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BITs & PCs

COLLEGE OF ENGINEERING AND COMPUTER SCIENCE

June 1996

Wright State University Dayton, Ohio 45435

Vol. 12 No. 6

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 World Wide Web at <http://www.cs.wright.edu/info/bits&pcs.html>. There are also links to past online issues and the College home page at <http://www.cs.wright.edu/>. Copies are also available in the College office, any department office, or the student club room. The next issue will be published the week of September 2, 1996. To submit items for this issue, call the College of Engineering and Computer Science, 405 Russ Engineering Center at 513-873-5001, or E-Mail kthis@delta.cs.wright.edu by August 21, 1996.

Grandhi named Distinguished Professor

Professor Ramana Grandhi has been named by the Wright State University Board of Trustees as Distinguished Professor of Mechanical Engineering Research. Dr. Richard Bethke, Chair, Mechanical and Materials Engineering, nominated Dr. Grandhi for this distinction.



generated expenditures in excess of \$2 million, additional research support of over \$250,000 from non-university sources in each of the last four years.

Dr. Grandhi has been a consummate high achiever since joining the Department of

Dr. Grandhi was eligible for Distinguished Professor status by virtue of his recent tenure as the Brage Golding Distinguished Research Professor (1992-95), a research program which has

Mechanical and Materials Engineering in 1984. He is an outstanding faculty member and a recognized leader who has received many awards attesting to

Continued on Page 2

Outstanding Faculty Awards

Spring is here (even though Mother Nature isn't cooperating!), and with it comes graduation and recognition for outstanding efforts on the part of faculty and students alike.

Throughout Winter Quarter, students, faculty, and alumni had the opportunity to nominate the full-time faculty member who they felt was the most effective. After reviewing the nominations, the Teaching Awards Committee

selected Dr. A.A.S. Awwal of the Department of Computer Science and Engineering as the recipient of the 1995/96 Excellence in Teaching Award.

At the same time, the four Engineering and Computer Science departments were submitting nominations to the College Faculty Development Committee to identify faculty who excel in the areas of academics,

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Grandhi Named Distinguished Professor—Continued

his excellence including, among others, the DOW Outstanding Faculty Award (1989), the Excellence in Research Award (1989-90), UP & COMERS Award in Education (1990), and Outstanding Engineers and Scientists Award (1994).

Dr. Grandhi's research funds help to support the graduate programs. Currently, he supervises five Research Associates and six Graduate Research Assistants from external funding contracts. His research work is sponsored by the

government agencies NSF, ARPA, U.S. Air Force, and NASA, as well as private industries Caterpillar, Inc. and Pratt & Whitney.



Dr. Grandhi is held in high esteem by his students as evidenced by the large number who select him as a thesis advisor. Several of Dr. Grandhi's students have won the Outstanding Graduate Student award from the School of Graduate Studies. Another measure of Dr. Grandhi's popularity with his students is the positive comments on student evaluations which range from "a very fine and challenging instructor" to "super job and outstanding course."

Dr. Grandhi also works with the Office of Continuing Education to organize week-long short courses at Wright State University. He is also instrumental in organizing international and national conferences in the area of Multidisciplinary Structural Optimization.



Obviously, the designation of Distinguished Professor of Mechanical Engineering Research has gone to a supremely qualified, dedicated, and deserving individual.

Congratulations Dr. Grandhi!

Attention!

Schedule Change in Electrical Engineering

**Electronic Circuits Design Sequence Courses
will now be offered:**

EE 454

EE 455

Fall Quarter 1996

Winter Quarter 1997

Spring Quarter 1997

Summer Quarter 1997

**Order of the
Engineer
Ring Ceremony**

June 7, 1996

Ervin J. Nutter Center

Berry Room

7:00 p.m.

DESIGN CLINIC

The College of Engineering and Computer Science developed a Design Clinic Program to give our undergraduates real-world consulting experience with industry.

Design Clinic participants receive design course and/or technical elective credit in their program of study. Participation also enhances employment opportunities upon graduation by providing relevant industry experience, faculty and industry references, technical team experience, and knowledge of positions which might be available

in the company sponsoring student projects.

