

CpE Circuit Board

A newsletter of the
Department of Computer Engineering
University of Minnesota - Duluth

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IN THE DEPARTMENT—

INDUSTRY ADVISORY BOARD—has been established in the CpE department. Purpose of the board is to provide direction and guidance to the department from the standpoint of industry needs and projections for the future. Members of the board are: **Marvin Bausman**, Cray Research Corp., **Hank Dinter**, Honeywell Corp., **Tom Ferguson**, Minnesota Power, **William Hamer**, ADC Telecommunications, **John Kappenman**, Minnesota Power, **Lisa Nebel**, Control Data Corp. (CpE graduate), and **Dan Waseen**, Hibbing Electronics (CpE graduate).

ABET VISIT—The department is preparing for the second evaluation visit of the Accreditation Board for Engineering and Technology, which is scheduled for fall 1991. The department's last evaluation, conducted in 1988, resulted in full department accreditation.

REUNION REPORT—The CpE 1986-1991 Five Years Reunion will be held Sept. 21 and 22, 1991. The department is working with the Alumni Office and the IEEE on arrangements for the event. All graduates received announcements of the weekend events that include a Saturday afternoon picnic/volleyball get-together on Park Point, a Saturday evening dinner cruise on the Vista Star, and a Sunday brunch on the UMD campus. Hotel accommodations have been reserved at the Edgewater West. Prizes, a guest speaker, and campus tours are part of the plans. Let's start a grand tradition with a great turnout. Send in your reservation card now. (Current CpE students are invited!)

STUDENT RESOURCES—The CpE office has available to CpE students the *CPC Annual*, grants and scholarships announcements, graduate school bulletins and guides, Graduate School Records exam applications, Engineer-in-Training (EIT) exam applications, Senior Project Guidelines, and many other resources. Stop in and take a look.

FALL QUARTER DEAN'S LIST—The following CpE and pre-CpE students worked their way to the CSE Dean's List for Academic Excellence for fall quarter 1990: **Omar Abdelwahed**, **Jonathan Andersh**, **Duane Averill**, **Christopher Bernard**, **Michele Bertrand**, **Dan Blezek**, **Duane Bourget**, **Scott Brown**, **Joseph Carlin**, **Jeffrey Caron**, **Jian Chen**, **Scott Christiansen**, **David Dau**, **Kenneth Erickson**, **Kris Forsline**, **Michael Fort**, **Michael Greske**, **Michael Hafften**, **Richard Harding**, **Jody Hermann**, **Brad Holman**, **Andrew Jensen**, **David Kohn**, **John Liptak**, **Nathan Malek**, **Mark McCarthy**, **David McNamara**, **Grant Midbrod**, **Richard Mizia**, **Thomas Murphy**, **Robert Neff**, **Timothy Nelson**, **Ronald Pietila**, **Michael Roseberry**, **Thomas Schaefer**, **Erick Schlueter**, **Todd Schmuland**, **Scott Springer**, **Mark Tupa**, **Wade Vanguilder**, **Michael Vanmeeteren**, **Kevin Vlasich**, **Eric Wetterlind**, **Sean White**. Good work!

IEEE ELECTS OFFICERS—The IEEE elections were held in December. Congratulations to new officers for 1991: Chair, **Duane Bourget**; Vice Chair, **Martin Haydon**; Secretary, **Michele Bertrand**; Treasurer, **Scott Christiansen**.

Other IEEE news: The January meeting of the IEEE featured **Jim Moravek**, consulting electrical engineer and member of the board for the Consulting Engineers Council of Minnesota. Mr. Moravek spoke on "Career Opportunities in Consulting Engineering." In addition to talking about opportunities in consulting, Moravek also stressed the importance of taking the Engineer-in-Training (EIT) exam. "Since the exam focuses on fundamentals, you should take the test during or right after your senior year in college. Increasingly, firms are looking for job candidates who have their EIT and will be eligible for the Professional Engineer (PE) exam in four years. Since all contracts and agreements must be signed by a PE, it's really essential for engineering students to get on track right away," stated Moravek.

