Message From The Chair

Dear Alumni and Friends of the Department:

There is a lot to report this year, but I intend to keep this letter short so we can tell you more about space planning for the undergraduate program in our new Koffolt Laboratories, which is on target for completion at the end of 2014. First let me begin with a summary of news that includes the highest number of graduating seniors ever, at 125 last year. The growth in our undergraduate population has been phenomenal and has just about tripled since my arrival at Ohio State in 2004. Our faculty has increased, as well, from my being the 13th faculty member to today where we have 20 faculty including Clinical Professor Carlo Scaccia. In addition, Lisa Hall will join our faculty as an Assistant Professor in 2012 after she completes her postdoctoral fellowship at Sandia National Laboratories.

Last year the department’s research expenditures were close to $11M, down considerably from $16.2M in the previous year. This reflects the diminished spending of State of Ohio Third Frontier funds that we won in years past to support our emerging strengths in biomaterials, nanotechnology, and advanced polymer materials. Research is still very robust with 13 Ph.D. students graduating and research expenditures per tenure track faculty at $580K/faculty. Three of our undergraduates won awards at this year’s Denman Undergraduate Research Forum. Robert Wensing, advised by David Wood won a 1st place prize. Kevin Kaufmann and Yuhao Sun won 3rd place prizes. Kevin worked with Kristy Ainslie, a Professor in Pharmacy (who has a ChE degree), and Yuhao was advised by L. S. Fan.

Regarding alumni news, Larry Latta organized an informal reunion of his class of 1976 around the spring (scarlet and gray) football game and Ron Harris has organized the 50th reunion of the class of 1961 to take place this September. Additionally the new building is moving rapidly though the design development stage, and our fund raising effort is intensifying. As you know we are obligated to raise $17.5M and Chemistry $11M toward the $126M total cost of the building. By the time you receive this newsletter we should have close to $14M pledged by our generous alumni, and we thank you. For those who have not contributed and wish to do so, please contact Jason Haskins, who is now our full-time development officer (haskins.8@osu.edu.) More on the undergraduate spaces in the new Koffolt Laboratories appears within the newsletter.

Best wishes from the Buckeye home grounds!

[Signature]

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Department Chair
Stuart Cooper  292-7907

Faculty
Aravind Asthagiri  688-8882
Bhavik Bakshi  292-4904
Robert Brodkey*  292-2609
Jeffrey Chalmers  292-2727
L.S. Fan  688-3262
Martin Feinberg  688-4883
Harry Hershey*  688-3262
Winston Ho  292-9970
Kurt Koelling  292-2256
Isamu Kusaka  688-8302
James Lee  292-2408
Umit Ozkan  292-6623
Andre Palmer  292-6033
Michael Paulaitis  247-8847
James Rathman  292-3760
Thomas Sweeney*  436-9099
David Tomasko  292-4249
Jessica Winter  247-7668
David Wood  292-9636
Barbara Wyslouzil  688-3583
S.T. Yang  292-6611
Jacques Zakin*  688-4113

*Denotes Professors Emeritus

Clinical Faculty
Carlo Scaccia  688-8254

Staff
Angela Bennett  292-9076
Graduate Program Coordinator

David Cade  292-2728
Building Coordinator

Bill Cory  247-2449
Human Resources Manager

Mike Davis  292-6928
Systems Manager

Brian Endres  292-6986
Academic Advising Coordinator

Leigh Evrard  292-2780
Design Engineer

Lynn Flanagan  688-3309
Business Officer

Paul Green  292-2718
Laboratory Supervisor

Geoffrey Hulse  292-3589
Director of Computer Services

Dave Jones  271-6718
Senior Support Engineer

Kirsten Marinko  292-7907
Communications Coordinator

Layla Mohmmad-Ali  292-9889
Administrative Associate (NSEC)

Holly Prouty  688-5686
Undergraduate Academic Advisor

Susan Tesfai  292-5086
Fiscal Associate

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Front Cover: Main Photo: Distillation column experiment
Small photos (l to r): Charging the gas-solid fluidization experiment with solid particles of a specific particle size range; Class of ’76 alumni, Jim Delabar, Larry Latta, Larry Vlcek and Mike Ryder; Graduate student Nicole Guzman and Professor Mike Paulaitis looking at a glass slide onto which she has printed an antibody microarray to capture cells that have specific antigen molecules on their surfaces.
Thomas Koffolt Remembers:

