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Wright State University College of Engineering and Computer Science

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BITS & PCs

COLLEGE OF ENGINEERING AND COMPUTER SCIENCE

October 2001

Wright State University Dayton, Ohio 45435

Vol. 18 No. 2

Important Dates

- October 16
Last day for all but freshmen to drop a class with a grade of "W"
- October 24
CECS Club Fair
- November 6
Last day for freshmen to drop a class with a grade of "W"
- November 12
NO CLASSES—
Veteran's Day
- November 20
Last day of classes, Fall Quarter
- November 21-25
NO CLASSES—
Thanksgiving Holiday
- November 26-December 1
Final Exam Week
- December 1
Fall Commencement
- December 7
Last day to apply for March graduation
- December 24-25
University Closed
- January 1
University Closed
- January 2
Winter quarter classes begin
- January 21
NO CLASSES—Martin Luther King, Jr. Day Holiday

New Faces Join the College of Engineering and Computer Science Dean's Office



The College of Engineering and Computer Science is proud to announce that Ruby Mawasha has been appointed Assistant Dean and Director of Wright STEPP (Science, Technology, and Engineering Preparatory Program.) Dr. Mawasha received a B.E. in mechanical engineering from the City University of New York at City College in 1990 and an M.S. and Ph.D., also in mechanical engineering, from the University of Akron in 1993 and 1998, respectively.

Prior to joining the Dean's Office at Wright State University in September 2001, Dr. Mawasha was the Assistant to the Dean of Engineering, Director of Diversity in Engineering and Science in the College of Engineering, and Lecturer in the Department of Mechanical Engineering, both of which were at the University of Akron in Akron, Ohio. Besides his work as the new Director of the Wright STEPP Program, Dr. Mawasha will also serve as the advisor for the National Society of Black Engineers student organization here in the College of Engineering and Computer Science.

Dr. Mawasha's areas of specialization include two-phase flow and boiling heat transfer, thermo-fluids science, bioengineering, and applied mathematics. He is also involved in engineering education and higher education for the purpose of: investigating the changing status of education; studying and understanding recent or current innovations in technology; examining outreach programs beyond the university; exploring efforts of improving technical literacy, teaching, and learning in higher education; and researching interdisciplinary efforts within the university and community in an effort to enhance education.

He has co-authored 10 journal articles and 23 conference articles. Dr. Mawasha has also been the principal or co-principal investigator on several research contracts and donations totaling over \$300,000. He is also a member of several honor societies including Omicron Delta Kappa (national leadership), Pi Tau Sigma (mechanical engineering), Pi Mu Epsilon (mathematics), and Tau Beta Pi (engineering).

Please join us as we welcome Dr. Ruby Mawasha to the administrative ranks of the College of Engineering and Computer Science.

See *New Faces Join CECS* on Page 2

2001 CECS Welcome Back to School Carnival

The College of Engineering and Computer Science's Welcome Back to School Carnival, held on Thursday, September 13, in the Russ Engineering Center Lobby was well attended by both undergraduate and graduate students. This year's event, held in conjunction with the University's Welcome Week festivities, allowed students to play games, win prizes, and interact with others. The games that students could partake in included Ring the Dean, Wheel of Majors, Jenga, Toss Across, Yo-Yo, and Pop Ring Toss. There were several winners within each game. The winner for Most Consecutive YOs in the Yo-Yo contest was Charity Oliver with a total of 186. Jim Adams was selected as the Trickiest YOer of those competing in the contest. Both winners received T-shirts as their prizes.

In addition to the games offered, students and faculty/staff could register for door prizes. The winners of the door prizes are as listed below:

Student Winners

Welcome Week T-shirt	Ch. Sudhakar
WSU T-shirt	Mychelle Brown
CECS Green & Gold Pen	Vikas Mahaja
CECS Mug	Vivek Jeyasingh
WSU Cards	Anurag Jain
CECS Mechanical Pencil	Julie Cecil
CECS LetterOpener	Chakradhar Byred
CECS Black & Silver Pen	Shamsnaz Vivani
CECS Key Chain	Pavan Kumar
CECS Window Decal	Yogaraja Thyagarajan

Faculty/Staff Winners

Welcome Week T-shirt	Richard Bethke
WSU T-shirt	Vickie Slone
CECS Green & Gold Pen	Oscar Garcia
CECS Mug	Paula Esken
WSU Cards	Nalda Blair
CECS Mechanical Pencil	Blair Rowley
CECS LetterOpener	Sara Hohne
CECS Black & Silver Pen	Mary Fendley
CECS Key Chain	Jennifer Limoli
CECS Window Decal	Daist Stieger

***Congratulations to all of the winners
and thanks to everyone who helped
make the event a success!!***

New Faces Join CECS (continued from Page 1)

The College of Engineering and Computer Science would also like to welcome Leslie Hurst to the Russ Engineering Center. Leslie will be working with Dr. Ruby Mawasha and the Wright STEPP Program as its new Administrative Coordinator.