A design has been chosen for the IEEE T-shirts and sweatshirts, as featured in this *Circuit Board*. Shirts will be white with blue logo. Orders are now being taken. Sign up for yours in the IEEE office.

GRADUATES UPDATE—**Ben Lhotka** (F '90) and wife Jennifer moved to Texas where he began work as associate electrical engineer for E-Systems (Greenville Division). The department now has five graduates from the program employed by E-Systems. **Grant LiaBraaten** (S '90) began as control systems engineer with Sterling Automation located in Plymouth, MN. His work involves programmable logic controllers (PLCs) used in a Macintosh environment. **Lam Nguyen** (S '90) stopped in with business card in hand this week. Lam works as project engineer for Kim Controls in Minneapolis. **Darin Peterson** (S '90) also works in Plymouth for SnyderGeneral Corp., a leader in HVAC applications. Darin is software engineer in the Commercial Products Group where he writes control software for various systems. In February, **Joe Wendel** (F '89) begins his position as process control engineer for McMillan Bloedel, a wood products firm located in Crosby, MN. Joe will be responsible for automated factory and office computer systems. And, from **Rick Gerhardson**, (S '89) a note to say his projects with Schindler Elevator in New Jersey are keeping him busy but not too busy to send the classifieds from the East Coast for our graduates. **Joe Knudsen** (S '89) has been appointed to the US WEST Advisory Board on College Recruiting. On the lighter side, he and **Paul Lundgren** (S '90) maintain the CpE student tradition of volleyball; both play with the US West team. **Bryce Ofstie** (W '89) served as a panelist for CSE's Pre-Engineering Advising Session held in December. The panel consisted of engineers in industry who described their work and answered questions from the audience. Over 75 entering freshmen and freshmen with undecided majors attended the session. **Dan Despen** (S '87) now is manager of the Field Testing Support Group for Interpoll Laboratories in Circle Pines, MN. What a pleasant surprise to open e-mail and find a note from **Gregg Heikkinen** (W '87). Gregg is happy working as design engineer in the R&D division of MODCOMP, Ft. Lauderdale, FL. MODCOMP produces real-time computer systems. Gregg says "Our biggest accomplishment has been making UNIX real-time and, by all indications, MODCOMP has the best real-time UNIX on the market." Gregg's duties involve fault tolerance, embedded firmware development, and software design for one of the new open systems based on the Motorola 88000 RISC processor.

GRADUATES—Please keep our CpE students in mind for job opportunities in your firm. The best and most effective means of securing employment is through networking with engineers in industry. You are our best network. Tell us of internship/employment openings, and we will pass that information on to CpE students.

Alumni, a donation to the CpE department will go far in helping us provide the best possible engineering education. Does your firm offer a matching gift program? Many firms will match employee charitable contributions, thus doubling your donation.

Have you returned your Reunion postpaid card yet? If not, do so before March 15—we need to reserve facilities. Didn't get one? Let us know and we'll get one out to you. Hope to see you in September!

FACULTY NOTES—**Nazmi Shehadeh**, professor and head, attended the Western Communication Forum's (WCF) Information Industry/University Program Feb. 3-6 in Phoenix.

Jiann-Shiou Yang, assistant professor, received a grant to attend the WCF's program in Phoenix in February. In addition, Dr. Yang will present a paper, "Controller Design for the F-14 Pitch Axis Control Problem Using the Quantitative Feedback Theory Approach," to the 1991 American Control Conference to be held in Boston in June, and he delivered a seminar on "Control System Design Using An H^∞ Method" to faculty and students of the UMD Mathematics and Statistics Department in January. Dr. Yang also was awarded a 1991 Faculty Summer Research Fellowship.

Clark Thomborson, professor, has had a paper (written with Prabhakar Raghavan) entitled "Multiterminal Global Routing: A Deterministic Approximation Scheme" published in *Algorithmica* 6. A paper entitled "Delay Optimization of Carry-Skip Adders and Block Carry-Lookahead Adders," written with Pak K. Chan, Martine D.F. Schlag, and Vojin Oklobdzija, will appear in the June 1991 *Proceedings of the 10th IEEE Symposium on Computer Arithmetic*. His paper "V.42bis and Other Ziv-Lempel Variants" has been accepted for the Poster Session of the 1991 Data Compression Conference. Thomborson spoke to the Jan. 15 meeting of the Minn-Arrow Chapter of Professional Secretaries International. The topic was "Computers in the Office of the Future."

