CBE Alumni Newsletter
A TRADITION OF EXCELLENCE
Issue No. 16 Fall 2012

WILLIAM G. LOWRIE
DEPARTMENT OF CHEMICAL AND BIOMOLECULAR ENGINEERING
THE OHIO STATE UNIVERSITY
Dear Alumni and Friends of the Department:

This is an exciting and noisy time for the department as we had our groundbreaking ceremony in June and as I write this letter, the construction site is bustling with earth moving equipment, large trucks and the overall hum involved with digging out the site for our new Koffolt Laboratories. You can follow the construction through webcams accessible at the website http://go.osu.edu/CBEconstructioncams and read more about the groundbreaking ceremonies later in this newsletter.

As part of our mission to prepare chemical engineers for rewarding careers, last year we graduated 127 individuals with BS degrees and 14 PhDs. We just completed our summer Unit Operations Laboratory course with 115 students, and had a short summer, converting from quarters to semesters. Kudos go out to our advisors Brian Endres and Holly Longman, who ensured a smooth transition for our undergraduates.

In faculty news, we welcome Lisa Hall, who joined us in August. She has jumped into the pool by teaching our Process Control course fall semester. Other faculty have achieved some signal honors: Umit Ozkan was appointed to a College of Engineering Distinguished Professorship, the highest academic honor that can be bestowed on a faculty member by our college. Bhavik Bakshi received the AIChE Research Excellence in Sustainable Engineering Award. Winston Ho was selected to receive AIChE’s 2012 Lawrence B. Evans Award for Industrial Chemical Engineering Practice. In other staff news, I am pleased to be working with our new public relations coordinator, Wenda Williamson, who replaced Kirsten Marinko. We wish Kirsten the very best in her new job at Duke University!

We are happy to report that in addition to the named spaces in the new Koffolt Laboratories building (termed the CBEC Building, for Chemical and Biomolecular Engineering and Chemistry) that we described in our Annual Report, the Class of ‘61 has raised $170,000 to name one of the connector conference rooms and our faculty has collectively pledged $125,000 – with a highly significant 100% participation rate -- to name a large conference room on the second floor of the building. At a time when challenging economic conditions have affected us all, I have been deeply touched by the demonstrations of pride and loyalty that many of you continue to make in supporting the department and the new Koffolt Labs. Thank you.

Best wishes and Go Bucks!

Letter From The Chair

Greetings!

As the new public relations coordinator for the CBE, I want to tell you a secret...

When I first walked into this old building, it was like stepping back in time!

Once glorious, Koffolt Labs is now showing its age. But in these old hallways, something quite special is happening. Students are discovering their futures. Professors are discovering more economical ways to produce energy and amazing biotech and healthcare applications. Read some of those stories here, but then come, look, and listen for yourself. Hear the voices of students past and present echo in the halls. Watch the heavy equipment at work building the new Koffolt Labs. After all, it’s your CBE, and the new Koffolt Laboratories building belongs to all of us.

-Wenda Williamson

For story ideas or comments, please email me at williamson.416@osu.edu
Lisa Hall Joins CBE Faculty

We are happy to introduce Dr. Lisa M. Hall, who joins us as an assistant professor in chemical and biomolecular engineering.

Hall received her bachelor of science degrees in chemical engineering and chemistry from Rose-Hulman Institute of Technology in 2004. At the University of Illinois at Urbana-Champaign, she received her MS (2007) and PhD (2009) with Professor Kenneth Schweizer, developing modeling techniques to study polymer nanocomposite structure and miscibility.

Prior to coming to Ohio State, Hall was a postdoctoral associate at Sandia National Laboratories, where she worked with Drs. Amalie Frischknect and Mark Stevens on molecular dynamics simulations to study ionic aggregation and transport in ionomers.

Hall has been very productive in her early career, publishing eleven papers in high impact factor journals such as Physical Review Letters and the Journal of the American Chemical Society, and presenting at national conferences.

