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Wright State University College of Engineering and Computer Science Bits and PCs newsletter, March 1989

Wright State University College of Engineering and Computer Science

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Bits & PCs

**Wright State
University**

Dayton, Ohio 45435

College of Engineering and Computer Science

March 1989

This newsletter . . .

is a monthly publication to inform students of the activities, news, opportunities and changes occurring in the College of Engineering and Computer Science. 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 newsletter is published by the College of Engineering and Computer Science and distributed to all engineering and computer science majors through their student mailboxes. Submit items to be included in the April issue to the College of Engineering and Computer Science office, 130 Engineering and Mathematical Sciences building by April 1. The next issue will be published on April 24.

Dates to Remember

APRIL 10	Summer Registration Begins
APRIL 15	Fundamentals of EGR Exam
APRIL 24	HOW TO START A BUSINESS (Seniors and Alumni)
MAY 1	FALL 89 ADVISING DAY
MAY 12	COLLEGE BANQUET
JUNE 9	ORDER OF THE ENGINEER RING CEREMONY

Order of the Engineer Ring Ceremony

The next induction ceremony for The Order of the Engineer will take place on Friday, June 9, 1989. All engineering students who plan to graduate in June or August 1989 are eligible to join. Look for more information in your student mailbox soon, or contact Teri Shepherd in the college office (130 EMS).

Mexican Fiesta

The second annual Alumni Mexican Fiesta and basketball game was held on Saturday, February 4th. The event was attended by 89 alumni, faculty and staff. Everyone enjoyed "putting together" their own Mexican dishes and cheering for our favorite team. Unfortunately, victory eluded us this year, but everyone agreed to return next year for our third annual fiesta.

"How to Start Your Own Business"

Two alumni from Wright State University, Stephen J. Solch (M.S., Systems Engineering, '81), President and Richard M. Wegmann (MBA, Finance and Banking, '82), Executive Vice President, Digital Concepts, Inc. will give a presentation on starting your own business to seniors and alumni of our college. Light refreshments will be served. Registration fee required. Contact Teri Shepherd in the college office, 873-2403, for further information.

Fall Quarter Registration Advising Day

Fall quarter registration begins on May 1, 1989. Each of our departments will be holding an Advising Day during that same day. Check with your department office or adviser for more information. It would be a good idea to talk with your adviser prior to Advising Day to discuss your academic plan and make sure you are registering for the correct courses.

REGISTER EARLY!

College of Engineering and Computer Science Annual Banquet

This year's annual banquet will be more exciting than ever! Howard DuFour, originator of Wright State University's Instrument Shop, will give a presentation on "Charlie Taylor and the 1903 Aircraft Engine." Outstanding students and faculty awards will also be presented. Reservations are required. Look for a personal invitation in your Allyn Hall mailbox soon! Contact Teri Shepherd in the college office (130 EMS) for more information.

Alumni Seminar Very Taxing

The January event for alumni of the college was an income tax seminar. Professor Russell H. Hereth from the College of Business and Administration, gave a presentation on preparation of the 1988 tax forms, taxable income, deductions, and changes to the federal tax laws.

Following the talk, over 60 members of our alumni, faculty, staff and students enjoyed pizza and drinks compliments of the College of Engineering and Computer Science. There were many special door prizes designed to help the recipients prepare or at least endure the tax process. The winner of the \$25 Wright State University Bookstore certificate was Vance Saunders. Vance received his B.S. degree in computer science from Wright State University in 1984 and is presently a graduate student in our computer science program.



College "Accountant" Dick Rathbun describes I.R.S. tax forms that were available to attendees of the event.



The income tax seminar was presented to seniors, alumni, faculty, and staff of our college.



Guest speaker, Professor Russell H. Hereth, College of Business and Administration, was also available for personal income tax questions after the seminar.

Excerpts of Proposed Standard For C Language

On February 17, the ACM Club sponsored a lecture given by Dan Saks on "The Evolution of the C Language". As a voting member of X3J11, the technical subcommittee of American National Standards Institute (ANSI) standardizing the C language, Dan provided some good insights into the process and politics of standardizing a language. X3J11 began standardizing the language in June of 1983. In 1988, X3J11 completed the draft of the standard. As of this writing, the proposed standard is nearing its final stages of final approval.

