

SCANFAX

June 1999

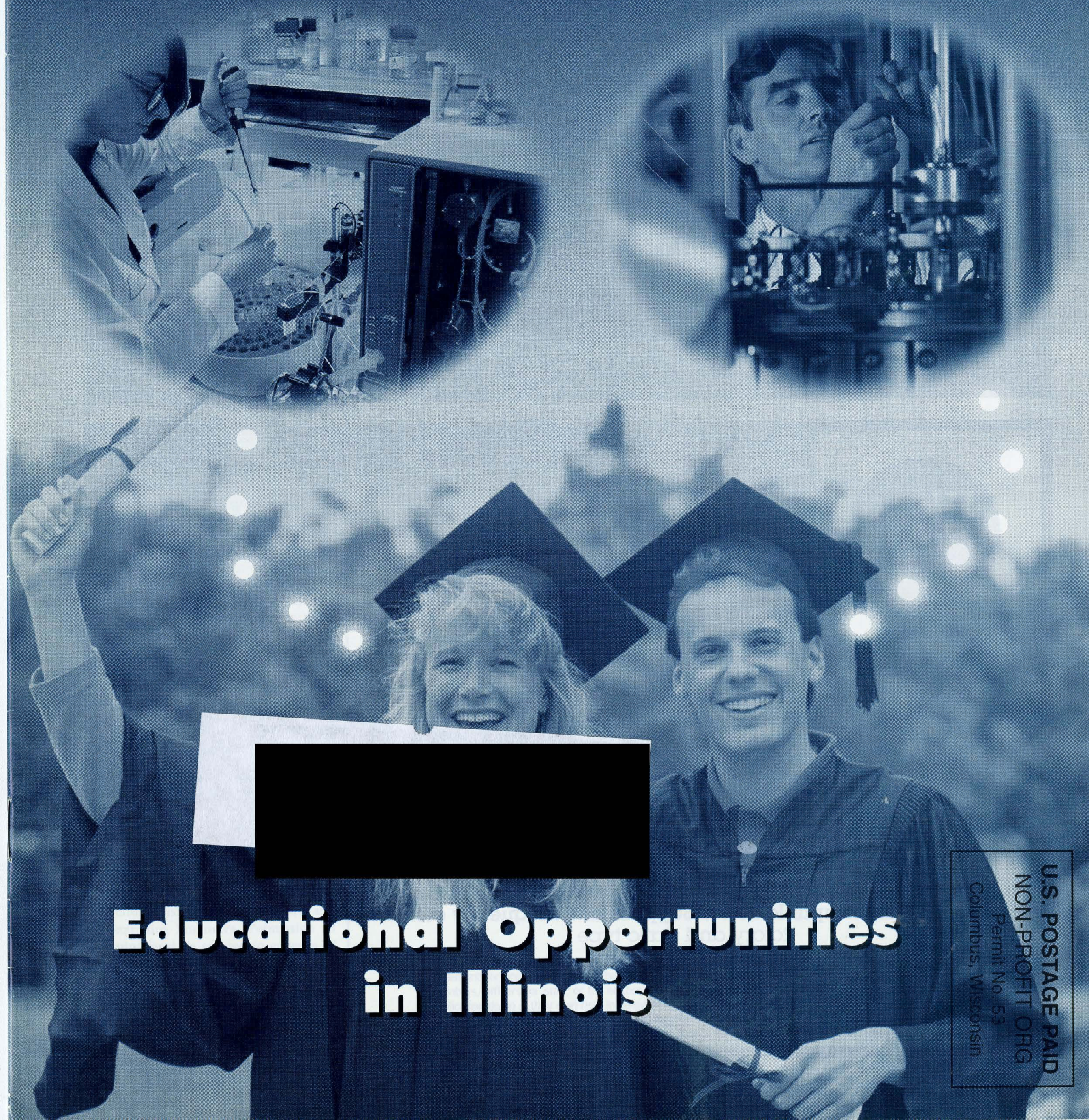
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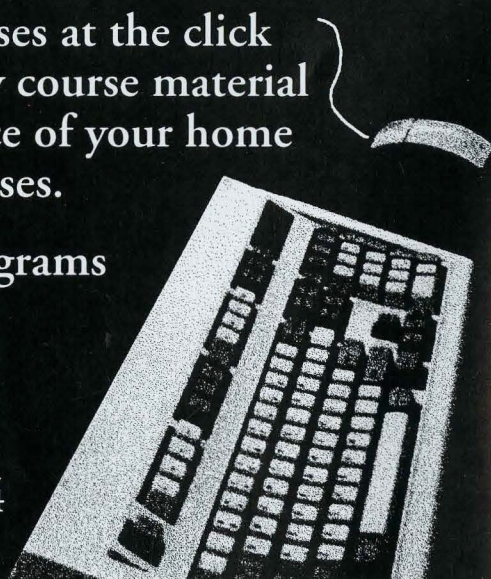
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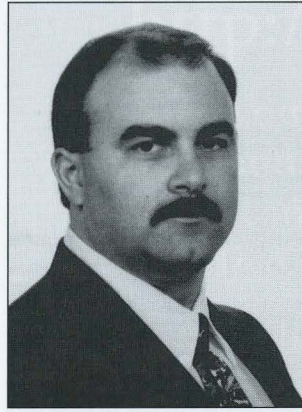
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Chairman's Message



