Welcome from the Chair

Greetings from the William G. Lowrie Department of Chemical and Biomolecular Engineering!

I’m delighted to report that it’s been another hallmark year in which we have celebrated numerous accomplishments.

I am sure that you are just as busy as we are, so I hope you enjoy our annual report, which is somewhat condensed from previous years.

A summary of Key Facts for 2015 appears to the right, with more detail both in the pages that follow, as well as online at http://go.osu.edu/2015AR.

Wishing you all the best for 2016,

Andre F. Palmer
Professor and Chair

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KEY FACTS

Ranking
• #26, US News & World Report, 2017

Faculty
2015 Performance Indicators:
• 21 tenure-track faculty
• 6 national-level awards (AIChE, AIMBE, NSF, ACS, etc.)
• $6M in research expenditures (average of $302,192 per faculty)
• 172 publications (average of 8.1 per faculty)
• 17 invited lectures
• 8 patents

Cumulative Awards and Honors:
• 3 National Academy of Engineering members
• 13 AIChE Awards (Institute Lecturer, Founders Award, 2 Wilhelms, etc.)
• 9 National Science Foundation CAREER Awards
• 2 Fulbrights
• 2 R&D 100 Awards

Graduate Program, 2015
• 15 PhD degrees awarded (average of .7 per faculty)
• 6 MS degrees awarded

National Scholarships
• 2 National Science Foundation Graduate Research Fellowships for 2015
• 1 Barry M. Goldwater Scholarship
• 16 total NSF GRE’s in the last 10 years, plus 4 Goldwaters, 2 Fulbrights, and 1 Morris K. Udall

Undergraduate Program, 2015
• 203 BS degrees awarded
• Autumn ‘15 enrollment: 1,045
• 155 scholarships
• 30.1 - Average composite ACT Score for incoming freshmen
• 40% are in the honors program, with a 91.7% retention rate
• AIChE Student Chapter Involvement: 82%
• 3.36 - Average GPA for graduating seniors

Research Program
2015 Funding:
• $6M in 2015 expenditures
• Major funding from the Department of Energy, NIH, NSF, and DARPA

Top Research Achievements (Cumulative):
• World leader in chemical looping processes that conserve resources and reduce emissions;
• Groundbreaking self-cleaving affinity tagging for protein purification;
• Leaders in nanobiotech and the development of magnetic quantum dots for diagnostics;
• Innovative membranes for gas separations;
• Immunomagnetic cell separation, cancer diagnostics and cell migration;
• Tissue engineering and biomaterials for transfusion medicine;
• Cutting-edge research in catalysis;
• Polymer-based nanoengineering leading to new materials and devices benefitting manufacturing processes and medical diagnostics;
• Innovations in sustainable engineering and aerosol science.

Facilities
• New 225,000-square-foot building

Alumni / Philanthropy
• 4,314 known living alumni
• $17.5M+ raised by the Campaign for New Koffolt Laboratories
• 7 endowed chairs
• 1 endowed professorship
FACULTY NEWS

ARAVIND ASTHAGIRI
- Lumley Research Award from The Ohio State University College of Engineering.

BHAVIK BAKSHI
- “Best Papers of 2015” first runner-up, *Environmental Science & Technology* (ES&T), an ACS publication.

STUART COOPER
- Voted President-Elect of scientific honor society Sigma Xi.
- Co-edited Advances in Polyurethane Biomaterials (Elsevier, 2015).

LIANG-SHIH FAN
- 67th AIChE Institute Lecturer.
- Lumley Research Award, The Ohio State University College of Engineering.

W.S. WINSTON HO
- Chemcon Distinguished Speaker Award (Indian Institute of Chemical Engineers).
- Distinguished Alumnus Award, National Taiwan University.

LISA HALL
- NSF CAREER Award.
- DOE funding supporting research for safer, more efficient lithium batteries.

KURT KOELLING
- Inducted into Academy of Chemical Engineers at Missouri University of Science & Technology.

JESSICA WINTER
- 40 Under 40 List, Business First-Columbus.

JAMES RATHMAN
- President and Provost’s Award for Distinguished Faculty Teaching, The Ohio State University.

ANDRE PALMER
- AIMBE Fellow induction, representing top 2% of medical and biological engineers nationwide.

UMIT OZKAN
- Ozkan’s lab was selected for The Ohio State University Laboratory Safety Dean’s List.

ISAMU KUSAKA
- Published *Statistical Mechanics for Engineers* (Springer, 2015).

BARBARA WYSLOUZIL
- Research featured in Argonne Today.

