petrosky@afit.edu.

POHL, ANTONY J., Maj, Instructor of Statistics, Department of Mathematics and Statistics, AFIT Appointment Date: 2001 (AFIT/ENC); BA, University of St. Thomas, 1991; MS, Air Force Institute of Technology, 1995; PhD candidate, Texas A&M University. Maj Pohl's research interests include tolerance intervals and calibration. 937-255-3098 (DSN 785-3098).

POTOCZNY, HENRY B., Professor of Computer Science, Department of Electrical and Computer Engineering, AFIT Appointment Date: 1981 (AFIT/ENG); BA, La Salle University, 1965; MA, University of Kentucky, 1967; PhD, University of Kentucky, 1969. Dr. Potoczny's interests include logic and number theory, specifically, novel methods of factoring large integers with a view to cracking various public key ciphersystems. Tel. 937-255-3636 x4282 (DSN 785-3636 x4282), email: Henry.Potoczny@afit.edu.

PYATI, VITTAL P., Professor Emeritus of Electrical Engineering, Department of Electrical and Computer Engineering, (AFIT/ENG); BE, University of Madras, India, 1953; MSEE, Marquette University, 1962; PhD, Electrical Engineering, University of Michigan, 1966. Dr. Pyati's fields of expertise include electromagnetics, radar, low observables, and electronic warfare. Dr. Pyati has authored over 40 publications in journals and DoD Conferences. He has been a consultant to various Air Force organizations. Tel. 937-255-2024 (DSN 785-2024), email: Vittal.Pyati@afit.edu.

QUINN, DENNIS W., Professor of Mathematics, Department of Mathematics and Statistics, AFIT Appointment Date: 1974 (AFIT/ENC); BA, Mathematics, University of Delaware, 1969; MS, Applied Mathematics, University of Delaware, 1971; PhD, Applied Mathematics, University of Delaware, 1973. Dr. Quinn's fields of expertise include numerical methods, finite elements, finite differences, integral equation methods, numerical analysis, functional analysis, system identification, and applied mathematics. Dr. Quinn has advised several MS students in modeling toxic chemical exposure. Dr. Quinn has published papers dealing with integral and finite element solutions of acoustic problems, using the telegrapher's equation to model lightning, using the method of characteristics in cancer risk assessment, using the diffusion equation to model diffusion through the skin in pharmacokinetic modeling, and using the boundary element method for moving boundary problems. Tel. 937-255-3636 x4522 (DSN 785-3636 x4522), email: Dennis.Quinn@afit.edu.

RAINES, RICHARD A., Director, Center for Information Security Education and Research and Associate Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 1994 (AFIT/ENG); BSEE, Florida State University 1985; MS, Computer Engineering, Air Force Institute of Technology, 1987; PhD, Virginia Polytechnic Institute and State University, 1994. His research interests include computer communication networks, satellite communications, performance modeling, information security, and system threat and vulnerability. Tel. 937-255-6565 x4278 x4280 (DSN 785-6565 x4280x4278), email: Richard.Raines@afit.edu.

RAQUET, JOHN F., Associate Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 1998 (AFIT/ENG); BS, US Air Force Academy, 1989; MS, Massachusetts Institute of Technology, 1991; PhD, University of Calgary, Canada, 1998. Dr. Raquet's areas of interest include Global Positioning System (GPS) precise positioning, non-GPS precision navigation, optically-aided navigation, navigation using signals of opportunity, integration of MEMS-based inertial measurement units with other sensors, autonomous vehicle navigation and control, and electromagnetic interference and mitigation techniques affecting GPS performance. Tel. 937-255-3636 x4580 (DSN 785-3636 x4580), email: John.Raquet@afit.edu.

REEDER, MARK F., Assistant Professor of Aerospace Engineering, AFIT Appointment Date: 2002 (AFIT/ENY); BS, Mechanical Engineering, West Virginia University, 1989; MS, Mechanical Engineering, Ohio State University, 1991; PhD, Mechanical Engineering, Ohio State University, 1994. Prior to accepting a position with AFIT, Dr. Reeder served as a National Research Council Research Associate at NASA Glenn and subsequently as the manager of Research and Development for a manufacturer of industrial mixing equipment. Dr. Reeder's research interests include many aspects of fluid mechanics with an emphasis on experimental applications involving external aerodynamics, mixing enhancement and propulsion. Recent publications include a characterization of store separation from a cavity using pressure sensitive paint and measurements of a micro air vehicle using a 6-DOF balance. He has been published in a variety of journals including the Journal of Fluid Mechanics, The AIAA Journal, The AIAA Journal of Propulsion and Power, Physics of Fluids, NASA Tech Briefs, the AIChE Journal, and Chemical Engineering Progress. He is the co-inventor of four United States patents and is a licensed Professional Engineer in the State of Ohio. Dr. Reeder is also a member of ASME and AIAA. Tel. 937-255-3636 x4530 (DSN 785-3636 x4530), email: Mark.Reeder@afit.edu.

REHG, MICHAEL T., Assistant Professor of Management, Department of Systems and Engineering Management, AFIT Appointment Date: 2005 (AFIT/ENV); BS, Wildlife Management, University of Wyoming, 1980; MS, Logistics Management, AFIT, 1990; PhD, Strategic Management, Indiana University, 1998. Dr. Rehg's interests include whistleblowing, organizational change, organizational culture, ethics, training effectiveness, measurement scales and survey development. Tel. 937-255-3636 x4574 (DSN 785-3636 x4574), email: Michael.Rehg@afit.edu.

REYNOLDS, DANIEL E., Assistant Professor of Statistics, Department of Mathematics and Statistics, AFIT Appointment Date: 1974 (AFIT/ENC); AB, University of Rochester, 1965; MS, Air Force Institute of Technology, 1971; MS, Wright State University, 1983. Professor Reynolds' research interests include management cybernetics, learning theory, and exploring ways computer graphics can support statistical and mathematical education. In 1989, Professor Reynolds received Tau Beta Phi's Outstanding Professor Award. Tel. 937-255-3098 (DSN 785-3098).