Here is a list of some of the major changes that Dan Saks extracted from the proposed standard:

- 1) Function prototypes added
- 2) Type qualifiers added
- 3) Standard library specified
- 4) Support for international users (i.e. non-English character sets and numeric formatting conventions)
- 5) Expanded unsigned types
- 6) Added types void (represent no type) and void* (new generic pointer type instead of char*)
- 7) Pre-processing cleaned up
- 8) Defined explicit minima for ranges on arithmetic types (ex. short consists of at least 16 bits)

Dan Saks notes the following comparisons of the proposed standard to the original Kernighan and Ritchie standard:

- 1) Change the language from a weakly-typed to a strongly-typed language.
- 2) Change the language from a high-level assembler to a bonafide high-level language.
- 3) Change the language from a UNIX-specific to a system independent language.
- 4) Change the language from "American English" to an international language (i.e. consider the foreign origins of the C language).

This article is a quick synopsis of Dan Saks' lecture. Obviously, Dan used many examples to illustrate his point, and his lecture was well received by those who attended. In case you missed the lecture, Dan is scheduled to give another lecture in April at the Greater Dayton Chapter of the ACM meeting, or arrangements can be made to bring him back to campus.

Call for Student Papers

The Engineers Club of Dayton and The Engineers Club of Dayton Foundation are pleased to announce the 1989 student paper program. This program is open to undergraduate and graduate level students at all the universities/colleges in the greater Dayton area. The authors of the best undergraduate paper and the best graduate paper will each receive a \$200 cash award and a free one-year membership in the Engineers Club of Dayton. The authors of these selected papers will be afforded the opportunity to present their papers to a group of Engineers Club members. The winning papers in each category, and some of the runner-up papers may be published in the monthly publication *The Engineer*. The winning papers authors' faculty advisors will be recognized by also receiving a free one-year membership in the Engineers Club of Dayton. Papers should be submitted for review by April 15, 1989.

RULES

1. Authors should provide a brief resume which includes student status (undergrad, grad, coop, part-time, etc.), major, faculty advisor, permanent address and phone where student can be reached, and a statement releasing their paper for publication and presentation.
2. Paper should be no more than 8 double-spaced typed pages. (Longer papers are automatically disqualified.)
3. Paper should be written for a general engineering audience. It should present the topic in an interesting and informative manner.
4. Oral presentation may include additional information not contained in the written paper.

5. Topic of the paper may be the result of the student's Ph.D. dissertation, M.S. thesis, senior design project, independent study project, etc. The paper could be a review or tutorial paper and need not involve original work.
6. Paper should be prepared in a style suitable for a technical journal such as IEEE or ASME.
7. Papers will be judged on: a) written in an interesting manner; b) written in an informative manner; c) understandable to a general engineering audience; d) style suitable for technical journal publication.
8. To be eligible as a student, you must be currently a student or have graduated after April 15, 1987.

Send Papers To:

Philippe O. Bouchard,
Vice President.
Engineers Club of Dayton
110 East Monument Avenue
Dayton, Ohio 45402

BITS & PCs

College of Engineering and Computer Science



Wright State
University

Dr. James E. Brandeberry, Dean
Teri Shepherd, Editor
Sharon Coates, Assistant Editor

Submit questions, articles and ideas to Editor, 130 EMS. The College of Engineering and Computer Science reserves the right to edit all material and publication.

National Engineers Week

Many thanks to all of the clubs and individuals who worked with the College of Engineering and Computer Science to contribute to the success of National Engineers Week.

Our OPEN HOUSE was a huge success from beginning to end, and hundreds of people from the community took the opportunity to visit our laboratories and learn about the many opportunities available in engineering and computer science at Wright State.



Electrical Systems Engineering Graduate, Shane Dawalt explaining the operation of the Computer Science Lab to one of the many tour groups during the Open House.



Competing students deep in thought.