Howard W. Penrose
IEEE Chicago Section,
Chairman

This year's IEEE Chicago Section Annual Awards Banquet was held on April 24, 1999 at the Fountain Blue Banquets and Conference Center. The Awards Banquet, also formerly known as the Recognition Dinner, was well attended with over 150 members, sponsors, and significant others. The Awards Banquet committee did an excellent job on the location and entertainment.

The committee is made up of: Frank Lakowski, chair; John Waters, vice chair and treasurer; and, Joe and Eleanor Feitler, secretary and tickets. Many others were directly involved, including a new volunteer, Gary Collins. The Chicago Section officers in attendance included myself, Ed Bogus, treasurer, and Pat Murphy, secretary. The sponsors of the event were: Ameritech; Andrew Corporation; Automatic Switch Co.; Bycap Inc.; CII Technologies - Corcom; Contemporary Controls Systems; DeVry Institute of Technology, Chicago; Elite Electronic Engineering; Lucent Technologies, Inc.; Methode Electronics; MG Electric Service; Motorola, Inc.; Newark Electronics; Northrop Grumman Corp.; Patten Power Systems; Sargent & Lundy; S&C Electric Co.; Tellabs, Inc.; Weldy-Lamont Associates; and my own University of

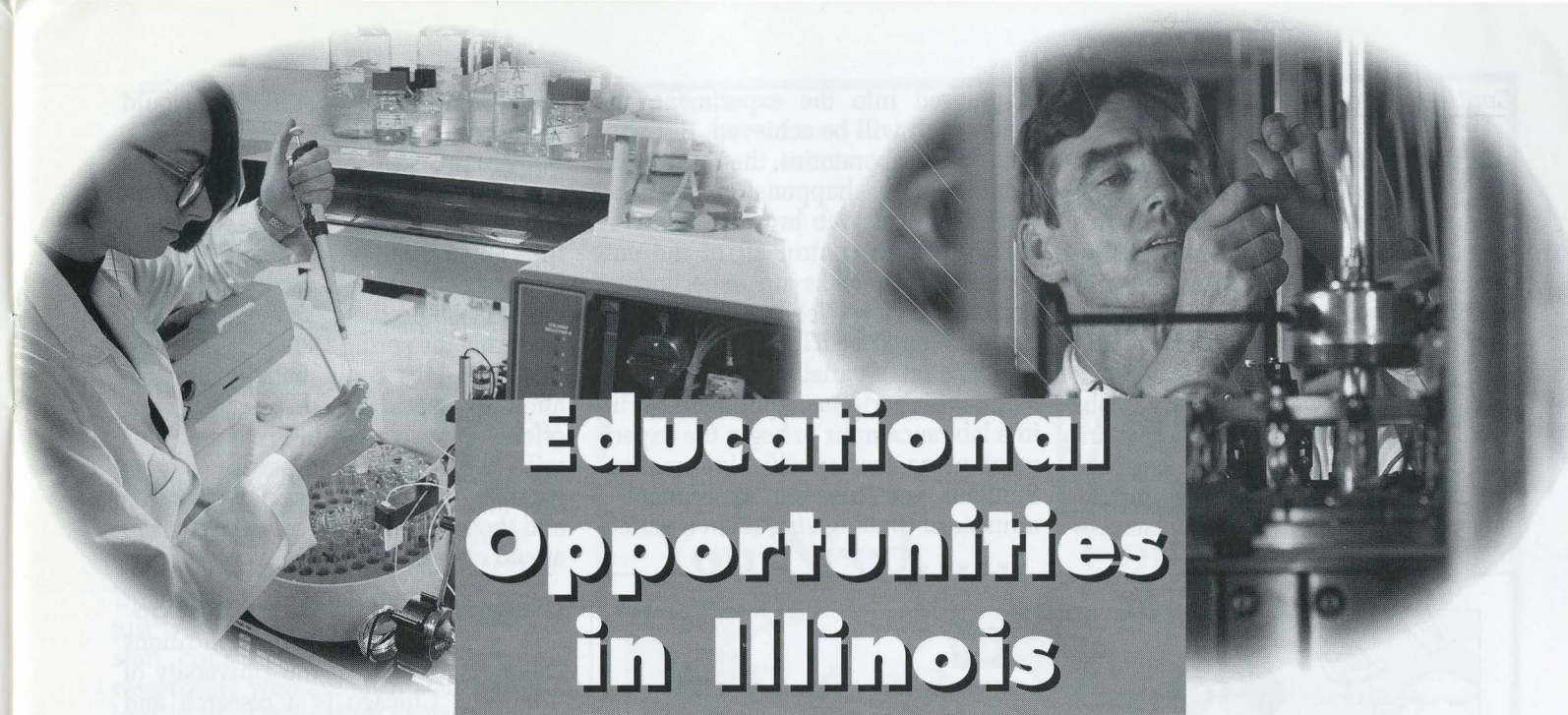
Illinois at Chicago Energy Resources Center.

