



Chemical Engineering NEWSLETTER

Spring 1999

Purdue University

Dear Alumni and Friends of ChE,
Welcome back to the Chemical Engineering Newsletter! Much has happened since our last publication. Most notably, we've completed and launched a **Strategic Plan for the School for 1997-2002**. I am delighted to highlight key items of this exciting road map.

Faculty and staff, with the strong involvement of the School's New Directions Industrial Advisory Council and its Executive Committee, worked together for more than a year to develop this plan. Officially launched Fall 1997 at the Council's annual meeting, it defines the objectives, strategies, action items, and metrics which will drive our School over the next five years. Six component areas were addressed:

- Graduate program
- Undergraduate program
- Faculty
- Technical infrastructure
- Administrative infrastructure
- Associated resource requirements

The five highest priority items and the associated resource implications are:

• **Improve the Graduate program:** Reevaluate and redesign the graduate core curriculum to best prepare graduates to meet the R&D challenges of the 21st century. We have identified steps to improve graduate program procedures, educational and research environments, and recruiting processes. Resource implications include renewal of the research instrumentation and computing facilities of the School and of its research groups through cost-shared competitive proposals.

• **Refocus the Undergraduate Program:** Refocus the undergraduate curriculum emphasizing desired outcomes and metrics. We will enhance hands-on laboratory and other interactive educational experiences and integrate them into the curriculum. We will strengthen the program's professional practice component through on- and off-campus initiatives. Students will be more actively involved in recruitment, retention, and strengthening the program. Resource implications primarily involve instructional facilities and associated staffing.

• **Add ten faculty over the next five years:** The goal is to reach a faculty headcount of 28. New laboratory space and start-up funds are needed to recruit, retain, and launch the careers of these new faculty who will set the directions of the School for the next several decades.

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Katie Eckman retires...

In her role as the undergraduate counselor, Katie probably knew all of our students.

"Knowing" the students for her meant going beyond the day to day practicalities of making sure that a student was in the right class or on track for graduation. Her relationship with a student often pre-dated that individual's participation within the department, for she was also a counselor in Freshman Engineering. Katie's strength is her ability to unite professional competence with interpersonal involvement. In a program as difficult and rigorous as Chemical Engineering, she provided emotional support for students having difficulties, a very important role deeply appreciated by the students. She'd take a personal interest in each student and go "that extra mile" to help. At the same time, she also knew when to be firm, when to remind the student to buckle down and work harder—but she did so kindly and fairly. When asked who helped them the most in getting through Purdue, recent graduates invariably answer—Katie! Each year at the senior banquet she invariably receives special recognition from the graduating seniors. In 1990, Omega Chi Epsilon awarded her their outstanding service award. She was further honored with the Association of Women Student's Very Important Woman award.



Katie talks with well wishers at gathering in her honor (top), and has a light moment with Rex after receiving an award in recognition.



Katie with family



Alumna in space - Dr. Mary Ellen Weber

After receiving her bachelor's degree in chemical engineering in 1984, **Mary Ellen Weber** earned a doctorate in physical chemistry from the University of California at Berkeley in 1988. She then joined Texas Instruments in Dallas, Texas, to research new techniques in microelectronics manufacturing, applying physical and chemical models of film deposition processes to enhance reactor designs. In 1990 she was assigned by TI to SEMATECH, a semiconductor manufacturing consortium in Austin, Texas, which led to a further assignment at Applied Materials and Technology in Santa Clara, California. She was selected by NASA in March 1992. Following her initial year of training she assisted in shuttle processing and launches at the Kennedy Space Center. Other technical assignments included flight software verification in the Shuttle Avionics Integration Laboratory, and support in Payload Development.

In her flight she was a mission specialist on the five-member crew of STS-70, which took place from July 13-22, 1995 (after a month's delay because woodpeckers had chipped numerous holes in the insulation on the external fuel tanks!). She was one of two crew members responsible for deploying a "Tracking and Data Relay Satellite," or TRDS, a communications satellite. She also operated several mid-deck experiments, including a bioreactor experiment. Although well prepared for the mission she was nonetheless overwhelmed as the view was "far better than any picture can depict. The atmosphere about 50 miles above the earth cast a glow which was very tranquil. Also there were shooting stars below the shuttle which were extraordinary." As for the future she hopes to fly again and to participate in several more space missions, continuing with technical support assignments between missions.

"ChE Space Program"

In the past two years groups of Purdue students from ChE, Aero and ME have traveled to the Johnson Space Center in Houston to experience weightlessness aboard the KC-135A (aka, the "vomit comet"), a plane astronauts use to train for space flight. It goes through several steep climbs and descents, creating 25 or 30 seconds of weightlessness on each dip. The students, along with their faculty adviser, Prof. Jochen Lauterbach, went through a week of preflight training and activities.

Each team designed and built an experiment and each also involved local elementary, middle and high-school students in the experience. National as well as local media reported the event (including Good Morning America on ABC). A reporter from an Indianapolis newspaper also went along. Students at Happy Hollow Elementary School in West Lafayette gave them several toys to take along, complete with specific instructions on what to do with them during the flight. Harrison High School helped design a special box for the toys to fly in. Afterwards, the team took the video of the flight back to the elementary school and compared the students' predictions with what actually happened to the toys.

In March 1998, Trisha Beutien, Brad Ecker, Cassandra Forthofer, Hilary Grinstead, Jennifer Ralston, Nicholas Saadah, and Amanda Schreiweis formed the ChE team. This year's group consisted of Jessica Arnold, Trisha Beutien, Hilary Grinstead, Shawn Kaleta, Caroline Kostak, and Amanda Schreiweis. Both groups studied the effects of microgravity on a type of chemical reaction: "Spatial pattern formations formed by the Belousov-Zhabotinskii (BZ) reaction in 1-g." This research gives new insight into the nonlinearity and pattern formation present in many chemical reactions, and further evaluates the role of gravity in the reaction mechanisms. The data collected help show the influence of microgravity on chemical transport and molecular diffusion. The reaction is a classic example of a nonlinear, oscillatory chemical reaction that had never been performed in microgravity in space (a Japanese team tried it down a long vertical shaft). The current team modified the experiment by varying the thickness of the reaction vessels to study how convection affects the reaction. The polymerization, however, was entirely new. The results could help NASA develop fuels for the space program, as well as provide information that is vital to chemical production and chemical plants in future space flight. Visit <http://atom.ecn.purdue.edu/~vcomet/> to get more info and see the photos.