RIES, HEIDI R., Associate Professor of Physics, Department of Engineering Physics AFIT Appointment Date: 1999 (AFIT/ENP) and Dean for Research, Graduate School of Engineering and Management (AFIT/ENR); BS, Physics, The Ohio State University, 1982; MS, Physics, The Ohio State University, 1984; PhD, Applied Physics, Old Dominion University, 1987. Dr. Ries' research interests include nonlinear optical materials, electron paramagnetic resonance spectroscopy, and laser processing of materials. Prior to joining the AFIT faculty, Dr. Ries served as Director of the Center for Materials Research at Norfolk State University in Norfolk, VA and as Associate Director of the Applied Research Center at the Jefferson Center for Research and Technology Research Park, Newport News, VA. Tel. 937-255-3636 x4544 (DSN 785-3636 x4544), email: Heidi.Ries@afit.edu

ROH, WON B., Professor of Engineering Physics, Department of Engineering Physics, AFIT Appointment Date: 1979 (AFIT/ENP); BS, Seoul National University, 1964; MS, The Ohio State University, 1968; PhD, The Ohio State University, 1973. Professor Roh's research interests span technology areas covering lasers, optics, laser spectroscopy, and nonlinear optics. The applications of the technology areas include laser phasing, beam cleanup and combining, Raman fiber lasers, image processing, phase conjugation, frequency conversion, and optical diagnostics. Professor Roh's research is currently funded by the Directed Energy Directorate of the Air Force Research Laboratory. He has advised 8 PhD and almost 50 MS students during his 27 years on AFIT faculty and published about 50 papers. He is the recipient of the Gage H. Crocker Outstanding Professor Award. Tel. 937-255-3636 x 4509 (DSN 785-3636 x 4509), email: Won.Roh@afit.edu.

RUGGLES-WRENN, MARINA B., Associate Professor of Aerospace Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 2003 (AFIT/ENY); BS, Polytechnic Institute of New York, 1981; MS, Rensselaer Polytechnic Institute, 1983; PhD, Rensselaer Polytechnic Institute, 1987. Dr. Ruggles-Wrenn's interests include experimental investigation of nonlinear and time-dependent material behavior, viscoplasticity, advanced composite materials, nano-composites, and high-temperature structural design methods. Dr. Ruggles-Wrenn has published over 60 articles and technical reports, and has co-authored 5 books on fatigue, fracture, and high temperature design methods. Dr. Ruggles-Wrenn received several research and best paper awards, as well as the ASME PVPD Distinguished Service Award. She has served as an associate technical editor of the ASME Journal of Pressure Vessel Technology (1996-2002). Dr. Ruggles-Wrenn is a Fellow of the ASME. Tel. 937-255-3636 x4641 (DSN 785-3636 x4641), email: Marina.Ruggles-Wrenn@afit.edu.

RUSSELL, TIMOTHY H., Maj, Assistant Professor of Physics, Department of Engineering Physics, AFIT Appointment Date: 2005 (AFIT/ENP); B.S., United States Air Force Academy, 1995; M.S., University of Arizona Optical Sciences Center, 1996; Ph.D., Air Force Institute of Technology, 2001. Maj Russell's research interests include solid-state laser development and applying nonlinear optics toward beam cleanup, phase conjugation, and beam combining in solid-state lasers. He has worked in the Air Force Research Laboratory developing laser radar systems and as the deputy branch chief for the High-Power, Solid-State Lasers Branch of the Directed Energy Directorate. Tel. 937-255-3636 x 7298 (DSN 785-3636 x 7298), email: Timothy.Russell@afit.edu.

SEETHARAMAN, GUNA S., Associate Professor of Computer Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2003 (AFIT/ENG); B.E. in Electronics & Communication Engineering, University of Madras, 1980; M. Tech. in Electrical Engineering, Indian Institute of Technology, 1982; PhD in Electrical and Computer Engineering, University of Miami, 1988. Dr. Seetharaman's areas of expertise are nano and microsystems, digital light processing, 3-D image displays and CMOS / MEMS image sensors, and micro-sensors. Tel. 937-255-3636 x4612 (DSN 785-3636 x4612), email: Guna.Seetharaman@afit.edu.

SEO, JOHN, Maj, Adjunct Faculty Member, Department of Aeronautics and Astronautics (AFIT/ENY), AFIT Appointment Date: 2004 (AFIT/SY); BS and MS, Aerospace Engineering, University of Michigan; PhD, Astronautical Engineering, AFIT. Prior military assignments included computational fluid dynamics research, development flight test, and teaching at the USAF Academy. In addition to teaching and research, Dr. Seo is the Senior Operational Liaison Systems Engineer for the Air Force Center for Systems Engineering at AFIT. Dr. Seo's research interests include optimal control, satellite formations dynamics, as well as modeling and architecture. He is a member of the International Council of Systems Engineering (INCOSE) and the American Institute of Aeronautics and Astronautics (AIAA). Tel. 937-255-3355 x3351, (DSN 785-3355 x3351), e-mail: John.Seo@afit.edu.

SHELLEY, MICHAEL L., Professor of Engineering and Environmental Management, Department of Systems and Engineering Management, AFIT Appointment Date: 1996 (AFIT/ENV); BCE, Auburn University, 1974; MS, Virginia Tech, 1975; PhD, Environmental Science and Engineering, University of North Carolina, 1985. Dr. Shelley focuses on system dynamics modeling in analyzing long-term management strategies. His research interests include abiotic and biochemical contaminant fate and transport, physiologically-based pharmacokinetic modeling, and ecological engineering design to optimize mission activity with environmental constraints. Tel. 937-255-3636 x7387 (DSN 785-3636 x7387), email: Michael.Shelley@afit.edu.

SMITH, JEFFREY S., Maj, Assistant Professor of Finance, Department of Systems and Engineering Management, AFIT Appointment Date: 2004 (AFIT/ENV); BA, Economics, University of South Carolina, 1990; MS, Applied Economics, Wright State University, 1995; Ph.D., Economics, University of Tennessee, 2004. Maj Smith's research interests include using environmental valuation methods for DOD applications (specifically using non-market valuation techniques) and government financial analysis. Tel. 937-255-3636 x7393 (DSN 785-3636 x7393), email: Jeffrey.Smith@afit.edu.

SMITHTRO, CHRISTOPHER G., Maj, Assistant Professor of Atmospheric Physics, Department of Engineering Physics, AFIT Appointment Date: 2004 (AFIT/ENP); B.S., Harvey Mudd College, 1991; M.S., Air Force Institute of Technology, 1999; Ph.D., Utah State University, 2004. Maj Smithtro's research interests include modeling of the ionosphere and thermosphere, and the transition of basic science results into operational space weather models. He has worked as a space weather forecaster and liaison officer to the NOAA Space Environment Center as well as a weather station commander. He is a member of the American Geophysical Union. Tel. 937-255-3636 x 4505 (DSN 785-3636 x 4505), email: Christopher.Smithtro@afit.edu.