The Fellow Awardees were Kevin Kloker of Motorola and Rashid Ansari of the University of Illinois at Chicago. Mr. Kloker received his award for contributions to the development of digital signal processing and multimedia communications systems. He was unable to attend, however, Peter Look of Motorola accepted his award on his behalf. Rashid Ansari did attend and received his award for contributions to multirate digital signal processing and digital filter banks.

Frank Lakowski was presented with the Chicago Section Chairs award for his many years of leadership and service to the section. Irwin Smiley was then presented with the Region IV award for leadership by Dennis Lamont, the Region IV Central Area Chair.

Peter Look, the chair of the Student Activities Committee, then introduced his committee: Ellen Fong, Raymond Lam, Samina Haque, Daniel Scire, and Emma Duque. The Student and Advisor Awards were presented to: DePaul University: Jennifer Paine, Leadership; Jiang Zhu, Scholarship; and Prof. Chengwen Liu, Advisor; DeVry Chicago: Tomasz Zielinski, Leadership; John Lazzari, Scholarship; and Prof. Thomas Varetoni, Advisor; DeVry DuPage: Ana Rahela Pacurar, Leadership; David Lindenstruth, Scholarship; and Prof. Ahmed Khan, Advisor; Illinois Institute of Technology: Tayo Ihmoyan, Leadership; and Prof. Marco Saraniti, Advisor; Northwestern University: Karen Ballinger, Leadership; Edward Wang, Scholarship; and Prof. Alan Sahakian, Advisor; and the University of Illinois at Chicago: Bret Bohlin, Leadership; Jon Grant, Scholarship; and Prof. Carl Chang, Advisor.

The banquet was an excellent success and well attended. It is my hope that there will be an even greater attendance and additional sponsors for next year. In the meantime, I would like to thank the sponsors, volunteers, students, and advisors for their hard work and support for the awards dinner and other programs this past year.



By: Christine M. Sloat, P.E.

Whether in response to demand for life-long learning opportunities, collaboration with industry, or research into new learning venues, Illinois' centers of higher learning are active in providing the educational resources that meet today's fast paced world demands. Here is an overview of some of the programs and offerings.

Stuart School of Business (Illinois Institute of Technology)

The Operations & Technology Management program applies advanced business and management concepts to functional responsibilities in operations, manufacturing, total quality management, logistics, R&D, new product development, project management, and information systems and technology. The program focuses on the effective deployment of advanced technology and the management of highly educated people in complex organizations.

This program is for experienced, talented individuals that need advanced business and management skills to further their careers. Many of them are engineers or scientists working at manufacturing companies in operations, engineering, logistics, new product development, quality management, or R&D.

The curriculum is cross-functional, and includes courses in strategic management, finance, quantitative methods, human behavior, economics, and other business. Classes emphasize strategy, team building, project management, initiating change, and critical thinking.

Most courses make extensive use of case

studies, team projects, and research drawn from the students' own organizations, along with traditional texts, software, and lectures. Teaching methods emphasize a problem-solving approach that stimulates the use of the students' knowledge, skills, and experience, as they respond to the issues raised in assignments and classes and communicate their ideas to their classmates. The program consists of 12 four-hour courses, taught on the quarter system. A new class of students begins each August and graduates 18 months later. Classes meet all day on Saturdays. Students take two courses each quarter.

The Stuart School of Business was established at IIT in 1969 with a gift from Chicago financier Harold Leonard Stuart. Along with the MS in Operations and Technology Management, programs include the MBA, three unique industry responsive master's programs in Environmental Management, Financial Markets & Trading, and Marketing Communication, and a Ph.D. in Management Science, with emphases in Operations and Finance.