Hall will strengthen and complement our research capability in modeling and simulation emphasizing the analysis of polymer materials which have applications in energy such as lightweight composites, solid electrolytes for batteries, and nanostructured materials. She will teach core courses in thermodynamics, transport phenomena, and process control.
The Alumni Advisory Board met on April 17, 2012 for a department overview and update on the new Koffolt Labs project. Amy Thaci from Career Services discussed ways her office can help CBE students, and Dr. David Wood gave a brief overview of a Professional Development Concept (a joint venture between the chemistry and business programs).

Student panels shared the “student perspective” with the board. The students consider “soft skills” important and said that they had opportunities to practice soft skills such as working in teams and making presentations. When asked what outreach would be good to help high school students become aware of chemical engineering, one student said, “There is a push to recruit high school students, but a lot of students drop out when faced with the reality of how tough the curriculum is. The message should be that although engineering is tough, it is worth the effort.”

After lunch, Undergraduate Student Advisor Brian Endres gave an update on the quarter-to-semester conversion, and Dr. Stuart Cooper provided a review of the department’s two-year budget proposal. The group was then treated to a presentation by Dr. L.S. Fan regarding his energy research. Undergrad students Gina Pietro, Brooke Laing, and Jesiaah King gave presentations on the research they have been involved in with professors David Wood, Bhavik Bakshi, and Umit Ozkan, respectively.

### Nancy Dawes (‘81) Named Distinguished Alumna by COE

This fall, The Ohio State University will recognize some of its outstanding alumni. We’re delighted to announce that Nancy Dawes has been named a Distinguished Alumna of the College of Engineering!

Nancy’s talents were recognized early on. In 1998, she received the College of Engineering Texnikoi Outstanding Alumna Award. Texnikoi is an organization of undergraduate students in the College of Engineering that recognizes qualities of leadership and volunteerism.

In subsequent years, Nancy has become known as one of the country’s foremost experts in the development of advanced skin care products. She designed key product and benefit platforms that transformed the Olay skin care brand into a billion dollar business, more than doubling Olay’s market share since 1995. As one of only a small group active in Research and Development in P&G’s workforce of around 8000 employees, her elevation to the Victor Mills Society as a research fellow at Procter is an exclusive honor. In addition, she holds six patents.

Nancy has also lent her talents to the community in various ways. Since 2001, Nancy has served on the CBE Alumni Advisory Council, which concerns itself with improving the quality of the educational experience. Nancy’s success at Procter and Gamble allows her to serve as a role model for all of our students, and undergraduates have especially benefitted from her guest lectures on campus.

Nancy has also provided service to her community as a long-time Girl Scout leader, culminating with her service as Board Chair of the Girl Scouts of Western Ohio.
1940s
Frank C. “Chuck” Price, Jr. (’47 BS, ’47 MS), 89, Santa Ana, CA, wrote “I remember when nearing graduation that Dr. Withrow learned that I was leaving to join the Navy Air Corp. He became quite upset because he felt I was needed for the industrial recovery taking place after the war. Years later, I saw Joe Koffolt at a luncheon at a Ch.E. convention in Los Angeles. When Joe was asked to speak, he would first go around the huge table, man-by-man, and call everybody by name and then have a pertinent remark about each, much of it humorous.”

Chuck’s career took him from Procter and Gamble to Union Oil, Aerojet General, Ford Aerospace, and Baxter Labs. He worked on the extrusion of Ivory bar soap, the development of the blue in Blue Cheer, the first lead-free gasoline, shale oil recovery, an activated carbon used to fractionate hydrocarbon gas mixtures, a hot gas turbine that pumped liquid propellant into a rocket chamber of an ICBM, a diagnostic system to detect tuberculosis infections, and a process for improving the yield of Factor 8 from blood plasma for hemophilia patients. “All told I had a most interesting career as an Ohio State chemical engineer,” said Chuck, who retired in 1988.

Bill Mead (’48 BS, ’62 Professional degree ChE) of Greenwich, CT wrote a book entitled “Dietary Supplement Good Manufacturing Practice: Preparing for Compliance.” Bill wrote the book because of the industry’s negative publicity due to quality control lapses. Bill, a retired consultant, worked for Mars Fontana as a lab assistant and describes himself as “one of Joe Koffolt’s Jewels.” Both Fontana and Koffolt attended his wedding.

1960s
Bill Gieseke (’60 BS), Delray Beach, FL is a cardiac surgeon (MD, Indiana University) for Delray Medical Center and enjoys making underwater videos.