In addition, we opened our doors to twenty area high schools and one school from Indiana for the 1989 TEAMS Competition. This competition tested the students in the following subjects: biology, chemistry, computer fundamentals, English, mathematics, and physics. The three top schools in each division were: LARGE SCHOOL DIVISION: Beaver creek, Kettering Fairmont, Northmont. MEDIUM SCHOOL DIVISION: Cathedral, Springboro, Chaminade-Julienne. SMALL SCHOOL DIVISION: Franklin Monroe, Waynesville, West Liberty-Salem.

The Mechanical and Materials Engineering Department assisted in testing bridges that were entered in a bridge building contest, and students from the following schools received awards: 1st place: Beaver creek, 2nd place: Green County Career Center, 3rd place: Springfield Catholic Central.



Bridgebusters, Greg Wilt, Dr. Bose and Dr. Lipsitt ready to make the SQUEEEEEEEZE.

First Annual Rubber-band Powered Model Airplane Flight Demonstration and Contest

The student chapter of the American Institute of Aeronautics and Astronautics (AIAA) sponsored the first annual Rubber-band Powered Model Airplane Flight Demonstration and Contest on February 21 in celebration of National Engineers Week. The contest was held inside the auxiliary gymnasium due to the fact that the weight of some of the models was



John Voorhees, flight demonstrator, Scott Thomas, contest winner, and James Brandeberry, Dean.



Flight contestants gathering for final count down to take-off.

less than one gram. Mr. John Voorhees gave a flight demonstration with a few of the ultra-light airplanes that he has designed. Mr. Voorhees is a professional engineer and owner of the Fly Max Company in Sidney, Ohio, which produces model airplane kits that are available in the Air Force Museum.

Five airplanes were entered into the contest. The winner was determined by totaling the flight duration (amount of time in flight) of three separate trials. The winner of this year's contest was Mr. Scott Thomas with Mr. Matt Buchko coming in a close second. It is hoped that this contest will become more well-known in the future with coverage from the local news channels. See you next year!

Scholarship Information

Argonne National Laboratory

A variety of opportunities in research and education for both faculty and students are available at Argonne National Laboratory. As part of a comprehensive Department of Energy initiative at five national laboratories, the Science and Engineering Research Semester (SERS) is designed to provide undergraduates, graduate students, and faculty with opportunities to study and conduct research at the frontiers of their fields of interest.

Opportunities exist for participation in basic research in the physical and life sciences, mathematics, computer science and engineering as well as in a variety of applied research programs relating to coal, conservation, environmental impact and technology, fission, fusion, and solar energy. For more information, contact:

Cheryl Maurana, Director
Office of Research and Sponsored Programs
356 Fawcett Hall
Telephone 873-2425

Rensselaer Scholar Fellowships

Academic year stipends of \$12,000 plus all tuition and fees. One year and three year fellowships available. Exceptional applicants beginning their first year of graduate study at Rensselaer in Fall 1989 are eligible. Additional summer support is also available.

For Application Information Contact: Teri Shepherd (130 EMS)

Mark Mills Award (for Graduate Students)

The American Nuclear Society, in recognition of the important contributions of the late Mark Mills to nuclear science and engineering, established the Mark Mills Award in 1958. This \$500 cash award and special certificate are given to the author who submits the best original technical paper contributing to the advancement of science and engineering related to the atomic nucleus.

The paper is expected to demonstrate originality and ingenuity on the part of the student and should be of publishable quality. Relevant contributions are encouraged. The submitted paper (with abstract) must be in a form and of a length suitable for publication in a reputable engineering or scientific journal such as *Nuclear Science and Engineering*, *Nuclear Technology*, or *Fusion Technology*.

A paper already published or submitted for publication is eligible if nominated by the faculty advisor with the appropriate forms and data.

The award will be presented during the national meeting of the American Nuclear Society in San Francisco, CA, November 28, 1989. The winner will present the paper at this meeting.

To be eligible for the 1989 award, the student must have been registered in a graduate degree program in a recognized institution of higher learning after January 1, 1988.

Application Deadline June 1, 1989

For additional details and nomination form contact: Teri Shepherd, (130 EMS).

Lloyd A. Chacey, P.E. Scholarship

The Engineers Foundation of Ohio is proud to announce that the Lloyd A. Chacey, P.E. Scholarship will be awarded again for the 1989-90 academic year.