As son of Joe Koffolt, while I may be a Wisconsin chemical engineer, I warmly remember my association with Ohio State and particularly about my growing up in Columbus and hanging out in the department. I had my dad’s correspondence going back to 1928 and thus have a fairly good idea of what my father went through as he became department chairman in 1948. From the early 1940s, I have vivid recollections of working with the undergraduate and graduate students in the lab, recording data for them, participating in the Annual Conference of Engineers (ACE) day parades, and working with them at the Ohio State fair presentations. I understood my father’s various commitments during the war years to his duties in various defense programs and his lectures in Dayton at the Air Force Base. After the end of the war I grew to know many of my father’s PhD graduate students and in the early ’50s did some summer work for some of my father’s PhD students in the department, where I got to know some of the undergraduate students, as well. I was out of the loop in the mid 1950s when I spent my two-year Navy duty in Puerto Rico and again in mid-1959 when I went back to the island for eight years at Union Carbide’s new plant in Ponce. But between Dad’s letters to me and his correspondence files, I knew well the effort that went into the construction of the new Chemical Engineering building commissioned in 1959, and his subsequent efforts to properly equip the department. When I returned to the States in 1967, I spent quite a bit of time in Columbus and at the University as my father continued to have a series of strokes, the first one just before the completion of the new building in 1959.

At the time of my father’s retirement in 1972, I collected his documents and donated the most important to Geoff Hulse, known to be the unofficial departmental historian. Included in this were the minutes of the formation of the department from 1908-1913. I stood in for my father at the June commencement when he was awarded the honorary Doctor of Science Degree by the University, and with Sy Syverson presented the degree to my father at his nursing home. In 1977 I had the honor of commenting upon the naming of the new Chemical Engineering building for Joe, poignantly 10 days after his death.

I had the opportunity on my visits to Columbus to visit with Sy Syverson up through his passing; with Jack Zakin; and later with L.S. Fan and Stuart Cooper. I kept in touch with the professors my father had hired including Web Kay, Bob Brodkey, Christie Geankoplis, Ed Smith and Ed Haering. When the “1952 Class of Champions” had their 50th reunion I spoke to them about my father. When Bob Bates and the class of 1953 formed a campaign to create a bronze bust of my father, I assisted and later spoke at the dedication. I was also very happy to participate in the program celebrating the 100th anniversary of the department in 2003. Finally, I helped Geoff Hulse put together a narrative about my father. This document can be found on the department website under the General Information Tab which links to the Koffolt Statue program and the Koffolt biography.

Note from the department: Tom is currently serving on the National Committee for the New Koffolt Laboratories. We thank Tom for helping to keep the memories of Joe Koffolt and history of the Department alive. We are truly grateful for his friendship and continuing involvement with our Department.

Pictured top: Tom Koffolt with father, Joe Koffolt
Pictured right: Tom Koffolt at the Joe Koffolt Memorial Statue Dedication Ceremony in 2005
The Class of 1976

The OSU ChemE Class of ’76 chose this past Spring Game weekend as the backdrop for its 35th Reunion. The reunion was organized by Larry Latta but not without the help and cooperation of Department Chair Stuart Cooper and Communications Coordinator Kirsten Marinko. The “formal” reunion events included presentations from department faculty and staff and special appearances from Dr. Bob Brodkey and Dr. Harry Hershey. Of course no reunion would be complete without a tour of Koffolt Laboratories and the Unit Operations Lab.

Many of the attendees hadn’t seen each other since graduation day in the “Shoe” back in ’76 so a lot of catching up on careers and family took place. One unanimous decision was reached: “Let’s not wait 35 more years for the next one! ‘How firm thy friendship – O-HI-O!’”