DAVID WOOD
- Renewed DARPA funding for his ground-breaking protein purification method to develop a “pharmacy in a laptop.”
NEW FACULTY

LI-CHIANG LIN (PhD University of California-Berkeley), currently a research scientist at MIT, joins CBE this fall. His research to discover novel, energy-efficient and cost-effective materials for energy-related applications uses large-scale computational screenings and molecular simulations. His methodology integrates multi-scale computational techniques to achieve more accurate simulation predictions and more efficient screenings.

Dr. Lin first published in 2012 with papers in *Nature Materials* and *Nature Chemistry*. Both papers have been cited over 100 times (per Google Scholar).

To date, he has 32 peer-reviewed articles and his research has been featured on the covers of *Angewandte Chemie*, *Physical Chemistry Chemical Physics*, *The Journal of Physical Chemistry C*, and *ChemPhysChem*.

Additional publications in high impact journals include *Nature Communications* (four papers), *Nano Letters*, *Journal of the American Chemical Society* (six papers), and *Energy & Environmental Science*.

He also received several awards and fellowships such as the 2013 DOW Excellence in Teaching Award, Chevron Fellowships (2012-13), the 2012 AIChE Separations Division Graduate Student Research Award, and six Presidential Awards (top 5% of students) at National Taiwan University.

KATELYN SWINDE-REILLY (PhD Washington University-St.Louis), most recently a senior scientist at Rochal Industries overseeing wound care and soft tissue regeneration products, begins a 25% tenure-track post in CBE this fall. Her research focus is the biomimetic design of optimized biomaterials for tissue repair. She holds two patents and has been a sub-awardee PI on eight grants totalling over $5 million (NIH, NSF, and DOD).

ILHAM EL-MONIER (PhD in petroleum engineering, Texas A&M University-College Station), currently a lecturer and post-doc at The University of Oklahoma in their petroleum and geological engineering program, will begin this fall as a clinical assistant professor in CBE’s new petroleum engineering track. Her industry training includes working as a reservoir engineer in the Cairo office of BP and other stations in Egypt. Her research interests include fluid mechanics and petrophysics and fracturing and image analysis of hydraulic fractures in various substrates.

NATIONAL SCHOLARSHIPS

ANGELA CHEN (above, now at University of Texas-Austin), and WILLIAM LEVI MURCH (now at Stanford).

Honorable mentions: CBE undergraduate JOSEPH GAUTHIER; NATHAN VOLCHKO (now at MIT) and ROBERT WARBURTON, now at Purdue.

GOLDWATER SCHOLARSHIP

Undergraduate “Lucky” LAGNAJIT PATTANAIAK, shown here with advisor NICHOLAS BRUNELLI.

ROCHE / ARCS SCHOLAR AWARD

KUNAL PARIKH, now a PhD candidate at Johns Hopkins, received the 2015 Roche / ARCS Scholar award from the National Academy of Sciences.
2015 RESEARCH HIGHLIGHTS


BHAVIK BAKSHI: Developed a novel "process-to-planet" framework toward sustainable process design by integrating models of chemical processes, life cycles, and the economy.

NICHOLAS BRUNELLI: Developed cutting-edge hollow fiber catalyst for flow reactions.

JEFFREY CHALMERS: Developing technology for separation of cancer cells and cancer stem cells; developing technology to separate and analyze exosomes; characterizing the intrinsic magnetization of cells.


L.-S. (LIANG-SHIH) FAN: Groundbreaking high-pressure pilot plant run for gaseous fuel combustion in chemical looping system.

MARTIN FEINBERG: Pioneering research on chemical reaction network theory (ongoing).

LISA HALL: Established a more efficient method to initialize simulations of microphase separated polymers.

ISAMU KUSAKA: Published Statistical Mechanics for Engineers (Springer, 2015), which simplifies equilibrium statistical mechanics for engineers.

L. JAMES LEE: Developed a unique nanochannel electroporation (NEP) patch device capable of on-tissue gene transfection for regenerative medicine such as skin angiogenesis for wound healing.

UMIT OZKAN: Bridging heterogeneous catalysis and electrocatalysis. Recent focus on catalytic treatment of water contaminated by chlorinated hydrocarbons.

ANDRE PALMER: Demonstrated that islet grafts co-transplanted with a hemoglobin-based oxygen carrier reduced beta cell hypoxia and improved beta cell function in intramuscular grafts.

JESSICA WINTER: In her role as chair of the AIChe Nanoscale Science and Engineering Forum, she is co-editing a book on nanomanufacturing to be published through AIChE.

DAVID WOOD: Key contributor to the downstream processing strategy for the DARPA-funded BioMOD “Biopharmaceutical factory in a briefcase.”