(Top) The group gathers pre-flight in front of the v-comet. (Bottom) Hillary Grinstead and Trisha Beutien (right) experiencing the sensation of zero gravity.

Finally...the plane did
live up to its nickname!

Distinguished Engineering Alumni



Charles R. Kline (BS, '61),
President and Chief
Executive Officer, EQUATE
Petrochemicals (Kuwait).



William E. Smith III (BS, '69),
Executive Director,
Global Manufacturing Services,
Eli Lilly & Company.

Another distinguished Professor...

Phillip C. Wankat (BS '66) was named the Clifton L. Lovell Distinguished Professor of Chemical Engineering. Based on teaching and scholarship of teaching, the award recognizes senior faculty who are outstandingly original, creative, and productive individuals whose achievements in teaching have been nationally and internationally recognized. His teaching awards include the Chester F. Carlson Award from ASEE for teaching innovations, the Catalyst Award from the Chemical Manufacturer's Association national teaching award for chemists and chemical engineers, as well as the School's own Shreve Prize (twice) and the Potter Award for best teacher in engineering. He is also a Fellow of the American Society for Engineering Education. From 1987-95 he was Head of Freshman Engineering at Purdue. His numerous publications on teaching include the book *Teaching Engineering* and more than 40 journal articles on the subject.



Phillip C. Wankat



OCHE 98



Guy J. Camarata (BScHE '60),
Executive Vice President
and Director, Caltex

Student Awards

1997 / 1998

Magoon Award (TA)

Michael Buss
Mark Byrne
Jeff Varner
Chris Williams
Karen Green
Steve Honkomp
Praveen Gunaseelan,
Steve Richter
Will Walters

AICHe Outstanding Senior

Stephen Schwallie
Tom Manske

Omega Chi Epsilon

Jeffrey Lin
Bryan Comstock

Lottes Award

Yuniarto Wijaya
Patrick McGough
Kevin Rabinovitch

A.I. Chemists Award

Christopher Lawler
Ben Voss

Stephen Craig Award

John Whitaker
Cassandra Forthofer

George T. Tsao Award

Kevin Rabinovitch
Roger Hoover

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Graduate Research Symposium

The Chemical Engineering Graduate Research Symposium features formal presentations by senior graduate students in two parallel sessions as well as poster presentations by junior graduate students. Company representatives serve as the jury for the selection of the best presentations. The winners were as follows:

1997

Session 1 / Session 2

First place

Steve Honkomp
Ted Pirog

Second Place

Nancy Irwin
Mike Ernest

1998

Session 1 / Session 2

First place

Sabrina Myrick
Steve Richter

Second Place

Christie Hassan
Aaron Cote

Program Administrator Appointed

Upon Katie Eckman's retirement, **Jan Siebenthal** was appointed Undergraduate Program Administrator and Counselor, with responsibilities for all undergraduate office functions, including registration, counseling and certification.

Awards/Appointments/News National Rankings

The department was ranked 13th in the 1998 US News & World Report rankings of departments within in engineering. In each of the past ten years it has been the largest producer of B.S. Chemical Engineering graduates. In that same period it has also been the 4th largest producer of PhD graduates.

Kelly Lectures

Kelly Lecture - 98

Professor Matthew Tirrell is Head of the Department of Chemical Engineering and Materials Science at the University of Minnesota and holds the Earl E. Bakken Chair in Biomedical Engineering. His research interests are in manipulating and measuring surface properties of polymers, and he has been a leader in bringing microscopic measurements of intermolecular forces to bear on polymer surface problems. He and his coworkers have brought significant new insights into polymer technology, particularly in the area of surface modification with amphiphilic polymers, and biomolecular materials. He has supervised more than 40 Ph.D. students at Minnesota and is a co-author of more than 200 scientific articles and one book, *Polymerization Process Modeling*, published in 1995. In 1997, he was elected to the National Academy of Engineering.

Lectures: **Modification of Surfaces with Polymeric and Biomolecular Amphiphiles**

Self-Assembly Processing of Structured Materials and Chemical Products: Opportunities for Chemical Engineers

Staff News

Dr. Bettina McConnell joined the department as Development Director with dual appointment as Associate Development Director of the Schools of Engineering. Her primary responsibility involves major gifts but secondary responsibilities also encompass annual giving and alumni relations. She very successfully served in development functions with the Krannert School of Management for over a decade and thus brings extensive experience and knowledge of such activities to our School. She will focus particularly on major gift development.

In anticipation of the retirement of **Katie Eckman**, our long-term Undergraduate Program Administrator, the School was fortunate to attract **Janet Siebenthal**, an experienced and highly regarded counselor in the Freshman Engineering Department. Mrs. Siebenthal joined the School in August 1997. **Suzanne S. Flavin** joined the staff of the School as Secretary IV, after many years of experience in various university offices, most recently the Office of the Vice President for Student Affairs.

Also, in Summer 1997, our computer systems manager, **David Carmichael**, resigned after over eight years in that position to take a promotion as User Services Manager with the Engineering Computer Network organization. His replacement, who assumed the position that August, **Steve Plite**, has since left for Computer Science. **Stacey Clark**, who moved from Civil Site Specialist, has now assumed the position.

At the end of April, 1998, **Hannah Moore**, the School's Business Office Manager for over four years, accepted a promotion to a fiscal analyst position in the Development Office of the University. **Diane Martin**, who has a degree in management and previous experience in accounts administration at Purdue, will fill this position in August, 1998. Also, **Hardie Davidson**, who served as Purchasing and Reimbursements Clerk in the Business Office, graduated from Purdue in May and announced plans to commence with graduate studies at another university in Fall 1998. She was replaced by **Sheila Foster**, who has over ten years experience as accounting clerk in the logistics business.

Also in June, **Karen Schneider**, who served as Information Systems Operator and Assistant Cooperative Education Program Coordinator in the Undergraduate Office, accepted a new position in Forestry. **Sandy Hendryx**, who has extensive experience in supporting student counseling and registration activities in the Freshman Engineering Department, joined our School, effective August, 1998. For the position of Information Processing Systems Operator, which had been vacant for an extended period of time, **Marcella Maynard** was hired. She has had extensive information processing experience with an insurance firm in the Lafayette area.

Kenny McGlothlin, who has for ten years been highly effective as demonstration assistant in the instructional laboratory of the School, retired at the end of Fall semester. **Rick McGothlin**, who was hired to replace him, comes with extensive experience in electronics and steam and valve maintenance.

