MESSAGE FROM THE CHAIR
Dr. Liang-Shih Fan

Dear Alumni:

You have all recently received our Annual Report and I am pleased to bring you this update on Department activities. The Department continues to thrive and faculty and students continue to win awards in various areas.

In 2002-2003, the Ohio State Department of Chemical Engineering is celebrating our Centennial year. The Department will commemorate this milestone with a major event on Thursday and Friday, April 24-25, 2003 at the new Blackwell facility. On April 24, four distinguished chemical engineering educators will present their visions on unsolved problems that chemical engineers will face in the future: Professor Howard Brenner, Massachusetts Institute of Technology, Fluid Mechanics; Professor Matthew Tirrell, University of California, Santa Barbara, Advanced Materials with emphasis on Nanotechnology; Professor Michael Shuler, Cornell University, Biochemical Engineering; Professor Arthur Westerberg, Carnegie Mellon University, Systems Engineering. Their views will be published in a volume that we plan to disseminate to important academic, industrial, and governmental leaders in the profession. On April 25, the focus will be on the development of the chemical engineering profession, starting with a presentation by Professor L.E. (Skip) Scriven of Minnesota. This will be followed by a audio visual presentation on the history of the Department starting from the early years. In the afternoon, alumni from different eras and faculty will speak on chemical engineering at Ohio State from the Withrow and Koffolt years to the present. Tours of the department will follow. There will also be a dinner on April 25 at the Blackwell for alumni, faculty, and friends of the department. We hope that many of you will be able to join us for these events.

Mankind is currently experiencing a revolution in our understanding of biological processes, from those occurring in "simple" bacteria to those occurring in human beings. Like other scientific revolutions of the past, rapid scientific advances lead to rapid development of engineering disciplines to assist in the understanding and application of this new knowledge. Much of this current revolution is taking place at the molecular level. In fact, a whole field of biology, referred to in general as "molecular biology," reflects this change.

While a significant number of commercial products, targeting human health care and other markers are currently available as a result of this revolution, it is anticipated that the rate of new product introduction, based, at least in part, on molecular biology will significantly increase. While biological applications of engineering principles have existed for over a hundred years, Chemical Engineering has unique roles to fulfill in this vital, developing industry. Chemical Engineering is traditionally the engineering field that links chemistry to engineering, and fundamentally, chemistry is molecularly based.
As a result of the changing role of chemical engineers, many chemical engineering departments have already undergone or are contemplating changes in department names to reflect their bio-emphasis and to re-position themselves for the vast challenges in the bio-field for many years to come. The Chemical Engineering Department at Ohio State University has selected the name “Chemical and Biomolecular Engineering” to align itself with the names used by leading chemical engineering departments in the country. The Chemical Engineering faculty at Ohio State University is heavily engaged in research and teaching in the field of biomolecular engineering. Faculty in the Chemical Engineering Department are also extensively involved in biological research. The specific bio activities of the faculty include: Jeff Chalmers (cell culture immunomagnetic cell separation), Marty Feinberg (complex biochemical networks), Winston Ho (bioprocessing with membranes), Jim Lee (biomems), Jim Rathman (interfacial phenomena in biological systems), S.T. Yang (fermentation, cell culture, tissue engineering), L.S. Fan (fluidized bed bio reactors with immobilized living cells), Bhavik Bakshi (life cycle analysis), Dave Tomasko (nano-pharmaceutical particle synthesis using supercritical CO2 techniques), and Steven Lee (20% appointment in Chemical Engineering) (microbiology and biomedical and micro-nano microbial phenomena). The Department currently has five open positions. We will focus on new appointments with strong bio backgrounds to support the new emphasis of the Department in the biomolecular field.

We believe that chemical engineering training with the inclusion of biology offers the best career path and best preparation for students who wish to be involved in and make future contributions to the bioengineering field. Chemical engineering, with its traditional curriculum strength, can embrace this area extremely well by including biology subjects as they currently include physics, chemistry, and mathematics. Feedback from industry has repeatedly indicated that the versatility of the skills obtained by students in chemical engineering is adaptive to the ever-changing chemical and biochemical industries. Thus, the combination of chemical engineering and biomolecular engineering allows students to engage effectively in the highly interdisciplinary field of bioengineering. A new option in this area has been approved by the faculty and will be implemented in Autumn 2003.

We are progressing well on our building renovation plans for Koffolt. I have made a presentation at the final hearing of the University Space Committee and they will meet in April to consider approving a Planning Grant to develop detailed plans for the new building.

I would like to inform you of a correction to the last Annual Report, in which the information for two graduates was inadvertently switched. Yi-Jc Juang is currently employed at Aclara Biosciences in California and Mike Elsass was with Ohio State University and is currently seeking employment. We apologize for the error. We have received several calls regarding the donor’s list in the Annual Report. That list was for the year 2001, which is why some of you were not included.

Beginning this year, we will be posting the Annual Report and the Alumni Newsletter on the Department’s web site. The web site address is http://www.che.eng.ohio-state.edu/

I wish you all the best in the coming year and hope to see many of you at the Centennial Celebration. If you wish to attend the Centennial Dinner at the Blackwell at 6:30 PM, Friday, April 25, 2003, please make a reservation with Sherry Stoneman at 614/292-7907 before April 15. Banquet tickets are $35 per person. As always, whenever you are in Columbus please feel free to stop in the Department for a visit.

[Signature]
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Umit Ozkan 292-6623
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Tom Koffolt, son of Joe Koffolt, joined the Class of 1952 for a reunion in Koffolt Lab

Professor Jack Zakin and Jack Ramsthaler play a rousing game of ping pong in Unit Ops at the Class of Champions (1952) reunion
As you know, the Chemical Engineering Alumni Society has been formed and every graduate of the department is a member. However, the board of governors has voted to create a special category of membership, called the JEWELS CLUB, comprised of members who contribute $50 or more annually to the general development fund of the department. If you are already a donor to the Department, that is very much appreciated and we hope that you will continue with your support. If you are in this category, we will count the first $50 of your gift as membership in the JEWELS CLUB.

All of us receive several requests annually to give to The Ohio State University, the College of Engineering and other OSU organizations. However, the Chemical Engineering Department has not done this. As a result, the department often benefits only indirectly from alumni generosity. By contributing directly to the Department, however, it is possible not only to help your alma mater, but also to focus your giving on the area of higher education that provided you with your degree.

Your giving can help make a difference. With state support declining, sometimes the only difference between an excellent chemical engineering department and a superior one are the extra funds that come from individuals and corporations. Hence, you have this opportunity to invest in the value of your degree.

In securing Dr. L.S. Fan’s endorsement of this approach, we agreed that we had no idea regarding the amount that might be donated. However, there was no uncertainty about possible use of the funds. The Chemical Engineering Department needs scholarship funds, seed money to help attract new faculty, continual upgrades of the unit operations lab, and seed money for new research projects. In addition, Koffolt Lab is aging and there currently is no really suitable meeting room for visitors from industry and others to use. When we see what funds members of the JEWELS CLUB contribute, we can be sure that L.S. will put them to good use.