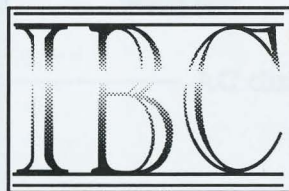
Illinois Institute of Technology

Remote research: Web-based labs make conducting accurate experiments from a distance easier

Imagine being able to conduct, view and get the results of a laboratory experiment while sitting in front of a computer in your own home. An IIT professor is working to make this happen. Typically, experiments conducted over the Internet are in the form of virtual labs, in which laboratory experiments or other physical processes are simulated by computer. In virtual labs, a student feeds

Illinois' centers of higher learning are active in providing the educational resources that meet today's fast paced world demands.

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information to a computer over the Web, which processes the input and produces results that simulate the real experiment through a set of pre-programmed rules. Those results, as Michael Hites, research assistant professor of mechanical, materials and aerospace engineering, points out, can be somewhat skewed since virtual labs usually do not incorporate the experimental and random errors which make the experiments "real." Every time the same set of numbers or circumstances

is plugged into the experiment, the same result will be achieved. But with Web-based laboratories, the real experiment actually happens on demand from a typical Web browser, allowing the student to control all of the outcomes, which make up experimentation. In the new Web-based labs Hites has developed at IIT, remote students type in a set of variables for the experiment, which triggers equipment set up in a lab on campus to begin the experiment using that specific information. Students can run the experiment a number of times, giving them a variety

of different results, just as they would get from hands-on experiments. Students also can view the experiments as they are being conducted, which gives them the advantage of seeing how the experimental hardware works. Hites says he plans to incorporate Web-based labs into some engineering classes during the spring 1999 semester, and that such labs could help in the creation of accredited degree programs offered entirely over the Internet. This will help different types of remote learners, including disabled students and those who cannot get to campus to attend classes.

University of Illinois at Chicago

The Microfabrication Applications Laboratory (MAL) at the University of Illinois at Chicago is a research and development laboratory. The lab is dedicated to the application of integrated circuit and fiber optic technology to improve manufacturing methods for microfluidic, electromechanical, mechanical, chemical, optical and multi-functional devices, some of which have previously been built by more traditional techniques.

Five basic methods of collaboration with industry are available. These can be tailored toward companies of all sizes and include:

1. Joint Research - Companies can participate in research at the MAL in areas of specific interest. Research programs may be developed to support specific company goals especially in the area of new product technologies. A key element in this research is the transfer of technology back to the industry which includes a limited amount of prototyping, and assistance in setting up a miniature clean room at the company's facility or transferring any processes to a commercial foundry;
2. Industrial Service - The MAL's state-of-the-art processing facilities are accessible on a contractual basis. This includes: thin film deposition of a broad range of metals, and dielectrics; electrical and optical characterization, and custom lithography;
3. Training Center - Joint university and industry projects are possible whereby scientists from industry work at the MAL in conjunction with a professor to develop and investigate industrial and manufacturing appli-

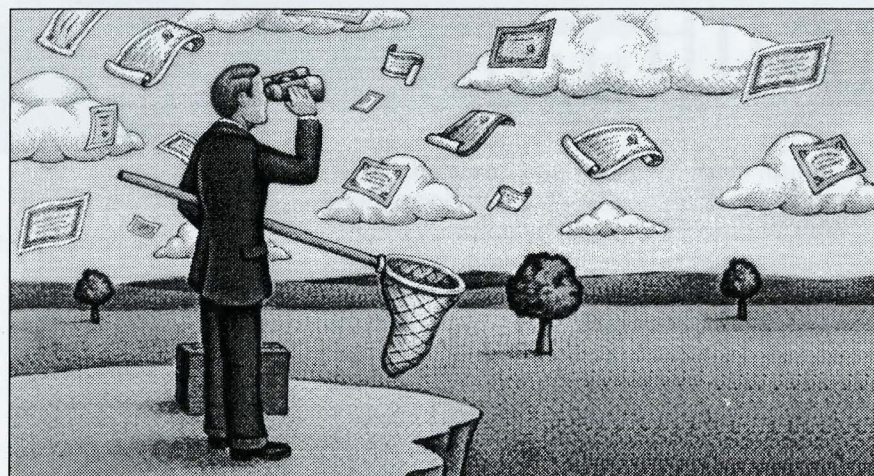
cations of microfabrication. In addition, training workshops in microfabrication methodology are held at the MAL to aid companies in continuing education of their engineers and technicians in this significant technology. This training and research can promote the successful transfer of state-of-the-art techniques to industry;

