



BITS & PCs

COLLEGE OF ENGINEERING AND COMPUTER SCIENCE

April 2003

Wright State University Dayton, Ohio 45435

Vol. 19 No. 6

Important Dates

- May 26
UNIVERSITY CLOSED -
Memorial Day
- May 27
Last day to apply for August
graduation
- May 30
- Last day to register for
the Order of the
Engineer Ceremony
 - Last day to RSVP for
CECS Awards Ceremony
- June 7
Last day of spring quarter
classes
- June 9-13
Final Exam Week
- June 13
- 4:30 p.m. - CECS Awards
Ceremony
 - 7:00 p.m. - Order of the
Engineer Ring Ceremony
- June 14
Spring Quarter Commence-
ment
- June 16
First day of "A" and "C" term
summer quarter classes
- July 4
UNIVERSITY CLOSED -
Independence Day
- July 17
Last day of "A" term classes
- July 21
First day of "B" term
summer quarter classes
- August 21
- Last day of "B" and "C"
term classes
 - Last day to apply for
December graduation

Professors Receive Professional Development Leave

In the next year, three faculty members in the College of Engineering and Computer Science will be taking professional leave to further research various aspects of engineering.

Dr. Thomas Hangartner, a professor in the Department of Biomedical, Industrial, and Human Factors Engineering, will be studying at the imaging science and biomedical engineering unit at the University of Manchester in Manchester, Great Britain.

While in Great Britain, Hangartner plans on working closely with professionals from the imaging science and biomedical engineering unit who specialize in the quantitative assessment of bone with radiologic method, and also the original developer of an innovative image analysis technique called Active Shape Models. Hangartner's goal is to learn about the Active Shape Models. Once returning to WSU, Hangartner plans to instruct Master's and Ph.D. students in a new area that is not currently offered at WSU. New class topics in the medical image processing courses and potential introduction of a new course in Active Shape Models is also beneficial to Hangartner's sabbatical.

Dr. Arnab Shaw, a professor in the Department of Electrical Engineering, is planning on using his professional leave to establish an Institute or Center for Research and Training on Sensor Systems Engineering for the purpose of automatic target recognition and target tracking at WSU. Shaw also plans on spending time conducting collaborative research on Close-In Sensing, Combat ID and in other general areas of automatic target recognition at leading research labs and universities.

During his sabbatical, Shaw is working closely with people from Wright Labs, Ohio State University, Nanyang Technical University, and the University of Cincinnati.

As a result of his leave, Shaw plans on establishing a meaningful collaboration to obtain clear-cut commitments towards establishing the Institute/Center, along with also training himself in the new research areas of Close-In Sensing and Combat ID.

Continued on page 4

Visit us on the Web at <http://www.engineering.wright.edu>

SCHOLARSHIPS AND FELLOWSHIPS

The **American Public Power Association (APPA)** awards scholarships each year of its DEED (Demonstration of Energy-Efficient Developments) Program. APPA will award one \$5,000 Technical Design Project each year intended to promote the involvement of students studying energy related disciplines and geared towards engineering students. Deadline is October 15, 2003. For more information and an application visit DEED's website at www.APPAnet.org, and select DEED from the menu bar. You may also call or email Bethany Luna at (202) 467-2993 or send an e-mail to DEED@APPAnet.org.

The **Greater Dayton IT Alliance** is accepting applications for the Robert V. McKenna Scholarship (\$3,500) and the IT Alliance Internship Scholarship (\$1,500).

Robert V. McKenna Scholarship
You must be in an IT/MIS related major. All students selected to receive the scholarships shall have demonstrated high characters and values. Students selected should desire to remain in the Ohio area after completing their course of study. Students attending any college/ university, in the Southwest Ohio area shall be eligible. Student financial need shall be an important selection criteria.

IT Alliance Internship Scholarship
Student eligibility for this award is that you have worked as an intern or co-op within a Greater Dayton IT Alliance member company. You may qualify if you have worked in an IT-related internship/ co-op position anytime from June, 2001 to the present. Must have a minimum completion of year's worth of college credits.

You cannot have a graduation date before August, 2003.