To participate in the program, students must work as part of a team for three consecutive quarters, starting in Fall 1996 on an industry-sponsored project. Students will enroll for four credit hours each quarter (Fall '96, Winter '97, Spring '97) for a total of 12 credit hours.

Teams will have two advisors—one from the faculty and one from the sponsoring company.

Participants must meet the following minimum requirements:

- 140 credit hours completed in program of study prior to the start of Fall quarter or plans to graduate prior to June 1998
- Cannot be graduating before June 1997
- GPA of at least 2.5

The College anticipates having about 12 design projects beginning in the fall, which will require about 48 participating students.

Students wishing to participate may obtain an application form in the College Office, 405 Russ. For more information, contact your department chair, or Dean Brandeberry.

Wright State University College of Engineering and Computer Science

**Recognition and
Awards Ceremony
Friday, June 7, 1996
5:00 p.m.
Berry Room
Ervin J. Nutter Center**

**Come, applaud for those
who are having their
hard work recognized and
awarded and celebrate with
everyone in our College family.**



Fritz and Dolores Russ
Engineering Center

Bits & PCs
College of Engineering and
Computer Science
Wright State University

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

Editor and Staff Writer
Karyl S. This

Submit questions, articles and ideas to Editor, 405 Russ Engineering Center. The College of Engineering and Computer Science reserves the right to edit all material for publication.

ECS Departments Honor Their Students

Biomedical and Human Factors Engineering

Outstanding Biomedical Engineering Senior	— Annette Seger
Outstanding Human Factors Engineering Senior	— Gretchen McGee
Biomedical Engineering Scholarship Recipients	— Josh Noble — Amy Judy
Human Factors Engineering Scholarship Recipient	— Kenneth Maynard

Computer Science and Engineering

Outstanding Computer Science Senior	— Aaron Andrew
Outstanding Computer Engineering Senior	— Nicole Ott
Computer Engineering Scholarship Recipient	— Euvondia Barto
Computer Science Scholarship Recipients	— Darwin Adams — Stacey Brown
Pre-Computer Science Scholarship Recipients	— Susan Fisher — Richard Bergen

Electrical Engineering

Outstanding Electrical Engineering Senior	— Germaine Potter
Outstanding Engineering Physics Senior	— Greg Nichols

Continuing Scholarship Recipients

Cornelius Brinegar	Garrick Kolb
Marc Davis-Marsh	Nicole Kolb
Anh-Tuan Do	Jeremiah Mattingly
Kimberly Doepker	Kouhyar Mostashfi
Daniel Dresher	Deric Newland
Michael Ellinwood	Samuel Omolewu
Jennifer Foley	Geeta Pujara
Ethan Frazier	Rachael Salacinski
Mohammad Hussain	Michael Updyke
Gregg Jessen	Dennis Walker, Jr.
Anna Kazimierczuk	Brian Werst

Mechanical and Materials Engineering

Outstanding Materials Science & Egr. Senior	— Michael Jackson
Outstanding Mechanical Engineering Senior	— Andrew Fenlon
Materials Science & Egr. Scholarship Recipient	— Cheryl Wilson
Mechanical Engineering Scholarship Recipients	— Michael Shepherd — Melissa Young

Congratulations to all of you!

FACULTY FACTS

Lang Hong, Ph.D. (EE), received funding in the amount of \$126,000 from USAF: Wright Laboratory for his proposal entitled "Multiplatform Cooperative Fire Control." >

Fred Garber, Ph.D. (EE), received funding in the amount of \$58,000 from USAF: Wright Laboratory for his proposal entitled "Automatic Target Recognition Systems." >

Ramana Grandhi, Ph.D. (ME), received funding in the amount of \$20,000 from National Aeronautics and Space Administration for his proposal entitled "Reliability Based Structural Optimization." >

Ramana Grandhi, Ph.D. (ME), received funding in the amount of \$59,017 from USAF: Wright Laboratory for his proposal entitled "Object-Oriented Multidisciplinary Design." >

Research conducted by **Shane Hong, Ph.D. (ME)**, has resulted in a licensing agreement between Air Products and Chemicals, Inc., Wright State University, and EMTEC (a co-sponsor of the

research) for an economical, environmentally safe, and cost effective cryogenic machining technology. This technology uses super cold liquid nitrogen to cool and lubricate cutting tools.