**Jewels Club Membership**

Name ___________________________________________ Degree and Year ________

Address _________________________________________

City/State/Zip ________________________________

Jewels Club Contribution ________ $50 ________ Other

Make Check Payable to: The Ohio State University
                        Department of Chemical Engineering
                        121A Koffolt Laboratory
                        140 West 19th Avenue
                        Columbus, OH 43210
CHEMICAL ENGINEERING SHINES

ALUMNI AWARDS

MERITORIOUS SERVICE CITATION

This special citation was established by the faculty of the College of Engineering in 1975 to recognize people "whose sustained and extraordinary personal service has had significant and lasting effect on the advancement of the College of Engineering." The members of the faculty and the Dean may nominate people to be recognized. This year’s recipient is William G. Lowrie, Chemical Engineering Class of 1966, who retired from BP Amoco in April 1999, at which time he was deputy CEO responsible for the worldwide downstream and chemicals operations. An Ohio native, Bill joined Amoco Production Company in 1966 and subsequently held a number of positions within the company; he was named President of Amoco Corporation in January 1996. Bill is a member of the Society of Petroleum Engineers and serves as a board member for Junior Achievement, Inc.

At Ohio State, he is a member of the Chemical Engineering Department's Industrial Advisory Board and served on the National Campaign Executive Committee. He was also Co-Chair of the National Major Gift Committee for Chicago, in addition to his role as Vice Chair of the Foundations Board from 1997 to 2001, when he became Chair.

In recognition of his efforts on behalf of Ohio State and his career achievements, he has received the Texnikoi Outstanding Alumnus Award, the Distinguished Alumnus Award, and the Benjamin G. Lamme Gold Medal from the College of Engineering. The American Institute of Mining, Metallurgical, and Petroleum Engineers awarded him the Charles F. Randgold Medal in 2001 for distinguished achievements in his career with Amoco.

DISTINGUISHED ALUMNUS AWARD

This year’s recipient of the Distinguished Alumnus Award is C. Scott Joublanc, Chemical Engineering Class of 1971. The Distinguished Alumnus Award was established by the faculty of the College of Engineering in 1954. Their purpose is to recognize distinguished achievement in one’s profession by reason of significant inventions, important research or design, administrative leadership, or genius in production. After four years as a Captain in the U.S. Army Corps of Engineers, Scott joined Exxon Chemical in 1976 as a Process Engineer in the Polymers Division and was promoted to Financial Analyst, Section Supervisor, and Operation Section Supervisor of the Baytown Butyl Rubber Plant. In 1988, he transferred to Exxon Chemical Americas Headquarters to be Basic Chemicals Aromatics Business Planning Manager, and in 1993 he became Manager of Emergency Preparedness. After the merger of Exxon and Mobil, he was named Worldwide Emergency Manager for ExxonMobil Chemical in 2000, and Manager Emergency Response – Americas in 2002. In this position, he is responsible for safety, operations integrity, and emergency preparedness/response for the company in all of the Americas.

Scott has been active in civic affairs, having served as President of the Cypress Wood Estates Civic Association, on the Distribution Committee of the Chemical Manufacturers Association, and as Chairman of the Texas TRANSCAER™ Work Group and then as Region VI Coordinator. He has been the Recruiting Team Captain from Exxon and later ExxonMobil for Ohio State for over 15 years and was instrumental in securing financial support for the Department and for faculty members. He is also a member of the Chemical Engineering Department Industrial Advisory Board.

INTERNATIONAL PROFESSOR OF FOOD SCIENCE

Andy Rao, Class of 1969, has been appointed an International Professor of Food Science at Cornell University.

FACULTY AWARDS

NATIONAL ACADEMY OF ENGINEERING

Professor Winston Ho was inducted into the National Academy of Engineering (NAE) on October 6, 2002. Election to the National Academy of Engineering is among the highest professional distinctions accorded an engineer. Academy membership honors those who have made important contributions to engineering theory and practice, including significant contributions to the literature of engineering theory and practice, and those who have demonstrated unusual accomplishment in the pioneering of new and developing fields of technology. In attendance at his induction were L.S. Fan, Jose Cruz (Electrical Engineering), and Robert Wagoner (Materials Science), all members of the NAE.

DISTINGUISHED TEACHING AWARD

Professor David Tomasko was surprised in his classroom as President Kirwan recognized him with the Alumni Award for Distinguished Teaching. Honorees receive a cash award, an increase to their base salary, and are recognized during the year by the university. Professor Tomasko has taught at Ohio State since 1993. Dr. Fan says Tomasko is one of two faculty who stand out in a department of excellent teachers: “What distinguishes Dr. Tomasko from many other fine lecturers is his concern and empathy for all students.” His student nominators said Tomasko is enthusiastic about teaching, always open for questions, and willing to help students outside of class. One wrote “Of all the students who have had Dr. Tomasko, I do not know of any who do not include him when they mention their favorite professors. His willingness to help students outside of class showed me not only how great of a teacher he is, but also how great of a person Dr. Tomasko is.”

INDUSTRY & TECHNOLOGY COUNCIL OF CENTRAL OHIO TOP CAT AWARD

Professor Umit Ozkan was awarded The Industry & Technology Council of Central Ohio’s Top Cat Award. This award honors members of the region’s technology community. Professor Ozkan was selected as Outstanding Woman in Technology. As the first female Associate Dean for Research in the College of Engineering she oversees an $80 million budget and is a recognized engineering researcher, educator, and administrator.

THE COLUMBUS SECTION OF THE AMERICAN CHEMICAL SOCIETY (ACS) COLUMBUS SECTION AWARD 2002

Professor Umit Ozkan was the recipient of the Columbus Section Award for 2002. This award is given biannually to a scientist who has excelled in the field of chemistry in academics, industry, and/or teaching. Professor Ozkan presented a lecture at the Columbus Section Award Presentation entitled “Heterogeneous Catalysis Research: Its Impact on Energy, Environment, and Economics.”
SOCIETY OF WOMEN ENGINEERS
ACHIEVEMENT AWARD

The Society of Women Engineers' 2002 Achievement Award was presented to Professor Umit Ozkan. This is the highest award given by the Society of Women Engineers. It is given annually to a woman who has made an outstanding contribution over a significant period of time in a field of engineering. Professor Ozkan was recognized for outstanding accomplishments as an internationally recognized and highly respected researcher in heterogeneous catalysis, as an excellent engineering educator, and as a dedicated leader in higher education and in professional societies.

CAMILLE AND HENRY DREYFUS
FOUNDATION AWARD

Professor Jack Zakin has received the Camille and Henry Dreyfus Foundation Senior Scientist Mentor Award for Emeritus Faculty. This award is for close advising and mentoring of undergraduate student researchers. The funds awarded are primarily for undergraduate student support.

COLLEGE OF ENGINEERING LUMLEY
INTERDISCIPLINARY AWARD

Professors Kurt Koelling, L. James Lee, and David Tomasko received the 2002 Lumley Interdisciplinary Research Award which recognizes interdisciplinary research accomplishments of the College faculty and research staff. The award is presented to a team who has established a record of excellence in interdisciplinary research as demonstrated by co-authored publications, joint sponsored research programs, and co-advised students. The team is comprised of faculty or research scientists from at least two different departments and can include members from other colleges.