Deadline for applications is May 16, 2003. For more information visit the Greater Dayton IT Alliance website at www.daytonitalliance.org or contact Trisha West at 229-0054 x10. Applications are available in 405 Russ.

The **Ohio Society of Professional Engineers and the Engineers Foundation of Ohio** are offering a \$10,000 Engineers Foundation of Ohio Steinman Fellowship to a senior undergraduate engineering student who is planning on attending a graduate ABET accredited engineering program. The purpose of the fellowship is to assist young engineers in their pursuit of a graduate degree in engineering. The deadline for submissions in May 16, 2003. For more information visit www.ohioengineer.com or e-mail the organization at ospe@iwaynet.net.

The **U.S. Air Force Bioenvironmental Engineering Scholarship Program** is offering full-tuition scholarships for seniors and graduates students within one year of graduation. The Air Force will also reimburse for textbooks and other supplies as well as supply the recipients with a monthly stipend of over \$1,100. Recipients are guaranteed employment for three years as a Bioenvironmental Engineer after graduation. U.S. citizenship is required.

For more information, contact:

MSgt Doug Fields
2940 Presidential Drive, Suite 160
Fairborn, OH 45324-6210
E-mail: douglas.fields@rs.af.mil

WSU Libraries to Offer Seminar on Patent and Trademark Information

Independent investors and small business owners interested in knowing more about trademarks and patent searching are invited to a free Patent and Trademark Information Seminar hosted by Wright State University Libraries. The workshop, conducted by the Patent and Trademark Depository Library Program (PTDLP) and the U.S. Patent and Trademark Office (USPTO), will be held:

**Wednesday, May 7
8:30 a.m. to 4:30 p.m.
E156 Student Union**

The workshop will provide general information on patents, trademarks, copyrights and trade secrets. Patent search techniques will also be covered and resources available for patent research at Wright State University.

Libraries will be explained. There will be speakers from Washington, D.C., including Amanda Putnam, manager, PTDLP, USPTO; Walter Johnson, fellowship librarian, PTDLP; and Thomas Turner, partnership librarian, PTDLP. Linda Moore will speak about WSU's Ohio Small Business Development Center, and the seminar will conclude with speaker John L. Janning, chief scientist, LJI, Inc.

For more registration information, which is due by April 23, call (937) 775-2381 or check the website at:

<http://www.libraries.wright.edu/libnet/libnews>

Contact Ran Raider, patent and trademark reference specialist for the Paul Laurence Dunbar Library, at ran.raider@wright.edu or by calling (937) 775-3521 with any other questions.

All students in the College of Engineering and Computer Science are invited to attend a talk on:

“The Genius of the Wright Brothers and the Construction of an Accurate Replica of the 1903 Flyer”

by Rubin Battino
Hosted by ASME, AIAA,
ASEE, and NSPE

**145 Russ Center
Wednesday April 23, 2003
11:30 a.m. to 12:30 p.m.**

Pizza and drinks will be provided

Abstract

To emphasize the genius that the Wright Brothers demonstrated in being the first to develop powered controlled flight. They approached controlled powered flight in a very systematic manner, starting with kites and then moving to tethered gliders, gliders, and then powered flight. They used a wind tunnel to test out hundreds of shapes of airfoils, and even their propellers. They measured drag and lift directly, and timed all of their flights. Nothing was left to chance - they were perhaps the first scientific engineers.

Rubin Battino

Rubin Battino is a professor emeritus of chemistry and a licensed counselor specializing in very brief therapy, hypnotherapy, and guided imagery. He received his B.S. in chemistry at The City College of New York and later received his M.S. degree at Wright State University in Mental Health Counseling.

Order of the Engineer Ring Ceremony



The Order of the Engineer (OOE) was established to promote professionalism among engineers and graduates of accredited engineering programs. The

College of Engineering and Computer Science holds two induction ceremonies each year, one at the end of fall quarter and one at the end of spring quarter.

The next induction ceremony will be held on Friday, June 13, 2003 at 7:00 PM in the Student Union Multipurpose Room. Engineering seniors graduating in June 2003 or August 2003, graduate students, alumni, and faculty are encouraged to register and participate.