### Alumni Spotlight

#### Pictured left: Front row (l to r): Rick Smith, Dan Horn, Bob Linek, Betty Frazier, Dr. Aldrich Syverson, Debbie Garber Billman, Larry Latta, Dr. Bob Brodkey, Dave Serbin

#### Second row: Phil Hursh, Dr. Edward Haering, Bob Konanz, Joe Taraba, Dave Weber, Dean Imbrogno, Dale Arnold

#### Third row: Steve Grant, Dr. M.E. Lynn, Carol Payne Nichols, Mike Ryder

#### Fourth Row: Dave Mueller, Mark Matosky, Dr. Christie Geankoplis, Ken Hansen, James Keenan, Mary Vercellotti Richardson, Marie Carson Gill, Frank Mitchell

#### Fifth row: Dr. Webster Kay, Dr. Thomas Sweeney, Darlene Hinerman McCalmont, Luanne Proctor Stickley

#### Sixth row: Tom Hackett, Dr. Harry Hershey, Russ Schilling, Janet Thomas, Ray Collins, Dick Bouton, Jim Delabar, Dan Millisor, Greg Bellopatrick, Larry Vlcek, James Woods, Bill Fugel, Mike Maciejewski

If interested in being considered for our Alumni Spotlight section please send your story to marinko.3@osu.edu

Above: 2011 Spring Game

Pictured right: Front row (l to r): Anand Praturi, Larry Latta

Second row: Bob Konanz, Dean Imbrogno, Mike Ryder, Dale Arnold

Third Row: Ken Hansen

Fourth Row: Dr. Harry Hershey, Jim Delabar, Darlene Hinerman McCalmont, Larry Vlcek
Faculty News, Awards & Honors

Professor Jessica Winter and research scientist Gang Ruan have invented a nano particle that emits light to tag molecules in biomedical tests. However, unlike traditional fluorescent chemical dyes or nanoparticles, the color of light emitted changes continuously (similar to Christmas lights) to enhance particle tracking. This work was recently described in the journal Nano Letters. Their patent-pending technology consists of tiny polymer nanoparticles, composed of even smaller metal oxide clusters called quantum dots which glow red, yellow, or green so that researchers can easily track molecules under a microscope.

A lack of knowledge of biological processes on the molecular or cellular level is the main problem in combating diseases such as cancer. Researchers are better able to see the inner workings of living cells because these quantum dots shine so brightly they illuminate chemical reactions very well. However, tracking molecules in cells has been challenging because quantum dot fluorescence is not well controlled; the dots turn on and off at random, a process known as blinking. Also, when a particle moves out of focus it can appear to turn off, and these two phenomena cannot be differentiated with current nanoparticle designs. We can tailor these particles to tag particular molecules and use the colors to track processes that we wouldn't otherwise be able to. Also, this work could be groundbreaking for the field of nanotechnology as a whole, because it solves two seemingly irreconcilable problems with using quantum dots, said Ruan. These problems, blinking and out of focus imaging, are addressed by the color changing property of the particles, which instead of blinking on and off change colors from red to green to yellow, permitting continuous tracking.

Quantum dots can also be used in microfluidics research in that researchers who are developing small medical devices with fluid separation channels can use quantum dots to follow the fluid’s path.

This research was supported by the National Science Foundation, the Slider Professorship endowment provided by the Lowrie Family, and the center for Emergent Materials at Ohio State.

Umit Ozkan Wins ACS Division of Petroleum Chemistry Distinguished Researcher Award

Umit Ozkan has been awarded the 2012 Distinguished Researcher Award from the ACS Division of Petroleum Chemistry.

Professor Ozkan has made major contributions in research, teaching, service and leadership. Her award nomination and selection is based on her impressive record of achievements in catalysis research, in teaching and advising students, and in administration at OSU. She has been invited to present lectures 125 times in 25 different countries, which reflects the renown of her outstanding research work. In addition, Dr. Ozkan has participated in all aspects of the ACS Petroleum Chemistry Division from serving on the Program Committee to serving as President of the division.
Department Chair, Faculty members Win Ohio State College of Engineering Awards

Scott Faculty Award

Professor and Chair Stuart Cooper is the recipient of the 2011 Clara M. and Peter L. Scott Faculty Award for Excellence in Engineering Education. Cooper received this award based on his innovative research, influential publications, effective mentoring of students and faculty, outstanding professional service and administrative leadership. The Scott Faculty Award is presented annually to a senior faculty member in engineering or architecture who has distinguished himself or herself nationally or internationally.

Lumley Research Award

Professors Umit Ozkan and Jeff Chalmers have received Lumley Research Awards, which recognize the research contributions of College faculty and research staff members.

Professor Jeff Chalmers received this award based on his high research productivity and the excellence and impact it continues to have on a national and international level. The fact that his cell separation technology was conceived, developed, patented, licensed, and is now being tested clinically speaks to the quality and influence of his research.