Robert P. Kasper (’63 MS; ’59 BS Brown University) retired in 2002 from Givaudan Flavor Corp as senior process development engineer.

1970s
Michael Rominger, (’71 PhD), Wilmington, DE retired as process control consultant from DuPont and is now the facilitator for the Sustainable Remediation Forum (SURF), which focuses on various aspects of site cleanups.

1980s
Cindy Gerstle Bishop (’86 BS) of Coppell, TX started her own boutique environmental law firm, C. Bishop Law PC. Cindy serves on the National Committee for the New Koffolt Laboratories.

1990s
Steve Toth (’98 BS Economics, ’99 BS, ’05 JD), Chicago, IL was elected partner at Kirkland & Ellis LLP. He works in private equity mergers/acquisitions.
Harvey C. Lisle ('37 BS) of Urbana, OH died on August 7, 2009.

John P. Haughton ('37 BS) passed away on April 5, 2011 at age 97. Haughton was a sales manager for Joanna Western Mills Co. He was active in the Kiwanis Club and the Barcelona Road Baptist Church and is survived by Jean S. Haughton.

Roy G. Merryman ('41 BS) passed away on December 30, 2011.

Hugo C. Johnson Jr. ('48 MS) of Okatie, SC passed away on October 23, 2009. Johnson was the retired general manager of Dravo Corporation.

Jean Maurer Scharenberg ('48 BS, '50 MS) of Grove City, OH passed away on April 10, 2011.

Verne R. Rinehart ('50 BS, '51 MS) of McArthur, OH passed away on April 20, 2012. Rinehart began his career at Redstone Arsenal, but mostly worked for Goodyear Atomic and Goodyear Research. He was involved in building polyester plants in Argentina and Columbus, and obtained four patents, one of which received the Dinsmore Award for a patent using cheaper raw material to make polyester. Rinehart was a leader within the Masons and held many positions of significance within the organization. He retired in 1987 but kept active gardening, raising chickens and turkeys, keeping bees, and making large quantities of apple cider, tomato juice, and maple syrup. He is survived by Rosalie Guttermuth-Rinehart.

Richard (Dick) Alan Arnold ('48 BS, '50 MBA) of Houston, TX died August 23, 2012. Dick retired as senior vice president of development for Pennzoil Products Company in 1986, serving for an additional five years as a consultant. He was well respected in the fields of market research, new business development and corporate planning for the chemical and petroleum industries. He had senior leadership roles at DuPont, Sohio, and B.F. Goodrich. Dick was an officer in five professional associations and president of The Commercial Development Association.

Dick was very active in the Presbyterian Church: six churches in the USA and churches in Iran and Brazil, where he was managing director of two B.F. Goodrich subsidiaries. He served as an elder and officer in four of these churches. He spent over 50 years in various church choirs and had a keen appreciation for classical music.

Dick was survived by daughter Rebecca (Becky) Jean Forsyth and her husband Elliot and their son and families, as well as his late wife Bennie Ruth Arnold’s three sons and families. His first wife of 38 years, Betty Jean (Goss) Arnold, also preceded him in death.

Pictured at left: Dick Arnold
Recent Awards & Achievements

**AIChE Research Excellence in Sustainable Engineering Award to Bakshi**

BHAVIK BAKSHI’s award recognizes his innovation in sustainable engineering by integrating systems ecology with systems engineering via thermodynamics, and by accounting for ecosystem services in sustainability assessment and design. Bakshi is a pioneer in sustainable engineering research and has helped developing countries through collaborations in Colombia, Brazil, and India. His work has been funded by federal agencies and industries such as Holcim, Dow Chemical, and Owens Corning.

**Ho Slected for Lawrence B. Evans Award in Chemical Engineering Practice; Gives John A. Quinn Lecture at University of Pennsylvania**

W.S. WINSTON HO received the AIChE 2012 Lawrence B. Evans Award for his industrial chemical engineering practice with pioneering and sustained outstanding contributions to novel separations, gas treating invention and commercialization, new membranes and their novel applications. The award is sponsored by CACHE Corporation. Ho also gave the John A. Quinn Lecture in Chemical Engineering at the University of Pennsylvania entitled “Facilitated Transport Membranes for CO₂ and Antibiotic Separations.”