The \$10 registration fee covers membership and the steel ring. Registration and fees must be received by the Office of Conference and Events no later than May 30th.

For a registration form or more information about OOE or the ring ceremony, visit the “What’s New” link on the College homepage at www.cs.wright.edu or contact the Dean’s Office at (937) 775-5001.

BITs & PCs College of Engineering and Computer Science Wright State University		
Dean James E. Brandeberry, Ph.D., P.E.	Editor Jenny Garringer	
<p><i>BITs & PCs</i> 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.</p> <p>The current issue of <i>BITs & PCs</i> 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.</p> <p>The next issue of <i>BITs & PCs</i> will be published the week of May 5, 2003. To submit items for this issue, call the College of Engineering and Computer Science at (937) 775-5001, or send e-mail to jgarringer@cs.wright.edu by April 21, 2003. The College of Engineering and Computer Science reserves the right to edit all material for publication.</p>		

Continued from page 1

Dr. Mitch Wolff, a professor in the Department of Mechanical and Materials Engineering, plans on using his leave to further enhance his current research program by focusing his full attention on collaborative research opportunities with the Swiss Federal Institute of Technology's Laboratoire de Thermique appliquee et de Turbomachines or Turbomachinery Laboratory. The research he plans on doing is of significant interest to the Air Force Research Laboratory at Wright-Patterson Air Force Base and the NASA Glenn Research Center.

Wolff will be working closely with individuals from both the Air Force Research Center and the NASA GRC to make more efforts in the computational modeling of unsteady aerodynamics of turbomachinery.

Once returning from his leave, Wolff plans to educate the mechanical engineering students at both the undergraduate and graduate levels on state-of-the-art issues concerning this area and also give one or more Ph.D. seminars on the subject to the doctoral candidates in the College.

Office of Career Service's

Spring Training 2003

Tuesday, May 6, 2003

Student Union Multipurpose Room

Polish you professional skills

Mock Interviews with Professional Recruiters

9:00 AM - 11:30 AM

Student Union Multipurpose Room

(Sign-up for a Mock Interview in E334 SU)

Etiquette Luncheon with DTN Productions

12:00 PM - 1:30 PM

Student Union Multipurpose Room

(Reservations require \$10 pre-payment, Sign-up in E334 SU)

Mock Interviews with Professional Recruiters

2:00 PM - 4:30 PM

Student Union Multipurpose Room

(Sign-up for a Mock Interview in E334 SU)

Deadline to register is

Friday, April 25, 2003

***but sign up today because
the sessions are filling up fast.***

For more information and to register, contact:

CAREER Services

E334 Student Union

(937) 775-2556

<http://career.wright.edu>

Collegiate Inventors Competition

The United States Patent and Trademark Office, along with the National Inventors Hall of Fame, are sponsoring this year's Collegiate Inventors Competition. The competition recognizes and rewards innovations, discoveries and research by college students and their faculty advisors.

New Undergraduate Category

The competition is offered to both undergraduate and graduate students interested. The newly added undergraduate category will allow students an even greater chance of being recognized for their work.

Bigger Cash Prizes

Cash prizes are awarded throughout the competition totaling over \$160,000. The grand prize winner – whether it's an individual student or a student team – is now eligible to receive a \$50,000 cash prize, while the winner's advisor receives \$10,000. There are also two \$25,000 Graduate prizes and two \$15,000 Undergraduate prizes.

The deadline for the competition is June 1, 2003. For full information and applications visit:
www.invent.org/collegiate

Ondeo Nalco is interested in hiring one part-time student employee to perform water treatment testing for a local customer here in Dayton. The facility is approximately ten to fifteen minutes from campus. Qualifications would include that the student be a junior or senior majoring in an engineering or chemistry related field. Ondeo Nalco will be flexible on hours. If interested contact Jim Kidwell, District Manager, at (614) 477-8022.