Air Products and Chemicals, Inc. will provide \$25,000 per year to Dr. Hong for beta site testing in industry and Wright State University will receive royalties from product sales. >

Marian Kazimierzczuk, Ph.D. (EE), received funding in the amount of \$6,300 from UES, Inc. for his proposal entitled "STC Power Semiconductor Devices." >

Georgio McBeath, Ph.D. (ECS), received funding in the amount of \$1,500 from Ohio Aerospace Institute for his proposal entitled "Ohio Aerospace Institute Fellowship." >

Sundaram Narayanan, Ph.D. (BHE), received funding in the amount of \$60,000 from Systems Research Labs for his proposal entitled "Logistics Systems Analysis." >

David Reynolds, Ph.D. (BHE), J.A. Smith, P.K. Bajpai, and A. Sedaghat presented a paper entitled "Feasibility of Determining Diffusion Characteristics of Bioceramics Using Gamma Scintigraphy" at the 15th Southern Biomedical Engineering Conference, Dayton, Ohio, March 29-31, 1996. >

Raymond Siferd, Ph.D. (EE), received funding in the amount of \$40,000 from USAF: Wright Laboratory for his proposal entitled "CMOS Sub-Micron Cell Generators." >

Raymond Siferd, Ph.D. (EE), received funding in the amount of \$100,000 from Case Western Reserve University for his proposal entitled "Ohio MEMS Net." >

Scott Thomas, Ph.D. (ME), received funding in the amount of \$27,439 from UES, Inc. for his proposal entitled "Acceleration Effects on Heat Pipe Performance." >

Isaac Weiss, Ph.D. (ME), received funding in the amount of \$16,250 from Edison Materials Technology Center for his proposal entitled "Low-Cost Titanium Aluminide Alloy Valves/Phase II." >

Isaac Weiss, Ph.D. (ME), received funding in the amount of \$2,000 from Applied Sciences for his proposal entitled "Thermal Oxidation Studies of Graphite Fibers." >

Mitch Wolff, Ph.D. (ME), received funding in the amount of \$16,249 from Production Control Units, Inc. for his proposal entitled "Design and Analysis of a Refrigerant Dispensing System." >

Outstanding Faculty Awards Continued

research, and service. Here are the 1995/96 award recipients:

Outstanding Faculty Member Award

Dr. Lang Hong
Electrical Engineering
(awarded for excellence in teaching, research, and service)

Excellence in Research Award

Dr. Shane Hong
Mechanical and Materials Engineering

Excellence in Professional Service Award

Dr. Kuldip Rattan
Electrical Engineering

Congratulations Faculty Winners!

IEEE—The Year In Review

The WSU student chapter of the Institute of Electrical and Electronic Engineers (IEEE) enjoyed a successful and active academic year. Events have included competitions, speaker seminars, industry tours, and social events.

In Fall Quarter, IEEE hosted two seminar speakers. Mr. Tom Holms from ITT Automotive Electronics spoke on "Electromagnetic Compatibility in Automotive Electronics," and Dr. Duxiong Liu from Valor Communications addressed "Portable Antennas for Wireless Communications."

IEEE has been successful in several competitions this year. Brad Bernard, Bob Cunningham, Garrett Butulis, and Chris Schuyler took First Place at the Fall Quarter Engineering Club Fair with their booth on Automatic Controls.

Robert Cunningham (Senior, EE) took Third Place at the IEEE Region 2 1996 Student Paper Contest with his paper and presentation entitled "Power by Wire (PBW) Control for Very Light Aircraft." Robert was competing against students from other Region 2 universities such as Pennsylvania State University, Lehigh University, and Swarthmore College. (Anyone interested in competing in the 1997 competition should contact Dr. Krishna Naishadham in Room 327 Russ Engineering Center.)

This year's social events have included two movie nights presenting current movies and an end-of-the-year picnic.