Professor Umit Ozkan received this award based on her research accomplishments that have been recognized by the many national and international awards she received in the last five years, including a Fulbright Scholar Award, French Universite Claude Bernard- CNRS Lectureship Award, American Institute of Chemical Engineers Mentorship Excellence Award, Iowa State University Professional Achievement Citation in Engineering and John van Geuns Lectureship Award of the Van’t Hoff Institute for Molecular Sciences at the University of Amsterdam.

MacQuigg Award

Professor Jim Rathman has won the 2011 Charles Ellison MacQuigg Award. The award is presented annually to faculty members who have demonstrated, in a superior manner, their interest in and willingness to help students, their interest in improvement of the high reputation of the College of Engineering, and their outstanding teaching ability. Students in the College of Engineering nominate and elect award recipients.

David Wood Discusses Bioprocessing on Sciencecareers.org

Professor David Wood was featured giving career advice on bioprocessing on Sciencecareers.org, an online component from the journal Science. According to Wood, “Bioprocessing is generally distinguished from farming or agriculture in that it usually refers to methods that include the use of isolated cells or enzymes in an artificial environment. However, bioprocessing is a highly diverse field of study that can range from the large-scale manufacture of fermented foods or biofuels to smaller-scale, high-value therapeutic protein production. All these processes are tied together by their reliance on a biological component but the scale, technologies involved and economic drivers exhibit enormous diversity.”

Photograph by Izabela Gierach
The Koffolt Laboratories National Campaign Committee gathered April 29, 2011, to discuss progress to date on the new building.

The new College of Engineering Dean, David Williams, introduced himself to the group and shared his vision and goals for the college for the upcoming year and years to come. The University's Vice Provost for Administration and Facilities, Michael Boehm, talked about the building’s priority and progress and financial realities. Department Chair Stuart Cooper gave a departmental update followed by student presentations from the Denman Undergraduate Research Forum by Kunal Parikh and Robert Wensing. Fred Clarke, architect for Pelli Clarke Pelli, focused on the details and purpose of the new building’s outside structure and presented potential space naming opportunities. Clarke also shared with the group various landscape features and discussed the impact the building will have on the north academic corridor. The meeting concluded with a fundraising update and workshop with Director of Development Jason Haskins.

The committee will meet again in October 2011 to review the building plans and continue efforts to engage fellow ChemE alumni in support of the new Koffolt Laboratories.

*Pictured below: Front (l to r): Bill Hauschildt, Cindy Gerstle Bishop, Mike Windfield, Bill Lowrie, Karen Lafferty Hendricks, Stuart Cooper  
Back: Ron Harris, Brian Weider, Alex Kawczak, Jim Dietz, Smith Howland*
Committee Members