The **SOCHE Student Research Program** has several positions for undergraduate and graduate students available in the Materials Lab at Wright-Patterson Air Force Base. They offer flexible work schedules, career-related work experience in their state-of-the-art labs, and competitive wages while you learn (Sophomore: \$11.25/hr, Junior: \$12.65/hr, Senior: \$14.00/hr, Graduate: \$17.20/hr, Ph.D.: \$20.80/hr). Applicants must be degree seeking students in good standing with U.S. citizenship. No experience is necessary. The following positions are currently available at SOCHE:

Project No. 37 - Atomistic and Continuum Modeling of Quantum Dot Structures

Majors: Physics, Electrical Engineering, Materials Science, Computer Science
Description - Perform finite element calculations to determine the minimum energy shape of quantum dots as a function of dot volume, using commercially available finite element software. Repeat these

calculations at the atomic level by performing molecular dynamics calculation using a valence force field (VFF) potential. Develop this molecular dynamics code in MATLAB.

Project No. 45 - Surface Analytical Studies of Aircraft Coatings

Majors: Chemical Engineering, Materials Science

Description - The work involves hands-on, in-house research of metallic corrosion phenomenon and new coating materials. The new materials to be investigated included substrates sol-gel based surface treatments, hybrid sol-gel based thermal control coatings, and a variety of organic paint systems. The work includes surface chemical analyses (XPS, AES) of coating materials, analysis of the effects of various treatments on aluminum alloys, a variety of analytical studies directed to elucidate corrosion protection mechanisms, and chemical analysis (FTIR, Raman, ESR, etc.). These surface studies include chemical analysis of alloy surfaces, analysis of chemistry, and investigation of corrosion inhibitor mechanisms, all aimed at development of high performance corrosion protection systems.

Interested students can get an application via the SOCHE website at:

www.soche.org

Applications must be submitted with a résumé and transcript. For more information, call the SOCHE office at (937)258-8894.

New Computer Science Course for Fall 2003

The Department of Computer Science and Engineering would like to announce a new course for fall quarter 2003:

CS 499/699

Introduction of Data Mining

Data mining is concerned with the extraction of novel knowledge from large amounts of data. This course introduces the concepts, issues, tasks and techniques of data mining. Topics include data preparation and feature selection, high-level statistical analysis, associations, classification,

clustering, interestingness analysis, cross validation, scalability, and typical applications. 3 hours lecture, 2 hours lab.

Prerequisite: CS 400 (data structures and software design) and CS 405 (database management systems).

For more information, contact:

Dr. Guozhu Dong

430 Russ

(937) 775-5066

gdong@cs.wright.edu

Faculty Facts

Bourbakis, Nikolaos (ITRI)

IntelliStitch AI: Intelligent Computerized Embroidery Design Automation for the Textile Industry

Soft Sight, Inc.

1/15/03 - 12/31/04.....\$173,107

Bourbakis, Nikolaos (ITRI)**Garcia, Oscar (CSE)**

Priorities in Graduate Education

Ohio Board of Regents

7/1/01 - 6/30/03.....\$82,766

Garber, Fred (EE)

Sensor ATR Technology

Sverdrup Technology, Inc.

2/21/03 - 8/20/03.....\$67,190

Garcia, Oscar (CSE)

Priorities in Graduate Education (Computer Science)

Ohio Board of Regents

7/1/01 - 6/30/03.....\$115,948

Grandhi, Ramana (ME)

DAGSI Cost Share: Development of a Thermo-Mechanically Induced Geometric Variance Estimator

Dayton Area Graduate Studies Institute (DAGSI)

7/1/03 - 6/30/04.....\$30,000

Grandhi, Ramana (ME)

Computational Mathematics for Determining Uncertainty Bounds in Multi-Valued Engineering Design

Department of Defense, Air Force Office of Scientific Research (AFOSR)

2/1/03 - 9/30/03.....\$62,206

Grandhi, Ramana (ME)**Penmetsa, Ravi (ME)**

Multidisciplinary Design Optimization for High Reliability and Robustness - DAGSI Cost Share

Dayton Area Graduate Studies Institute (DAGSI)

10/1/02 - 9/30/03.....\$17,000

Grandhi, Ramana (ME)**Penmetsa, Ravi (ME)**

Multidisciplinary Design Optimization for High Reliability and Robustness

Department of Defense, Office of Naval Research

10/1/02 - 9/30/05.....\$25,000

Misra, Pradeep (EE)

Development and Maintenance of IEEE Control System Society Web Site

Institute of Electrical and Electronics Engineers, Inc.