STAATS, RAYMOND W., Lt Col, Chief, Operations Research Division and Assistant Professor of Operations Research, Departmentof Operational Sciences, AFIT Appointment Date: 2003 (AFIT/ENS); B.A., Syracuse University, 1988; M.S., Air Force Institute of Technology, 1994; Ph.D., Virginia Polytechnic Institute & State University, 2003. Lt Col Staats is a Command Credentialed Space Professional. His research interests include large-scale optimization, integer programming, and multi-attribute decision analysis, with applications in air mobility and space operations. Tel. 937-255-3636 x4624 (DSN 785-3636 x4624), email: Raymond.Staats@afit.edu.

STARMAN, LaVERN A., Capt, Assistant Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2005 (AFIT/ENG); BSEE, University of Nebraska, Lincoln, 1994; MSEE, Wright State University, 1997; PhD in Electrical Engineering, Air Force Institute of Technology, 2002. His areas of expertise include the design and fabrication of micro-electro-mechanical systems (MEMS), RF MEMS, micro-RAMAN spectroscopy, and microelectronics. Tel. 937-255-3636 x4618 (DSN 785-3636 x4618), email: LaVern.Starman@afit.edu.

STEPHEN, ERIC J., Lt Col, Assistant Professor of Aerospace Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 2002 (AFIT/ENY); BS, Purdue University, 1981; MS, AFIT, 1987; PhD, University of Colorado at Boulder, 1992. Lt Col Stephen's research interests include low speed aerodynamics and control of separated flows, aerodynamics applied to various UAVs and MAVs concepts, mobile power generation using wind turbines, and system engineering concepts applied to aircraft design. He has published two articles in the Journal of Aircraft, several conference papers and other DoD publications. Lt Col Stephen was previously assigned to the F-16 SPO, the SBIRS SPO and the Missile Defense Agency. He is a member of the AIAA and INCOSE. Tel. 937-255-3636 x4567 (DSN 785-3636 x4567), email: Eric.Stephen@afit.edu.

STROUBLE, DENNIS D., Assistant Professor of Management, Department of Systems and Engineering Management, AFIT Appointment Date: 2004 (AFIT/ENV); BS, Management, Pennsylvania State University, 1969; JD, Law, Texas Tech University; MS, Systems Management, University of Southern California, 1979; PhD, Business Administration, Texas Tech University, 1984. Research interests include Ethics, Information Assurance and Social Engineering, System Engineering Management. Tel. 937-255-3355 x3323 (DSN 785-3355 x3323), email: Dennis.Strouble@afit.edu.

SUZUKI, LAURA R. C., Maj, Assistant Professor of Mathematics, Department of Mathematics and Statistics, AFIT Appointment Date: 2003 (AFIT/ENC); BS, Wilkes College, 1983; MS, Air Force Institute of Technology, 1984; PhD, Air Force Institute of Technology, 1998. Maj Suzuki's research interests include wavelet analysis, functional analysis, applied mathematics and artificial neural networks. Tel. 937-255-6565 x4630 (DSN 785-6565 x4630), email: Laura.Suzuki@afit.edu.

SWIM, EDWARD W., Visiting Assistant Professor of Mathematics, Department of Mathematics and Statistics, AFIT Appointment Date: 2005 (AFIT/ENC); BS, Angelo State University, 1994; MS, Colorado School of Mines, 1999; PhD, Texas Tech University, 2005. Dr. Swim's current research interests include numerical analysis, computational biomechanics, and mathematical modeling of biological and physical systems. Tel. 937-255-3636 x4523 (DSN 785-3636 x4523), email: Edward.Swim@afit.edu.

TALBERT, MICHAEL L., Lt Col, Assistant Professor of Computer Science, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2003 (AFIT/ENG); BS in Meteorology, North Carolina State University, 1985; MS, Air Force Institute of Technology, 1988; PhD, Virginia Polytechnic Institute & State University, 1995. Lt Col Talbert's areas of interest are database, sensor networks, and information retrieval. Tel. 937-255-2024 (DSN 785-2024).

TEMPLE, MICHAEL A., Associate Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 1996 (AFIT/ENG); BSE, Southern Illinois University, 1985; MSE, Southern Illinois University, 1986; PhD, Air Force Institute of Technology, 1993. Dr. Temple's research interests include electromagnetic propagation phenomenology, Adaptive and Interferometric Clutter Erasure (ACE/ICE), High Range Resolution (HRR) radar, precision emitter location, digital and spread spectrum communications, and complex waveform generation and analysis. His sponsored research efforts in Command, Control, Communications and Intelligence (C3I), radar signal/signature processing, and Electronic Warfare (EW), as adopted by and/or transitioned to the DoD and other national agencies, has provided nearly $2M in research and technology benefits. Tel. 937-255-3636 x4279 (DSN 785-3636 x4279), email: Michael.Temple@afit.edu.

TENNEY, CURTIS G., Lt Col, Assistant Professor of Finance, Department of Systems and Engineering Management, AFIT Appointment Date: 2003 (AFIT/ENV); BS Economics and BS Electrical Engineering, Oklahoma State University, 1988; MBA, Management, Golden Gate University, 1990; Ph.D., Economics, Oklahoma State University, 2001. Lt Col Tenney's research interests include the role of cost analysis in the acquisition decision making process, alternative market structures, risk analysis and mitigation, government and corporate financial analysis, and Creative Problem Solving. Tel. 937 255-3636 x4799 (DSN 785-3636 x4799), email: Curtis.Tenney@afit.edu.

TERZUOLI, ANDREW J., Jr., Associate Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 1982 (AFIT/ENG); BS, Electrical Engineering, Polytechnic Institute of Brooklyn, 1969; MS, Electrical Engineering, Massachusetts Institute of Technology, 1970; PhD, Electrical Engineering, The Ohio State University, 1982. His research interests include computer model based studies; application of parallel computation, VLSI technology, and RISC architecture to numerical and transform methods; remote sensing, antennas and electromagnetics, machine vision and image processing; automated object recognition; and wave scattering, radar cross section and low observables (stealth) technology. Dr. Terzuoli has published numerous articles. His research is funded by various agencies including Wright, Rome, Phillips and Armstrong Laboratories. Prior to joining AFIT in 1982, Dr. Terzuoli was a research associate at the ElectroScience laboratory at the Ohio State University, and was a member of the technical staff at the Bell Telephone Laboratories in New Jersey. Tel. 937-255-3636 x4717 (DSN 785-3636 x4717), email: Andrew.Terzuoli@afit.edu.