William G. Lowrie (B ChE ’66), Chair
Sheldon, South Carolina

Jeffrey D. Adams (B ChE ’87)
San Mateo, California

Richard A. Arnold (B ChE ’48, MBA ’50)
Houston, Texas

Cynthia (Cindy) Gerstle Bishop (B ChE ’86)
Coppell, Texas

James F. Dietz (B ChE ’69, MS ’70)
Northfield, Illinois

Matthew J. Galosi (B ChE ’80)
Katy, Texas

David R. Grove (B ChE ’70)
Stuart, Florida

Jack A. Hammond (B ChE ’61)
Covington, Virginia

Ronald D. Harris (B ChE ’61, MS ’61)
Columbus, Ohio

F. William (Bill) Hauschildt, Jr. (B ChE ’67, MS ’67)
San Francisco, California

Karen LaFererty Hendricks (B ChE ’71)
Maineville, Ohio

Kathleen (Kathy) Applegate Hogenson (B ChE ’82)
Houston, Texas

Smith G. Howland (B ChE ’69, MS ’69)
Houston, Texas

Dennis W. Hurley (B ChE ’67)
Midland, Michigan

Alex W. Kawczak (B ChE ’82)
Dublin, Ohio

Thomas Koffolt
Savannah, Georgia

Sumner (Sonny) Saeks (B ChE ’82)
Cincinnati, Ohio

Lawrence R. Steele (B ChE ’58, MS ’58, PhD ’62)
Princeton, New Jersey

Brian K. Weider (B ChE ’78)
Bloomfield Hills, Michigan

Eugene (Gene) N. Wheeler (B ChE ’65, MS ’65)
Livermore, California

Michael D. Winfield (B ChE ’62)
Long Grove, Illinois

Top & Middle: Architect Fred Clarke presents new building images
Bottom: Architectural rendering of the new building from the south
Welcome to the new Koffolt Laboratories, scheduled for completion in 2014. The building will have about 130,000 square feet of assignable space for all of Chemical and Biomolecular Engineering and a portion of Chemistry. CBE will occupy 60% of the space or approximately 75,000 square feet. More than 12,000 square feet of space will be devoted to the undergraduate program. Now that design development is almost complete, we can share the broad outline of what will be in the building, emphasizing the undergraduate program space. Note that the student lounge will be on the sixth floor of the “office tower.” There will be offices for the undergraduate advisors in that location. The lounge space is approximately 1,600 square feet and the southern quarter of the space is a dramatic two floors in height. This space is nearly double of our current “comp labs” on the third floor of old Koffolt.

This is the ground floor of both buildings. The research bar is on the left and the office tower is cantilevered above the main entrance to the building. The ground floor has a sloped-floor lecture hall with seating for nearly 120 students, two design classrooms, two computer laboratories and a recitation room. The north half of the first floor is occupied by research laboratories. Note a small portion of the unit operations lab protrudes as a glassed-in space on the ground floor.
The basement has a ceiling height of 20 feet and includes core facilities for Chemistry such as the NMR laboratory and Chemical Engineering's biotechnology, polymer and rheology laboratories. Importantly there is more than 4,500 square feet of “unit operations,” or undergraduate laboratory space, which includes a third computer laboratory. Finally there is a combination locker room and lounge for CBE undergraduates adjacent to the laboratory space.
Frank S. Bates is a Regents Professor and Head of Chemical Engineering and Materials Science at the University of Minnesota. He received a B.S. in Mathematics from SUNY Albany in 1976 and M.S. and Sc.D. degrees in Chemical Engineering from MIT in 1979 and 1982. Between 1982 and 1989, Bates was a member of the technical staff at AT&T Bell Laboratories and then joined the University of Minnesota as an Associate Professor. He was promoted to Professor in 1991, named a Distinguished McKnight University Professor in 1996, appointed Department Head in 1999, and became a Regents Professor in 2007. Professor Bates conducts research on a range of topics related to polymers, with a particular focus on the thermodynamics and dynamics of block copolymers and blends. In 1988 Bates was named a Distinguished Member of the Technical Staff at Bell Labs. In 1989 he received the John H. Dillon Medal and in 1997 the Polymer Physics Prize, both from the American Physical Society where he is a Fellow. He won the 2004 David Turnbull Lectureship Award from the Materials Research Society, shared the ACS Cooperative Research Award in 2008, and was awarded the 2008 Sustained Research Prize by the Neutron Scattering Society of America. Bates was elected to the U.S. National Academy of Engineering in 2002. In 2005 he was named a Fellow of the American Association for the Advancement of Science and in 2010 was elected to the American Academy of Arts and Science. Bates visited the department in May to give the two lectures:

Lecture I: Macromolecular Surfactants
Block copolymers belong to a broad class of amphiphilic compounds that includes soaps, lipids and nonionic surfactants. These macromolecules assemble into micelles with molecular dimensions on the order of 5 to 50 nm in size when mixed with excess solvent that preferentially solvates one block type. This presentation explores several aspects of block copolymer synthesis and micelle formation, including the fundamental thermodynamic and kinetic factors that control particle shape and dynamics. A host of experimental techniques including small-angle x-ray and neutron scattering (SAXS and SANS), cryogenic electron microscopy and rheological techniques have been employed in characterizing disordered (fluid) and ordered (soft solid) structures and the associated viscoelastic properties of block copolymers dispersed in aqueous and organic media. Similarities and differences between conventional and macromolecular surfactants will be highlighted along with several illuminating practical applications.