ISAMU KUSAKA: Published Statistical Mechanics for Engineers (Springer, 2015), which simplifies equilibrium statistical mechanics for engineers.

JACK ZAKIN: Developing low energy input techniques for heat transfer enhancement to/from inherently poor heat transfer fluids.
2015 RESEARCH FUNDING AND ACTIVITIES SUMMARY

Number of Awards: 31

Total Awarded Amount: $9,185,414

Total Research Expenditures: $6,043,850

Indirect Costs: $1,630,427

Funding From Industry: $866,403

Average per Faculty: $302,192

Individual faculty activity summaries begin on the next page.
ARAVIND ASTHAGIRI
Associate Professor, PhD Carnegie Mellon. Computational catalysis, energy and sustainability.

Awards and Honors
Lumley Research Award, Ohio State College of Engineering (2015).

Refereed Papers

Grant Support
$600,000 (2015-2018). Aravind Asthagiri (Co-PI), Jason Weaver (PI); DOE-BES: Growth and Reactivity of Oxide Phases on Crystalline Pd and Pt surfaces.
$480,000 (2013-2016). Aravind Asthagiri (Co-PI), Umit Ozkan (PI); DOE-BES: Heteroatom-doped carbon materials as oxygen reduction electrocatalysts in acidic and alkaline media.

BHAVIK R. BAKSHI
Professor, PhD MIT. Sustainability science and engineering, process systems engineering.

Awards and Honors
“Best Papers of 2015,” Environmental Science & Technology (ES&T), first runner-up.

Books and Book Chapters

Refereed Papers


Grant Support

$418,965 (2012-2016). Yebo Li, PI; co-PIs Bhavik R. Bakshi and Rudy Buchheit; US Department of Agriculture: Development and demonstration of a low VOC polyurethane coating system using bio polyols derived from crude glycerol.

$6,000,000 (2013-2017). Yebo Li, PI; co-PIs Bhavik R. Bakshi and several others; US Department of Agriculture, BRDI program: Bioenergy and Biofuels Production from Lignocellulosic Biomass via Anaerobic Digestion and Fisher-Tropsch Reaction.


Nicholas Brunelli

Assistant Professor, PhD California Institute of Technology. Heterogeneous and immobilized catalysis and catalytic materials; sustainability, energy, environment.

Refereed Papers


**Grant Support**

$110,000 (2016-2018). Brunelli, PI.; ACS-PRF-DNI: *Designing Uniform Paired Copper Catalytic Sites for Conversion of Methane to Methanol (PRF# 55946-DNI5).*


**Books and Book Chapters**


**Refereed Papers**


**Chalmers, J.J.**, “Mixing, aeration and cell damage, 30+ years later: what we learned, how did it affect the cell culture industry and what would we like to know more about,” *Current Opinions in Chemical Engineering, Vol 10:*94-102. (2015)


Patents

Grant Support
$10,000 (Phase 1: 2015-2016). Genentech: Multi-color immunohistochemistry staining of Genentech cells.

$50,000 (2015.) Millipore Merck, RF 60046284: Microcarrier cell shear collaboration.


STUART COOPER
University Scholar Professor, CBE Chairman Emeritus, PhD Princeton University. Polymer science and engineering, properties of polyurethanes and ionomers, blood-materials interactions, tissue engineering.

Awards and Honors
Voted president-elect of Sigma Xi, one of the largest scientific societies in the world. Will serve as President Elect in 2016, President in 2017 and Past President in 2018.

Books and Book Chapters
**LIANG-SHIH FAN**

*Distinguished University Professor, C. J. Easton Professor, PhD West Virginia University. Fluidization, particle technology, environmental control technology, multiphase flow and reaction engineering.*

**Awards and Honors**

The 67th Institute Lecture of AIChE at its Annual Meeting in Utah, November 15-20, 2015.

Plenary/Keynote Lecturer of the following National or International Conferences:


**Books and Book Chapters**


**Refereed Papers**


**Grant Support**


$300,000 (2012-2015). Liang-Shih Fan, PI; National Science Foundation: *Biomass Tar Interaction with Metal Oxide Oxygen Carriers*.


$100,000 (2013-2015). Liang-Shih Fan, PI; Ohio Coal Development Office: *Coal Agglomeration Study in the CDCL Process*. 
MARTIN FEINBERG
Morrow Professor (now Professor Emeritus), PhD Princeton University, Complex reaction engineering, chemical reaction network theory.

Books and Book Chapters

Refereed Papers

Software

Grant Support
LISA HALL
HC Slip Slider Professorship and Assistant Professor, PhD University of Illinois at Urbana-Champaign. Polymer physics, theory and simulation, statistical thermodynamics.