Capping off the year's activities were two industry tours conducted during Spring Quarter. A tour to

Wright-Patterson Air Force Base included the Autonomous Unmanned Vehicles Lab (i.e., unmanned fighter planes) and the Global Positioning Lab. The final tour included a local Printed Circuit Board manufacturer.

For more information about IEEE, you may contact:

Chris Schuyler, President
E-Mail: s004cms@discover
Phone: 438-0403

Brad Bernard, Vice President
E-Mail: bbernard@desire.wright.edu
Phone: 429-3935

Dr. K. Naishadham, Faculty Advisor
E-Mail: knaish@valhalla.cs.wright.edu
Phone: 873-5057

Faculty, staff and students are encouraged to volunteer to sit at Ty D. Upp's desk and offer comments and suggestions for the occupants of the Russ Engineering Center. Contact kthis@delta.cs.wright.edu or stop by the Office of the Dean, 405 Russ Engineering Center if you'd like to speak for Ty D. Upp.

CONSERVE ENERGY

Turn off the juice when not in use!

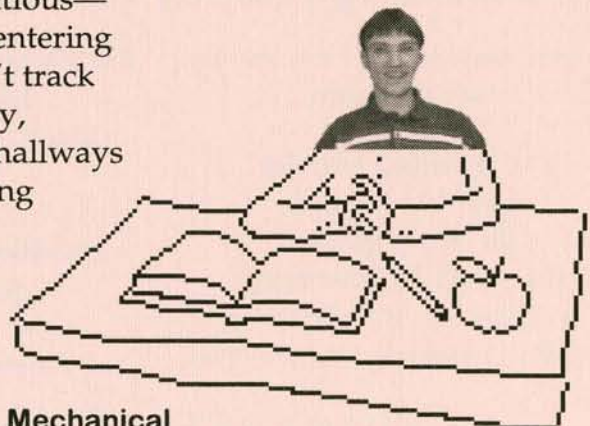
Ty D. Upp says

Mother Nature has been extremely cruel this spring and we've had lots and lots and lots and lots of rain. That means we have lots and lots and lots and lots of mud around.

Please be conscientious—wipe your feet upon entering the building and don't track mud all over the lobby, elevators, stairs, and hallways of the Russ Engineering Center.

This month, the voice of Ty D. Upp belongs to Jamey Teaford, Sophomore, Mechanical Engineering.

The Russ Engineering Center isn't a barn—please wipe your feet before entering the building!



Thanks Jamey!

EMPLOYMENT OPPORTUNITIES

The SOCHE Student Support Program has positions available at Wright Patterson Air Force Base and AFIT. Positions are available in the areas of Metallic Composites, Morphology of Novel Material Systems Developed In-House, Consolidation of Micromechanical In-Plane Cracking Computer Code, Electrical and Magnetic Properties of High Temperature Superconductors, and Turbulence Sensing and Correction for Optical Systems. All positions offer flexible work schedules, challenging research, and professional settings.

Potential candidates should be U.S. citizens, sophomore through graduate students, and seeking degrees in chemical, materials, or mechanical engineering.

Interested individuals should contact the SOCHE Student Support Program at 259-1375.

Check the Web for employment opportunities!

WSU Career Services is maintaining an employment opportunity Web site.

Go to the university's home page at <http://www.wright.edu/> and select the employment button to access student, co-op, or career employment data.

WSU Career Services has information about career opportunities with **Rockwell International** in Cedar Rapids, Iowa. Rockwell has approximately 100 openings for software, hardware, and systems engineers. They offer competitive salaries and excellent benefits.

Come to The Office of Career Services, 126 Allyn Hall, to view a brief video giving information regarding careers with Rockwell International.

Anyone interested in this or other career opportunities should contact Reva Cosby, Assistant Director, Career Services, at 873-2556.

To facilitate graduates entering the aerospace industry, a resume posting service has been added to the Aerospace Consulting and Subcontractor Registry (ACSR), an aerospace industry service site on the Internet. Registration will provide your resume visibility to a wide range of large and small firms in the aerospace industry.