New Faculty

Gary Blau joined the faculty as a Visiting Industrial Professor. A graduate of the University of Waterloo, he has a PhD from Stanford. Over a thirty year career with Dow and DowElanco, he achieved company-wide and national recognition for his accomplishments and expertise in applied statistics.

David Corti, whose undergraduate and graduate degrees are from Penn and Princeton, respectively, joined the School as an assistant professor after a post-doctoral term in the Department of Chemistry at UCLA. His area of expertise is thermodynamics and computational chemistry with particular emphasis on nucleation and adsorption phenomena.

Jochen Lauterbach, assistant professor, joined the School in 1996 after a two-year post-doctoral appointment at UC Santa Barbara. He received his PhD from the Free University of Berlin and BS from the University of Bayreuth. His area of expertise is in catalysis and surface science.

Jay Lee, associate professor. His undergraduate and graduate degrees are from the University of Washington and Cal Tech, respectively. An NSF PYI, he is well recognized for his work in model predictive control, model identification, and applications to batch chemical reaction systems.

Jennifer Sinclair, associate professor. A Purdue ChE undergrad, she received her PhD from Princeton in 1989. She has developed a strong research program in transport phenomena associated with particulate systems and made notable contributions in the modeling and understanding of dense phase particulate flow problems.

Faculty News & Awards

Prof. Frank Doyle, who has since left the department for the U of Delaware, received the Office of Naval Research Young Investigator Award. This three year award is directed towards advancing his research on approaches to nonlinear process control through neuromimetics. He was also winner of the 1966 ASEE Illinois / Indiana Section Outstanding Teaching Award, the 1996 Tau Beta Pi Dean Marion B. Scott Exemplary Character Award, and was one of the Schools of Engineering nominees for the University-wide 1996 Murphy Undergraduate Teaching Excellence Award.

Prof. Greenkorn, who serves as Special Assistant to the President and Vice President of the Purdue Research Foundation, was appointed to the additional position of Director of the Purdue Technical Assistance Program.

Prof. Hannemann was elected Vice President (and President-elect) of the American Academy of Pediatrics.

Prof. Lauterbach was awarded a 1998 NSF Career Award to further his research investigating the surface chemistry of polymer films on metal surfaces.

Prof. Pekny was promoted to full professor.

Prof. Peppas was elected Fellow of the American Physical Society, High Polymer Physics Division. He was also selected to the External Affairs Committee of the Materials Research Society, to the Fellows Committee of the Society for Biomaterials (also elected Chairman of the Drug Delivery Division of this Society), and served on the NSF Panel of Technology for a Sustainable Environment. He received the best paper award from the Bioengineering Division of AIChE.

Prof. Ramkrishna received the Wilhelm Award from the AIChE. He also served as plenary lecturer at the Golden Jubilee International conference of the Indian Institute

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• **Enhance instructional facilities:** Revitalize several instructional facility projects such as upgrading of the senior ChE laboratory, creating a ChE fundamentals lab to support sophomore and junior year courses, expanding the polymer science and engineering lab, creating a control room of the future, upgrading instructional computing laboratories, and designing and implementing a multimedia lecture room. These projects require a combination of alumni, corporate, university, and foundation resources. Campaigns have been launched to this end, including alumni phone-a-thon and mail campaigns to which many of you have generously responded.

• **School administrative and support staff realignment:** Improving cooperative work processes to take advantage of new information technologies. Faculty and staff effectiveness will be enhanced through a 360 evaluation process facilitating feedback and professional growth. Resource implications include departmental information technology enhancements. Recent significant progress:

Graduate Program: We have successfully redesigned the graduate recruiting process under the direction of Professor Joe Pekny and an enthusiastic student-faculty committee. With the active involvement of the Graduate Student Organization, the graduate procedures manual has been revised and key processes clarified.

Undergraduate Program: The ChE Student Advisory Council (ChE-SAC), chartered October 1997, has launched several initiatives including revitalizing the ChE Connections sophomore-senior mentoring program. ChE-SAC has conducted student surveys and town meetings to identify areas for improvement in the School and in the instructional process. A newly hired program coordinator is assisting with these activities.

Faculty: Two new faculty joined the School: Professors David Corti and Jay Lee. David, who received the Ph.D. at Princeton working under the direction of Professor Debenedeti, is an Assistant Professor. Jay, who has already established an excellent reputation and record of accomplishment in the area of model predictive control, is joining at the Associate Professor level. With the addition of Professor Gary Blau in January, 1998, and Associate Professor Jennifer Sinclair in July, 1997, our faculty number stands at 24.

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Facilities: This summer we initiated the first phase of a multi-year renewal program for the senior ChE laboratory which calls for the complete renovation of the 4,500 sq. ft. lab and the refurbishing and/or replacing much of the inventory of 36 experiments. The lab's high-bay area has been fully remodeled and a new loft built, adding 1000 sq ft. of valuable space. With support from the University, the Dean of Engineering, alumni and corporate contributions, the workstations and servers for the two main instructional computing laboratories will be totally replaced over the next months.

Administration & Staff: With help from Mobil Corporation, the School has developed a faculty-staff assessment and feedback program. The Undergraduate office has been reorganized and new staff added. Tina McConnell has joined the School as Development Director to help us meet the resource requirements of the Strategic Plan. While quality people and innovative ideas are the drivers, space is the critical physical constraint which must be addressed to realize the objectives of this plan. Space needs include remodeling of existing laboratories and offices in the CHME Building and acquiring new space for the instructional and research laboratory initiatives of our plan. The faculty has been working with the Dean of Engineering and the New Directions Executive Committee to examine several alternatives through which this need can be met, including the construction of an addition to the CHME Building. This matter is presently under deliberation by the University administration with a decision expected in the Fall.

The vision which drives this five year plan is our commitment to ensure that the Purdue University's School of Chemical Engineering is recognized as the premier source of well-educated and well-prepared chemical engineers in the world. Achieving this vision will require all stakeholders, students, staff, faculty, university, alumni, and corporate partners to work together, contributing ideas, funds, and sweat-equity. Your help will make it happen!



of ChE, New Delhi, December 1997. He also presented a seminar at Rutgers as part of the Merck Distinguished Lecture Series. He was named a Fellow of the American Institute for Medical and Biological Engineering, joining Profs. Peppas and Tsao who had achieved this distinction in prior years.