THAL, ALFRED E., Jr., Assistant Professor of Engineering Management, Department of Systems and Engineering Management, AFIT Appointment Date: 1998 (AFIT/ENV); BS, Civil Engineering, Texas Tech University, 1981; MS, Engineering Management, AFIT, 1985; PhD, Environmental Engineering, University of Oklahoma, 1999. Dr. Thal's research interests include groundwater flow and remediation technologies, environmental policy and management issues, facility and infrastructure management, engineering management, product development and technology transition, and contingency readiness and training. Tel. 937-255-3636 x7401 (DSN 785-3636 x7401), email: Al.Thal@afit.edu.

THORSEN, STEVEN N., Maj, Assistant Professor of Mathematics, Department of Mathematics and Statistics, AFIT Appointment Date: 2005 (AFIT/ENC); BA, Florida Atlantic University, 1991; MA, East Carolina University, 1997; PhD, AFIT, 2005. Maj Thorsen's research interests include receiver operating curves, vector space and variational calculus optimization methods, category theory, information fusion, and measure theory. Maj Thorsen's previous military assignments involve operations planning, test and acquisition, and faculty at USAFA. Tel. 937-255-3636 x4584 (DSN 785-3636 x4584), email: Steven.Thorsen@afit.edu

TITUS, NATHAN A., Lt Col, Assistant Professor of Aerospace Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 2004 (AFIT/ENY); BS Aeronautics & Astronautics, University of Washington, 1986; MS Astronautical Engineering, Air Force Institute of Technology, 1992; PhD Astronautical Engineering, Air Force Institute of Technology, 1998. Lt Col Titus' research interests include spacecraft attitude dynamics and control, spacecraft systems, robotic manipulators, nonlinear control, and applied optimal control. His dissertation work investigated nonlinear techniques for the control of a robotic manipulator mounted on a free-flying satellite, with a focus on the management and avoidance of singular configurations. Tel. 937-255-3636 x7469 (DSN 785-3636 x7469), email: Nathan.Titus@afit.edu.

TORVIK, PETER J., Professor Emeritus of Aerospace Engineering and Engineering Mechanics, Department of Aeronautics and Astronautics, (AFIT/ENY); BS, University of Minnesota, 1960; MS, University of Minnesota, 1962; PhD, University of Minnesota, 1965; BA, Wright State University, 1980. Professor Torvik is a specialist in theory of elasticity, wave propagation, shock and vibration, impact damage in aircraft systems, laser-material interactions, and aircraft survivability / vulnerability. His primary research interests include structural dynamics, specifically, damping, impact, and penetration mechanics. Dr. Torvik is the author of some 60 technical papers and reports and 20 other publications. He served as Head of the Department of Aeronautics and Astronautics, 1980-1990. He is the recipient of the AF Meritorious Civilian Service Award and the AF Exceptional Civilian Service Award. Dr. Torvik is a Fellow of AIAA and also a Fellow of the ASME. Tel. 937-255-3069 (DSN 785-3069), email: Peter.Torvik@afit.edu.

TUTTLE, RONALD F., Associate Professor of Nuclear Engineering and Director, Center for Measurement and Signature Intelligence (MASINT) Technologies, Department of Engineering Physics, AFIT Appointment Date: 2001 (AFIT/ENP); BS, Chemical Engineering, University of Missouri (Columbia), 1968; MS, Nuclear Engineering, University of Missouri (Columbia), 1970; PhD, Nuclear Engineering, University of Missouri (Columbia), 1980. Dr. Tuttle's research areas are applications of active and passive remote sensing, spectroscopy, diagnostics, and signals processing to problems in intelligence collection and exploitation. Other areas of interest are nuclear weapon effects and space nuclear power systems modeling and mechanics of aerosols. He has published in both unclassified and classified refereed archival journals and conference proceedings. Tel. 937-255-3636 x4536 (DSN 785-3636 x4536), email: Ronald.Tuttle@afit.edu.

VASQUEZ, JUAN R., Lt Col, Assistant Professor of Electrical Engineering, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2004 (AFIT/ENG); BSEE, Oklahoma State University, 1987; MSEE, Air Force Institute of Technology, 1992, PhD, Air Force Institute of Technology, 1998. His research interests include stochastic estimation and control with an emphasis on target tracking. Tel. 937-255-3636 x7231 (DSN 785-3636 x7231), email: Juan.Vasquez@afit.edu.

WALTER, JOERG, Maj, Assistant Professor of Systems Engineering, Department of Aeronautics and Astronautics. AFIT Appointment Date: 2004 (AFIT/ENY); BS, Mechanical Engineering, Michigan State University; MS, Systems Engineering, AFIT; PhD, Reliability Engineering, University of Maryland. His previous work includes assignments at the Air Force Operational Test and Evaluation Center (AFOTEC) and Aeronautical Systems Center (ASC). Maj Walter's current research and advising activities include integrated structural health monitoring systems, collaborative systems, intelligence, surveillance and reconnaissance (ISR) using high altitude airships and persistent ISR in an urban combat environment. Tel. 937-255-3355 x3350, (DSN 785-3355 x3350) e-mail: Joerg.Walter@afit.edu.

WEBB, TIMOTHY S., Maj, Assistant Professor of Statistics, Department of Mathematics and Statistics, AFIT Appointment Date: 2002 (AFIT/ENC); BS, United States Air Force Academy, 1988; MS, Air Force Institute of Technology, 1994; PhD, University of Colorado Health Sciences Center, 2003. Maj Webb's research interests include biostatistics, categorical data analysis, and design of experiments. Tel. 937-255-3636 x4678 (DSN 785-3636 x4678), email: Timothy.Webb@afit.edu.

WEEKS, DAVID E., Professor of Physics, Department of Engineering Physics, AFIT Appointment Date: 1993 (AFIT/ENP); BA Physics with honors, Colgate University, 1983; MS, Physics, Georgia Institute of Technology, 1985; PhD, Physics, University of Arkansas, 1989. Dr. Weeks' research interests include the development of time dependent wave packet methods to model the quantum mechanics of simple chemical reactions and to compute associated state-to-state reactive scattering matrix elements. A second area of interest centers on the application of k p theory together with the envelope function approximation to model the electronic and optical properties of quantum well heterostructures. Tel. 937-255-3636 x4561 (DSN 785-3636 x4561), email: David.Weeks@afit.edu.