Awards and Honors
NSF Faculty Early Career Development (CAREER) Award, 2015.

Refereed Papers


Grant Support
$475,000 (2015). NSF CAREER Award.

$137, 258 (out of $299,816, 2015-2018). PI: Vishnu Sundaresan, OSU; co-PI: Hall; National Science Foundation CMMI: Thermoelectric Extrusion of Smart Structural Composites with Molecular Precision (1463103).


W.S. WINSTON HO
Distinguished Professor of Engineering, PhD University of Illinois at Urbana. Molecularily based membrane separations, fuel-cell fuel processing and membranes, transport phenomena in membranes, separations with chemical reaction, reverse osmosis.

Awards and Honors
Distinguished Alumnus Award, the 70th Anniversary of the Department of Chemical Engineering, National Taiwan University, Taipei, Taiwan, 2015.

Chemcon Distinguished Speaker Award – Prof. G. S. Laddha Medal, Indian Institute of Chemical Engineers, 2015.

Honorary Professor, Tianjin University, Tianjin, China, 2015-now.


Books and Book Chapters


Refereed Papers


W. Salim and W. S. W. Ho, “Recent Developments on Nanostructured Polymer-Based Membranes,”


Patents


Grant Support


Quaternary Ammonium Hydroxide and Fluoride Membranes. OSURF Project No. 60047812.

$1,248,278 (2016-2018). W.S. Winston Ho, PI; Department of Energy, National Energy Technology Laboratory (NETL): Novel CO₂-Selective Membranes for CO₂ Capture from <1% CO₂ Sources.

$1,000,000 (2016-2018). W.S. Winston Ho, PI; Ohio Development Services Agency (ODSA): Novel Prototype Membrane for CO₂ Capture.

$80,000 (out of $240,000, 2016-2018). Junhang Dong, PI, Peter Smirniotis, Co-PI, both at the University of Cincinnati, W.S. Winston Ho, Co-PI; Ohio Development Services Agency (ODSA): Integrating H₂ Permselective WGS Membrane Reactor with CO₂ Membrane Separator for Efficient Pre-Combustion Carbon Capture.

ISAMU KUSAKA
Associate Professor, PhD California Institute of Technology.
Statistical mechanics, thermodynamics, transport phenomena at mesoscale.

Books and Book Chapters

L. JAMES LEE
Professor and Kurtz Chair holder, PhD University of Minnesota. Polymer and composite engineering, micro-nanotechnology, BioMEMS/NEMS.

Refereed Papers


Patents

Grant Support


UMIT S. OZKAN
College of Engineering Distinguished Professor, PhD Iowa State University. Catalysis, electro-catalysis and catalytic materials. Application of catalysis in the areas of energy conversion and emission control.

Refereed Papers


Accepted.


Mamtani, K., Singh, D., Millet, J-M., Ozkan, U.S., “Evolution of FeNC catalysts through synthesis stages.” ACS Catalysis, Accepted.

Patents


Grant Support

$450,000 (2012-2016). Umit Ozkan, PI, Anne Co, co-PI; National Science Foundation: Controlling olefin selectivity in electrocatalytically-assisted alkane dehydrogenation.


$165,000 (2016). Umit Ozkan, PI; HONDA: Catalytic reforming of VOCs generated during paint operations.

**ANDRE PALMER**
Professor and Chair, PhD Johns Hopkins. Bioengineering and biomaterials for transfusion medicine.

**Awards and Honors**
Fellow of the American Institute for Medical and Biological Engineering (AIMBE).

**Refereed Papers**


**Grant Support**
$399,000 (2014-2016). (PI: Palmer, A.F., co-PI: Cabrales, P.); National Institutes of Health: Attenuating the oxidative and myocardial toxicity of polymerized hemoglobins, Grant: R56HL123015.

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**JAMES RATHMAN**
Professor, PhD University of Oklahoma. Molecular informatics, computational modeling for safety/risk assessment, analysis of large chemical and biological datasets.

**Refereed Papers**
DAVID TOMASKO
Professor, PhD University of Illinois Urbana-Champaign. Molecular thermodynamics, supercritical fluid processing, polymer processing, engineering education.

Left: Professor Tomasko treated graduating CBE seniors to the words and wisdom of “Joe Koffolt.”

Books and Book Chapters

Refereed Papers


Grant Support

$646,067  (2011-2016). Tomasko, David (Co-PI), PI: D. Cole (Earth Sciences), Co PI: A. Striolo (Univ. of Oklahoma); DOE Basic Energy Sciences, Project 60031581 Collaborative research: Nanopore confinement of C-H-O mixed volatile fluids relevant to subsurface energy systems.
JESSICA O. WINTER
Professor, PhD University of Texas at Austin.
Bionanotechnology, cancer, drug delivery.