**Fan’s Chemical Looping Process Receives Additional DOE Funding**

As part of the Obama Administration’s $5 billion investment in clean coal technologies, the Energy Department has invested $988,000 to further develop Ohio State’s coal-direct chemical looping (CDCL) process at the Barberton, OH Babcock and Wilcox Power Generation construction project led by L.S. FAN. CDCL has the potential to achieve one of the most efficient, lowest-cost technologies to produce affordable, pure hydrogen while attaining nearly 100 percent CO₂ control in compliance with all environmental regulations. Fan was also elected as a Foreign Member of the Chinese Academy of Engineering this year.

**ACS Energy and Fuels Division Distinguished Researcher Umit Ozkan Honored with Symposium; Named College Distinguished Professor**

After receiving the American Chemical Society Energy and Fuels Division’s Distinguished Researcher Award in June 2012, a 3.5-day symposium with 42 invited talks was held in honor of UMIT OZKAN at the ACS meeting August 20-23 in Philadelphia, PA.

Ozkan, who is an expert in heterogeneous catalysis, catalytic materials and their industrial applications, was also named a Distinguished Professor by the College of Engineering.

**Winter’s Research Efforts and Entrepreneurialism Gain Support**

Core Quantum Technologies Inc., co-founded by JESSICA WINTER, Gang Ruan, and Kunal Parikh, was awarded $100k by the Ohio 3rd Frontier Technology Validation & Startup Fund (2nd phase). Winter also recently received a $50k grant from I-Corps to attend an NSF-sponsored entrepreneurial boot camp to explore commercialization of her research in fluorescent probes for diagnostic imaging.
PROFESSOR PRESENTS ON HYDROPHOBICITY AND HOMOCHIRALITY MODELS

Lecture 1: Theory of Hydrophobicity: Recent Developments on a Venerable Subject

The water-mediated tendency of non-polar units to aggregate underlies basic human activities, such as washing, and microscopic natural phenomena, such as protein folding and the formation of biological membranes. Although many aspects of the theory of hydrophobicity are well understood, important questions remain. These include the behavior of water near geometrically and chemically complex surfaces; the interplay of kinetics and thermodynamics in controlling hydrophobically-induced drying of nanoscale cavities. Debenedetti reviewed progress in the fundamental understanding of these questions through the application of computational methods.

Lecture 2: Thermodynamic and Kinetic Models of the Emergence of Biological Homochirality

Chiral asymmetry choices exhibited by molecules that are present in living organisms constitute a challenging set of observations. Such geometric preferences favoring one enantiomer over its mirror image are obvious in the observed structures of amino acids, sugars, and the biopolymers formed. Debenedetti formulated thermodynamic and kinetic models of chiral amplification that provide molecular-level insight into possible scenarios for the emergence of chiral imbalance in a prebiotic and presumably racemic world.
STUDENT HONORS

SPECIAL RECOGNITION

Hyunkyu Choi: AIChE Catalysis & Reaction Engineering Division Travel Award; North American Catalysis Society Kokes award

Meimei Liu: OSU Alumni Grant for Graduate Research/Scholarship

Kunal Parikh: OSU Outstanding Senior Award (Given to less than 1% of OSU’s graduating seniors)

Haifeng Shi: 2011 Society of Rheology Travel Award; OSU Presidential Fellowship

Ru Zang: OSU Alumni Grant for Graduate Research/Scholarship

Lin Zhao: Winner, 2012 Student Travel Award of the North American Membrane Society (NAMS)

AMERICAN INSTITUTE OF CHEMISTS FOUNDATION AWARDS

AIC Outstanding Undergraduate Student Award - Kunal Parikh (Advisor: Jessica Winter)

AIC Outstanding Graduate Student Award - Haifeng Shi (Advisor: Jack Zakin)

AIC Outstanding Postdoctoral Award - Anne-Marie Alexander (Advisor: Umit Ozkan)