WEIR, JEFFERY D., Lt Col, Assistant Professor of Operations Research, Department of Operational Sciences, AFIT Appointment Date: 2002 (AFIT/ENS); Bachelors of Electrical Engineering, Georgia Institute of Technology, 1988; MAS, Embry Riddle Aeronautical University, 1992; MS, Air Force Institute of Technology, 1995; PhD, Georgia Institute of Technology, 2002. Lt Col Weir's research interests include large-scale optimization, mathematical programming and decision analysis. He is a member of the Institute for Operations Research and Management Science (INFORMS) and the Military Operations Research Society (MORS). Tel. 937-255-3636 x4538 (DSN 785-3636 x4538), email: Jeffery.Weir@afit.edu.

WHITE, EDWARD D., III, Associate Professor of Statistics, Department of Mathematics and Statistics, AFIT Appointment Date: 1998 (AFIT/ENC); BS, University of Tampa, 1990; MAS, Ohio State University, 1991; PhD, Texas A&M University, 1998. Dr. White's research interests include design of experiments, categorical data analysis, biostatistics, and model building. Tel. 937-255-3636 x4540 (DSN 785-3636 x4540), email: Edward.White@afit.edu.

WIESEL, WILLIAM E., Jr., Professor of Astronautical Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 1981 (AFIT/ENY); BS, University of Massachusetts, 1970; MS, Harvard University, 1972; PhD, Harvard University, 1974. Dr. Wiesel's research interests include orbital mechanics and astrodynamics, chaotic systems, estimation and control, planetary astronomy, stability theory, and optimal control. Dr. Wiesel is the author of Spaceflight Dynamics, the leading introductory text on astronautical engineering. He has authored over 30 technical papers and has been a member of the department for 25 years. Tel. 937-255-3636 x4312 (DSN 785-3636 x4312), email: William.Wiesel@afit.edu.

WILEY, VICTOR D., Maj, Assistant Professor of Operations Research, Department of Operational Sciences, AFIT Appointment Date: 2001 (AFIT/ENS); BS, Texas A&M University, 1991; MS, Air Force Institute of Technology, 1996; PhD, The University of Texas at Austin, 2001. Maj Wiley's research interests include heuristics, metaheuristics, and applications of group theory to metaheuristic search neighborhoods, program management, and systems dynamics. Tel. 937-255-2549 (DSN 785-2549).

WILLIAMS, PAUL D., Capt, Assistant Professor of Computer Science, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2005 (AFIT/ENG); BS, University of Washington, 1996; MS, Air Force Institute of Technology, 2001; PhD, Purdue University, 2005. Capt Williams' primary research interests center on information system security, with emphasis on security policy compliance monitoring. Other areas of interest include algorithms, artificial intelligence, and evolutionary computation. Tel. 937-255-6565 x7253 (DSN 785-6565 x7253), email: Paul.Williams@afit.edu.

WOLF, PAUL J., Associate Professor of Physics, Department of Engineering Physics, AFIT Appointment Date: 1994 (AFIT/ENP); and Associate Dean for Academic Affairs, Graduate School of Engineering and Management, (AFIT/ENW); BS, Regis College, 1978; MS, Air Force Institute of Technology, 1979; PhD, Air Force Institute of Technology, 1985. Dr. Wolf's research interests are concentrated in experimental atomic / molecular spectroscopy, reactive and non-reactive collision kinetics, thin film deposition processes by laser with applications toward laser devices, ionospheric and atmospheric chemistry, environmental monitoring, and thin film devices. He has published over 21 papers and advised two PhD and five MS students. Tel. 937-255-3636 x 4560 (DSN 785-3636 x 4560), email: Paul.Wolf@afit.edu.

WOOD, AIHUA W., Professor of Mathematics, Department of Mathematics and Statistics, AFIT Appointment Date: 1994 (AFIT/ENC); BS, Beijing University, 1984; MS, University of Connecticut, 1988; PhD, University of Connecticut, 1990. Dr. Wood's research interests include elliptic partial differential equations, electromagnetic wave propagation, and finite element methods. Dr. Wood is currently funded by the Air Force Office of Scientific Research to investigate scattering and propagation of electromagnetic waves. Tel. 937-255-6565 x4272 (DSN 785-6565 x4272), email: Aihua.Wood@afit.edu.

WRIGHT, SAMUEL A., Maj, Assistant Professor of Statistics, Department of Mathematics and Statistics, AFIT Appointment Date: 2004 (AFIT/ENC); BS, United States Air Force Academy, 1989; MS, Air Force Institute of Technology, 1995; PhD, Air Force Institute of Technology, 2001. Maj Wright's research interests include statistics, model validation, and pattern recognition. Tel. 937-255-3636 x4549 (DSN 785-3636 x4549), email: Samuel.Wright@afit.edu.

YEO, YUNG K., Professor of Physics, Departmentof Engineering Physics, AFIT Appointment Date: 1984 (AFIT/ENP); BS, Seoul National University, 1961; PhD, University of Southern California, 1972. Professor Yeo's research interests include solid state physics, especially characterization of the electrical, magnetic, and optical properties of elemental, compound, ternary, and quaternary semiconductors using techniques such as Hall effect measurement, deep level transient spectroscopy, superconducting quantum interference device, cathodoluminescence, and photoluminescence. Professor Yeo has published about 90 articles in archival journals, several technical reports, presented more than 170 papers at professional conferences, and holds one patent. He is a reviewer for the Applied Physics Letters and the Journal of Applied Physics. He is currently funded by the AFOSR to study wide band gap semiconductors such as GaN, AlGaN, and ZnO including dilute magnetic semiconductors. This work involves collaborative effort with the Air Force Research Laboratory and Rutgers University. He has directed the research of five postdoc fellows, fifteen PhD students and twenty MS students. He received the Ezra Kotcher Award for 1990, received the Gage H. Crocker Outstanding Professor Award for 1992, and received General Bernard A. Schriever Award for 1997. Tel. 937-255-3636 x4532 (DSN 785-3636 x4532), email: Yung.Yeo@afit.edu.

YOUNG, JOEL D., Maj, Assistant Professor of Computer Science, Department of Electrical and Computer Engineering, AFIT Appointment Date: 2003 (AFIT/ENG); BS, Worcester Polytechnic Institute, 1990; MS, Air Force Institute of Technology, 1996; PhD, Brown University, 2004. Maj Young's areas of interest include artificial intelligence, machine learning, web search, and computational biology. Tel. 937-255-2024 (DSN 785-2024).