4. Microfluidics Center - An Industry/University Cooperative Research Center;

5. Topical Workshops - on research are regularly held at the MAL and are open to the industrial community.

The laboratory is located on the University of Illinois Chicago campus, just west of Chicago's Loop. The MAL staff consists of seven experienced researchers who are also faculty members in the University's Department of Electrical Engineering and Computer Science, a full time technical liaison, a technical support staff, and associated faculty in other engineering disciplines. The laboratory consists of a three thousand square foot clean room subdivided into five bays and an equal

Continued on page 6



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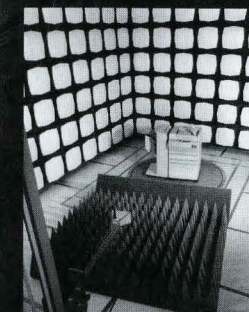
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device characterization area. Over two and a half million dollars of equipment is installed in the UIC clean rooms. Approximately one and a half million dollars of that amount has been used to acquire new equipment at the cutting edge of microfabrication technology.

Northwestern University

In response to the rapid evolution of information technology, and the growing need for education and retraining in this area, Northwestern University's

Robert R. McCormick School of Engineering and Applied Science launched a Master's of Information Technology Degree program for working professionals in 1996. Industry experts teach in the program along with Northwestern faculty from electrical and computer engineering, industrial engineering and management science, communication studies, and marketing.

The design of the program allows students to attend a full day of classes on alternating Fridays and Saturdays for 30 weeks during Northwestern's academic year. Two courses are taken

each quarter, one course in the morning and one in the afternoon. In the fall of 2000, classes will be held only on Saturdays.

The Master's Program in Information Technology is designed to increase students' engineering knowledge of modern telecommunications and computer systems' technologies, as well as provide perspectives for evaluating, managing, and using these technologies. The courses cover such topics as:

- Fundamental principles of telecommunication and computing systems
- Components and characteristics of modern and emerging information technologies including high performance networking and computing systems
- Wireless systems and applications
- Statistical methods for evaluation and implementation issues
- Network management concepts
- Enterprise integration
- Advanced software techniques and project management
- Economics of technologies
- Distributed databases and information systems

The Information Technology Program administrators recognize the time constraints and responsibilities of working professionals pursuing a graduate program at Northwestern University. The program provides a variety of services designed to minimize the time students must spend on non-curricular activities required for the training. Among the support services provided are automatic class registration, financial aid information assistance, lunch and refreshments throughout the class day, access to University facilities and privileges, and continuing education and alumni networking support.

Elmhurst College

Elmhurst College has a long history of placing educational opportunities within easy reach for adults, offering their first evening session in 1949. Bachelor's degrees in twenty-two majors can be completed entirely in the evening. Within one academic year, students can complete accelerated majors in the Elmhurst Management Program and in Human Services Administration. Elmhurst is extending its traditional campus boundaries to reach new students. Corporate partnerships enable the

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accommodating working adults with evening classes at Chicago suburban locations

The University of Illinois at Chicago (UIC) is one of the top graduate research universities in the country. UIC annually awards approximately 200 doctorates and 1,300 master's degrees and is committed to serving the educational needs of the entire metropolitan area. The Off-Campus Graduate Engineering Program accommodates working adults by scheduling evening classes at suburban locations. These classes, offered one evening per week, are particularly suited to working students. MS and PhD* degrees are offered in mechanical engineering, electrical engineering and computer science, and civil and materials engineering. Reasonable cost has long been the standard for Illinois residents at state-supported universities such as UIC.

Visit our Website at <http://www.uic.edu/depts/enga/> for information on UIC programs.

* Some restrictions apply.



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EECS 516	Optimal and Adaptive Digital Filters
EECS 565	Advanced Switching Theory
EECS 580	Query Processing in Database Systems

For more information, contact the Coordinator, Off-Campus Engineering Programs (MC 160), 851 South Morgan Street, Room 808, Chicago, Illinois 60607-7050.
Phone: 312/996-2311 Fax: 312/413-7950 E-mail: cmk-ob@uic.edu

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The Chicago Section and its members offer our heartiest congratulations to the 1999 IEEE Fellows:

Rashid Ansari
University of Ill, Chicago, IL

For contributions to multirate digital signal processing and digital filter banks

Kevin L. Kloker
Motorola Inc., Schaumburg, IL

For contributions to the development of digital signal processing and multimedia communications systems.