Prof. Rex Reklaitis, who gave the Texas Distinguished Faculty Lecture at the University of Texas was elected a director of the AIChE.

Prof. Sevick-Muraca, who was promoted to associate professor, was elected Fellow of the American Institute of Medical and Biological Engineering (Professors Peppas, Ramkrishna and Tsao also hold that distinction). She also received an NIH Research Career Development Award as well as a DuPont Faculty Fellow Award.

Prof. Sinclair was appointed to the Editorial Advisory Board of the Journal of Powder Technology.

Prof. Squires, who won the 1996 Shreve Outstanding Teaching Award of the School—the sixth time he has won this award, was named a founding fellow of the Purdue University Teaching Academy.

Prof. Venkatasubramanian has been appointed a University Faculty Scholar, the new faculty distinction intended to recognize exceptional achievement of mid-career faculty.

Prof. Wang was invited plenary lecturer at the Brazilian Adsorption Society Meeting.

We salute an educational trailblazer...

Sarah Margaret C. Willoughby (PhD '50), was the first woman to receive a doctorate from the School of Chemical Engineering. She was also the first female doctorate recipient to teach at the University of Texas at Arlington.

While at Purdue she studied with R. N. Shreve, with minors in forestry and agricultural biochemistry. After graduation she worked as a research chemist at the Monsanto Chemical Company in Boston. Before retiring in 1983 she taught at Arlington for 30 years, where she light-heartedly claims to have taught every premedical and pre dental student practicing professionally in the city! "Historically speaking, this was a man's field and it was very difficult for women to get into it or excel," she says. She was recognized by UT-Arlington by being named a Piper Professor by the Chemistry department and a Professor Emerita. Our school recently named her an Outstanding Chemical Engineer. Her numerous awards, beyond the academic, range from being nominated for the 1960 Business Woman of the Year in Arlington to being named a Kentucky Colonel, which gave her the title, The Honorable Sarah Margaret Willoughby.

Alumni News

1931

Ellis P. Owen (who also earned graduate degrees in metallurgy in 1933 and 35) writes to say that he retired in 1968 from a career mostly as a quality engineer in aerospace, both government and contractors—"very fulfilling." From 1976 to 1985 he was a world traveler, visiting 43 countries, mostly by freighters. Mrs. Owen passed away in 1991. He says he now leads "a quiet life as a bachelor, enjoys cooking and owns a home with a view of the mountains and San Luis Rey valley."

1933

Harry H. Hull writes to announce, in association with the Society of Plastics Engineers, the release of his book *The Thermodynamics of Rheology* and its availability through the Society.

1949

William H. ("Bill") Rodewald retired as VP Sales in 1991 from Fluor Daniel Inc. and as senior consultant in 1995. He says that he is "now cruising, golfing and baby sitting grandkids with Judy (Boxell) who also graduated in 1949 with a BS in Chemistry."

Harold E. Stelling informs us that he retired from the US DOE in 1986 and married Mary Loben on September 29, 1995. They are now living in Lecanto, Florida.

1950

George W. Warner, who is retired, writes that he also obtained NYU accounting and law degrees, and is an "inventor in computers/softwares."

1952

S. George Bankoff (PhD) was inducted into the National Academy of Engineering. He is the Walter P. Murphy Professor of Chemical Engineering, Emeritus at Northwestern University. He also received the 1996 Donald Q. Kern Award from AIChE. He was named a Purdue Distinguished Engineering Alumnus in 1970 and an Outstanding Chemical Engineer in 1993.

Robert McFedries (BS '52, MS '56) retired after serving as Chairman and CEO of Destec Energy, a major independent power generator.

1953

Vern W. Weekman (BS '53, PhD '63), who retired from Mobil Oil as manager of its Central Research Laboratories, served as the 1997 vice president of the American Institute of Chemical Engineers and is now the 1998 president. Named an Outstanding Chemical Engineer in 1993, he is also a Purdue Distinguished Engineering Alumnus. In 1985 he was elected to the National Academy of Engineering. He received his bachelor's degree in 1953 and his doctorate in 1963.

1954

Harry B. Lansing visited the campus a while back and toured the old and the new in ChE. He says that he retired from LiphaTech Inc. as Director of Operations. A holder of several patents, he is still active in the AIChE.

James F. Schorr was honored as a Krannert Graduate School of Management 1997 Distinguished Alumnus.

1956

Arthur W. Carew retired in 1990 as manager-compressor quality control at General Electric. The holder of three patents, he does consulting work in ISO 9000 and also for two companies in Europe.

G. Richard Eykamp received the 1996 Distinguished Citizen Award for civic work from the Buffalo Trace Council, Boy Scouts of America.

Douglas E. Leng (PhD), a senior research scientist at Dow, received the AIChE North American Mixing Forum Award in 1995. The author of eight publications and eight patents, he also received the Dow Gold Medal in 1993.

1957

Robert D. Fox is an environmental technology consultant. He retired in June 1995 as Vice president of Technology Development for IT Corporation, after 29 years in the field. He is also the president of the Purdue Club of East Tennessee.

1958

Sanford Astor was named chairman of the Intellectual Property Law Committee of the Tort and Insurance Practice Section of the American Bar Association

Gary W. Poehlein is director of the chemical and transport systems division within the engineering directorate of the National Science Foundation.

William V. Longley, who retired from Ford Motor Company, works for Color Match Consulting.

A. L. Reitemeier (BS '56, MS '58) sends greetings from the Czech Republic, where he worked from 1993 until last summer. In 1991, after 27 years with Teepak, Inc. he retired. When the company purchased two manufacturing plants and one converting plant in the Czech Republic, he was asked to come out of retirement to help the plants fit into a Western capitalistic system.

Starting in February 1994 he assembled and guided a process engineering department of 13—a type of function which historically had not existed. He highly recommends Prague as "one of the most enjoyable, interesting cities in Europe . . . and also the least expensive major city in Europe." After retiring again last summer he looked forward to "again being able to follow Purdue football which, like golf and a lot of other things, were missed while being over there." He also writes that he fondly remembers Prof. Kenzler, who died last year ("I will always remember the enjoyable way he taught . . . when I was his student").

Gerald A. Russ is a professor at the University of Rochester where he has been on the faculty for over 14 years. He writes that his son David is a Purdue grad (Sociology, 1989), that **Herb Bartick** (BS '58) is in Alaska, Atlantic Research.