Lecture II: Reflections on Our Discipline: A Tribute to Neal Amundson
With the February 16, 2011 passing of Neal Amundson the world lost one of the most visionary academics of the modern era. Amundson is remembered as an architect of modern chemical engineering, one who guided the field beyond the days of glorified plumbing to a sophisticated and mathematically demanding engineering discipline. As head of “Amundson’s department” for the past dozen years, Bates said he has grappled with the challenge of shaping and redefining chemical engineering and materials science at the University of Minnesota. Fortunately, the basic principles that guided Amundson through 25 brilliant years as “Chief” at Minnesota remain operative today. Bates shared some of his wisdom and offered a few of his own thoughts regarding our academic enterprise and the pursuit of fundamental knowledge in the face of technological progress.
LOWRIE LECTURESHIP AWARD
Awardee: Frank S. Bates

SPECIAL RECOGNITION
Kevin Kauffman: Received a Pelotonia Undergraduate Fellowship
Elif Miskioglu: Selected to receive a 2011 National Science Foundation (NSF) Graduate Research Fellowship Program Fellowship
Shreyas Rao: Received a Pelotonia Graduate Fellowship
Kevin Yang: Received an NSF Graduate Research Fellowship

AMERICAN INSTITUTE OF CHEMISTS FOUNDATION AWARDS
AIC Outstanding Undergraduate Student Award
Awardee: William Murch
AIC Outstanding Graduate Student Award
Awardee: Shreyas Rao
AIC Outstanding Postdoctoral Award
Awardee: Pouyan Boukany

AICHE STUDENT AWARDS
AICHE Central Ohio Section Outstanding Student Award
Awardee: Kelly Ramos
Donald F. Othmer AICHE Sophomore Academic Excellence Award
Awardee: Kristi Olesik

AICHE STUDENT CHAPTER OFFICERS
President- Chris Schneider; Vice-President- Chris Wielgus; Treasurer- Mike Nechay; Co-Philanthropy Chairs- Kunal Parikh & Craig Hoying; Communication Chair- Janee McNeil; Social Chair- Will Murch; Historian- Binbin Wu; ChemE Car President- Chris Wielgus; ChemE Car Treasurer- Jesiah King; ChemE Car Safety Coordinator- Frank Sweterlitsch; Fuel Cell Team Leader- Tom Mascolino; Timing Mechanism Team Leader- Mike Nechay; Chassis Team Leader- Alex Vermejan

DEPARTMENT OF CHEMICAL AND BIOMOLECULAR ENGINEERING AWARDS
Co-Op Award
Awardee: Cameron Bodenschatz
Outstanding Undergraduate Award for Research Excellence
Awardees: Dan Griffin, Mengchuan Li, Hyun Tae Sohn, Yuhao Sun, Daniel Valco, Qi Wang, Robert Wensing, Kevin Yang
Outstanding Graduate Award for Academic Achievement
Awardees: Hyunkyu Choi, Jake Elmer, Daniel Knight, Congcong Lu, Kelley Mullick, Kartik Ramasubramanian, Shweta Singh, Deepak Sridhar, Ru Zang
Outstanding Post-Doc Award for Research Excellence
Awardee: Yun Wu, Jingbo Zhao

CEGC OFFICERS (Chemical Engineering Graduate Council)
Academic Officer – Yinming Du
Facilities Officer – Deepika Singh
Recruitment Officer – Alex Roth
Business Officer – Erin Landers
Social Officer – Andrew Tong

College of Engineering Dean David Williams (left) presenting the Lowrie Lectureship Award to Frank Bates

Jack Zakin (left) and Shreyas Rao

David Wood and Kelly Ramos

Jim Rathman (left) and Cameron Bodenschatz

Kurt Koelling and Kelley Mullick
2011 Unit Operations

The enrollment in this summer’s Unit Operations Laboratory class was 113 students, the same as last summer and just slightly below the record enrollment of 118 during Summer 2009. Our clinical faculty member, Carlo Scaccia, leads this core laboratory course, which consists of 13 experiments and three areas of focus: Environmental, Biological, and Traditional. Students are assigned to one of the three areas of focus and are required to perform four experiments in-depth. We have added supplemental laboratory demonstrations for all student teams on the remaining nine experiments.

This past year the Shell & Tube Heat Exchanger experiment has been redesigned with new equipment and instrumentation. The more sophisticated instrumentation allows in-depth data analysis not possible earlier. The Multi-Phase Mixing Dynamics experiment has been expanded to include single liquid phase interactions and mixing time, two phase gas-liquid mixing dynamics, three phase gas-liquid-solids dynamics, high viscosity Newtonian and non-Newtonian dynamics, and gas-liquid mass transfer. The instrumentation now allows direct online data acquisition.

The CSTR and PFR reaction kinetics experiments now have much more reliable on-line pH data acquisition, and the hydrogen fuel cell has been upgraded to include additional pressure and flow measurements and humidity control. Finally, the plate heat exchanger data analysis has been updated to reflect current literature references and to improve mathematical modeling.