Leslie has been with Wright State University since November of 1997, working in the College of Education and Human Services in Workforce Education. Before coming to WSU, she had been employed by government contractors, Rapp Systems and Semcor, Inc., as well as Fairborn City Schools.

Leslie and her husband, Jeff, recently celebrated their 20th wedding anniversary. They have two children; a daughter, Jennifer, and a son, Brian.

Join us in welcoming Leslie to the College of Engineering and Computer Science. Stop by 405 Russ Engineering Center and introduce yourself to the new faces in the Dean's Office.

ITRI Workshop Offered

The Information Technology Research Institute is pleased to present the 2001 Fall ITRI Workshop on

The Role of Industry in the Academia-Industry-Government Partnership for Economic Development

Thursday, October 25, 2001
Holiday Inn at 2800 Presidential Drive
Fairborn, OH

Mr. Frank Samuel, the Governor's Science and Technology Director, will be the Keynote Speaker. Presentations will be given by local industry representatives followed by a panel discussion with panelists from academia, industry, and government.

A \$25.00 registration fee includes a continental breakfast and a buffet lunch.

You can view the agenda and register via the ITRI website at: <http://www.cs.wright.edu/itri> or call Damien Chaffin at (937) 775-5512. Registration forms are also available from Leona Miller in 352 Russ.

College of Liberal Arts Offers New Certificate Program in Research and Intelligence Analysis

This certificate is available to students already possessing a bachelor's degree or to those seeking the bachelor's degree in any area; however, additional credit hours may be required for degrees outside the College of Liberal Arts and prior degree holders. To be accepted into this Certificate program, a student must have at least a 2.8 grade point average in the most recent high school or college work and be accepted after an interview with the R/IA Certificate Program Committee. The interview will help identify students likely to succeed in the program, such as those possessing intellectual curiosity and a fondness for puzzle and problem-solving.

Requirements

Students seeking the Certificate who already hold a bachelor's degree, or who major in areas outside the College of Liberal Arts, must have fulfilled the following CoLA requirements or equivalent.

College of Liberal Arts Requirements: The 202 level in a foreign language is required, and is the minimal foreign language requirement for the Certificate program; students in the Certificate program must achieve a grade of "B" or higher at the 202 level. The Research Methods requirement permits a choice of one of several courses from each of three groups; students in this Certificate program must choose MIS 100, "Introduction to Computer-based Information Systems," PLS 210, "Introduction to Quantitative Methods," and PHL 215, "Inductive Logic."

SPECIFIC COURSE REQUIREMENTS: (20-22 Credit hours)

RIA 400 (4) History of Information Gathering and Dissemination
RIA 420 (4) Senior Research Project
RIA 450 (4) Senior Operations Center Laboratory
CLS 300 or HST 301 (4) How We Know Antiquity (research methods)/Historical Research

One or two of the following courses (4-6 credits):

CEG 478/MTH 456/EE 478 (3) Coding Theory
CS 419/MTH 419 (3) Cryptography and Data Security
LI 371 (4) Historical and Comparative Linguistics
ENG 478 (4) Introduction to Linguistics
Foreign Language [at 300-level or higher]
History [at 300-level or higher]
Political Science [at 300-level or higher]
Economics [at 300-level or higher]

Students must achieve a 3.0 average in all required courses and at least 16 credit hours of the required courses must be taken at Wright State University. In addition, a comprehensive Exit Exam (pass/fail) is required before the Certificate can be awarded. The examination will be similar to common "Comprehensive Exams" which measure the retention, association, and assimilation of material actually studied by each student in the course of the program of study.

For more information, please contact the College of Liberal Arts at (937)775-2225 or the Department of Classics at (937) 775-3062.

FACULTY

A **Maier Amer, Ph.D., ME**, has received funding in the amount of \$29,998 from Technical Management Concepts, Inc. for his proposal entitled "Raman Investigation of Structure and Phase Transitions in Mesoscopic Systems."

C **Abdul A.S. Awwal, Ph.D., CSE**, has received additional funding in the amount of \$20,585 from Ohio Board of Regents for his proposal entitled "Fast Opto-Electronic Data Search for Very Large Digital Archives."