The Section salutes the following Student Award Winners:

University of Illinois at Chicago
Scholarship: Jon Grant
Leadership: Bret Bohlin

University Institute of Technology
Leadership: Taho Ihimoyan

Northwestern University
Scholarship: Karen E. Ballinger
Leadership: Edward K. Wang

DeVry Institute of Technology (Chicago)
Scholarship: John Lazzari
Leadership: Thomas Zielinski

DeVry Institute of Technology (DuPage)
Scholarship: David William Lindenstruth
Leadership: Ana Rahela Pacurar

DePaul University
Scholarship: Jiang (Pony) Zhu
Leadership: Jennifer Piane

Congratulations to the Section Chairman's Award winner:

Frank Lakowski
Our long-time Dinner Chairman

The Chicago Section expresses sincere thanks to our IEEE Student Chapter Advisors:

Professor Carl Chang
University of Illinois at Chicago

Professor Marco Saraniti
Illinois Institute of Technology

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Chicago Section Address
Howard Penrose
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Fellow Awards Presenter
Howard Penrose

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Dennis Lamont

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Peter Look

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New Odyssey

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Gary Collins (Lucent Technologies)
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college to offer degree programs to students after work - at work. Employees of the St. Paul Federal Bank for Savings, the Federal Reserve Bank of Chicago, and the USG Corporation have earned Elmhurst degrees without ever taking a

class on the campus. All necessary courses are available to them at their own workplace.

To give students opportunities for professional development beyond the bachelor's degree, Elmhurst offers four distinctive graduate programs. Students can earn master's degrees in computer

network systems, industrial/organizational psychology, early childhood special education, and professional writing. A fifth program, in professional accounting, begins in August 1999. The programs are designed to be challenging, provocative, and practical. All courses are offered in the evening. Students in cohort groups progress through two-year, part-time courses of study.

University of Illinois - Urbana/Champaign

The National Center for Supercomputing Applications (NCSA) at the University of Illinois at Urbana-Champaign is the leading-edge site for the National Computational Science Alliance (Alliance). In this capacity, NCSA anchors all Alliance teams and oversees the administration of all Alliance programs. NCSA leads the Alliance in its mission to maintain American preeminence in science and technology.

NCSA is one of the five original centers in the National Science Foundation's Supercomputer Centers Program. The center has earned a reputation for innovation and aggressive applications in high-performance com-

puting, visualization, and desktop software. Its virtual environment includes three different projection-based display systems — the CAVE, the ImmersaDesk, and the Infinity Wall. In the early 1990s, Caterpillar Inc. demonstrated virtual reality's potential for industrial research when the company slashed months from its production schedule by prototyping its wheel loader almost entirely in NCSA's virtual environments.

The center's diverse areas of scientific and engineering research encompasses astrophysics, chemical engineering, computer science, cosmology, data management, scientific instrumentation, environmental studies, nanomaterials, physics, and structural and molecular biology.

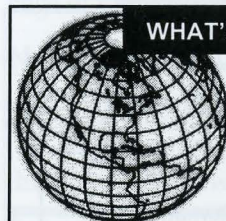
Through its outreach programs, the center works with government, communities, and schools to discover how high-performance computing and communications can benefit them. Also, top researchers from Fortune 500 corporations partner with NCSA to explore how cutting-edge hardware and software, virtual prototyping, visualization, networking, and data mining can help U.S. industries maintain a competitive edge in a global economy.

NCSA is a unit of the University of Illinois at Urbana-Champaign, and receives support from the National Science Foundation, the State of Illinois, the University of Illinois, and other partners.

(The information contained in this article is primarily found at the web sites

for individual schools. For further information on details and contact persons, please visit these sites.) ■

Christine M. Sloat, P.E. is president of Copper Creek, a consulting group in Reedsburg, Wisconsin. She may be reached at (608) 524-1397



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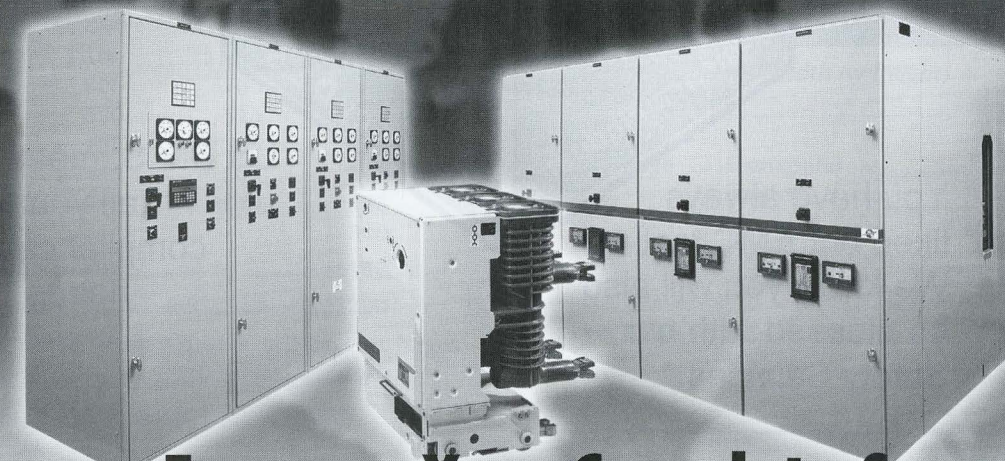