Overall, Scaccia is doing an excellent job continually updating the summer lab and meeting the needs of our very large classes of graduating seniors.

Top right: Multi-phase Mixing Dynamics
Middle: Activated Carbon Adsorption
Bottom right: Gas Solid Fluidization

2011 Unit Operations Class
The 2011 Advisory Board Meeting was held March 17. Department Chair Stuart Cooper described faculty successes, undergraduate and graduate enrollment and the new building.

CBE had 639 undergraduates (majors and pre-majors) enrolled for 2010, of which 443 students were undergraduate majors. Thirteen Ph.D.s were awarded, and there were 88 graduate students in residence.

Interim Dean Greg Washington updated the group on the College of Engineering (COE) enrollment numbers. The College is currently ranked 1st in Ohio and 29th nationally. COE has one of the best first-year programs in the country with the freshmen retention rate at 88%, making the end result a highly competitive student. One of the biggest challenges the College faces is in developing a distinct globalized curriculum with a need to find more global educational opportunities outside the classroom. The College is already addressing this challenge by developing more ways to integrate a global outlook into the undergraduate curriculum by adding more study abroad programs, co-ops and internships.

Professor Bhavik Bakshi presented via Skype due to his part-time appointment as Vice Chancellor and Professor of Energy and Environment at TERI University in New Delhi, India. He described the Columbus/India connection regarding sustainability, research and education.

Professor S.T. Yang presented his research on developing methods to produce butanol from biomass. With support from a $1 million grant from Ohio Department of Development Third Frontier Advanced Energy Program, Yang partnered with ButylFuel, a start-up company, to build a pilot plant that produces butanol using genetically modified bacteria in a highly efficient fermentation process.

Professor Jim Rathman discussed the semester conversion outline and Professors Jeff Chalmers, Jim Lee, Umit Ozkan, Andre Palmer, David Wood and Barbara Wyslouzil updated the group on interdisciplinary research activities in which they are participating.

Advisory board members provided feedback to students regarding their experiences at OSU, career choices, and what they have learned and valued the most along the way. A roundtable discussion raised the question of how the board might interact more with our students. Board members agreed to make themselves available for more interactive meetings and events to mentor and advise students about their academic focus and their future career choices. Agenda items for future board meetings were also discussed, and it was suggested to have some time to meet with students to get their feedback and learn about their Ohio State experiences.
Alumni Honors, News & Updates

1948

Henry B. Lange, a retiree from his most recent position as CEO/President of Cues, Inc., is currently a part-time consultant to various businesses. He is a volunteer docent at The Witney Laboratory for Marine Bioscience at the University of Florida and also volunteers at SCORE, a nonprofit association dedicated to educating entrepreneurs and helping small businesses start, grow, and succeed nationwide. He is the father of Scott and Jeffrey Lange.

1949

J. Howard Kerstetter, Jr., retired from his most recent position as Design Engineer at Laclede Gas Co. in St. Louis in 1988. He is married to Colleen; father of Claire, John and David; active in church work; and resides in Sunrise Beach, Mo.

Marriage

Japheth Pritchett (B.S. 2011) and Carol Udoh (B.S. 2009), were married June 18, 2011, in Mexico. Pritchett and Udoh were both Paul Bates Scholarship recipients. The scholarship provides awards to African-Americans demonstrating promise and academic achievement.

From l to r: Stuart Cooper, Carol Udoh, Japheth Pritchett, David Tomasko at the 2011 College of Engineering spring pre-graduation brunch

In Memoriam

John Joseph Palkovic (B.S. '52) passed away July 17, 2011, in Youngstown, Ohio. He retired from Olin Corporation, Badger Ammunition Plant in Baraboo, Wis., where for over 40 years he made rosaries, which are now found all over the world. Palkovic is survived by his wife, Gloria; children, Karen Ranson, Mary Breslin, Michael Palkovic, Therese Palkovic, Joseph Palkovic, John Palkovic, Anne Mellet, Jeanie Manthe, James Palkovik, and Angela Wamsley; 27 grandchildren; 3 great-grandchildren; and sister, Marie Antony.