COLLEGE OF ENGINEERING LUMLEY
RESEARCH AWARDS

Professors Kurt Koelling and L.S. Fan received the 2002 Lumley Research Awards which go to a select group of outstanding researchers in the College of Engineering who have shown exceptional activity and success in pursuing new knowledge of a fundamental or applied nature.

DOCTORATE HONORIS CAUSA

Professor L.S. Fan received an Honorary Doctoral Degree (Doctorate Honoris Causa) from the Instituto de Estudios Superiores en Ingenieria in Mexico. He was cited for "distinguished contributions to Engineering Education, outstanding contributions to Engineering Technology and high interest in the Globalization of Engineering."

COLLEGE OF ENGINEERING CLARA M. &
PETER SCOTT FACULTY AWARD

Professor L. James Lee was awarded the 2002 Clara M. & Peter Scott Faculty Award for Excellence in Engineering Education. This award was established in 1996 and honors a senior faculty member who has achieved both national and international status as a leading educator and researcher.

NATIONAL RESEARCH COUNCIL SUMMER
FACULTY FELLOWSHIP

Professor Bhavik R. Bakshi received a Faculty Fellowship from the National Research Council to spend the summer at the US EPA’s National Risk Management Research Laboratory in Cincinnati. His topic of research was “Assessing the Sustainability of Biotechnological Processes – A Thermodynamic Approach.”

FRONTIERS OF ENGINEERING SYMPOSIUM

Professor Jeffrey Chalmers has been chosen to participate in the National Academy of Engineering’s (NAE) eighth annual Frontiers of Engineering Symposium, for engineers age 30 to 45 who are performing leading-edge engineering research and technical work. The participants – from industry, academia, and government – were nominated by fellow engineers or organizations and were chosen from a field of nearly 150 applicants. The symposium
was held September 19-21 at the National Academies’ Arnold and Mabel Beckman Center in Irvine, California.

**TAF GRANT TO SUPPORT CHEMICAL GENOMICS DISCOVERY PLATFORM**

Professors Bhavik Bakshi and Jim Rathman will participate in a program with LeadScope, Inc., located in Columbus (Franklin County), which will receive a $721,411 TAF grant to support the Chemical Genomics Discovery Platform. Genomics screening is used in the drug discovery process to treat conditions and illnesses. The goal of this project is to develop commercially available chemical genomics platform software to bridge the existing gap between genomics and drug discovery. LeadScope has a window of opportunity to become the first company to provide such a platform, realizing the true potential of the “genes-to-drugs” process. LeadScope is required to provide $1 of either cash or in-kind matching funds for every $2 provided by the TAF.

**RESEARCHER AWARDS**

**BEST Ph.D. THESIS IN PARTICLE TECHNOLOGY**

The Particle Technology Forum (PTF), a unit of the American Institute of Chemical Engineers (AIChE) selected Himanshu Gupta as the 2002 winner of the Best Ph.D. Thesis in Particle Technology Award. This award recognizes an outstanding dissertation by an individual who has earned a doctoral degree. The dissertation can be in any discipline in the physical, biomedical, or engineering sciences, but it has to be on a topic in particle science and/or engineering. The Proctor and Gamble Corporation sponsors this award, which consists of a plaque and a $500 honorarium.

**STUDENT AWARDS**

Clayt Robinson won the Graduate School Leadership Award. The purpose of the award is to recognize and honor graduate students who have served with distinction in University organizations, on University committees, and in the larger community.

Ying Zhu won the Graduate Student Alumni Research Award, Hayes Graduate Research Forum, 3rd place award.

Ying Zhu’s research proposal was selected for funding at $2,000 as part of the Alumni Grants for Graduate Research and Scholarship.

Changchun Zeng won the Graduate School Presidential Fellowship Award.

Chang Liu received the Second Best Poster Award at the Catalysis Society-TriState Spring Symposium held in Lexington, Kentucky.

Nicholas Brunelli has been accepted into next year’s class of Mortar Board. Mortar Board recognizes 50 seniors each year who have exhibited a strong commitment to scholarship, leadership, and service during their time at Ohio State and who wish to expand these ideals throughout their senior year. The organization was founded at Ohio State in 1914 and has since expanded to over 150 universities throughout the country.

Matthew Nilsen won the American Institute of Chemists (AIC) Outstanding Senior Award.

Yunying Qi won the AIC Outstanding Graduate Student Award.

W. Warsito won the AIC Outstanding Postdoctoral Award.

Nicholas Brunelli won the Dow Chemical Outstanding Junior Award.

Nicholas Brunelli won the AIChE Sophomore Academic Excellence Award.

Shona Patel won the Dow-Coming Co-Op Award.

Rick Wentling won the AIChE Central Ohio Section Outstanding Student Award.
Adam Baxter won a Chemical Engineering Department (ChE) Outstanding Undergraduate Award for Research Excellence.

Yeny Hudiono won a ChE Outstanding Undergraduate Award for Research Excellence.

Xia Cao won a ChE Outstanding Graduate Award for Academic Achievement.

Xiangmin Han won a ChE Outstanding Graduate Award for Academic Achievement.

Siyi Lai won a ChE Outstanding Graduate Award for Academic Achievement.

Jun Luo won a ChE Outstanding Graduate Award for Academic Achievement.

Changchun Zeng won a ChE Outstanding Graduate Award for Academic Achievement.

Yang Zhu won a ChE Outstanding Graduate Award for Academic Achievement.

Caixia Chen won a ChE Outstanding Postdoctoral Award for Research Excellence.

Xueqin Wang won a ChE Outstanding Postdoctoral Award for Research Excellence.

Stephen Cummings won a Chemical Engineering Alumni Society (CEAS) Award for Academic Excellence.

Lisa Ringler won a CEAS Award for Academic Excellence.

Kurt Frey won the CEAS Outstanding Sophomore Award for Academic Excellence.

Jennifer Adams won a Women in Engineering Outstanding Academic Award.

Annette Bryan won a Women in Engineering Outstanding Academic Award.

Megan Cavanaugh won a Women in Engineering Outstanding Academic Award.

Megan Miller won a Women in Engineering Outstanding Academic Award.

Ling Zhang won a Women in Engineering Outstanding Academic Award.

Bobbie Arebalo won a Women in Engineering First Quarter Certificate of Achievement.

Nicole Florea won a Women in Engineering First Quarter Certificate of Achievement.

Amanda Jelley won a Women in Engineering First Quarter Certificate of Achievement.

Imogen Pryce won a Women in Engineering First Quarter Certificate of Achievement.

Diaaa Snelling won a Women in Engineering First Quarter Certificate of Achievement.

Meghan Ward won a Women in Engineering First Quarter Certificate of Achievement.

Sherry Wunderle won a Women in Engineering First Quarter Certificate of Achievement.

Amanda Yano won a Women in Engineering First Quarter Certificate of Achievement.