T **Soon Chung, Ph.D., CSE**, has received an additional \$17,100 in funding from the Ohio Board of Regents for his proposal entitled "Parallel Data Mining on a Cluster of Workstations."

S **Jennie Gallimore, Ph.D., BIE**, has received \$118,432 from the Dayton Area Graduate Studies Institute (DAGSI) for her proposal entitled "Pilot Spatial Orientation."

Oscar Garcia, Ph.D., CSE, has become a Life Fellow member of the Institute of Electrical and Electronics Engineers for his long association with the Institute and distinguished service to the organization.

A. Ardeshir Goshtasby, Ph.D., CSE, has received additional funding in the amount of \$22,914 from the Ohio Board of Regents for his proposal entitled "Event-Based Characterization of Videos for Indexing and Streaming."

Ramana Grandhi, Ph.D., ME, has received funding in the amount of \$117,000 from the Dayton Area Graduate Studies Institute (DAGSI) for his proposal entitled "Analytical Certification and Multidisciplinary Integration."

Ricardo Gutierrez-Osuna, Ph.D., CSE, has received \$67,113 in additional funding from the National Science Foundation, Faculty Early Career Development (CAREER) for his proposal entitled "Computational Models for Senso-Based Machine Olfaction." He also received additional funding in the amount of \$15,000 from the Ohio Board of Regents for his proposal entitled "Algorithms for Assessment of Image Quality Metrics."

Thomas Hangartner, Ph.D., BIE, has received additional funding from the Procter and Gamble Company in the amount of \$38,121 for his proposal entitled "Evaluation of a Novel Treatment for Osteoarthritis of the Knee."

Craig Harvey, Ph.D., BIE, has received \$20,391 from the U.S. Department of Transportation and the Federal Aviation Administration for his proposal entitled "Controller Pilot Data Link Communications (CPDLC) Program."

Lang Hong, Ph.D., EE, has received funding in the amount of \$43,203 from the Dayton Area Graduate Studies Institute (DAGSI) for his proposal entitled "Interferometric Radar Clutter Suppression." Dr. Hong also received additional funding from Automotive Systems Laboratory, Inc. in the amount of \$11,250 for his proposal entitled "Automotive Collision Avoidance Systems."

Nathan Klingbeil, Ph.D., ME, has received \$95,238 in funding from the Dayton Area Graduate Studies Institute (DAGSI) for his proposal entitled "Prediction and Control of Microstructure in Laser-Based Solid Freeform Fabrication of Aerospace Materials."

Junghsen Lieh, Ph.D., ME, has received funding in the amount of \$50,000 from the University of Cincinnati for his proposal entitled "World Class Manufacturing (WCM) Web-Based Engineering Education."

Sundaram Narayanan, Ph.D., BIE, has received funding from Kelley's Logistics Support Systems, Inc. (KLSS) in the amount of \$17,400 for his proposal entitled "Real-Time Interactive Scheduling in Air Force Logistics."

James Menart, Ph.D., ME, has received funding in the amount of \$61,901 from the Dayton Area Graduate Studies Institute (DAGSI) for his proposal entitled "Generation and Characterization of Stable, Weakly Ionized Air Plasmas in Hypersonic Flows."

Francis Quek, Ph.D., CSE, has received \$40,000 in funding from the National Science Foundation, Research Experiences for Undergraduates for his proposal entitled "REU Supplement: Cross-Modal Analysis of Signal and Sense."

Ling Rothrock, Ph.D., Craig Harvey, Ph.D., Richard Koubek, Ph.D., Sundaram Narayanan, Ph.D., and Chandler Phillips, Ph.D., BIE, have received funding in the amount of \$171,737 from the Dayton Area Graduate Studies Institute (DAGSI) for their proposal entitled "Adaptive Aiding Using Physiological Operator Functional State Assessment."

Arnab Shaw, Ph.D., EE, has received \$45,849 in funding from the Dayton Area Graduate Studies Institute (DAGSI) for his proposal entitled "Performance Assessment for Foliage Penetrating Radar Target Detection."

Tim Leger (BSME '98, MSME '00), Dr. David Johnston, and J. Mitch Wolff, Ph.D., ME, presented a paper entitled "High Spatial Resolution MEMS Surface Pressure Sensor Array for Transonic Compressor IGV Measurement" at the 19th International Congress on Instrumentation in Aerospace Simulation Facilities in Cleveland, Ohio on August 27-30, 2001. In addition, Dr. Wolff co-authored a paper with Dr. Glenn Beheim from NASA Glenn and A. Ned, F. Masheeb, and A. Kurtz from Kulite Semiconductor, Inc. entitled "Dynamic Measurements Using Silicon Carbide Transducers" at the same congress. Dr. Wolff also received funding from the Ohio Aerospace Institute in the amount of \$1,288 for a proposal entitled "Ohio Space Grant Consortium Campus Allocation" and \$20,000 for a proposal entitled "Ohio Space Grant Consortium Scholars Program."