This scholarship is a one-year grant in the amount of tuition and fees up to a maximum of \$1,500. The grant is renewable for one year provided the recipient maintains standards of academic progress and quality.

In order to qualify, applicants must be a son, daughter, brother or sister of a current member of the Ohio Society of Professional Engineers or so related to a deceased member who was in good standing at the time of his or her death. They must be enrolled full time at a college or university in Ohio in an ABET accredited engineering curriculum and must achieve junior status at the end of this current academic year.

Application Deadline: May 1, 1989.

Contact Teri Shepherd (130) EMS for more information.

Graduate Study Fellowship

The Department of Computer Science and Engineering of Wright State University has available one Patricia Roberts Harris Graduate and Professional Study Fellowship for a graduate student who can demonstrate financial need who is also from a minority or other group, including women, who historically have been underrepresented in the field of computer science or computer engineering. The maximum stipend for a twelve-month period will be \$10,000 or the demonstrated level of the fellows' financial need, whichever is less.

To qualify for this fellowship, a person must—

- have been accepted for or be enrolled in a program of study leading to a postbaccalaureate graduate degree in the Department of Computer Science and Engineering at Wright State University

- plan to pursue an academic career or some other professional career of importance in the academic area of study

- be a national of the United States, be in the United States for other than a temporary purpose and intend to become a permanent resident, or be a permanent resident of Trust Territories of the Pacific Islands

- demonstrate financial need under Wright State University's financial need analysis system

Applications are available from:

Jackie Palmer
424 Fawcett Hall
873-2491

Application Deadline: May 1, 1989

Club Notes

Association for Computer Machinery (ACM)

Welcome back from Spring Break! We hope you had a terrific break. We were very busy getting plans together for this quarter. Our first meeting will be next week. Look for a message on the various login banners or check bulletin boards for date, time and place.

Here is a list of plans for the quarter:

Disk Sale: Do you need a 5-1/4 or 3-1/2 inch disk? Stop by 488 Fawcett the first two weeks of school and purchase a few at GREAT savings over the Bookstore or local stores. We guarantee 100% satisfaction.

Price \$2.00 for 3 1/2"
.75 for 5 1/4"

Tours: EDS

Lectures: April 19 Bill Rieken "Myths of a Computer Consultant."

Mr. Rieken will give a light-hearted look at the pros and cons of running your own business.

Elections of new officers at meeting next week.

Mini-lectures by faculty members at our monthly meetings.

Exhibit of Ardent Titan Graphics Supercomputer: This computer was the most popular exhibit at the ACM National Conference in February. Titan closely couples dynamic, 3D, full-color, high-performance to the compute power of today's supercomputers in a single system. Titan can also be shared by other users across a network.

Spring Picnic with the faculty.

Last February, some of our members attended the ACM National Conference. Here are some of their comments on their experience:

"I enjoyed the opportunity to hear well-known experts talk about their specialties like Hayes-Roth (Blackboard Architectures) and Siegel (Computer Architecture)."

"The conference was most informative. It allowed me to examine products of various vendors (all out of my price range), and to take a look at various publishers to see if they had any books I was interested in. (I bought two)."

"The Univac I exhibit was interesting as was the hands-on interactive demo on fractals."

". . . Don't attend abstract sessions...unless you're already familiar with the work, they're not worth the time. Attend the longer talks."

"The Employment Register was disappointing. There were only 5-6 industry employers . . ."

". . . Most of the recruiting being done was for universities."

"A few good hardware demos especially the Ardent Titan!"

"Chuck Fleckenstein's talk was good. He described a section of his thesis, and elicited some good questions from the audience." (Chuck is a former WSU Student Chapter of ACM Vice-President.)

The WSU Student Chapter of the ACM provides many opportunities for students to learn more about computers, to meet faculty members, to see what is going on in the Computer Science and Engineering Department, and to meet fellow students in a social setting with quarter ending parties. If you are interested in attending one of our functions, leave us a note in our mailbox located in 488 fawcett, or drop us an e-mail message to acm@odin.Wright.EDU.

The president of our organization is Tolga Erkmen.