1/1/03 - 12/31/03.....\$18,876

Slater, Joseph (ME)

Semi-Active Vibration Control of Fan Blades

Universal Technology Corporation

1/29/03 - 9/30/03.....\$9,192

College of Engineering and Computer Science Annual Recognition and Awards Ceremony

Friday, June 13, 2003

4:30 PM

Student Union Multipurpose Room

*Join us as we honor outstanding students, faculty, and friends.
Reception immediately following the ceremony.*

Don't forget to RSVP by May 30th to
(937) 775-5001 or email jgarring@cs.wright.edu.

William C. Foster Fellows Visiting Scholars Program

The William C. Foster Fellows Visiting Scholars Program, sponsored by The United States Department of State, is now accepting applications for visiting scholar positions during the 2004-2005 academic year. The State Department seeks visiting scholars from several fields including biology, engineering, history, military operations analysis, physical sciences, and political science. Successful applicants will be offered a full salary and benefits package as well as a daily stipend during their assignment. They are recruiting for positions located in the following bureaus: Arms Control, Nonproliferation, Political-Military Affairs, and Verification and Compliance.

To apply, submit a letter indicating the perspective and expertise you offer and which position you are applying for. Also, a curriculum vitae, three letters of reference, and two copies of two published articles are required. The deadline to turn in applications is May 9, 2003. For more information visit their website at:

www.state.gov/t/

or contact Annette Day at (202) 647-4153 or dayam@t.state.gov.

INTERNSHIP OPPORTUNITIES

The **Naval Research Laboratory Postdoctoral Fellowship Program** is offered for students who have received their Ph.D.'s, are citizens of the United States or permanent residents, and are interested in applying themselves in a challenging, creative and progressive scientific environment. Each participant must present evidence of having received a Ph.D., Sc.D., or other earned research doctoral degree recognized in U.S. academic circles as equivalent to a Ph.D. The applicant must submit a 5-10 page research proposal that relates to a specific research opportunity. Fellowships are awarded for one year and may be extended for a second and third year. For application material and detailed information visit the website at www.asee.org/nrl.

Phil Flynn, the Engineering Librarian, is making himself available in Russ to anyone who may need help locating information or learning to use the library resources.
Russ Engineering Center Library, 404 Russ
Thursdays, 2:00 p.m. to 4:00 p.m.

Get a Free Graduate Education at AFIT

The Air Force can send you to graduate school as your regular job and pay for it.

To begin, apply for the Officer Training School (OTS). This fast-paced school is located at Maxwell Air Force Base in Alabama. If you are selected, you will be challenged at every turn. Your studies will include classes in professional knowledge, leadership and management, defense studies, and communication skills. You will take part in organized sports and physical conditioning to develop your confidence and teamwork abilities.

To be eligible for OTS you must be a U.S. citizen, 18-34 years of age, and meet certain physical requirements. You must have excellent moral character and score competitively on the Air Force Officer Qualifying test. In addition, you must be a graduate of an accredited college or university. You may apply for OTS if you are within 365 days of graduation.

For more information, contact:

Douglas Fields
Officer Accessions
2940 Presidential Drive, Suite 160
Fairborn, OH 45324
(937) 427-3158
E-mail: douglas.fields@rs.af.mil

AFIT offers MS degrees in the following areas:

- Acquisition management
- Engineering physics*
- Aeronautical engineering*
- Information resource management
- Applied mathematics*
- Logistics management
- Applied physics*
- Materials science and engineering*
- Astronautical engineering*
- Meteorology
- Computer engineering*
- Nuclear engineering*
- Computer systems*
- Operational analysis
- Electrical engineering*
- Operations research*
- Electro-optics*
- Systems engineering*
- Engineering and environmental management
- Space operations

* AFIT offers the doctor of philosophy degree in this area

AFIT is just one of the several competitive educational programs the Air Force has to offer.

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Office of the Dean

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