Philip Cheung has been named a tenure-track

assistant professor in the department. In addition, in collaboration with **Ali Badakhshan**, assistant professor, Physics, Dr. Cheng will initiate experimental measurement of several different types of semiconductor epitaxial layers using photoflectence.

Michael Zervakis, assistant professor, has had two papers accepted for publication in the *IEEE Transactions on Circuits and Systems*: "Linear and Nonlinear Image Restoration Under the Presence of Mixed Noise," and "A Class of Non-Iterative Algorithms for Nonlinear Image Restoration." He will present three papers at conferences: "Iterative Algorithms with Fast Convergence Rates in Nonlinear Image Restoration," at the 1991 SPIE/SPSE Symposium on Electronic Imaging Science and Technology in San Jose in February, "Nonlinear Image Restoration: A Comparative Overview and Unified Analysis of Iterative Algorithms," at the 1991 Conference on Information Sciences and Systems in Baltimore in March, and "A New Regularized Approach and its Applications in Image Restoration" at the 1991 Conference on Acoustics, Speech, and Signal Processing to be held in Toronto in May.

Taek Mu Kwon, assistant professor, will present his paper entitled "Threshold Network Synthesis Using Simulated Annealing" at the Southeastcon '91 to be held in Williamsburg in April.

STAFF NEWS—**Marvin Saarela** has been promoted to Senior Laboratory Coordinator as of January 1991. The promotion results from his excellent work standards and his added supervisory duties. **Carol Skoglund**, CpE executive secretary, serves on this year's UMD Outstanding Civil Service Awards committee. **Linda Schwartz**, CpE editor, will serve on the CSE Task Force on Diversity.

CpE STUDENTS AWARDED UROP—**Dr. Cheung** serves as faculty adviser for five CpE students who were awarded Undergraduate Research Opportunities Program grants (UROP). Members of the Project ICE (Incredibly Cool Engineers) are **Jeff Caron** ("Project ICE-Implementation of Wide Band, High Input Impedence Amplifiers for Opto-electronics Applications"), **Ken Erickson**, ("Modeling of Field Enhanced Transport in the Base Region of Heterojunction Transistors"), **Todd Goepferd** ("Implementation of ECL Using GaAs/AlGaAs Based Transistors"), **Brad Marsh** ("Tunneling Effects in InP/InGaAs Heterojunction Bipolar Transistors"), and **Alan Schmidt** ("Large Scale Model Simulation of InP/InGa Heterojunction Bipolar Transistors"). The projects will develop a large signal model for heterojunction bipolar transi-

tors for use in high speed circuit simulation.

RECRUITERS ON CAMPUS—February brought recruiters from EDS, US West, and Advanced Silicon Materials to campus to interview CpE seniors. Juniors and seniors also interviewed for internship positions at US West.

SENIORS—To be eligible for on-campus interviews, sign up with Placement Services. When recruiters call to get a count of how many CpE students they can expect to interview at UMD, Placement can only tell them the number registered with them. Let's give them 100 percent!