Human Factors Club

The Human Factors Club would like to thank everyone who participated in the raffle. All of the money raised will go toward the annual trip. The winners were:

1st prize: James Obloza

2nd prize: Stephen Lindeman

3rd prize: Bob Brumbaugh

4th prize: Janet Dillon

5th prize: Lisa Tangeman

6th prize: Kim Barthelemy

7th prize: Sandra Hollis

The trip to NCR Cambridge has been rescheduled for spring quarter, date to be announced. If interested, please contact 873-3328 or mailbox M242.

Ohio Society of Professional Engineers

Hello, engineering students! Spring is finally here! We hope that everyone enjoyed their break and is ready for another fun-filled quarter at Wright State! We're planning on having several cook-outs this quarter so watch your Allyn hall mailbox for notices of when and where! In addition, if anyone has joined OSPE and is not receiving any OSPE correspondence, please leave a note with your name and mailbox number in mailbox 0-216. OSPE members are invited to attend a leadership seminar at Miami University on April 10 and 11 this quarter. The seminar is entitled "Communication Skills for Quality Leadership" and deals with perceptive listening and dealing with difficult people. It is free of charge to members. Anyone interested, please contact Clark Beck in the Dean's office or leave a note in mailbox 0-216. Deadline for registering is March 31, so if you're interested—hurry!! That's about all for now—hope to see some of you at the meetings and the cook-outs this quarter! Until then—hang in there!

Society of Women Engineers (SWE)

The following people have been elected as officers in SWE.

President, Rosemary Speers
Vice President, Afshan Zahedi
Treasurer, Beth Hearrell
Corresponding Sec., Robin Stern
Recording Secretary, Susan Hodapp
Faculty Advisor, Dr. Mary Rodgers

For more information on this club, stop in room 130 EMS.

Tau Beta Omega

Winter quarter is over and Engineer's Week was a great success. Thanks to all TBO members who helped make Wright State Engineering more well known in our community. Spring is here, and hopefully some spring tours! Put your suggestions for tours of area establishments in the TBO mailbox in 130 EMS and we'll see if we can oblige. Congratulations goes out to Tau Beta Omega's newest members inducted last quarter:

Timothy Birt
Mellisa Burtch
Daniel Cooper
Earl Daley
James Fugate
Elizabeth Hearrell
Paul Hargis
Brian Kadrovach
Jeffrey Larson
Jeff Layne
Norbert Maurer
Michael McDonough
Timothy Sell
David Sharpin
Binh Ton Nu
Shawn Whalen
Clarence Wu

These students are each in the top one-fifth of the junior-senior class, have completed 45 credit hours at Wright State, and have shown outstanding character among fellow classmates and the engineering faculty. Good job to you all!

Job Opportunities

Southwestern Ohio Council for Higher Education

The following job opportunity is listed by the SOCHE:

TASK ASSIGNMENT NO. 60, titled High Temperature Materials Modeling: Student will be required to perform software modifications and development, using VAX hardware, to provide graphic output and display to material modeling codes. Student will be required to learn VAX FORTRAN under both the VMS and ULTRIX-32 operating systems, and to perform graphics programming with the GKS and PHIGS standards. Student will be challenged to work closely with materials scientists to incorporate their numeric algorithms into computer codes.

Student must have Computer Science and Math skills or Material Science with Computer skills.

Start/Stop Dates: A.S.A.P.-31 December 1989.

Estimated Person Hours: 1040 (with possible renewal)

PAY RATE: Junior \$5.78
Senior \$6.50
Graduate \$7.27

If you are an interested qualified student, please call us at (513) 297-3159. Ask for Mrs. Wanda Vogler or Ms. Tresia Carter.

Spectra-Physics

Spectra-Physics has summer positions available in the electrical and mechanical engineering fields. The requirements are:

Spring 1990 graduates
Good GPA
Prior Engineering Experience

(Summer Jobs)

For Electricals:

Additional interest in circuit design as a hobby

Help needed by June 1, 1989

The individual would be assisting senior mechanical and electrical engineers by carrying out product development projects.

Successful applicants will be offered permanent positions at the time of graduation.