AIChE STUDENT AWARDS

AIChE Central Ohio Section Outstanding Student Award - Brittany Niles

Donald F. Othmer AIChE Sophomore Academic Excellence Award - Killian Llewellyn

AIChE STUDENT CHAPTER OFFICERS

President: Chris Schneider; Vice President: Kunal Parikh; Treasurer: Peter Nguyen; Secretary: Sweety Sharma; Co-Social Chairs: Katie Zorc & Brian Richards; Co-Membership Chairs: Nicole Bayona & Ryan Clark; Co-Philanthropy Chairs: Jackie Pittman & Scott Shaheen

CEGC OFFICERS (Chemical Engineering Graduate Council)

Academic Officer – Mandar Kathe
Facilities Officer – Jenny Dorcena
Recruitment Officer – Daniel Knight
Business Officer – Elena Chung
Social Officer – Elif Miskioglu

DEPARTMENT OF CHEMICAL AND BIOMOLECULAR ENGINEERING AWARDS

Co-Op Award - Alison Boyd

Outstanding Undergraduate Award for Research Excellence - Cameron Bodenschatz, Cornelius Cilliers, Ryan Clark, Robert Fidelibus, Wenqin He, Kevin Kauffman, Jesaiah King, Asher Kay, James Orr, Sean Pattison, Pengpeng Qi, Derek Reichel, and Hok Hei Tam

Outstanding Graduate Award for Academic Achievement - Ray Kim, Daniel Knight, Kartik Ramasubramanian, Ilgaz Soykal, Zhenchao Sun, Liang Zeng, Lin Zhao, and Yanan Zhao

Outstanding Post-Doc Award for Research Excellence - Dawei Wang, Yun Wu

2012 Lowrie Lectureship Awardee Pablo Debenedetti with Department Chair Stuart Cooper. (Photos by Hulse)

L.S. Fan with student awardees.

Student awardees with Umit Ozkan.

Barbara Wyslouszil with awardees.

Awardees with Jack Zakin.
In 1958, an exciting event occurred for The Ohio State University chemical engineering program: after 35 years of waiting, the department was finally breaking ground on a new building!

Plans for the new Koffolt labs commenced in 2008, and on June 18, 2012, William G. Lowrie, President E. Gordon Gee, College of Engineering Dean David B. Williams, Executive Dean and Vice Provost for the College of Arts and Sciences Joseph E. Steinmetz, members of the National Committee for the New Koffolt Laboratories, and numerous other guests enjoyed the excitement of breaking ground for the new Koffolt Laboratories and chemistry building.

Guests were treated to speeches from President Gee and Deans Williams and Steinmetz before enjoying refreshments on the new site under a tent which had been erected after recent heavy rains.

The building at large, which will also house the Chemistry Department and be dubbed “CBEC” to stand for Chemical and Biomolecular Engineering and Chemistry, will enable a strong focus on interdisciplinary research in the areas of chemistry, biochemistry, and chemical and biomolecular engineering.

The chemical engineering portion of the building will retain the name “Koffolt” in honor of former department chairman Joseph E. Koffolt. The new building will greatly facilitate and upgrade CBE’s teaching and learning capabilities and reflect the tremendous pride of all who have contributed to the realization of the dream of a new and better Koffolt Laboratories for the CBE family.

It’s amazing how fast the building is going up. It is expected to be completed in 2014, and progress is seen every day!
During the excavation of the new Koffolt Labs site, Department Chair Stuart Cooper noticed that the shale formation was not unlike that which would suggest the possibility of the presence of GOLD.

On a whim, he obtained some prospecting tools and was soon STUNNED to discover TWO HUGE NUG-GETS!! Rushing to tell the exhilarating news to heavy equipment operator John McCleary of McDaniels Construction, Cooper’s days of worrying about how he was going to raise the remaining funds needed for the new Koffolt Labs seemed to have come to a happy end.

Alas, when Cooper had the gold assayed, it was found to be fool’s gold.

Thus, more than ever, we need your support. Please help us achieve our share of the fundraising goal for the new building: $17.5M!

Consider supporting the Campaign for the New Koffolt Labs.

With a lot of help from our friends, the dream of a new Koffolt Labs is quickly becoming a reality.
Class of ‘61 Names Conference Room in New Koffolt Labs

The chemical engineering experience at Ohio State is special and often brings together classmates in ways that few programs can. Due to the intensity of the program, lifelong friends are made and the impact of the time spent on campus is felt for many years.