ZALEWSKI, DANIEL J., Col, Senior Military Professor, Department of Operational Sciences, AFIT Appointment Date: 2005 (AFIT/ENS); BS, United States Air Force Academy, 1983; MS, George Mason University, 1989; PhD, Air Force Institue of Technology, 1995. Col Zalewski's research interests include military modeling and simulation, process control, artificial intelligence, and neural networks. Tel. 937-255-3636 x4621 (DSN 785-3636 x4621), email: Daniel.Zalewski@afit.edu.

APPENDIX B POST-DOCTORAL AND VISITING RESEARCH ASSOCIATE CREDENTIALS

HUANG, JUNQI, Research Associate in Engineering and Environmental Management**,** Department of Systems and Engineering Management, AFIT Appointment Date: 1997 (AFIT/ENV); BS, Hydrogeology, Hebei Geological College, China, 1982; MS and PhD, Fluid Mechanics in Porous Media, Chinese Academy of Sciences, 1990. Dr. Huang specializes in numerical modeling of flow and transport in porous media. He is also interested in numerical simulation of non-Newtonian fluid flow and electromagnetic scattering. Tel. 937-255-3636 x7402 (DSN 785-3636 x7402), email: Junqi.Huang@afit.edu.

BAEK, SEUNGSU, Visiting Research Scientist in Aerospace Engineering, Department of Aeronautics and Astronautics, AFIT Apppointment Date: 2005 (AFIT/ENY); BS, Ceramic Engineering Materials, 1982; MS, Process Development & Evaluation for Reuse of Sherben 1985; and PhD, Surface Modification in Sialon Composites, Yonsei University, Seoul, Korea, 1998. Dr. Baek is a principal researcher in ADD, Korea. He specializes in process development and evaluation of Ceramic Materials. Tel. 937-255-3636 x7490, e-mail: Seungsu.Baek.ctr.kp@afit.edu.

YUN, SU-JIN, Visiting Research Scientist in Aerospace Engineering, Department of Aeronautics and Astronautics, AFIT Appointment Date: 2005 (AFIT/ENY); BS, Chemical Engineering, Sogang University, Korea, 1986; MS, Chemical Engineering, Texas A&M University, USA, 1991; PhD, Mechanical Engineering, Texas A&M University, USA, 1996. Dr. Yun specializes in the Sol-Gel process from silicon ethoxide using hypercritical conditions, and specializes in numerical modeling in metal forming in the equal channel extrusion process. He is also interested in numerical analysis for plastic deformation localization under various constitutive relations. Tel. 937-255-3636 x7495, email: sjy3788@yahoo.co.kr or SuJin.Yun.ctr.kp@afit.edu.

APPENDIX C AFIT RESEARCH CENTER AND GROUP CONTACT INFORMATION

ALL MAILING ADDRESSES:
(Department/Center/Group Name and Symbol)
Air Force Institute of Technology
2950 Hobson Way
Wright Patterson AFB, OH 45433-7765

ALL PHONE NUMBERS:
Commercial area code: (937)

ADMINISTRATIVE CONTACTS

Graduate School of Engineering and Management (AFIT/EN)
Access phone: 937-255-3636, DSN 785-3636
Fax: 937-255-6569, DSN 785-6569
Homepage: http://www.afit.edu/en/

Dean	255-3025
Secretary	255-3636 x 7101
Associate Dean	255-4372 x 7104
Secretary	255-3636 x 7102
Associate Dean for Academic Affairs	255-3636 x 4560
Secretary	255-3636 x 4557

Office of Research and Sponsored Programs (AFIT/ENR)
Access Phone: 937-255-3633, DSN 785-3633
Fax: 937-656-7139, DSN 986-7139
http://www.afit.edu/en/enr/ research@afit.edu

Dean for Research	255-3636 x 4544
Director of Sponsored Research	255-3636 x 4729
Research Program Assistant	255-3636 x 4552

CENTER CONTACTS

Advanced Navigation Technology Center (ANT)
Homepage: http://www.afit.edu/en/ant

Director	255-3636 x 4580
Projects Manager	255-3636 x 4546
Laboratory Manager	255-3636 x 4911

Center for Directed Energy (CDE)
Homepage: http://www.afit.edu/de/

Director	255-3636 x 4504
Program Coordinator	255-3636 x 4706

Center for Information Security Education and Research (CISER)
Homepage: http://www.afit.edu/ciser/

Director	255-6565 x 4278
Program Coordinator	255-3636 x 4602

Center for Measurement and Signature Intelligence (CMSR)
Homepage: http://www.afit.edu/cmsr/

Director	255-3636 x 4536
Program Coordinator Phone	431-6606 (ph)
Fax	431-3811 (fax)

Center for Operational Analysis (COA)
Homepage: http://www.afit.edu/coa/

Director	255-6565 x 4326
Deputy Director	255-3636 x 4646
Projects Director	255-6565 x 4251

Center for Systems Engineering (AFIT/SYE)
Education and Training Division
Homepage: http://www.afit.edu/cse/

Chief	255-3355 x3363
Fax	255-4981

DEPARTMENTAL CONTACTS

Department of Aeronautical and Astronautical Engineering (AFIT/ENY)
Access Phone: 937-255-3069, DSN 785-3069
Fax: 937-656-7621, DSN 986-7621
Homepage: http://www.afit.edu/en/eny/

Department Head	255-3636 x 4636
Education Technician	255-3636 x 4644
Education Technician	255-3636 x 4700

Department of Electrical and Computer Engineering (AFIT/ENG)
Access Phone: 937-255-2024, DSN 785-2024
Fax: 937-656-7061, DSN 986-7061
Homepage: http://www.afit.edu/en/eng/

Department Head	255-2024
Secretary	255-3636 x 7217
Education Specialist	255-3636 x 3173
Education Technician	255-3636 x 4634

Department of Engineering Physics (AFIT/ENP)
Access Phone 937-255-2012, DSN 785-2012
Fax: 937-255-2921, DSN 785-2921
Homepage: http://www.afit.edu/en/enp/

Department Head	255-3636 x 4502
Secretary	255-3636 x 4503
Education Technician	255-3636 x 4534

Department of Mathematics and Statistics (AFIT/ENC)
Access Phone: 937-255-3098, DSN 785-3098
Fax: 937-656-4413, DSN 986-4413
Homepage: http://www.afit.edu/en/enc/

Department Head	255-3636 x 4519
Education Technician	255-3636 x 4520

Department of Operational Sciences (AFIT/ENS)
Access Phone: 937-255-2549, DSN 785-2549
Fax: 937-656-4943 DSN 986-4943
Homepage: http://www.afit.edu/en/ens/

Department Head	255-3636 x 4538
Education Technician	255-3636 x 4631
Education Technician	255-3636 x 4894

Department of Systems and Engineering Management (AFIT/ENV)
Access Phone: 937-255-2998, DSN 785-2998
Fax: 937-656-4699, DSN 986-4699
Homepage: http://www.afit.edu/en/env/

Interim Department Head	255-3636 x 4638
Education Technician	255-3636 x 4632
Education Technician	255-3636 x 4623

APPENDIX D ABBREVIATIONS LISTING

There are a number of abbreviations for organizations and scientific journals and terms that are used in this report. This alphabetical listing includes only selected organizations, journals, and terms. The department symbols for the Graduate School of Engineering and Management are found in Appendix B.