Frank C. Becker

1959

Frank C. Becker (BS '59), a Vice President of Chemical Manufacturing and Research and Development for Abbott Laboratories in North Chicago, IL, was named a Distinguished Engineering Alumnus in 1997.

Lloyd C. Cooper was appointed National Sales Manager - Original Equipment and Export Sales for Bridgestone/Firestone Offroad Tires in Nashville, TN.

Robert V. Wargin (BS '59, MS '61, PhD '63), of Darien, Illinois, writes to say that Wargin Engineering was established in 1995 to provide engineering and scientific consulting as well as accident investigation, failure analysis, and litigation support in the areas of polymers, chemistry, chemical engineering and fire and explosion.

1960

Roberta Banaszak Gleiter served a term as national vice president for student services for the Society of Women Engineers. She is a Project Engineer in the Space Based Surveillance Division at the Aerospace Corporation in Los Angeles.

David L. Click has been serving with the Division of Overseas Ministries, Christian Church-Disciples of Christ in Lesotho, Africa.

Robert A. Jurish is Chief Engineer with Middough Associates. He completed a 4-1/2 year study of 36 petroleum refineries in central and eastern Europe, Ukraine and Kazakhstan where he was project director/manager and lead author of the 16 volumes published covering the economic and technical aspects of the refining industry in these areas. He writes that "the use of Czech language at home and college German sure came in handy."

Alumni News

Jaime Wisniak (PhD '60) was elected president of the Israel Institute of Chemical Engineering. He holds the Benjamin H. Swig Chair in Chemical Engineering at the Ben Gurion University of the Negev. In 1991 he was named a Purdue Distinguished Engineering Alumnus and in 1993 an Outstanding Chemical Engineer from our School.

1961

Joseph Hirsch retired after almost 25 years with Syntex Corporation as Associate General Counsel and Director, Commercial Contracts and General Law. He writes that he and Bette live in Palo Alto and is "taking time off" while he contemplates what he wants to do in the future.



Dr. David Rea

1962

David Rea (BSChe '62) the Vice President of Nylon Technology for DuPont Nylon, was named Distinguished Engineering Alumnus in 1996.

1963

Martin Feinberg (MS) received the R.H. Wilhelm award in Chemical Reaction Engineering from the American Institute of Chemical Engineers.

Keith V. Rocky is a partner with the law firm of Dressler, Rocky, Milnamow & Katz Ltd. in Chicago.

1964

Pierre R. Latour (MS '64, PhD '66) joined Dynamic Matrix Control in Houston TX, as vice president of business development.

1965

James I. Alyea is Senior Project Manager with the M.W. Kellogg Company in Houston, Texas.

Shaw F. Skillings Cincinnati OH, is vice president and general manager, global oleochemicals group, of Procter & Gamble, North America

Lawrence Swerling is a global managing director for RohMax.

1966

James A. Shaevel (BS '66, MS '68) is department head for Pilot Plant Operations for UCAR Emulsion Systems of Union Carbide Corporation in Tucker, Georgia. He writes to say that his daughter Rachel graduated with honors from I.U. and spent a year as a visiting grad student at Hebrew University in Jerusalem. His son David is studying computer science at the University of Texas in Austin.

William D. Young, the chief operating officer of Genentech, was elected to the board of directors of California Healthcare Institute.



Craig M. McLaughlin

1968

Craig M McLaughlin (BS '68) is Vice President and Manager for Licensing for Bechtel Corp. of Houston, Texas. He was named a Distinguished Engineering Alumnus in 1997.

Andrew L. Crowe, Eli Lilly's director of supplier diversity, received the 1997 Black Engineer of the Year Special Recognition Award for community service. After earning his degree he became involved in engineering the specifications for and de-

signing Lilly factories, eventually moving into management of them. After stops in Spain, Clinton, IN, and Puerto Rico, he was transferred back to Indianapolis and made director of corporate environmental engineering, technology and facilities delivery. Four years later he was made Lilly's first director of construction and minority business development. In 1995 his title was changed to its present one.

1969

Keith G. Johnson is manager of worldwide business development of Atlantic Richfield.



Dr. Ching-Tien Liou

1971

Ching-Tien Liou (MS'71, PhD '72) President of the National Taiwan Institute of Technology, was named a Distinguished Engineering Alumnus in 1996.

1972

J. David Martin was named manager of marketing for the Pacific and Asia for Nalco Chemical Co. He is located in Singapore.

Z. Peter Sawicki is an attorney with Kinney & Lange in Minneapolis specializing in intellectual property law and patent prosecution in both the U.S. and foreign countries. He was profiled in *Law & Leading Attorneys*.

1973

Walter B. Mueller is an administrator of new technology for the Cryovac Division of WR Grace & Co. at the company headquarters in Duncan, SC.

Raymond E. Zbacnik is listed in the *Dictionary of International Biography* and Marqui's *Who's Who in America 1997*

1974

Jay V. Ihlenfeld is general manager of the performance chemicals and fluids division of 3M.

Michael H. Ott is president and chief executive officer of Polysciences, Inc. which has operations in Warrington, PA, and Eppelheim, Germany.

1976

Peter N. Lodal is a senior technical associate with Eastman Chemical Co.

1977

John P. Erickson is vice president of engineering services for Doran & Associates.

Deborah I. Grubbe is Director, Integrated Operations & Photopolymers and Electronic Materials for DuPont. She is also president of the Chesapeake Bay Girl Scout Council.

Joseph A. Hubert is a senior project manager with Process Facilities Inc. in Boston.

1978

Stephen W. Waas has been named manager of plant and manufacturing engineering at Nanophase Technologies Corporation.

1980

Edward F. Good is a project manager with Omnes in Houston.

David S. Grubbs is managing partner of Cardiology Physicians, P.A.

Janet Murdock is a Senior Applications Software Engineer with Design Power, Inc. in Cupertino, California. She has a PhD in Computer Science from Stanford (1995).

1981

Michael L. Foster is a senior project engineer at Eli Lilly in Indianapolis.

Steven K. Pugsley is Production Readiness Coordinator for the Delphi Interior and Lighting Systems Division of General Motors Corporation.

1983

William J. Pottratz was awarded the Safety Engineer of the Year award from the System Safety Society and the System Safety Professional of the Year award. He is a safety engineer at the U.S. Army Aviation and Missile Command.

Gavin Sinclair has published an inspirational book that grows out of his own experiences: *All things work for Good: A Book of Encouragement for people with Cancer, Their Family and Friends* (The Positive Press, Tucson, AZ, 1997). He has a PhD in economics and teaches at Purdue.