This is one reason why former department chair Joe Koffolt referred to his students as “Joe’s Jewels” - after surviving the rigors of Ohio State chemical engineering, he considered his students to be finely polished gems.

In the months preceding their 50th reunion, the Class of 1961 made a pledge to collectively name a space in the new Koffolt Labs as a testament to their time shared in the old labs. Larry Woodworth rallied the effort and was in the early planning stages when he suddenly passed away. After this great loss, other class leaders stepped in to pick up where Larry left off, in true “jewel” fashion. Ron Harris and Jack Hammond doubled efforts, and successfully organized a wonderful reunion weekend for the entire class. A highlight of the weekend was a dinner in which many laughs and old stories were shared. Afterwards, Ron Follmer and Paul Bigley joined in and the group continued their fundraising and networking efforts.

In the months following their 50th reunion, each of the organizers made significant gifts toward the named space. Other classmates followed their lead and also made impactful gifts. In the end, the class of 1961 raised over $170,000 and the third floor conference room will be named in honor of the Jewels of the Class of 1961. Upon the announcement of this achievement, Jerry Pausch wrote to classmates: “I’m really proud to be a member of this group... looking back -- they all helped me in one way or another to make it through our OSU endurance test... What a great group of guys. It was very sad that Larry was missing at the dedication, but we were all pleased that Joanne could be there.”

To the Class of 1961: We salute your dedication in establishing this enduring legacy which will benefit future Ohio State chemical engineers. You have shown us all what 17 of Joe’s Jewels can accomplish. As Joe himself would say, “Once a jewel, always a jewel!” Thank you.
MENTORING: Another Way to Give

Many students entering chemical engineering do not have the benefit of a family member or other type of guide who can help sort out the answers to the kinds of questions that are best addressed through experience.

If you’ve been on the job a few years, you have valuable experience to share. Wouldn’t it be great if you could help someone else avoid having to “learn the hard way?”

CBE can help. Visit our Facebook page (search for William G. Lowrie Dept. of Chemical & Biomolecular Engineering) or LinkedIn page (search for OSU and then select the ChemE page), and let students and young engineers know you’d like to help them succeed!

First Annual Graduate Research Symposium is a Success

In an all-day event well-attended by industry representatives that included CBE alumni, the William G. Lowrie Department of Chemical and Biomolecular Engineering hosted its First Annual Graduate Research Symposium on August 17.

In 14 different talks and nine posters about the research groups of 12 different faculty, the symposium showcased some of the department’s outstanding research and offered great networking opportunities for students and guests alike. Said Elaina Carpino (’99 BSChE, ’10 MBA, Global S&T Development Program and Portfolio Management Program Leader at Owens Corning), “I found the symposium to be of tremendous value, especially from a research and potential talent perspective. I am hopeful to see this become a future, annual event.”

Other industry attendees included representatives from Babcock & Wilcox, Bayer MaterialScience, Dow Chemical, Momentive Performance Materials, METSS Corp, OSU’s Technology Commercialization Office, Procter & Gamble, and Shell International.

Featured research included polymers, biotechnology, membranes, aerosols, reaction engineering and catalysis, sustainability, energy, environmental, process engineering.

The symposium received underwriting from Bayer MaterialScience. Special thanks to graduate student Nihar Phalak, who led the organizing committee. Great job, Nihar!
UNIT OPERATIONS: THEN AND NOW
“Trial by Fire” Still Burns Into Students’ Memories

“Fire!” Since the cry rang out in the middle of Professor Koffolt’s lecture on explosives, some students thought it was a joke. It was the fall of 1923 and most had yet to go through Unit Ops, in which students learn how to handle real-life situations like fires. But it was no joke. The blaze was nearing chemical stores when the group put it out with a hose and fire extinguishers just as firefighters arrived.

While the fire that day was an accident, the “trial by fire” intensity of Unit Ops is by design. Ed Haering ran the lab for many years. In five hot, intense weeks, students completed nine experiments, often on large equipment like the triple effect evaporator, which required 10-20 students to operate. Later, as the program grew, Unit Ops switched to smaller, pilot-scale unit operations for practical reasons.