Chemical Engineering's AIChE Student Chapter won OSU's Outstanding Student Organization Award for Web Development.

Professor Umit Özkan and husband Erdal
NEWS

KIRWAN ERA ENDS AT OHIO STATE

President Brit Kirwan announced on March 25 that he would leave Ohio State on June 30 to become chancellor of the University System of Maryland. In a letter to the Ohio State campus community, Kirwan noted that his children and growing number of grandchildren reside in Maryland. He wrote that while both positions offer extraordinary professional challenges and rewards, the position in Maryland affords he and his wife Patty the opportunity to continue doing important work in higher education while living near their family.

TRUSTEES ELECT GEORGIA PROVOST TO LEAD UNIVERSITY

The Ohio State Board of Trustees elected Karen A. Holbrook as the 13th president of Ohio State at a special July 25 meeting. Holbrook, who has been Senior Vice President for Academic Affairs and Provost at the University of Georgia since 1998, assumed her new position on October 1. Holbrook was recommended to the Board of Trustees by the 18-member Presidential Search Committee led by Board Chair James F. Patterson. Her appointment was approved unanimously.

WELCOME TO PROFESSOR WINSTON HO

Professor Winston Ho joined the Department as University Scholar Professor, a chair professorship in Chemical and Materials Science Engineering. Prior to joining Ohio State, Dr. Ho was Professor of Chemical Engineering at the University of Kentucky, after having over 28 years of industrial R&D experience in membranes and separation processes, including serving as Senior Vice-President of Technology at Commodore Separation Technologies. There he directed development of supported liquid membrane technology for the removal and recovery of toxic metals from wastewaters. He was elected a member of the National Academy of Engineering in 2002 in recognition of his distinguished contributions to engineering, including the invention and commercialization of novel separation technologies and the development of new theoretical models for membrane separations. A New Jersey Inventor of the Year (1991), Dr. Ho holds over 50 U.S. patents, generally with foreign counterparts, in membranes and separation processes. He is Co-editor of Membrane Handbook, recipient of the Professional and Scholarly Publishing Award for the most outstanding engineering work in 1993.

He received his B.S. degree from National Taiwan University in Taipei and his M.S. and Ph.D. degrees from the University of Illinois at Urbana-Champaign, all in Chemical Engineering.

His research interests, in addition to molecularly based membrane separations, include fuel-cell fuel processing and membranes, transport phenomena in membranes, and separations with chemical reaction, supported liquid membranes, facilitated transport, gas treating, aromatics/saturates separation, and pervaporation. He has recently focused on new membranes and materials for fuel cell and environmental areas.

Professor Winston Ho
Dr. Ho has served the separations community as a Director (1992-1993) and as Chair (1997) of the Separations Division of the American Institute of Chemical Engineers (AIChE). He has organized and chaired many membrane sessions and separations conferences and presented papers at AIChE, North American Membrane Society and Engineering Foundation conferences. He served as Meeting Program Chair for the AIChE Spring National Meeting, Atlanta, GA, March 5 - 9, 2000. Currently, he is a member of AIChE’s National Board of Programming Committee.

UNIVERSITY FOUNDATION BOARD MEMBER

William G. Lowrie (Class of 1966), retired Deputy Chief Executive Officer for BP Amoco, has been named the new Chair of the University Foundation Board.

ALUMNUS HAROLD SORGENTI MAKES CHEMICAL AND ENGINEERING NEWS

Harold Sorgenti (Class of 1958) was interviewed for an article in the Chemical and Engineering News September 23, 2002 edition. He is former president of Arco Chemical and now head of a small investment banking business. He stated “This is an excellent time to buy chemical assets. We’re at the bottom of the chemical cycle. The chemical industry is an excellent place to invest, with tremendous fundamentals. People are beginning to realize that now, after chasing Internet and telecommunications stocks.” Sorgenti attributes his ability to assess the market potential of chemical businesses to his background in chemical research. He first went to work as a researcher at Battelle Memorial Institute in 1955. He joined the oil giant Atlantic Richfield in 1959 and stayed for 32 years. He held a number of research positions before moving to the business side, where he spent his last 12 years there, until 1991, as president of the firm’s Arco Chemical unit, now part of Lyondell Chemical. Ten framed patents hang on his office wall-testimony to the research skill that played a part in boosting him into the ranks of chemical industry leaders.

OHIO STATE ENGINEERS MAKE STRONGER PLASTIC FOAMS

Ohio State engineers have found a way to make dense plastic foam that may replace solid plastic in the future. The engineers have also developed innovative manufacturing techniques to eliminate the use of chlorofluorocarbons (CFCs) in foam production. The announcement may provide a boost to the $2 billion per year American plastic foam industry. While the industry is trying to develop new applications for foam, it must also meet new international environmental standards that will go into effect in 2010.

Professor L. James Lee described his foam research in a presentation at the Materials Research Society annual meeting in San Francisco. There he and his colleagues unveiled a dense new foam material reinforced with tiny clay particles. They also reported early success in their efforts to replace the CFCs in plastic foam with carbon dioxide. The goal is to create plastic foam that is strong enough to replace solid plastic in structural applications, such as car or airplane panels, he said. Foam products would be lighter than solid plastics, but to the eye, they would appear the same. Lee’s colleagues on this project included Professors David Tomasico and Kurt Koebling and doctoral students Changchun Zeng and Xiangmin Han.

A BETTER WAY TO GLUE TINY MEDICAL DEVICE PARTS

Ledd by Professor L. James Lee, engineers have mastered a critical step for manufacturing tiny medical devices. This new technique for sealing plastic casings could bring medical nanotechnology closer to reality. The researchers have found that their technique aids the flow of medicine and other fluids through such devices, and can even alter the material on the surface of a device to suit different medical applications.

Lee and his colleagues described the method, called “resin-gas injection assisted bonding,” on September 23, 2001, at the BioMEMS and Biomedical Nanotechnology World 2001
Conference in Columbus. The research team included Professor Kurt Koelling.

INCLUDING NATURE IN ENGINEERING DECISIONS GOOD BUSINESS

Professor Bhavik Bakshi is devising a technique that will help engineers in many industries include ecological and economic considerations in their decisions. The approach, based on the principles of thermodynamics, jointly analyzes industrial and ecological systems as networks of energy flow. It takes into account nature’s contributions to manufacturing processes, as well as monetary and other costs of industrial activity throughout the life cycle. Traditionally, the contribution of ecosystems has been taken for granted which has led to their significant deterioration.

Engineers would apply the systematic framework, now under development, to analyze existing processes or design new ones that manufacture chemicals and many other products. Their analysis could identify the trade-offs in different approaches to produce ethanol, for example. In addition, the analysis could help them figure out how to reduce the costs and the pollution involved in ethanol production. Ethanol can be manufactured from a feedstock based on either crude oil or corn. Engineers could apply this work to determine which feedstock is best for meeting ecological and economic objectives. Such analysis is essential for long-term profitability and sustainability of industrial activity.