Brian E. Stutts (PhD) won the ACS Team Innovation Award. He is Manager, Celcor Forming Process Development for Corning Inc.

1984

Cynthia Sexton Cox earned a master's degree in national security and strategic studies from Naval War College in Newport RI.

James I. Koewler Jr. is an associate for the law firm of Kahn, Kleinman, Yanowitz & Aronson Co., L.P.A. in Richfield Ohio.

Brian R. Reising is manager of health and safety with Ashland Chemical Co's Environmental Health and Safety Department.

Kurt W. Shei has been Plant Manager since 1992 for Essex Specialty Products, Inc. of Dow Chemical Company. Married for 11 years, he and his wife have two children, Kris and Alex.

Mark E. Schumm is a student at Concordia Seminary.

1985

Michael R. Goble was promoted to vice president of production and engineering with Diamond V Mills in Cedar Rapids, IA.

Maria (Rumbaugh) Gross writes from Portland, Oregon, to say that she is on temporary leave from environmental consulting to take care of her two children.

Wendell P. Harden was promoted to information systems manager for Nova Chemicals.

Stephen J. Lewis has begun a practice with The Cardiology Center of Cincinnati

Antonio G. Mikos (MS '85, PhD '88) was the 1996 recipient of the Materials Research society's Outstanding Young Investigator Award. His work was cited "for the synthesis and processing of new biomaterials for tissue engineering, supports for cells, tissue growth conduits, targeted cell-adhesion substrates, and cellular response stimulants." He is the T.N. Law Assistant Professor of Chemical Engineering and Bioengineering at Rice University.

Bruce L. Murden is an Applications Engineer for Chicago Rawhide ("nope, not leather goods — we make oil seals"), in their Detroit sales & engineering office in Southfield, Michigan. You can reach him at BLMurden@aol.com.

1986

Joan Treager is Manager of Material Science with BTR AntiVibration Systems in Wabash, Indiana.

1987

Lisa Fuqua Groves is Safety and Ecology Coordinator with BASF. She writes to say that Andrew William was born on February 25, 1995. Lisa also offers news that **Jennifer Johnson Aamodt** and Bill had a baby, Pauline Elizabeth, on October 13, 1995.

1988

Daniel G. Berger was named manager of "Prototyping Development" at IBM. He writes that he and Kim Korn were married on Sept. 25, 1993.

Christopher N. Bowman (BS '88, PhD '91), an associate professor at the University of Colorado, was named a Camille Dreyfuss Teacher-Scholar for 1996. He is also a recipient of the 1997 Young Investigator Award of the Materials Research Society.

David A. Fleming was promoted to ion implant process engineering manager with National Semiconductor. He had an article published in the Semiconductor Trade Journal on implanter charge control.

Kristi and Greg Foster tell us they have moved for the fifth time since graduation (third time in Texas). Greg is with Quantum Chemical's polyethylene plant; Kristi is a sourcing specialist with Mobil, developing procurement strategies for the plant machinery and equipment group. ("No kids yet; just two dogs. Having fun.")

Mary (Toerne) Halliwill, after eight years at Philip Morris R&D in Virginia, has taken a new position with Hormel Foods in Austin, Minnesota. She and John were married 11/26/94.

1989

Theresa Hays Mixon is a market planner with Exxon in Houston.

Christopher A. Paul has been a technical liaison to refineries for Great Lakes Carbon Corporation since December of 1995. He completed an MBA from Texas A&M in 1991 and worked for Texaco R&D for the next four years.

Dale M. Ressler received his teacher certification in 1994 and is teaching high school chemistry.

Roberta Peterson-Ressler is a production specialist with Dow. Their son, Nathan Bradley, was born June 17, 1995.

1990

Pedro Arce (MS '87, PhD '90), from the FAMU/FSU College of Engineering at Tallahassee has won the Development Scholar Award—only the third engineering faculty member to receive such an award.

Mohamad H. Hamdan is a senior investment analyst for Peregrine Research in Kuala Lumpur.

Candace Cline Krautkramer was promoted to research scientist in the Infant Care Sector at Kimberly-Clark Corp. (see below for her "report")

Brian E. Saunders is a postdoctoral research fellow at the University of Wisconsin working with the application of parallel computing on distributed networks of workstations towards the solution of various problems. He completed his PhD in Chemical Engineering at Wisconsin in December (however, he writes, "don't ever call me Dr. Saunders, though").

Robert M. Shay (MS 86, PhD 90) has joined the GE Research and Development Center in Schenectady, New York.

1991

Timothy D. Lebrecht earned an MBA from Lehigh University in Bethlehem, PA.

1992

Dongchan (Shaun) Ahn completed his PhD at Northwestern in August 1997, married Debra J. Smart in September, and began working for Dow Corning as a senior chemical engineer.

Kristi Anseth (BS '92), who was the first graduate student of Christopher Bowman at Colorado to complete a PhD, received the Camille and Henry Dreyfuss Award, a prestigious award for young educators in the first year of their career. She is an assistant professor at the University of Colorado.

Kevin L. Cooney graduated from Washington University in St. Louis School of Law and received the Scribes award for outstanding published writing contributions.

Alumni News

Ho-Suk Choi (PhD) is an assistant professor in the Department of Chemical Engineering at Chungnam National University in Korea.

Derek S. Biggs is the wet milling/feed recovery division superintendent at the Washington, IN, Grain Processing Corp. plant.

Daniel J. Harbison is a technical engineer for Envirometric Software in Newark DE.

Lynda (Kneisl) Thrasher is an Operations Technician with Koch Refining in Eules, Texas. She and Tom (Purdue, NE '92) were married in September 1995.

Myron. W. Wessel is Production Supervisor/Engineer with Allied Signal. He and Sherry Sommer were married on April 26, 1996.

1996

John G. Wheeler is a project engineer for Trinity Consultants Inc. in Dallas.

Alumni notes -

"far-flung correspondent" Candee Cline-Krautkramer

Candee has become one of our most reliable sources of information about our alumni. Here, in her own words, is some news from the front.