Kefu Xue, Ph.D., EE, has received funding in the amount of \$49,946 for his proposal entitled "Synthetic Aperture Radar (SAR) ATR Parametric Study" and \$14,612 in funding for the proposal entitled "Image Segmentation Evaluation Study," both of which are funded by the Department of Defense, the Air Force, and the Air Force Research Laboratory.

2002 Alan T. Waterman Award

The Alan T. Waterman Award is the highest honor awarded by the National Science Foundation. Since 1975 when Congress established the Award to honor the Foundation's first Director, the Award, conferred annually, has been bestowed upon individuals who have demonstrated exceptional individual achievement in scientific or engineering research of sufficient quality to place them at the forefront of their peers.

The purpose of the award is to recognize outstanding young researchers in any field of science or engineering supported by the Foundation. The awardee receives a \$500,000 nonrestrictive grant over a 3-year period for continued research.

Candidates must be U.S. citizens or permanent residents and must be 35 years old or younger, or not more than seven years beyond receipt of the Ph.D. by December 31, 2001. Criteria include originality, innovation and significant impact on the field.

Nomination application packets for 2002 are now available and can be obtained from the National Science Foundation by contacting:

NSF Publications Clearinghouse
P.O. Box 218
Jessup, MD 20794-0218
(301) 947-2722
Email: pubs@nsf.gov

or visit the website at:

<http://www.nsf.gov/nsb/awards/waterman>

Applications packets must be postmarked by December 31, 2001.

College Design Engineering Award Competition

sponsored by
ANSYS, Inc. and *Design News* magazine

This annual event gives students or student teams the opportunity to win a \$10,000 cash prize for both their school and themselves. The contest is open to undergraduate engineering students in the U.S. and Canada only. Engineering professors and advisors may also submit entries on behalf of individual students or design teams. The deadline for entries is November 19, 2001.

For more information and to obtain an official entry form and submission details, please visit:

<http://www1.ansys.com/cdeacard>

BITs & PCs

College of Engineering and Computer Science
Wright State University



Dean

James E. Brandeberry, Ph.D., P.E.

Editor

Jenny Garringer

BITs & PCs is a monthly newsletter published by the College of Engineering and Computer Science to inform students about activities, news, opportunities and changes occurring in the College. It reports on the achievements of faculty and students; changes in organization, policy and curriculum; scholarship and employment opportunities; and engineering and computer science student club activities.

The current issue of *BITs & PCs* is available on the Web at <http://www.cs.wright.edu/bitsandpcs/>. Copies are also available in the College office, any Department office, literature racks in the Russ Center Atrium, Russ Center Study Lounge, or the Student Club Room.

The next issue of *BITs & PCs* will be published the week of November 5, 2001. To submit items for this issue, call the College of Engineering and Computer Science at (937) 775-5001, or send email to ygarringer@cs.wright.edu by October 22, 2001. The College of Engineering and Computer Science reserves the right to edit all material for publication.

SCHOLARSHIPS AND FELLOWSHIPS

The American Public Power Association (APPA) awards scholarships each year as part of its DEED (Demonstration of Energy-Efficient Developments) Program. DEED is APPA's program of research and development to encourage activities that promote energy innovation, improve efficiencies and lower the cost of providing energy services to public power customers. APPA is currently accepting applications for the following scholarships:

- *TEN \$4,000 SCHOLARSHIPS*
Awarded each year to students to conduct research on a project approved by a sponsoring DEED member utility.
- *ONE \$5,000 SCHOLARSHIP*
Technical Design Project awarded each year to promote the involvement of students studying in energy related disciplines and geared towards engineering students.

For more information and an application form visit the DEED section of the APPA website at: <http://www.appanet.org/general/research/scholar.htm>.

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) is accepting applications for undergraduate and graduate scholarships, undergraduate senior project grants, and grant-in-aid for graduate students.

- *UG/GRAD SCHOLARSHIPS* - Awards range from \$3,000 to \$10,000. Deadline: December 1, 2001.
- *UG SENIOR PROJECT GRANTS* - Awards of up to \$5,000. Deadline: December 1, 2001.
- *GRANT-IN-AID* - Awards up to

\$7,500. Deadline: December 15, 2001.