CHEMICAL ENGINEERING CENTENNIAL CELEBRATION

The Department will host a symposium in celebration of our 100-year anniversary on Thursday and Friday, April 24-25, 2003. Several lectures on “Unsolved Problems in Chemical Engineering” will be given on April 24 by leading educators. They will focus on Nanotechnology, Fluid Mechanics, Biotechnology, and Systems Engineering. On the 25th, the emphasis will be on the History of Chemical Engineering at Ohio State and will include reminiscences by several alumni and faculty on the Withrow and Koffolt years to the present and a tour of the Department. A banquet will be held on the 25th at the new Blackwell Center for alumni, faculty, and friends of the Department. On Saturday, April 26, there will be an intrasquad football game. Please mark these dates and let us know if you can attend. Hotel reservations can be made for Thursday and Friday nights, April 24 and 25, at the Blackwell (614/247-4000) and at the Holiday Inn (614/294-4848). When making reservations, mention the Chemical Engineering Centennial Celebration.

SYMPOSIUM ESTABLISHED

Professor Robert Brodkey has been recognized with the establishment of a symposium in his honor. The Robert S. Brodkey Symposium on Turbulence in Chemical Processing was held during the XIX United States National Congress on Theoretical and Applied Mechanics held in Blacksburgh, VA in June.

OHIO STATE CONNECTS WITH KEY RESEARCH IN ASIA

Nanotechnology is becoming one of the hottest disciplines in China and Taiwan, and Ohio State is helping these countries realize their potential in the field. Governments in both countries recently designated nanotechnology – the science of creating tiny electric circuits and other devices – a key area for investment. According to the nanotechnology magazine Small Times, potential private investors are wondering where China and Taiwan will find researchers with the proper training to make breakthroughs in this emerging area. One prominent Chinese researcher, Wei Fei, said Ohio State gave him important training to advance research in his home country. Now a professor at one of China’s top institutions, Tsinghua University, Fei was a visiting professor in Chemical Engineering at Ohio State from 1999 to 2000. He worked with Dr. Fan developing industrial fluidized technology. The Small Times article stated that Fei learned to confront “issues a scientist might be presented with outside of a laboratory.” For instance, Ohio State taught him how to apply for grants from the
National Science Foundation, “a foundation that the Chinese are trying to learn from in setting up their own committee that gives out money for special scientific research.” Fan said Ohio State is continuing its special relationship with Fei and his colleagues abroad. Fei led the Tsinghua research team that recently developed a technique for mass-producing one of the fundamental building blocks of nanotechnology – carbon nanotubes.

CHEMICAL WARFARE AGENTS REMEDIATION USING PHOTOACTIVATED PERIODATE

Professor Linda Weavers of Civil and Environmental Engineering and Geodetic Science, and her graduate student, Liang-Hiong Chia of Chemical Engineering, will investigate whether ultraviolet light and periodate (IO₄⁻) may degrade the byproducts produced when chemical warfare agents, namely nerve gas, mix with water. This research could prove critical in the near future, as the U.S. Army is required to destroy 30,000 tons of its chemical warfare agent stockpiles by 2007 under 1997 Chemical Warfare Convention agreement by at least 65 nations. In addition, 40,000 tons of chemical warfare agents are stockpiled in Russia.

Periodate is a well-known oxidant in organic chemistry. Upon ultraviolet light photolysis, periodate is photoactivated and produces a number of highly reactive radical and non radical intermediates including: -OH, IO₄⁻, IO₅⁻, IO₃⁻, H₂O₂, and O₃. Because these radical intermediates are missing electrons, they will seize the electrons of other molecules along its path, including the toxic agents. Since there are often many components in water that react with free radicals, these radical scavengers, namely bicarbonate and natural organic matter, may reduce the reaction efficiency or even stop the chemical reaction from happening. In order to overcome this problem, Professor Linda Weavers and her graduate student also investigate the fundamental reaction kinetics and reaction mechanisms of photoactivated periodate with other hazardous organic chemicals at various experimental conditions. So, the reaction process will be optimized, and become less sensitive to those radical scavengers. In addition, the end products of the photolysis, namely iodine species, may be recovered on-site from water by ion exchange using anion exchange resins, and the recovered iodine species may then be electrolytically regenerated to periodate to reduce the chemical cost. Professor Linda Weavers believes that this technique has potential applications in industrial wastewater treatment and remediation of polluted groundwater at hazardous waste sites.

The research is funded by The Ohio State University through a Seed Grant and by a National Science Foundation CAREER and Presidential Early Career Award for Scientists and Engineers (PECASE). Professor Linda Weavers has graduate faculty status in chemical engineering and the environmental science graduate program.

COLLABORATIVE INTERNATIONAL RESEARCH

Professor Jack Zakin is Director of a four-member team which received an award from NEDO (Japan) for collaborative international research on drag reducing surfactants for district cooling systems. The other team members are Dr. Yasuo Kawaguchi (Japan), Professor Ishi Talmon (Israel), and Professor David Hart (Ohio State – Chemistry). They will investigate cationic, nonionic, and zwitterionic/anionic mixed surfactants for use in ethylene glycol/water solutions that can be used as cooling fluid in district cooling systems down to -5°C.

MIDWEST THERMODYNAMICS & STATISTICAL MECHANICS CONFERENCE

Professors Isamu Kusaka and David Tomasko will co-host the 2003 Midwest Thermodynamics & Statistical Mechanics Conference at OSU next May. This meeting was started by Ali Mansoori at the University of Illinois – Chicago in 1988 and has become a fixture in the Big Ten region for researchers in these fields. It is a small student-centered conference with a focus on allowing graduate students to present most of the papers
along with invited talks by noted experts and young faculty.

UNDERGRADUATE STUDENT PAUL MATTER’S RESEARCH

Undergraduate student Paul Matter has worked to convert methanol into hydrogen, a process necessary for the development of fuel cell systems. He says such research on fuel cells could eventually set the stage for more efficient automobiles that produce less air pollution. Paul presented his research last spring at Ohio State’s Denman Undergraduate Research Forum and was the only undergraduate student to present research at the national American Chemical Society’s annual conference in San Diego. He also recently returned from an honor’s trip to the University of Sao Paolo in Brazil where he presented his findings. Paul’s research, which he plans to continue in graduate school, has implications that could help to improve the air we breathe by producing fewer toxins.

97-YEAR-OLD Schooled in Persistence

Before he could complete the requirements for an associate of arts, Oliver Hamilton needed to transfer credits from Ohio State University’s main campus to its Marion branch. That wasn’t as easy as it sounds. “We called down to get them (the transcripts), but they weren’t in their computer database,” said an OSU-Marion administrator. “They had to send someone to the library, and they found them there in the archives with all the other historical documents.” Hamilton’s credits are considered historical because he earned them from 1920 to 1923. Hamilton was 15 when he graduated from Marion High School, but a now-defunct age requirement forced him to wait until he was 16 to enroll at OSU. He studied chemical engineering but dropped out after three years to help his father run the family farm and stone-quarry business. Hamilton aced his admissions interview, and the OSU registrar determined that he needed five more credits of the 90 required for graduation. He enrolled and went on to receive his degree.