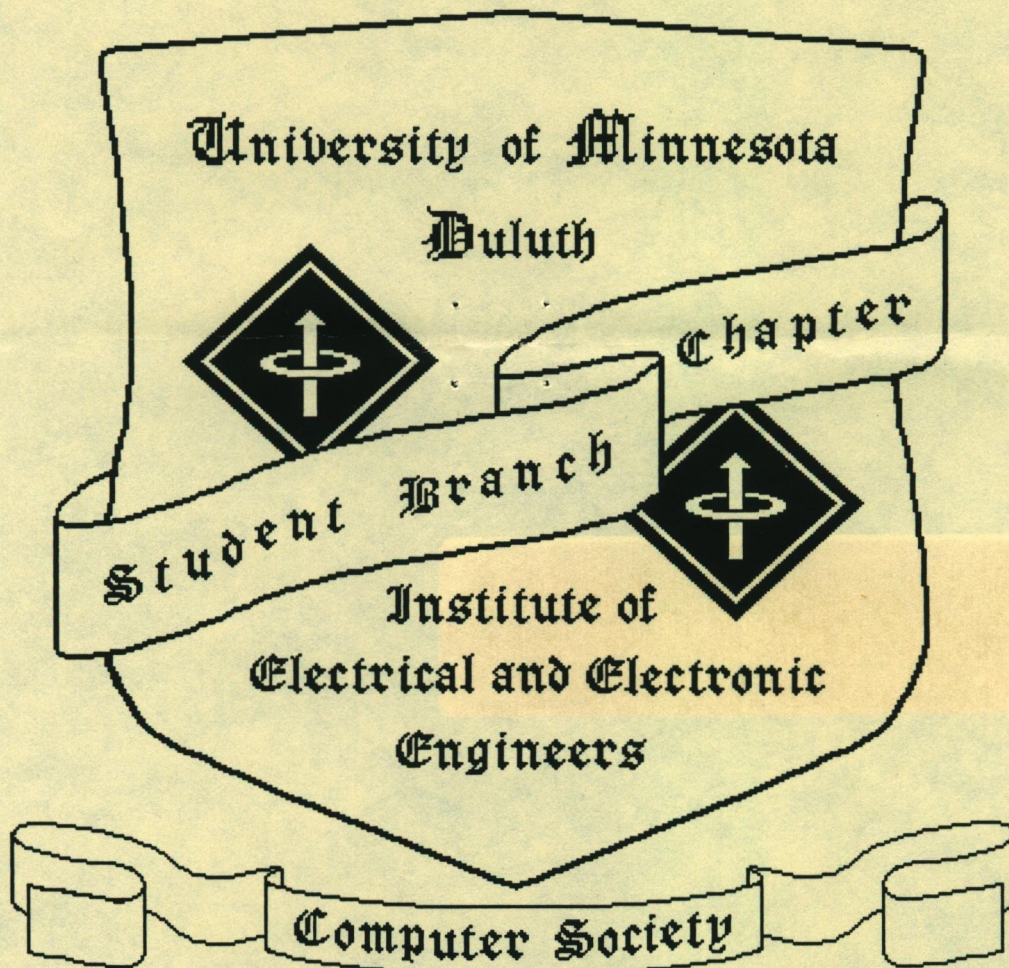
HONEYWELL DAY—Honeywell Engineers Club and Minneapolis Operations Technical Council of Honeywell co-sponsored the 10th annual Honeywell Student Visitors' Day on Feb. 18. Students spent the day with an engineer from one of the nine Honeywell locations in Minneapolis. Schedule included plant tours, presentations, and seeing engineers at work. Thanks to CSE for providing transportation.

CSE WOMEN'S GROUP—A new group for women in science and engineering programs has formed under the direction of **Linda Deneen**, associate professor in computer science. The group sponsored a panel discussion in January that focused on the topic "Science and Engineering: Women and Success." **Jody Hermann**, CpE junior, and six other panelists discussed women's concerns and experiences in science and engineering education. The group met again on February 18 in the Garden Room (Kirby Center) to plan future activities such as a career opportunities panel discussion.

EIT STUDY SESSIONS—CSE will again hold study sessions for the EIT exam. Watch bulletin boards for times and dates.

INTERNSHIPS?—Juniors, seniors: Time to get that resume together and start sending out applications and inquiries to firms hiring summer interns. A related work experience will be invaluable as you seek employment following graduation. Internship possibilities are posted on the board beside 291 MWAH. See Linda (189C MWAH) for assistance.

SALARY UPDATE—Entry level engineers average \$31,600 upon graduation from an accredited engineering program, says the 1990 U.S. Engineering Manpower Commission. Salaries rose about 4.5 percent over 1989.



IEEE members selected Mark Tschetter's design for the new chapter T-shirts and sweatshirts. Shirts will be white with blue imprints.

Cherokee Anderson
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