Today, clinical faculty member Dr. Carlo Scaccia runs 13 different experiments, each supervised by a TA. Students conduct four experiments in-depth and do shorter tests on the others. They also complete three midterms covering safety; teamwork; problem-solving; communication skills; and other skills useful to engineers regardless of their field.

The “Unit Ops Challenge” is as intense as it was in Haering’s day, particularly in the sense of relief students feel once done. Back then, students used to parade up 19th Avenue in triumph after finals. Today, they are more likely to gather at a local establishment... in hard hats!
On her first day as an intern at a large Fortune 500 manufacturing company ‘somewhere in the Midwest,’ Jess Tufts was anxious to deploy her newly-minted knowledge. She walked onto the floor, hoping for a “synthesis” reaction favorably combining her efforts with the other engineers. That hope combusted like hydrogen when one of the guys whistled.

But Jess was prepared. Her dad, a chemical engineer, had thought it might be tough for a young female engineer at that particular plant.

“The workforce brings the age gap and sometimes, more stereotypical attitudes,” Jess said. “I think it helped that as a student, I had made a habit of doing all of my homework with the guys. To be credible, you need to demonstrate similar thinking processes as the rest of the group. I also found that by carrying myself differently when speaking to different groups of people, I got better results. I learned about hierarchy – whose head you don’t go above – and overall, how to function in an environment where unions are present,” she added.

Jess gained yet another insight from the internship. “I told my dad that I didn’t want to ever work in manufacturing. But he said, ‘It’s not a waste of time to find out what you don’t like. All companies are different. Another might suit you perfectly.’”

“Internships are a most valuable aspect of this program. Being able to apply what you know is so important. It helps with design classes, and also helps you land a job,” said Jess, who is starting a job at Cargill this fall.

Jess is excited. “When I start my job, I will be able to thrive because of my need to get results,” she said. Her natural passion for solving problems was nurtured as a student here in the William G. Lowrie Department of Chemical and Biomolecular Engineering. As a National Merit Scholarship finalist, Jess had many choices. Although she had been accepted at two other colleges with high-ranking engineering programs (both in the top 10-15), she chose The Ohio State University. “I knew I could get a quality education here,” she said.

What are the “take-aways” Jess got from the CBE?

Responsibility. Discipline. Confidence.

“You have to create relationships and be responsible to your team so that you can get the project done. You learn discipline, because you might work on the same problem for many hours using different approaches. You also gain confidence in what you know and how to look at a problem.”

Jess’s ultimate goal? “I feel that with enough experience in different environments, I can become a very valuable consultant,” she said. Perhaps, even, for a large Fortune 500 manufacturing company... somewhere in the Midwest.
When I first came to Ohio State in fall 2008, I was met with a very overwhelming experience. For the first time in my life, I needed to make decisions that would affect the rest of my life. One of these major decisions was in the form of my academic focus. In high school, I had quickly determined that I had a very strong ability in math and science. This, mixed with my experiences with a great chemistry teacher, is what helped me to decide to major in chemical engineering.

Initially, I dreamed of becoming a research pharmacist after graduate school, but as I began my coursework in chemical engineering at the CBE, I realized the CBE had everything I needed to obtain a job I loved. In Unit Ops, I enjoyed the hands-on challenge of solving difficult problems with equations, theories, and techniques that I’d learned in the classroom, and throughout the program I was pushed to work on group projects which provided valuable lessons in teamwork, work ethic, and integrity.

TEAMWORK, WORK ETHIC, and INTEGRITY

These intangible characteristics, developed during my time in chemical engineering at The Ohio State University, will be of great benefit as I make the transition into industry next year.

I am very thankful that I was exposed to such a great staff team and a challenging curriculum in order to help mold me into the man that I am, and I am excited to use what I have learned to make a lasting impact in our world. Looking back, I am very glad that I chose to become a chemical engineer.