RIFLE SQUAD TAKES SECOND IN BUCKEYE INVITATIONAL

After three weekends of competition, Army captured the Buckeye Rifle Invitational by 15 points over Ohio State. The Cadets posted a 6,124 aggregate score to 6,109 for the Buckeyes. Army earned a one-point victory in smallbore rifle and captured air rifle by 14 points, 1,549 to 1,535.

Chemical Engineering’s Abhijeet Konduskar (Sr., Kolhapur, Maharashtra, India) took top honors in smallbore rifle with a 1,172. Last year Abhijeet was named a second team All-American by the National Rifle Association.

CHEMICAL ENGINEERING STUDENT HELPS MEN’S CROSS COUNTRY TEAM CAPTURE SECOND PLACE

The Ohio State men’s cross country team finished second at the Big Ten Championship at the Purdue Varsity Cross Country Course in West Lafayette, Indiana. The team scored 79 points in the second-place finish, which was the highest for Ohio State since 1997. The team received strong support from Chemical Engineering student Derrick Butler, who finished 13th in a time of 24.33.9, improving his season best time by a minute and a half. Derrick was awarded Second Team All-Big Ten honors at the conclusion of the meet for his showing at the Big Ten Championships.

CHEMICAL ENGINEERING AVERAGE STARTING SALARY HIGHEST OF TOP 10 MAJORS

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<th>Major</th>
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CO₂ Management: The Challenge for Chemical Engineers in the 21st Century

by Scott Barnicki, B.S. 1987

Imagine a cube of dry ice eight feet on a side – 460 cubic feet in all. This is your share of the approximately 5.8 gigatons of carbon dioxide generated and released each year in the United States, about 24% of the global figure. Now consider that your job is to collect and dispose of your eight-foot cube of dry ice in a permanent and cost-effective manner. This is the task facing our society as a result of burning fossil fuels for energy. As every chemical engineer learns in the first introductory class, accumulation will occur without a balancing removal mechanism. Whether or not you believe in the dire predictions of resultant CO₂-induced climate change and global warming, it is clear that CO₂ is being released at unprecedented rates compared to the natural flux during the rest of human history.

Although no one knows what is a truly acceptable level of carbon dioxide in the atmosphere, it is logical to conclude that such an accumulation is bound to disturb the global ecological equilibrium in unforeseen ways.

Where do chemical engineers fit into this picture? As I see it, we are destined to play a critical role. The chemical engineering education has always been one of the broadest and most versatile in engineering and applied science disciplines. As a result, we have often operated and contributed on the interface of many disciplines such as chemistry, biochemistry, materials, environmental, mechanical, and electrical engineering. CO₂ management offers another such opportunity to exploit our unique position at the nexus of many science and engineering fields.

Approximately 33% of the CO₂ released comes from diffuse transportation-related sources (mostly cars and trucks) and about 42% from point energy-related sources (mostly steam and electricity generation). The vast majority of power plants in the United States today burn fossil fuels and emit CO₂ in the combustion flue gas at a partial pressure of about a psi or less. Recovery of CO₂ from such a source is difficult and costly. The oft-cited approach for recovering CO₂ at low partial pressures is via absorption with aqueous amine solutions. Amine absorption in its many commercial manifestations has served admirably for many decades in the areas of CO₂ removal from ammonia synthesis gases, H₂ generation by steam reforming, and natural gas sweetening among others. This approach is technically feasible, but the energy requirements associated with gas compression, cooling, heating, and regeneration of the recycled absorbent results in about a 30% reduction in electricity output of a conventional power plant. Thus, many opportunities exist for improvement and innovation in new absorbent, adsorbent, and membrane materials, separation process design, heat integration, and in the exploitation of alternative driving forces for completely novel separation techniques.

However, employing a “band-aid” on existing power plant technologies is not the only avenue open to us to deal with the CO₂ problem. A myriad of innovative technologies, some commercially viable and others under development, hold the promise of energy production with higher efficiencies and better carbon management. One example is coal gasification. When used in a combined gas combustion turbine-steam turbine power generation cycle, coal gasification allows for CO₂ capture at high partial pressures with power plant efficiencies of 35-45% compared to 25-30% for conventional plants. Although challenging to operate for the inexperienced,
my company, Eastman Chemical Company, has a 20-year track record of reliably using coal gasification to produce feedstock for chemical processes. The technology is proven. Moreover, such gasification processes can operate with a variety of domestic carbon sources. By the well-known water-gas shift of CO and water to CO$_2$ and H$_2$, gasification can be adapted readily to supply H$_2$ for the future hydrogen economy. A key part of the hydrogen economy is likely to be fuel cells. Early solid oxide fuel cells are nearing the prototype stage, and power plants operating with coal gasification, water-gas shift, and H$_2$-driven fuel cells are expected to reach 60-70% efficiencies. Significant strides toward widespread application continue to be made, but many materials, catalysis, kinetics, transport, and process design challenges remain for chemical engineers to solve.

Chemical engineering is more relevant than ever. The research challenges associated with carbon management will continue to draw upon our interdisciplinary approach to problem solving. I believe that chemical engineers will rise to the challenge of reinventing our technological infrastructure in the 21st Century, just as we transformed society through application of catalysis, separations, and process synthesis to the production of pharmaceuticals, polymers, and other petrochemicals in the 20th Century.

Editorial Note: Dr. Barnicki was a plenary lecturer at the National Research Council Meeting on Novel Approaches to Carbon Management on February 12-14, 2003. Dr. Fan invited him to write this essay regarding the general global warming issues and opportunities for research for chemical engineers.

BATES SCHOLARSHIP WINNERS

The following Bates Scholarship winners’ names were inadvertently omitted from the Annual Report.

Chanel M. David
Jennifer Y. Dews
Tulani L. Marcus
Jason Ankumah-Saikoom
Sylena E. Smith
Aaron Walker

Students work together in Unit Ops
ALUMNI UPDATE

1947
James G. Hanlin, BChE, retired from Goodyear in 1984 after 37 years of service. He served Goodyear as a Production Manager in the Foam Products Division. He now divides his time between Bakersfield, CA and Galax, VA. He and his wife Ima Lee have three children.

1948
Hanford L. Gunnerson, BChE and MS, is retired from Goodyear. He and his wife Norma have three children and live in Akron, Ohio.

1950
Preston L. Hill, PhD, retired from McDonnell Douglas in 1976. He also served in the U.S. Air Force. He has traveled to Turkey, Greece, Alaska, Australia, Spain, and China. He has six children, nine grandchildren, and two great-grandchildren.

1951
Bob Congelliere, BChE, MS '51, has retired from Unocal Corporation. While at OSU he swam on three NCAA Championship Teams and he now competes in Masters Swimming. He holds the second fastest time ever in the 50 meter freestyle for his age group (70-75).

1956
Cecil Blocker, BS, is retired and is a past President and Vice President of the American Society for Quality – LeHigh Valley Section. He and his wife Virginia have eight children and twenty-four grandchildren, who he loves spending time with.