More information and applications are available in the Dean's Office, 405 Russ.

The Ford Foundation is accepting applications for approximately 60 predoctoral, 40 dissertation, and 30 postdoctoral fellowships for minorities. The specifics for each are:

- *PREDOCTORAL* - \$16,000 to the fellow; institutional allowance of \$7,500 for three years; Deadline: November 19, 2001
- *DISSERTATION* - \$24,000 for one year; Deadline: December 3, 2001
- *POSTDOCTORAL* - \$35,000 for one year; \$3,000 travel and relocation allowance; \$2,000 cost-of-research allowance; \$2,500 employing institution allowance; Deadline: January 7, 2002.

For further information contact the fellowship office of the National Research Council at (202)334-2872 or via email at infocell@nas.edu. More information is also available at: <http://national-academies.org/fellowships>.

The Link Foundation is currently accepting applications for fellowships and grants in the energy field. The organization offers 2-year fellowships of \$25,000 per year for students working toward a Ph.D. degree. They also offer research and program development grants of up to \$50,000 to institutions that have received Link Fellowships in the past. For more information and an application visit www.linkenergy.org. The application deadline is December 1, 2001.

The National Science Foundation (NSF) is accepting applications for the 2002-2003 Graduate Research Fellowship Program for graduate fellowships in science, mathematics, and engineering. Each three-year fellowship provides a stipend of \$20,500 for 12-month tenure and a cost-of-education allowance of \$10,500 per tenure year. Interested students should visit <http://www.orau.org/nsf/nsffel.htm> for all materials and information. The application deadline is November 7, 2001.

The National Research Council is accepting applications for its 2002 Postdoctoral and Senior Research Associateship Programs. The programs provide opportunities for Ph.D., Sc.D. or M.D. scientists and engineers of unusual promise and ability to perform research on problems largely of their own choosing, yet compatible with the research interests of the sponsoring laboratory. These awards range from one to three years in length with annual stipends ranging from \$34,000 to \$61,000. Interested students can obtain information on specific research opportunities and participating federal laboratories, as well as application materials from their website at: <http://www.national-academies.org/rap>. Deadline for applications are January 15, April 15 and August 15, 2002. For questions and assistance contact:

National Research Council
Associateship Programs (TJ2114/D7)
2101 Constitution Avenue, NW
Washington, DC 20418
(202)334-2760
Email: rap@nas.edu

CLUB FAIR

2001

presented by the
College of Engineering and Computer Science

Wednesday, October 24, 2001
11:00 am - 1:00 pm
Russ Engineering Center Lobby

- * Meet with student representatives from our 16 college clubs
- * Find out what is happening in the college
- * Check out the club displays
- * Enjoy refreshments
- * Join a club and become eligible for door prizes!

COME AND SEE HOW YOU CAN GET INVOLVED!

Alpha Sigma Mu (Materials Honor Society)
*American Institute for Aeronautics
and Astronautics (AIAA)*
*American Society of Mechanical
Engineers (ASME)*
*ASM International–The Materials
Information Society (ASM/TMS)*
Association for Computing Machinery (ACM)
Biomedical Engineering Society (BMES)
Human Factors & Ergonomics Society (HFES)
*Institute of Electrical and Electronics
Engineers (IEEE)*

*Institute of Electrical and Electronics
Engineers Computer Society (IEEECS)*
Institute of Industrial Engineers (IIE)
National Society of Black Engineers (NSBE)
Ohio Society of Professional Engineers (OSPE)
Society of Automotive Engineers (SAE)
Society of Women Engineers (SWE)
Tau Beta Pi (Engineering Honor Society)
Wright Engineering Council (WEC)

Employment Opportunity with Walt Disney World

Walt Disney World hires students to work in general and advanced internships, utilizing *all majors*, in Orlando, Florida. Housing maintained by Disney is available for students to rent with transportation provided to and from work sites.

To interview and hire for
January through July co-op/internship work
Walt Disney World

will visit campus on

Thursday, October 18, 2001

Presentation begins at 5:00 PM in E163 Student Union

THIS PRESENTATION IS MANDATORY FOR STUDENTS WHO WANT TO INTERVIEW WITH THE COLLEGE PROGRAM FOR ANY WORK PERIOD JANUARY THROUGH JULY.

For more information, students can visit:

<http://www.wdwcollegeprogram.com>

or visit

Career Services, E334 Student Union

Office of the Dean

3640 Colonel Glenn Hwy.
Dayton, OH 45435-0001

College of Engineering and Computer Science

WRIGHT STATE
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