Editor’s Note: Lukas is one of over 200 students who received scholarship assistance in 2012. A Dean’s List student every quarter, Lukas chose to attend Ohio State because of the scholarship assistance he received, including the Elliott, Winterkamp, Parsons, Unkel, and Fenburr scholarships. He is deeply grateful for these scholarships, which provided invaluable support as he gained the knowledge and experiences that will launch his career.
Responsibility, discipline, confidence. Teamwork, work ethic, integrity. These are words that two current Ohio State students have used to describe what the William G. Lowrie “CBE Experience” means to them.

What does it mean to you?

Thanks to the work of our students, faculty, and alumni, the CBE is a top program that attracts acclaimed faculty and talented, highly motivated students. If you are a CBE alumnus, you likely recognize yourself in that description. You loved a challenge, and you had a dream. You wanted to solve problems and make a difference in the world. And like as not, you did just that; perhaps with a bit of help along the way.

But for Ohio State, none of this might have happened. It all starts with the education and characteristics students gain here. You can’t put a price on responsibility, discipline, or confidence. You can’t quantify the value of teamwork, a strong work ethic, or integrity. And yet, this is what your philanthropy “buys” when you help the people and programs of the CBE. We invite you to join in this noble cause. Take a moment to imagine what it would be like to help launch the careers of deserving students, or to see firsthand the societal impact of faculty’s amazing research. Every gift matters, especially in the next two years as we rise to the challenge of funding the new Koffolt Laboratories.

Many of you have risen to that challenge, while others have yet to participate. Building the new Koffolt Labs is truly a team effort and an opportunity that we believe every alumnus can feel good about. If you choose to give, it might feel even better than good -- it might feel great. What if you could literally make a “concrete” impact on the future of the CBE? Naming a space in the new building may not be as unreachable as you think. By joining collectively with members of your class, or by spreading your individual gift out over five years, you can make a larger impact with greater ease.

If you have any thoughts about possibly making a gift, Jason Haskins, director of development, would love to talk with you. He is reachable at 614-292-9915 or haskins.8@osu.edu. You have our deepest thanks.

I would like to add my support to the CBE in the amount of $_____.

Charge: __Visa   __Mastercard   __Discover   AmEx
Name on Card
Account Number
Expiration Date

By Check: Payable to The Ohio State University Foundation, P.O. Box 710811, Columbus, OH 43271-0811.

Online: giveto.osu.edu

My company makes matching gifts. (To see if it does, click on “Matching Gifts” at the above website.)
Share your news!

Name __________________________________ Year(s)/Degree(s)/Major(s) ____________________________

Title/Employer __________________________________________ Year retired _______

Spouse __________________________________ Year(s)/Degree(s)/Major(s) ____________________________

Title/Employer __________________________________________ Year retired _______

Address _____________________________________________________________________________________

City __________________________________ State __________ Zip ______________

Children (if OSU grads, please include year/degree) __________________________________________________

Your Career Highlights (History, News, Special Achievements, Awards) __________________________

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____________________________________________________________________________________

____________________________________________________________________________________

Professional Boards _________________________________________________________________

Social Clubs/Organizations ______________________________________________________________

Non-profit/Community work ____________________________________________________________

Personal Interests/Activities of Interest _________________________________________________

CBE: What does it mean to YOU? Favorite memories etc. ______________________________________

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Please return in the provided envelope. Feel free to attach additional pages.
TECHNICAL MAN OF THE YEAR WINNERS Bob Filbert, Ed Slowter, and Joe Koffolt (left to right) admire the model of the planned Unit Operations laboratory for the new (current) chemical engineering building. The model, which was intended to facilitate the installation and piping of the equipment in Unit Ops, was built by CBE students as part of a class assignment using the Kel-Way modeling system. Visitors to the existing Koffolt Laboratories may still see the model in the Unit Ops Labs, where it remains on display. The picture was taken during a Central Ohio AIChE meeting.

If this photo brings back any memories you’d like to share with the department, either for the department’s historical record or publication in the newsletter, please get in touch with Wenda Williamson at (614) 292-7907 or williamson.416@osu.edu.

Thanks to Geoff Hulse, our departmental historian, for this interesting “Blast from the Past!”
"Commercial-scale clean coal technologies such as chemical looping will be the game changer that will lay the foundation for a more sustainable future."

—Professor L.S. Fan, William G. Lowrie Department of Chemical and Biomolecular Engineering