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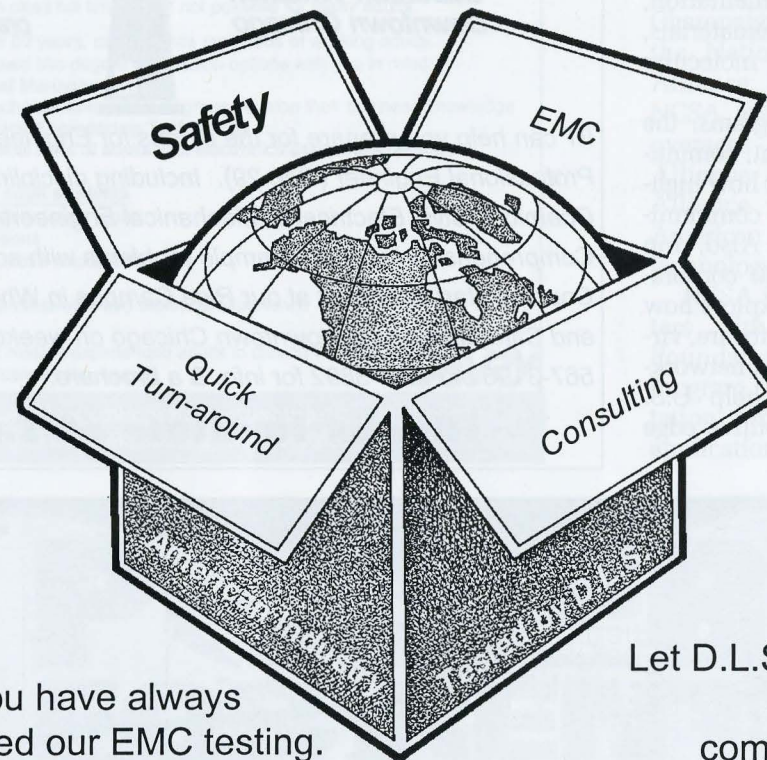