Online registration is free. Fax registration incurs a \$10 setup fee. Fax your request for a Student Registration Form to 714/720-7403. For more information and online registration visit the Web site at <http://www.eme-registry.com> and use this site as a gateway to aerospace sites on the internet.

Argonne Symposium

The Seventh Annual Argonne Symposium for Undergraduates in Science, Engineering and Mathematics will be held at Argonne National Laboratory on Friday, November 1, and Saturday, November 2, 1996 in Argonne, Illinois.

Research papers, presented exclusively by undergraduates will be accepted in engineering, computer science, mathematics, physics, chemistry, biology, and geology. Interested students must submit an abstract and \$15 abstract fee to the Symposium Office by October 2, 1996.

Last year, there were 157 undergraduate presentations given before faculty and other students. The Symposium is jointly organized by Argonne National Laboratory and the Argonne Chapter of Sigma Xi.

Undergraduate science and engineering students who are engaged in research are strongly encouraged to present the results of their work at the Argonne Symposium. Undergraduates who are not presently involved in research are also encouraged to attend and learn about the various research opportunities available.

Registration forms and additional information are available in the College Office, 405 Russ Engineering Center.

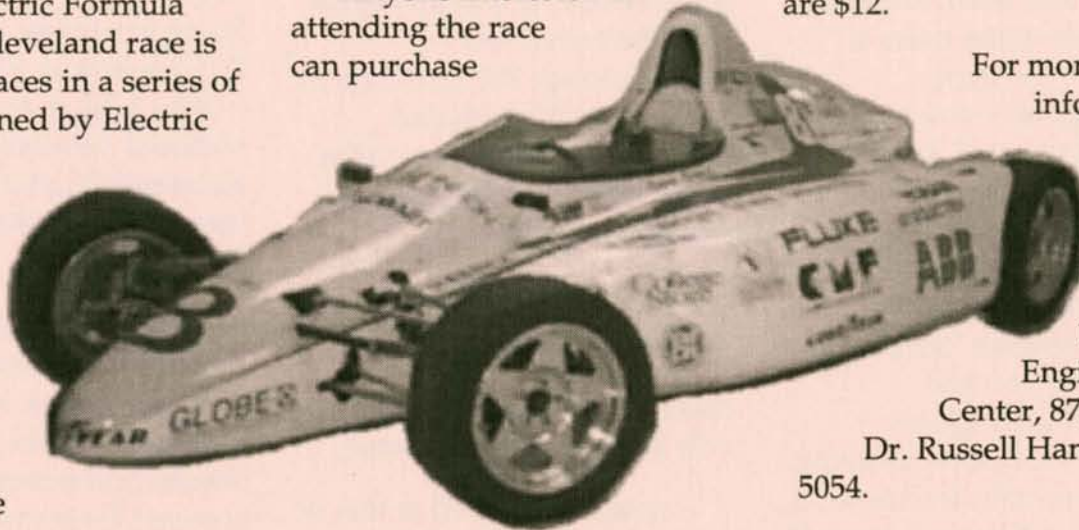
News from The Society of Automotive Engineers (SAE)

On Saturday, June 29, the Wright State University Formula Lightning race team will be competing at the Cleveland Electric Formula Classic. The Cleveland race is one of many races in a series of events sanctioned by Electric Vehicle Technology Competitions (EVTC) and associated with The Society of Automotive Engineers (SAE). In these

events, Wright State students compete with other universities from across the nation.

Anyone interested in attending the race can purchase

tickets by phone at 800-766-6048. Tickets for Saturday's race in Grandstand Region M are \$27; standing room only tickets are \$12.



For more information, contact the Student Club Room, 163 Russ Engineering Center, 873-5031 or Dr. Russell Hannen, 873-5054.

OBR Funds Information Technology Collaboration

The Ohio Board of Regents has funded a \$1.61 million proposal to establish an information technology infrastructure centered at Wright State University. This collaborative venture between Wright State University, University of Cincinnati, and Air Force Institute of Technology is primarily aimed at researching five closely related aspects of modern information technology: human-computer dialog, human-computer interaction sensor fusion studied in one instrumented workbench, multimodal database technology including multi-resolution and indexing, virtual environments across high bandwidth network communications, and computer-aided software

engineering for the development of multimodal software systems.