Lawrence Edwin Woodworth, (B.S. '61) passed away August 2, 2011 in Lakewood Ranch, Fla. Woodworth's life was full of family and friends, and he will be dearly missed. He was a graduate of The Ohio State University College of Engineering and was a U.S. Army Veteran. He forged a long, successful career in engineering at Abbott (Ross) Laboratories, where he was an employee for 30 years designing enhancements to the Similac product line. He is survived by his wife, JoAnn; his children, Mary Kay (Mike) Dressman, Lynn Ann (Steve) Mick, and Douglas Woodworth; and his grandchildren, Christopher, Nicholas, Alexandra, and Conner. In lieu of flowers, donations can be mailed to: OSU College of Engineering, Fund: Koffolt Building Campaign, 142 Hitchcock Hall, Columbus, OH 43210, Attn: Lindsey Margaroli, or to a charity of your choice. A memorial to celebrate his life will be held September 25, 2011, at the Ohio Union on the Ohio State University Columbus campus from 12 to 2 pm, in Great Hall Meeting Room.

Charles “Chuck” Eli Malspeis, (B.S. ’87) passed away June 17, 2011. Malspeis received his master of business administration from University of Cincinnati and most recently was a co-founder of Nova Pressroom Products in Jacksonville, Fla., where he was instrumental in getting the company off to a successful start. Just this March, Malspeis was married to the love of his life, Momi Cruz. Malspeis was fiercely devoted to his friends and family from Ohio and Florida and was an Ohio State Buckeye all of his life.
Alumni Support

Our department benefits from a variety of types of alumni support. These include graduates who have established endowment funds that support undergraduate scholarships, annual support received from Jewels Club members and annual support that is designated for the general fund of the department. This support is vital to the quality of our program and helps us provide an educational experience for our students that transforms them into future leaders of our profession.

Now we ask that you consider another category for your giving plans, the campaign for the New Koffolt Laboratories, a once every 50-60-year opportunity to provide a great new home for the department. The department must raise approximately $17.5M of the more than $126M that the building will cost. Please let us know if you would like more information on possible giving options, including making a multi-year pledge or a charitable IRA rollover to our Koffolt Laboratories building fund. We are also in the process of naming spaces in the building in recognition of major donors. Please let Director of Development Jason Haskins (Haskins.8@osu.edu or 614-292-9915) know if you are interested in receiving named spaces information.

Name____________________________________
Home Address_____________________________
_________________________________________
_________________________________________
Phone____________________________________
Cell Phone_______________________________

Please check one of the following:
☐$50    ☐$100    ☐$250
☐$500    ☐$1000    ☐Other___________

☐See if your supported gift will be matched by a corporate gift matching program.

Amount Enclosed__________________________
☐Check     ☐Credit Card

Please make checks payable to the Chemical and Biomolecular Engineering Department

Please charge my:
☐Visa    ☐Mastercard    ☐Discover
☐American Express

Name on Card____________________________
Account Number__________________________
Expiration Date _________________________
Signature_______________________________

Please indicate where you would like your donation applied:
New Building Fund, 310614______ General Fund, 302693______ Jewels Club, 310335______

*Many graduating classes are currently organizing for reunions in the coming years and class gifts for a named space in the building honoring their class commitment. If you are interested in volunteering to help with your class, please contact Jason Haskins (haskins.8@osu.edu or 614-292-9915).
Share your news!

**PERSONAL**

Name________________________________________ Spouse________________________________

Address_____________________________________________________________________________

City_________________________ State_________ Zip____________________

Children_____________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

**COLLEGE**

Degree_________________________ Major________________ Month/Year____________________

Degree_________________________ Major________________ Month/Year____________________

**PROFESSIONAL**

Occupation___________________________________________________________________________

Most Recent Employer__________________________________________________________________

Position____________________________________________________________________________

**ACTIVITIES-Personal and/or work-related interests, achievements, honors, etc.**

____________________________________________________________________________________

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*Please return in the provided envelope*
This photo was taken March 21, 1957, during the annual ChE inspection trip, which was a graduation requirement until the 1970s. From left, Joe Koffolt and 1957 ChE graduates Ronald P. Rowland and Thomas Winkle watch a brand new Thunderbird roll off the assembly line at the Ford Motor Company’s Rouge Complex. If you have anything to add or would like to send a photo from your past experiences in the Department send an email to Kirsten Marinko at marinko.3@osu.edu. Photos and comments will be placed on our website at www.chbmeng.ohio-state.edu.
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