Spectra-Physics
Construction & Agricultural Division
5475 Kellenburger Road
Dayton, Ohio 45424-1099

Contact: Doug Cox, Human Resource Representative, 233-8921

Off-Campus Engineering Positions

The Office of Student Employment is currently accepting resumes from engineering students who are seeking part-time employment. Wright State has a contract work program with several local divisions of General Motors including Delco Moraine, Inland and Harrison Radiator. These employers are looking for students who are majoring in electrical, mechanical and computer engineering. The majority of positions available offer the student a good opportunity to get "hands on" experience in an automobile engineering environment.

Students are allowed to work up to 20 hours per week while classes are in session and 40 hours per week during breaks and summer quarter. Hourly wages are based on the students standing in school and can reach \$7.00 per hour for seniors. Employers are interested in interviewing individuals who have at least one year until graduation. Students who wish to participate in the program can submit a resume to the Office of Student Employment, 152 Allyn Hall, or get more information from Brent Young the Director of Student Employment.

Faculty Notes

Richard Bethke (EE) received funding in the amount of \$222,000 from the Ohio Department of Development for a proposal entitled "Industrial Pneumatic Servo-System Development."

Parviz Dadras (ME) received funding in the amount of \$19,971 from Universal Energy Systems, Inc. for a proposal titled "Joining of Carbon-Carbon Composites."

Amir Faghri (ME) received funding in the amount of \$28,016 from the National Aeronautics and Space Administration for a proposal entitled "Development/Spacecraft Absorption Cooling System."

Ramana Grandhi (ME) will be chairing a session titled, "Applied Optimal Design," at the 30th AIAA/ASME/ASCE/AHS Structures, Structural Dynamics and Materials Conference to be held in Mobile, Alabama, April 3-5, 1989.

Wilbur Hankey (ME) presented a paper at the AIAA 27th Aerospace Sciences Meeting entitled "A Numerical Investigation of the Influence of Surface Roughness on Aircraft Ice Accretion." AIAA Paper 89-0737, Jan 1989

Dr. Hankey was also selected as Session Chairman of AIAA 1989 Mini Symposium for *Fluid Dynamics*. The meeting is to be held in Dayton on March 31st 1989 at the Holiday Inn-Dayton Mall.

David Hemmendinger (CSE) received funding in the amount of \$20,000 from Universal Energy Systems, Inc. for a proposal entitled "High and Low-Level Architectural Descriptions in VHDL".

Gurdeep S. Hura (CSE) and **F. Etesami (CSE)** had a paper accepted at NAECON 89: The abstract is called "Petri-net Based Object Oriented Approach to Solve Bounded Buffer Problem."

Dr. Hura is also chairing a special session on "Object Oriented Software Methodology" in the forthcoming NAECON 89 Conference.

Alastair McAulay, Chair, (CSE) spoke on "Feedforward neural networks with Air Force Applications" at the ACM Special Interest Group on Artificial Intelligence (SIGART) in Dayton, on February 9th, 1989.

Dr. McAulay also presented a paper at the ACM Computer Science Conference on "Neural Network Computers" in Louisville, February 22nd, 1989.

A book entitled *Optical Computing: Digital and Symbolic*, published by Marcel Dekker, Inc., 1989, contains a chapter authored by Dr. McAulay. This is Chapter 11, pages 363-403, "Optical Interconnections for Real-Time Symbolic and Numeric Processing"

Dr. McAulay received funding for the following projects: \$18,508 for a project titled "Application of Neural Networks-Engineering Design", \$52,449 from the Center for Artificial Intelligence Applications for "Polynomial Neural Networks for Airborne Applications", and \$2,662 from CAI for "Artificial Intelligence Application Screenings".

Chandler A. Phillips (BME) received funding from NSF in the amount of \$33,000 for "Undergraduate Bioengineering Design Projects".

Kuldip Rattan (EE) had the following papers published: "Design and Implementation of Digital Autopilot Using Intel 8097 Microcontroller", *International Journal of Mini and Microcomputers*, Vol 10, No. 3, 1988 and "Intel 8097 Based Controller for XY Plotter", *International Journal of Computers in Industry*.

The following papers were accepted for publication: "Compensating for Computational Delay in Digital Equivalent of Continuous Control Systems", *IEEE Transaction of Automatic Control* (appearing in July, 1989 edition) and "Computer Simulation of Cardiovascular System Under + GZ Stress", *Journal of Aviation Space and Environmental Medicine*.