1958
Thomas R. Loy, BChE, is retired as Chief Economist at FMI Management Consultants. He and his wife Rosemary live in Raleigh, NC.

1959
James R. Godwin, BS, was a consultant in petroleum engineering and is currently self-employed. He lives on a 45 foot Chris Craft south of Houston, TX.

1961
Thomas E. Cattarin, BChE, is retired as Director of Chemical Intermediates. He worked for 38 years with Shell Chemical in business management positions. He enjoys traveling, golf, reading, and puzzles. He and his wife Sandy have four children.

1970
Danley B. Wolfe, BChE, MS '70, PhD '74, is Principal and Director of Consulting for Nexant Chemical Systems. He spent 11 years in East Asia based in Hong Kong and Bangkok. He and his wife Kanya live in Houston.

1975
Ted Marker, MS, is an Extrusion Technologist in Manufacturing for Basell USA. He and his wife Armonde live in Texas. His daughter was on the national soccer team for several years.

1978
Thomas E. Winkler, MS, is Senior Counsel for BP. He worked as an engineer while attending law school at night. He and his wife Caroline have two children and live in Texas.

Paul Hatfield and Dick Saylor, Class of Champions
1979
Karen Murphy, B.S., has been named director of Environmental Solutions in the Environmental, Health & Safety Department at Ashland Inc. Karen joined Ashland in 1995 as quality director after 16 years with Rohm & Haas in various engineering and manufacturing management roles.

1982
Ron Stapleton, MS '83, is a Professional Recruiter. He left ICI/Huntsman in October 2001 after 14 years and now works out of his home doing headhunting. He and his wife Elizabeth have two children.

1985
David J. Moonay, MS, works at Brookfield Engineering. He is an ACS member and on the Board of Directors of the Eastern New England section of the Society of Plastics Engineers.

1986
Michael L. Gilles, BS, is Facility Manager in the High Level Waste Department of Westinghouse Savannah River Company. He and his wife Jeanette have two children.

Brian Yanok, BS, is a Sales Engineer in the Kroff Chemical Company. He and his wife Michelle have a son, as well as recently celebrating the birth of a daughter.

Rajeev Gorowara, MS '88, is a Consulting Engineer at DuPont. He took a leave of absence from DuPont to complete a PhD in Chemical Engineering at the University of Delaware. His wife Christine completed her PhD in Math Education last year. They have two children.

1988
M. Alison (Grady) Jabbour, BS, is Global Product Planning Manager for DuPont Dow Elastomers. She and her husband Charles vacationed in Beirut, Lebanon in the summer of 2001 visiting family. They have three children.

1989
Chatherine Bothe Almquist, BS, is Assistant Professor at Miami University in the Paper Science and Engineering Department. She received her PhD from the University of Cincinnati in Environmental Engineering, June, 2001. She and her husband Marvin have two children.

1995
Tom Knuth, BS, is an Engineering with Agris Corporation. He and his wife Alida live in Duluth, Georgia.

Meredith Lewis, BS, is Senior Engineer for Shell Oil Products U.S. She and Steven Schuman (BS 1995) were married on June 15, 2002. Steven recently graduated from the University of California, Berkeley with an MBA in Business. He has recently joined Prudential Securities as an Equity Analyst for the Chemical/Refining industry.

1998
David L. Evans, BS, is Process Engineer and Module Team Leader at Intel Corporation. He is currently working on the latest Pentium 4 and Itanium Processors. His hobbies include photography, mountain biking, and flying back to OSU for football games. He has just started construction of his first home.

2000
Robert C. Large, Jr., BS, is an Applications Field Engineer for Lambda Technologies, Inc. He and his wife Carrie were married in June 2001.

2001
Shannon Lashbrook, BS, is a Process Engineer for Eli Lilly and Company. She and her husband Travis live in Indianapolis.

Jennifer Sellman, BS, is a Process Engineer with IBM. She is involved with processes in electroplating of printed circuit boards and lives in upstate New York.
A Funny Thing Happened on the Way to the Game

My father, William Colter (Civil Engineering '51), and I returned to campus for the weekend of the OSU/Michigan game. We started meeting other returning alumni in the airport in St. Louis. My father fondly related to them his attendance with my mother at the famous "snow bowl" game against Michigan in November of 1950. As he related this story to other alumni I reminded him that I could claim attendance at that game as well in that I was born at University Hospital in May of 1951.

This trip also provided the opportunity for me to see my former Professor of Chemical Engineering, Jack Zakin. Jack kindly invited my father and I to ride to the game with he and his wife, Laura. We met current Chemical Engineering students at the department's tailgate and were dazzled by the Ohio State Men's glee club representatives who performed a medley of Ohio and OSU songs at the Engineering Dean's tailgate.

As we rode to the game my father asked Dr. Zakin if he knew of Professor Schechter, who had been my father's freshman Chemistry Professor in 1947. To our mutual surprise Jack said, "Harold Schechter? He's still around. He's an emeritus faculty member in chemistry." My father will be 80 in April. That his freshman Chemistry Professor would still be around was amazing. An hour later as we walked to the Dean's tailgate Jack spied a tall, solitary figure approaching us on the sidewalk and said, "I believe this is Professor Schechter now." Jack stopped Professor Schechter and said, "Harold, I'd like to introduce a former student of yours, Bill Colter." My father asked if he was the same Professor Schechter that taught those huge lecture rooms of 400 GI's right after the war. Professor Schechter said, "I am and you guys were the best students I ever had! Some of you were older than me and occasionally would take me along to the bar room with your group." My father told Jack, Laura, and how Professor Schechter would pause while lecturing and ask 400 WWII vets, "Everybody got that?" My dad said that when the answer was stony silence that Professor Schechter would say, "Let's go over it one more time." We parted after my father reminded Professor Schechter how fondly his careful instruction and caring attitude were remembered 55 years later. As we walked away Jack whispered to me, "I think your father just made Professor Schechter's day." "I know he made mine," I replied.

Later the country would learn that OSU had defeated Michigan and that some acts of vandalism had occurred in the aftermath of the game. Sadly, most of the country will not learn how an 80 year old war veteran paid homage to a revered former professor and left a tailgate gathering with the strains of "Carmen, Ohio" adding spring to his step.

Kim D. Colter MD

Chemical Engineering Alumni Society

The ChE Alumni Society is still alive and well, although has been somewhat on hold this year due to the extremely busy schedules of its members. A meeting will be scheduled in the future and plans are being made for a scholarship. Contact Sherry Stoneman (stoneman@che.eng.ohio-state.edu) if you would like more information.

In Memoriam

William R. Harris, BC '44, passed away on September 12, 2002, at his home in Pittsburgh. He was retired from PPG Industries and was a member of the American Institute of Chemical Engineers.

Maurice "Gene" Hatten, BC '48, died at age 77 on March 5, 2002. He was retired from the Industrial Commission of Ohio, where he worked in the division of Safety and Hygiene.