46 SK/SKE	Air Force Seek Eagle Office (AFSEO)
ACC	Air Combat Command
ACES	Applied Computational Electromagnetic Society
AETC	Air Education and Training Command
AFCEE	Air Force Center for Environmental Excellence
AFCESA	Air Force Civil Engineer Support Agency
AFIT	Air Force Institute of Technology
AFLMA	Air Force Logistics Management Agency
AFMC	Air Force Materiel Command
AFOTEC	Air Force Operational Test and Evaluation Center
AFRL	Air Force Research Laboratory
AFRL/AFOSR	AFRL/Air Force Office of Scientific Research
AFRL/DE	AFRL/Directed Energy Directorate
AFRL/HE	AFRL/Human Effectiveness Directorate
AFRL/IF	AFRL/Information Directorate
AFRL/ML	AFRL/Materials and Manufacturing Directorate
AFRL/MN	AFLR/Munitions Directorate
AFRL/PR	AFRL/Propulsion Directorate
AFRL/SN	AFRL/Sensors Directorate
AFRL/VA	AFRL/Air Vehicles Directorate
AFRL/VS	AFRL/Space Vehicles Directorate
AFCA	Air Force Communication Agency
AFSC	Air Force Security Agency (AF Security Police Agency)
AFSEO	Air Force Seek Eagle Office (46 SK/SKE)
AFSPC	Air Force Space Command
AFTAC	Air Force Technical Applications Center
AFWA	Air Force Weather Agency (Air Weather Service)
AHS	American Helicopter Society
AIA	Air Intelligence Agency
AIAA	American Institute of Aeronautics and Astronautics
AMC	Air Mobility Command
ARDA	Advanced Research and Development Activity
ASME	American Society of Mechanical Engineers
ASC	Aeronautical Systems Center
AU	Air University
BAA	Broad Agency Announcement
CCD	Charge-Coupled Device
CRADA	Cooperative Research and Development Agreement
CRC	Cyclic Redundancy Check
CuPIDS	Co-Processing Intrusion Detection System
DAGSI	Dayton Area Graduate Studies Institute
DARPA	Defense Advanced Research Projects Agency
DE	Directed Energy Directorate
DISA	Defense Information Systems Agency
DoD	Department of Defense
DOE	Department of Energy
doi:	Digital Object Identifier
DoS	Department of State

DTRA	Defense Threat Reduction Agency
ECCOMAS	European Community on Computational Methods in Applied Sciences
EM	Electro-magnetic
ERP	Enterprise Resource Planning
ESTCP	Environmental Security Technology Certification Program
FDTD	Finite Difference Time Domain
FPGA	Field-Programmable Gate Arrays
GPS	Global Positioning System
HELEEOS/SHARE	High Energy Laser End to End Operational Simulation / Scaling for HEL and Relay Engagement
HEL	High Energy Laser
HPC	High Performance Computing
HQ AU	Headquarters, Air University
IDE	Intermediate Developmental Education
IEEE	Institute of Electrical and Electronics Engineers
INCOSE	International Council on Systems Engineering
INFORMS	Institute for Operations Research and the Management Sciences
INS	Inertial Navigation Systems
ISSMO	International Society for Structural and Multidisciplinary Optimization
LADAR	Laser Radar
MASINT	Measurement and Signatures Intelligence
MC-CDMA	Multi-Carrier Code Division Multiple Access
MEMS	Micro-Electro-Mechanical Systems
MORS	Military Operations Research Society
MPSK	M-ary Phase Shift Keying
MRF	Markov Random Field
NAIC	National Air and Space Intelligence Center (NASIC)
NASA	National Aeronautics and Space Administration
NASIC	National Air and Space Intelligence Center
NSA	National Security Agency
NSF	National Science Foundation
NSSA	National Security Space Architect
NSSO	National Security Space Office
OFDM	Orthogonal Frequency Division Multiplexing
OO-ALC	Ogden Air Logistics Center
OSD	Office of the Secretary of Defense
PACAF	Pacific Air Forces
RCS	Radar Cross Section
RFID	Radio Frequency Identification
ROC	Receiver Operating Characteristic
SAE	Society of Automotive Engineers
SAF	Secretary of the Air Force
SAR	Synthetic Aperture Radar
SERDP	Strategic Environmental Research & Development Program
SBS	Stimulated Brillouin Scattering
SIBR	Small Business Innovation Research
SPC	Statistical Process Control
SPIE	The International Society for Optical Engineering
STRATCOMM	United States Strategic Command
STTR	Small Business Technology Transfer Program
StUPIDS	Standard Uni-Processor Intrusion Detection System
SWC	Space Warfare Center
TDCS	Transform Domain Communications System
USAF	United States Air Force
USSOCOM	United States Special Operations Command
WPAFB	Wright-Patterson Air Force Base

APPENDIX E AFIT HISTORY

The Institute

The Air Force Institute of Technology traces its roots to the early days of powered flight when it was apparent that the progress of military aviation depended upon special education in this new science. Before 1919, aviation officers were educated at the Massachusetts Institute of Technology. Then, in 1919, the Air School of Application was established at McCook Field in Dayton, Ohio, the home of Orville and Wilbur Wright. When Congress authorized creation of the Air Corps in 1926, the School was renamed the Air Corps Engineering School and moved, along with all the operations at McCook Field, to Wright Field in 1927. Shortly after Pearl Harbor, the school suspended classes, but reopened as the Army Air Forces Engineering School in 1944 to conduct a series of accelerated courses to meet emergency requirements.

After World War II, in 1946, the Army Air Forces Institute of Technology was established as part of the Air Materiel Command and was composed of two colleges: Engineering and Maintenance, and Logistics and Procurement. These colleges were later redesignated the College of Engineering Sciences and the College of Industrial Administration. When the Air Force became a separate service in 1947, the Institute was renamed the Air Force Institute of Technology. That same year, the Air Installation Engineering Special Staff Officer's Course began. In 1948, responsibility for managing officers attending civilian institutions was transferred to AFIT.