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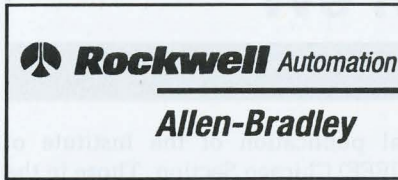
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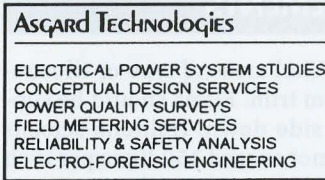
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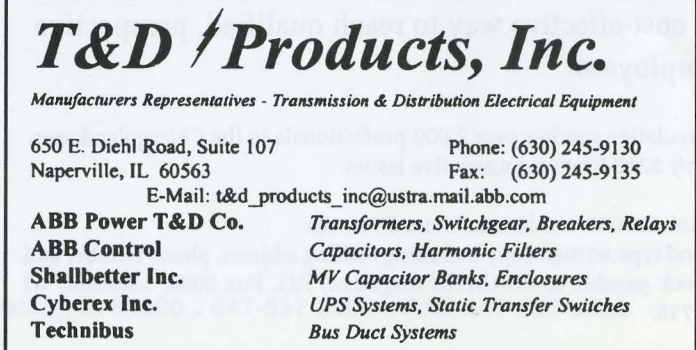
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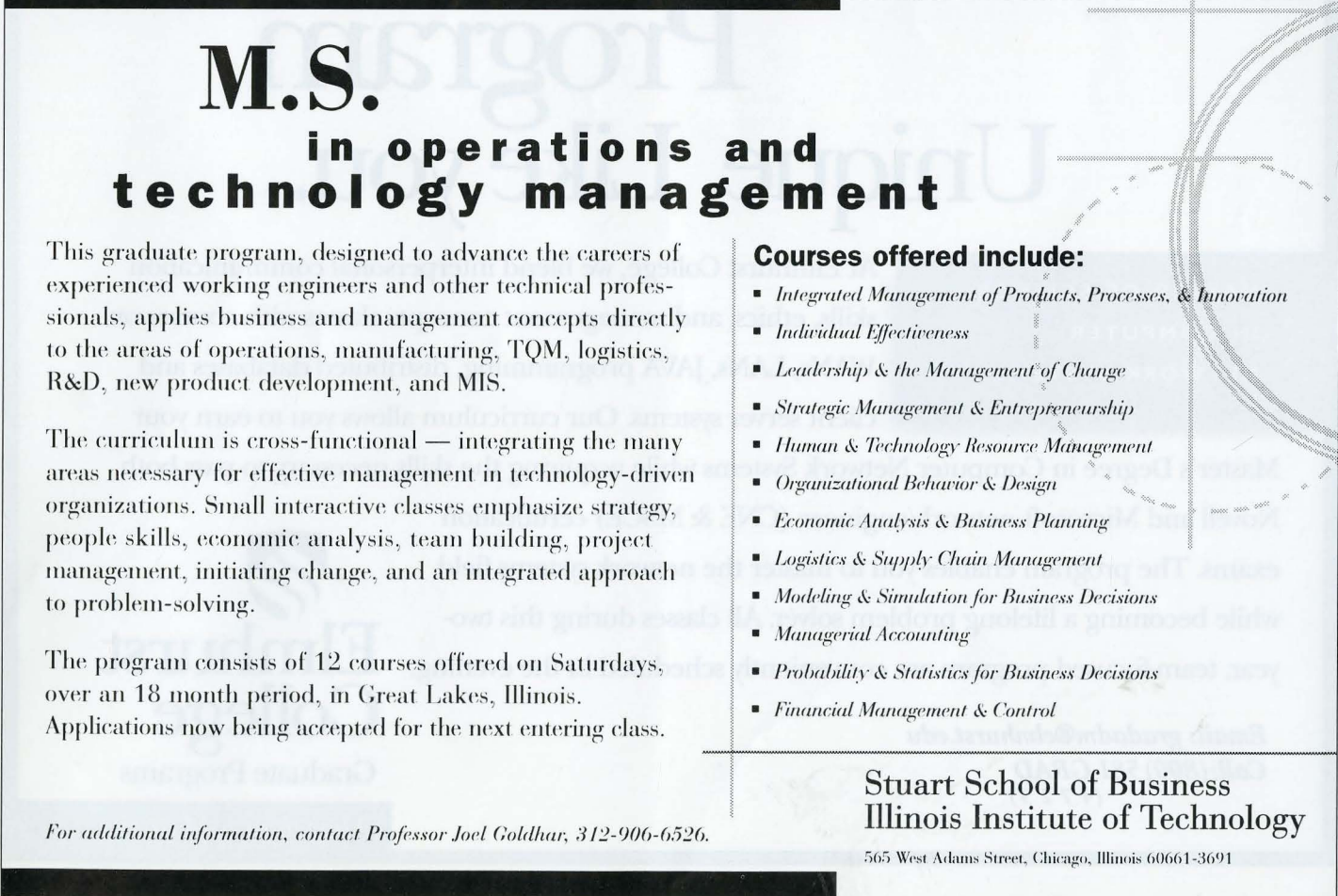
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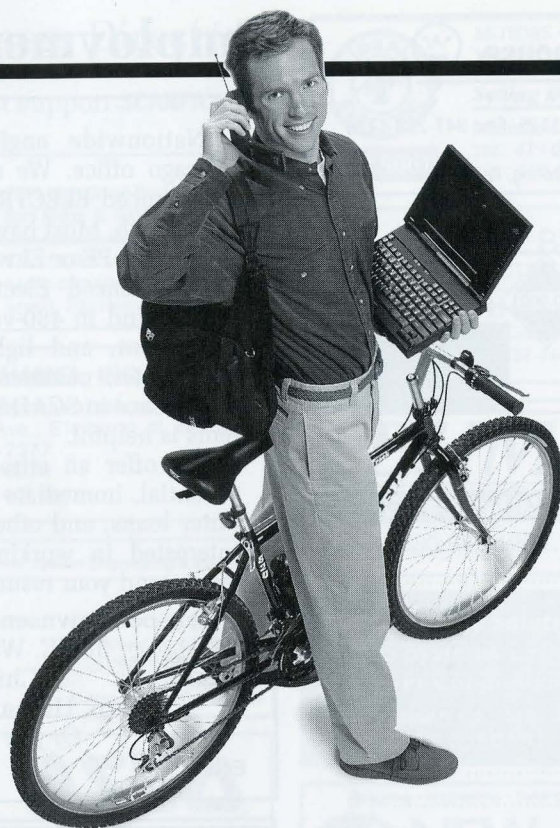
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