William L. Larcamp, BC '47, MS '48, PhD '50, died on June 6, 2001. He was retired from Union Carbide and he and his wife Diane lived in Gettysburg, PA.
REUNION INFORMATION

Class of 1952

Dubbed the “Class of Champions” by Joe Koffolt himself, this energetic and amiable group met in Koffolt Lab on September 6, 2002 to celebrate their 50th Anniversary. They were joined by Tom Koffolt, Joe Koffolt’s son. They had a tour of Koffolt and then played a few rousing games of ping pong in Unit Ops. That evening they had a banquet dinner and presented the department with a book of class mementos, which was dedicated to the memory of Joe Koffolt. Joe, as they all knew him, provided the class with the experienced, practical view of chemical engineering that they needed to understand to learn the basics of the profession. He also inspired the personal and sincere caring for each member of the Class that kept them motivated, the inspiration to try their very best to succeed and, finally, the catalyst for the “glue” that has held them together as a Class for these 50 years since graduation.

About half of the Class of 1952 served their country in World War II. They attended classes during “the Veteran’s bulge” when the University’s resources were stretched to, and beyond, the maximum as a result of the thousands of G.I Bill students at OSU and many needed to be dropped to fit the limited classroom space. Nonetheless, over 60 received degrees. The Champions have also been unique through establishing the Class of Champions Memorial Fund. After the first death of a classmate, Carl Schlea in 1967, it was decided to create this fund to commemorate deceased members of the Class and to do it in such a way as to directly benefit the Department to which they feel they owe so much. The entire class are members of the Jewels Club, made possible by their generous contributions to the department. In the Fall of 1952, Elmer and Audrey Pendleton, with assistance from Bill Glancy, proposed that an annual Class of Champions round-robin letter be initiated. Their suggestion met with resounding approval and in December of that year the annual Newsletter was born. It has now survived 50 years!! In 1975 they lost the Newsletter’s founder, Elmer Pendleton, but his wife Audrey has continued to collect and publish their annual letters.
Alumni Donors

1927
James L. Collins
George L. Meyers, Jr.
Aloysius M. Sebian
John R. Parkinson
David T. Ruff

1930
Parker S. Dunn
David B. Speed

1932
Harry J. Green, Jr.
Donald A. Speed

1934
Edward E. Slowter
David A. Strang

1935
Linton E. Simerl
Bruce W. Wilkinson

1936
Richard A. Miller
Robert M. Yarrington
Joseph G. Mravec

1937
Frederick R. Pullen
James F. Froning
Daniel W. Duncan
Donald E. Haupt
Nicholas Fatica
M. Frank Rummel
John P. Haughton
Charles J. Schmitz
John E. Myers
David G. Stephan
Frederick R. Pullen

1939
George H. Sheets
Robert A. Bates
Andrew E. Shute
Robert L. Briggs
Dillard W. Kuhlman
Donald E. Findlay
Raolph E. Quigley
Wilfred C. Ling
Howard G. Rohrer
Kenneth E. Whitehead
Charles A. Rohrmann
James L. Wilson

1940
Charles Boardman III
Richard E. Dudley
Loren F. Grandey
Phillip J. McAteer
Henry J. Jacoby
1953
John H. Hoge
John H. Miller
William D. Coe
Walter C. Wendschuh
Frank J. Schuh

1941
Earl G. Anderson
Robert A. Cody

1942
George M. Barr
William D. Wilson
Donald S. Arnold
David M. Souders
Randal E. Bailey
Edward F. Souders
Dale B. Baker
Lee B. Fosdick
R. Richard Midlam
Donald E. Garrett
Richard R. Whiston
John G. Gerlach

1943
Earl W. Goodman
William L. Gray
William L. Hammond
William L. Hammond
Robert E. Kraus
Robert E. Kraus
Robert H. Miller
Robert H. Miller
George R. Secrist
George R. Secrist
Jack C. Stewart
Jack C. Stewart
Robert M. Tarr
Robert M. Tarr
F. Morgan Warzel
F. Morgan Warzel

1944
Wallace L. Bostwick
Paul E. Bates
Carlence A. Haverly, Jr.
Franklin J. Conrad
Marshall C. Kidd
Gordon G. Cross
Edward W. Powell
Lee B. Fosdick
Edwin E. Smith
Raymond D. Hammond
Grover C. Strickler, Jr.
J. Howard Kerstetter, Jr.

1945
Robert S. Atkinson
Rine Kruger, Jr.

1946
Robert S. Atkinson
Frederick A. MacDougall
Kenneth A. Brandstetter
Donald R. Roberts

1947
Glen D. Schaaf
Charles R. Shepherd
Charles R. Shepherd
Roland I. Spencer

1950
Robert M. Allen
Charles C. Ballard
Russell F. Dubes
Dallas D. Dupre III
Ellis L. Hawk, Jr.
William K. Fell
Franklin A. Retzke
William C. Hullinger
Verne R. Rinehart
John M. Kolbas
Richard L. Scott
J. Bruce Martin
Robert E. Thompson
Bryce H. McMullen
David W. Wilson

1951
James H. Hoorman
Paul J. Kienholz

1958
Edward H. Bollinger
John J. Connelly
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M. Alison Jabbour
J. Wesley Oren
Paula Fulk Oren
Thomas E. Reardon
Michael R. Reed
Keith M. Russ
Craig L. Shoemaker

1989
Stuart F. Doty

1990
Craig M. Kehres
Darrin L. Lacheta
James V. Lombardi
Kara Blachowski Long
Alex C. Woravka

1991
Kristan Kissell Latham
Richard L. Wright

1992
Pamela Jean Archer
Julie Vander Meer
Jochlin
Scott A. Jochlin

1993
Frank E. Seipel

1994
John D. Clay

1995
Paul A. Clark

1996
Mark E. Buzek
Timothy R. Johnson
Bradley D. McDonel
Liping Zhang

1998
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David L. Evans
Julia Bednarck Farroni
Michael T. Timko

2000
Regis P. Geisler III
Richard J. Mathes
Jennifer Kay McKown

2001
Jeremy P. Merling
Marcin J. Telko

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A. E. Thompson
Bonnie Thompson
Betty French Unkel
Carl J. Weber
Eva Weber
Dorothy R. Williams
L. Stanton Williams
Chih J. Yeh
Barbara Janecke
Steven Zakanycz
Jacques L. Zakin

Grad Student Clayt Robinson with Jim Froning,
Class of Champions
Unit Operations

Derrick Butler ponders a problem

ChE: committed to diversity
Current Alumni Information

Alumni News 2003

PERSONAL
Name __________________________ Spouse __________________________
Address __________________________
City __________________________ State __________________________ Zip ______
Children __________________________

COLLEGE
Degree __________________________ Major __________________________ Month/Year ______
Degree __________________________ Major __________________________ Month/Year ______

PROFESSIONAL
Occupation __________________________
Most Recent Employer __________________________
Department __________________________

ACTIVITIES
News and information to share with fellow alumni and friends in Chemical Engineering. Work related, outside activities, achievements, honors, family news, etc.

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Please fold and tape this page so the address on opposite side is centered. No postage is necessary, the postage will be paid by the Department of Chemical Engineering.
Senior Banquet

A little dancing and a lot of laughs

Could it be the Village People?