I still work in product development at Kimberly-Clark designing new and improved diapers! . . . I find this extremely rewarding and exciting, especially with many of my friends. . . beginning families! I was able to see many of my ChE classmates at my wedding in Wisconsin (to Peter Krautkramer) in July of 1997. **Leeann (Miller)** and **Scott Magee** ('89) traveled from Allentown, PA; both still work for Air Products. **Kate (Sorenson)** and Jeff Jackson (ME '90), who traveled from Minneapolis with their 2 yr old daughter Kayla, are still with 3M. **Mike** and **Elise (McLaughlin) Leese** came from Chicago with 2 yr old James. Mike switched to Abbot Labs, from Amoco, a few years ago and Elise quit work to take care of James. **Jeff** and **Julie (Thrasher) Johnson** traveled from southern Indiana with Trey, 4 and Haley, 18 mon. They just transferred from Houston. Julie is working now while Jeff plans to attend law school and eventually go into politics. He was active and successful in the Republican party in Texas and had his own radio show there. **Brian Saunders** received his PhD from Wisconsin and is working at the U of Illinois.

I also spoke to **Michael Purcell** before the wedding. He was married in August and is working for Crompton and Noll in Chicago. **Bob Adams** is in Houston and was recently engaged. **Jeff Smith** received his PhD from LSU in May '96 and went to work for Dow Corning for a time. He then returned to Louisiana where his wife Jean works for Exxon. I believe Jeff is teaching at LSU now. **Curt Calhoun** and his wife Deb relocated from Utah to Chicago and had their second child in July (1997). I believe both are still with Amoco near Frankfort IL.

Corporate Support Ensures Excellence in Chemical Engineering Programs

The School of Chemical Engineering appreciates gifts made by corporate and foundation donors.

- Funding from New Directions companies designated for instructional facilities, teaching programs, and research interests of young faculty. Investors in New Directions include **Air Products and Chemicals, Amoco, Dow Chemical Company, DuPont, Eastman Chemical Company, Eastman Kodak Company and Eastman Kodak Charitable Foundation, Exxon Education Foundation, Eli Lilly, Lubrizol, Millenium Petrochemicals, Inc., Mobil, Nalco Chemical Company, National Starch and Chemical Foundation, The Procter & Gamble Fund, and Union Carbide.**
- **Phillips Petroleum, DuPont, and Shell Oil Company Foundation** for faculty development and research support.
- **Amoco** and **Air Products and Chemicals** for minority program gifts made to the School.
- Scholarship awards received from **American Cyanamid Company, Valspar Foundation, and The Procter & Gamble Fund.**
- **Intel Corporation** announced a major, multi-year \$225,000 equipment grant for Chemical Engineering. This year, Intel made its first gift valued at more than \$43,000.
- **Abbott Laboratories Fund** designated its gift for the School's instructional facilities and **BASF Corporation** designated its gift for undergraduate laboratory facilities.
- Corporate support from investors funds general research interests that advances knowledge in critical areas and results in teaching innovations. This year, leadership support for this area has been received from **Air Products and Chemicals, Alcon Laboratories, Dow AgroSciences, Eastman Chemical Company, Exxon Education Foundation, Mobil, Searle Pharmaceuticals, Westvaco, and 3M.**

"Funding from corporate and foundation investors offers Chemical Engineering the opportunity to engage in teaching and research which is cutting-edge. These activities impact the education students receive, support faculty advances in research and teaching, and fund purchases of instructional equipment for student laboratories. All of these initiatives prepare the School and its students for the future."

G.V. Reklaitis

In memoriam

Harold H. Anderson ('38)	Edgar P. Gregory ('30)	Eugene K. Lau ('29)	Edward M. Rothermel ('33)
Philip C. Baker ('32)	James B. Guffey ('70)	William H. Leukhardt Jr. ('42)	Robert O. Schmitt ('36)
Jerome D. Beale ('42)	Joseph K. Haney ('30)	Robert L. Lewis ('34)	Rudolph Schuler ('48)
Brandt H. Beckett ('47)	Frederick J. Hellhake ('51)	Harold W. Lownie Jr. ('40)	William Sholle ('38)
Fred H. Bergstedt ('34)	Arthur P. Himes ('33)	Wilmer H. Malone ('34)	John P. Short ('56)
Jack M Berry ('39)	Raymond F. Hine ('24)	Charles G. McCollough ('38)	Ray C. Smith ('47)
Carter C. Boyd ('40)	Joseph H. Hoefer ('27)	Robert E. Meiser ('39)	Frank C. Smyers ('36)
Richard Brown ('54)	Ross B. Holler ('53)	Albert C. Miller ('33)	John P. Snyder ('48)
Dalton V. Brudson ('38)	Charles D. Hoyt, Jr. ('35)	Loren J. Miller ('37)	Thomas J. Stephens ('41)
Nolan A. Curry ('29)	Charles Hughes ('78)	Richard Y. Moss ('34)	A. John Still (BS'31, MS'32)
George D. Dewey ('41)	Arthur H. Huisken Jr. ('42)	Hugh H. Morse ('48)	John W. Stinerock ('49)
Albert J. Diener ('34)	William T. Hunt ('37)	Fred R. Motsch ('33)	Ernest F. Stroh ('54)
George C. Eastin ('43)	Otto M. Ikeda ('50)	Lee J. Ninde ('49)	William M. Swanson ('53)
Lawrence A. Fleischman ('46)	Charles L. Irwin ('56)	Arthur F. Oldham Jr. ('53)	Oscar J. Theobald, Jr. ('31)
George G. Gale ('49)	Frank D. Johnston ('23)	Floyd J. Pearman ('84)	C.V. Thomas ('47)
Jack Gatewood ('42)	Charles E. Karabell ('55)	Richard H. Pickard ('37)	Thomas Reynolds ('22)
Donald P Gentry ('44)	Westcott C. Kenyon ('34)	James H. Poulson ('33)	Otto A. Trzos ('34)
Richard P. Gerke ('42)	Philip H. Klein Jr. ('55)	Earl M. Reitz ('35)	Richard H. Walker ('55)
Alfred M. Goodman ('36)	Joseph Kovacs ('33)	Andrew P. Reusser ('83)	Douglas R. Wreck ('45)
Mervin K. Goss ('50)	Charles E. Lacy ('39)	William L. Roth ('41)	Andrew J. Wright Jr.H ('44)
Robert E. Grames ('51)	Charles E. Lang, Jr. ('39)	Lyle W. Rothenberger ('36)	William H. Zuse, Jr. ('50)

Mervin K. Goss ('50) was a Vice President and a Corporate Director of Environment, Safety and Security for Sandoz Pharm. Active also in community service he served on the school board and was President of Kiwanis. He is survived by his wife, Jeanne, and three children, Steve, Scott, and Suzanne.