Mateen Rizki (CSE) received funding in the amount of \$20,000 from Universal Energy Systems, Inc. for a proposal titled "Strategies to Pattern Recognition Tasks."

A. K. Shaw (EE) received an AFOSR Grant for two years to conduct research on "New Algorithms for Broadband and Narrowband Source Localizations and a Separable 2-D IIR Fiber Realization."

R. W. Siferd (EE) and **C. Longway** published "A Doughnut Layout Style for Improved Switching Speed with CMOS VLSI Gates" in the *IEEE Journal of Solid State Circuits*, Feb 1989, Volume 24, Number 1, pp 194-198.

Isaac Weiss (ME) received funding in the amount of \$140,000 from the Department of Defense for a proposal entitled "Transmission Electron Microscope".

Kefu Xue (EE) was awarded a President Club Award (\$5000) for research on Adaptive Color Image Data Compression.

Cooperative Education

The following Co-op Experience Report was written by William Davis, a computer science major working on a second degree. He has a B.S. in Business from Central Michigan University and has also co-oped with Sys-tran Corporation.

Fall quarter afforded me the opportunity of working at Wright Patterson Air Force Base in the Scientific Application (SCEA) Division of the Communications-Computer Systems Department. In my position as Systems Analyst (trainee), my objective was to work closely with the other analysts, programmers, and engineers in the department, in order to familiarize myself with what their duties and projects entail.

This work term exposed me to many opportunities that I have not yet experienced in the classroom. At the beginning of the quarter, my supervisor made up a list of fifteen ongoing projects that I could help with. I then went to the project leaders and discussed with them the various aspects and current status of their project(s), as well as my ability to help them. This gave me the opportunity to get to know everyone in the division, become familiar with the work performed, and allowed for a better working environment throughout the rest of the quarter. The list of projects was narrowed to the 3 or 4 from which I would gain the most practical experience.

One of the projects for which I was in charge was that of trying to determine why a particular desktop publishing software package, acquired several months earlier, was not able to output to a particular remote printer. This package was installed on a Sun Workstation and was connected, via networking, to a post-script printer that was successfully being used by other people in the building. I became very familiar with the way different machines communicate with each other, was able to work with one of the system administrators in the division and learn how the network path from the Sun Workstation to this particular printer was configured. During discussions with

the regional sales representative who issued the software, we discovered some hardware-software compatibility problems not known before. By working with the system administrator, the systems analyst originally assigned to this project, and the desktop publishing software sales representative in order to solve the problem, I learned much about the UNIX operating system used by the Sun Workstation, network communication, and the features of the aforementioned software package. This experience will be a good supplement to my current course work.

One of the most interesting opportunities I was offered this quarter was to attend a week long course given by Applied Dynamics International (ADI). The purpose of the course was to teach a simulation language called ADSIM, which models real time simulation. Real time simulation is very useful in many of the applications used by the Air Force. This class brought me new insight as to what uses many of the engineers in my division would have for ADSIM.

The other projects I was to be involved with were put on hold for reasons beyond the control of SCEA. Hopefully, these projects may be resumed by the time I return spring quarter. In summary, this term was, according to my supervisor, to discover my abilities and the extent to which I can handle assignments and new situations. He and I both felt that I accomplished many things this term and anticipate an even more productive second quarter. My cooperative education experiences, thus far, have contributed greatly in supporting my commitment to the field of computer science. These experiences have enabled me to investigate several areas of computer science, and thereby helped me to narrow down the many avenues available to me.

As Mr. Davis' co-op paper illustrates, co-op experience is an excellent way to explore the many opportunities available to students in computer science and engineering, examine career possibilities, gain work experience, earn money for college expenses and begin your career before graduation.

Sheila Suel, Assistant Director for Computer Science and Business Co-op, and Dianna Harris, Assistant Director for Engineering and Science Co-op, conduct group orientation sessions for students interested in finding out more about the program. Sessions are scheduled several times weekly beginning the third week of each quarter. Stop in University Placement Services at 126 Student Services to sign up.