In 1950, command jurisdiction of the Institute shifted from Air Materiel Command to Air University (AU) with headquarters at Maxwell Air Force Base, Alabama. The Institute, however, remained at what is now known as Wright-Patterson Air Force Base. In 1951, the two AFIT colleges were combined into the Resident College. The Institute established a logistics education program at Wright-Patterson Air Force Base in 1955, and The Ohio State University conducted the first courses on a contract basis. In 1958, the Air Force Institute of Technology began a series of short courses in logistics as part of the Air Force Logistics Command (AFLC) Education Center. Later that year, the School of Logistics became a permanent part of the Air Force Institute of Technology.

In 1954, the 83rd Congress authorized the Commander, Air University, to confer degrees, upon accreditation by a nationally recognized association or authority, to persons who met all requirements for those degrees in the Air Force Institute of Technology Resident College. In October 1954, the Engineering Council for Professional Development accredited the undergraduate Aeronautical and Electrical Engineering program. The college was later divided into the School of Engineering, the School of Logistics, and the School of Business. The first undergraduate engineering degrees were granted in 1956, and the first graduate degrees in business in 1958. Since then, AFIT has awarded more than 15,000 graduate degrees and 300 doctor of philosophy degrees. The School of Business programs were transferred to civilian universities in 1960. In 1963, the School of Logistics was redesignated the School of Systems and Logistics. The Civil Engineering Center was also redesignated as the Civil Engineering School and later became the Civil Engineer and Services School.

Over the next 30 years, the Institute's organization changed little, but it continued to grow and respond to the changing needs of the Air Force. New programs were developed, and others were terminated. As an example, the Institute granted its last baccalaureate degree in 1985. In 1992, the Institute reorganized from three to four resident schools by specifically removing all graduate programs from the School of Systems and Logistics and establishing a new school, the Graduate School of Logistics and Acquisition Management.

In 1995, the Air Force Institute of Technology established its first program to be offered at a distant location. The Air Mobility Program, taught at Fort Dix, New Jersey, is a yearlong program designed to provide officers assigned to the Air Mobility Command the opportunity to further their education in a course of instruction specifically designed to enhance their expertise as operational airlift logistics experts. The first class of 10 students entered in the spring of 1995 and graduated the following May. The program utilizes facilities located adjacent to McGuire Air Force Base, New Jersey, home of Air Mobility Command's east coast operations center. Institute instructors travel to the Fort Dix site to teach these courses.

The Institute has long been an active participant in the larger educational community as well. In 1967, AFIT became a member of the Dayton Miami Valley Consortium (DMVC), which later changed its name to Southwestern Ohio Council for Higher Education (SOCHE). The Council is an association of colleges, universities, and industrial organizations in the Dayton area, which are united to promote educational advancement. The Institute has traditionally been active in both the council and in other community and inter-institutional programs. In 1995, AFIT joined with two other local institutions, Wright State University and the University of Dayton, to form a consortium called the Dayton Area Graduate Studies Institute (DAGSI). This consortium's purpose is to coordinate, integrate, and leverage the resources of the three schools to improve and expand graduate-level educational opportunities in the engineering disciplines. This consortium has since expanded by adding The Ohio State University and the University of Cincinnati as affiliate members. The Ohio Board of Regents, the educational governing board for the State of Ohio, funds the consortium to provide scholarships for graduate engineering students at the local institutions. In addition, the Board of Regents provides state funds to encourage collaborative research in support of the Air Force Research Laboratory at Wright-Patterson Air Force Base. Through this program, teams of researchers from the consortium schools are funded to perform research that supports that laboratory.

Early in fiscal year 1997, the Secretary of the Air Force made a decision to close the Air Force Institute of Technology resident graduate schools. In anticipation of closure, the Institute developed and began a transition and closure plan. Resident Ph.D. students scheduled for fiscal year 1997 were diverted to the Civilian Institution Program and a transition plan for actual closure was developed, identifying manpower positions for elimination in fiscal years 1997 through 2000.

In April 1998, after a visit to the Air Force Institute of Technology, the Acting Secretary of the Air Force, F. Whitten Peters, announced a reversal of the Air Force decision to terminate the Institute's resident graduate programs. AFIT was to continue a restructuring initiative begun in fiscal year 1996 that would size the resident graduate programs to meet the Air Force education requirements of the fiscal year 2003 force structure. As part of this restructuring, the two resident graduate schools were merged into the Graduate School of Engineering and Management on 1 October 1999.

At the direction of the Secretary of the Air Force, AFIT became the home of the Air Force Center for Systems Engineering in February 2003. The CSE builds on AFIT's twenty plus years of systems engineering expertise, working to strengthen and expand the existing SE program within the Graduate School of Engineering and Management, and to provide additional assistance to the Air Force in the areas of policy recommendations, consultation, and case study development. This collaboration across AFIT has resulted in a revised graduate degree program, a new graduate certificate program in Systems Engineering, and new continuing education short courses. In addition, AFIT is home to six other centers of excellence—the Center for Directed Energy, the Center for Information Security Education and Research, the Center for Measurement and Signature Intelligence Studies and Research, the Center for Operational Analysis, the Advanced Navigation Technology Center, and the Center for Space Studies and Research.

Some of the most accomplished engineers and scientists in Air Force history are alumni of the Air Force Institute of Technology. Air Force pioneers General George Kenney, General Jimmy Doolittle, and General Bernard Schriever attended Air Force Institute of Technology programs prior to the time degrees were conferred. General Lawrence Skantze, who culminated his career as the commander of Air Force Systems Command, was one of the early degree graduates. Major General William Anders and fellow astronaut Colonel Guion Bluford also attained graduate degrees at AFIT.

The effects of the Air Force Institute of Technology's educational programs pervade the Air Force and Department of Defense. Graduates are assigned to a wide range of positions in a rapidly changing technological environment. They become both practicing engineers and broadly educated leaders. No matter what degree a student earns, AFIT's primary goal is to graduate mission-ready men and women who can positively impact the Air Force.

As the Air Force Institute of Technology continues its ninth decade of operation, faculty and staff members reflect with pride on the contributions the Institute's graduates have made on engineering, science, technology, medicine, logistics, and management. These immeasurable contributions have been vital to national security. The future promises to be even more challenging than the past, and AFIT is prepared to continue providing the environment and the opportunity for Air Force personnel to develop the professional and technological skills needed to master this dynamic challenge.

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