Ralph A. Morgen, who was one of the first program directors of the NSF, joined Purdue in 1954 as Professor of Chemical Engineering and Research Director of the Purdue Research Foundation. His degrees, all in chemistry, were from the University of California at Berkeley. At Purdue he did research in pigments and polymer coatings. Also during this period he was elected vice-president of ASEE. In 1959 he became President of Rose Polytechnic Institute and in 1961 Dean of Graduate Studies at the Stevens Institute of Technology. He retired in 1968.

Helen C. Wilson Giese

Born in West Lafayette on April 24, 1910, she was employed almost continuously by Purdue from 1931 to 1970. A secretary to Prof. Bray, she became the administrative assistant to Prof. Shreve and worked in that capacity for four of the first five heads of the School of Chemical Engineering (including Professors Comings, Golding, Schuhmann and Grace—the latter two of the Materials program). According to Prof. Peppas' history of the School: At one time she was in charge of *everything* going on in the School, the Chemical, Metallurgical and Gas Engineering "options," the library, the building, the counseling of the students and the budget of the school. During the long illness of Bray in the 1940's she became the true arbitrator of the everyday activities of the School. As Professor R.W. Vest mentions: "Whenever any question involving students arose my stock answer had become: Ask Helen." And at his retirement, R.N. Shreve wrote: "You have in truth been *the* Executive Assistant in this School. I feel that you. . . have made it possible for me to administer this School and at the same time carry on research and teaching to a great extent."



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Total support from ChE alumni for the 1997-98 annual fund year exceeds \$315,000 with gifts from more than 850 ChE alumni.

Major Gifts from Individual Investors: Partners in the Future

Several individuals have made special gifts designated for scholarship and graduate awards:

- **James H. Rust, BSChE '58, PhD '65**: the James Harold Rust Scholarship Award for Chemical Engineering undergraduate and graduate students.
- **James, BSChemE '54 and HDR '87, and Jane Schorr**: the Jim Schorr Scholarship Award in Chemical Engineering through The Jim Schorr Baseball Scholarship and Chemical Engineering Scholarship endowment.
- **Alexander B. Clarke, BSChE '41**: an endowment to fund scholarship awards for undergraduate chemical engineering students.
- **Joel B. Miller** whose gift from the Albert C. and Maureen P Miller Fund established an endowment for scholarship awards. This gift was made through the Albert C. Miller, BSChE '33 and Maureen P. Miller estate.

Several alumni support the School annually with leadership gifts of \$1,000 or more to Chemical Engineering. Alumni and friends who supported the School at this level and who made their gift between July 1, 1997, and May 31, 1998, are recognized below.

- ❖ Eugene Allspach, Friend, William Bares, BSChE '63 and HDR '91,
- ❖ Richard Barnes, BSChE '69,
- ❖ Frank Becker, BSChE '59, Robert Bradshaw, PhD '61,
- ❖ Robert Bringer, PhD '56, Bernard Butcher, BSChE '50,
- ❖ Frederic Carl, BSChE '28, Chipman Family Trust
- ❖ Robert Covalt, BSChE '53 and HDR '92,
- ❖ Robert and Marilyn Forney, PhD '50 and HDR '81, BSChE '47,
- ❖ Abbie Griffin, BSChE '74, Frederick Haas, BSChE '57,
- ❖ Charles Henderson, BSChE '50,
- ❖ James B. Henderson, PhD '49, and HDR '83,
- ❖ Hobart Johnson, BSChE '47,
- ❖ Norman Kidder, BSChE '73,
- ❖ Philip Krug, BSChE '52, Donald Lee, BSChE '51,
- ❖ David Lichtenheld, BSChE '74,
- ❖ Maurice Lorenz, PhD '60,
- ❖ Edwin Luedeka, BSChemE '41,
- ❖ Richard Mallinson, PhD '83,
- ❖ Robert McFedries, MSChE '56,
- ❖ Roger Moser, BSChE '51, Gordon Mounts, MSChE '59,
- ❖ Randall Murrill, BSChE '42,
- ❖ Paul Orefice, BSChE '49 and HDR '76,
- ❖ Donald Orr, BSChE '61, Michael Ott, BSChE '74,
- ❖ Paul Pettler, BSChE '58, Bettie and Ray Rankin Trust, Friend and BSChE '48,
- ❖ Russell Sault, BSChE '50,
- ❖ Carl Schleck, BSCmE '49,
- ❖ James Schorr, BSChE '54 and HDR '87
- ❖ Showalter Trust,
- ❖ David Silarski, MSChE '76,
- ❖ Marshall Sittig, BSChE '40,
- ❖ Gerald Skidmore, BSChE '54,
- ❖ Dean Smith, Friend,
- ❖ William Smith, BSChE '69,
- ❖ Edward Steinhoff, BSChE '56,
- ❖ Thomas Storer, BSChE '59,
- ❖ Stanley Tebbe, MSIA '68, Bartholomew Waters, PhD '88,
- ❖ Robert Wheeler, BSChE '37 and HDR '64,
- ❖ James Willis, PhD '42,
- ❖ William Wishlinski, BSChE '68,
- ❖ John Woolling, MSChE '45.

"Annual fund and major gifts from alumni ensure we continue to develop and implement leadership programs in our classrooms. These gifts support faculty activities that lead to new knowledge and a dynamic learning environment for our students."





Chemical Engineering Fund-Raising Initiatives: Investing in the Future

CHEMICAL AND METALLURGICAL
ENGINEERING

"We appreciate gifts alumni and friends make to our School. These are tremendously important. They provide resources for the School to continue to invest in student and faculty initiatives, instructional facilities, and research and teaching projects. These activities prepare our students for their careers and ensure that our School continues to be recognized as a leader in chemical engineering education and research. Many alumni double the value of their gifts by participating in company matching gift programs. This support is important to the School and reflects the strong commitment alumni and their companies have to supporting excellence in higher education."



Alumni, friends, corporations, and foundations contributed more than \$550,500 in annual fund gifts and an additional \$338,700 in capital gifts to Chemical Engineering this year, including

- \$280,000 in unrestricted gifts from alumni, friends, and corporate donors to support student and faculty initiatives
- \$55,150 in alumni and matching gifts designated for improving and upgrading undergraduate instructional facilities made through the ChE Phone-a-thon
- \$212,792 from alumni/corporations for special projects and programs including scholarships, graduate awards, faculty development, research initiatives, and minority programs.