While the major portion of the research equipment will be used by the WSU Computer Science and Engineering Department, other WSU departments and other universities are also involved. The WSU Department of Psychology modified the project to incorporate the functionality of a computer-generated virtual reality environment, with a three-dimensional projection system and a head-mounted display to be used in investigating human visual, auditory, tactile, and motor constraints created by being embedded in a synthetic environment.

Computer Science and Engineering faculty were

instrumental in obtaining funds for this project. Dr. Oscar N. Garcia was principle investigator; Dr. Ardeshir Gostasby was principal co-investigator and Drs. Jer-Sen Chen, Jack Jean, Philip Chen, and Soon Chung also assisted. Other WSU co-investigators were Drs. John Flach and Robert Gilkey from the Department of Psychology and Dr. Bonnie Mathies from the Department of Educational Leadership. Also providing significant input to this project were faculty from University of Cincinnati—Drs. Harold Carter, Karen Davis, Ranga Vemuri, and Dinesh Bhatia—and at AFIT—Drs. Richard Raines, Eugene Santos Jr., and Martin Stytz.

Everyone's efforts on this project are greatly appreciated.

WSU Wright Engineering Council and

Greene County United Way

Scramble Golf Outing

August 12, 1996

12:00 Noon



Bring your own scramble foursome, or be assigned to a foursome at random.

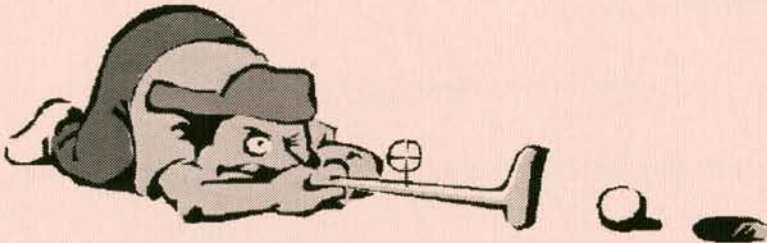
\$125 fee per person includes:

lunch

green fees

golf cart

BBQ feast at 5:00 p.m.



Door Prizes will be awarded, as well as special prizes for:

longest drive

closest to pin

longest putt

Also, win a Chevrolet Cavalier from Voss Chevrolet-GEO for a Hole-in-One on a predesignated hole. (Not open to professional golfers.)



Greene County Country Club
920 Dayton-Yellow Springs Road
Fairborn, Ohio

For more information, contact:

Jamey Teaford
Student Club Room, 873-5031

Detach and mail this portion, with your check, to:

Greene County United Way, 130 W. Second Street, Xenia, OH 45385-3526 by July 1996.

Please reserve _____ Tee Times at \$125 each
(\$75 is Tax Deductible)

Please reserve _____ BBQ Feasts at \$35 each
(non-golfers only)

Player 1	
Player 2	
Player 3	
Player 4	
Organization:	
Contact:	
	Phone #:

ATTENTION HIGH SCHOOL STUDENTS

Visit the Russ Engineering Center A Best Kept Secret in Ohio Education!

The \$20 million **Fritz and Dolores Russ Engineering Center** located on the campus of Wright State University opened in 1992 and features state-of-the-art laboratory and teaching facilities for the College of Engineering and Computer Science.

◆ *Academic Advantage Program* is a unique opportunity.

This program is designed for high school students who will graduate this spring and enter computer science or engineering programs at Wright State in Fall Quarter 1996. The purpose of Academic Advantage is to help entering engineering and computer science students succeed by giving them a head start with

- ✎ Math and science skills
- ✎ Study and success strategies
- ✎ Basic computer literacy

before they start their academic programs. The program runs from August 18 -23, 1996.

Call Dick Rathbun, Assistant Dean, 513/873-5001 for more information or a personal tour of the Russ Engineering Center.



Wright State University

College of Engineering and Computer Science
3640 Colonel Glenn Hwy.
Dayton, Ohio 45435-0001

Office of the Dean