Awards and Honors
40 Under 40, Business First-Columbus.

Books and Book Chapters

Refereed Papers


Grant Support

$1,174,126 (2013-2017). PI: Jessica Winter, co-PIs: Barbara Wyslouzil, Carol Lynn Alpert (Museum of Science, Boston), Lisa Hall; National Science Foundation CMMI-1344567, SNM: Continuous, Large-Scale Nanocomposite Production Via Micellular Electrospay.


DAVID W. WOOD
Associate Professor, PhD Rensselaer Polytechnic Institute. Biotechnology, bioseparations, biosensors, protein engineering.

Books and Book Chapters


Refereed Papers

Patents

Grant Support
$10,815 (2013-2015). David Wood, PI, small research grant; Sanofi Pasteur (Sanofi-Aventis Group); Evaluation of a self-cleaving tag purification system with three Sanofi Pasteur proteins. The goal of this project is to demonstrate our self-cleaving tag technology with initially three (now five) test proteins.
provided by Sanofi Pasteur. Success will lead to licensing discussions, which are ongoing.

$240,239 (2013-2016). David Wood, PI; National Science Foundation, Chemical and Biological Separations (CBET): A self-cleaving tag protein purification platform for biopharmaceutical research and manufacturing. This project seeks to develop an enhanced self-cleaving tag technology for use in the biopharmaceutical industry, and specifically for proteins expressed in mammalian cell culture.

$1,069,472 (out of $16,000,000, 2013-2017). Govind Rao (UMBC), PI; subcontract: DARPA BioMod Program. This project seeks to develop a laptop-sized device that can produce any biopharmaceutical on demand within 16 hours. The proposal was prepared by a group of investigators and Wood is developing first-capture methods for the newly synthesized proteins using self-cleaving affinity tag technology.

$400,000 (2012-2015). Wood, co-PI with Richard Lease; National Science Foundation CBET: Riboswitch-sRNA for dual transcript control by a ligand. This project seeks to develop novel feedback methods for controlling gene expression through post-transcriptional regulation of gene transcripts. The methods will be applied to the development of new strains of bacteria for the production of bio-butanol.

BARBARA WYSLOUZIL
Professor, PhD California Institute of Technology. Aerosol science, nucleation, nanoparticle growth and structure, biomedical applications of aerosols.

Refereed Papers


Shinobu Tanamura, Yensil Park, Andrew Amaya, Viraj Modak, and Barbara E. Wyslouzil, Following heterogeneous nucleation of CO2 on H2O ice nanoparticles with microsecond resolution, RSC Advances, 5,105537-105550 (2015). http://dx.doi.org/10.1039/C5RA19782A

Anthony D. Duong, Michael A. Collier, Eric M. Bachelder, Barbara E. Wyslouzil, Kristy M. Ainslie, One Step Encapsulation of Small Molecule Drugs in Liposomes via Electrospray-Remote Loading, Molecular Pharmaceutics, 13, 92 - 99, (2016). http://dx.doi.org/10.1021/acs.molpharmaceut.5b00528


Grant Support

$213,000 (2010-15). Barbara Wyslouzil, PI; National Science Foundation GOALI Collaborative Research: Fundamental Studies of water hydrocarbon condensation.

$478,000 (2012-16). Barbara Wyslouzil, PI; National Science Foundation: Nanodroplets to nanoparticles: Integretated studies of freezing.

$359,000 (2012-15). Jessica Winter, PI; Barbara Wyslouzil, Jeffrey Chalmers co-PIs; National Science Foundation: SNM: Continuous, large-scale nanocomposite production via micellular electrospray.

$1,174,000 (2012-16). Jessica Winter, PI; Barbara Wyslouzil, Lisa Hall, C. Alpert, co-PIs; National Science Foundation: SNM: Continuous, large-scale nanocomposite production via micellular electrospray.

$355,000 (2015-18). Barbara Wyslouzil, PI; National Science Foundation: Heterogeneous nucleation on nanoparticles.

**S. T. YANG**

Professor, PhD Purdue University. Bioprocess, biochemical, metabolic and tissue engineering; biofuels and bio-based chemicals; high throughput screening for drug discovery and bioprocess optimization; stem cell engineering.

**Books and Book Chapters**


**Referred Papers**


S Long, Z Rao, X Zhang, K Chen, M Xu, T Yang, ST Yang, Amino acid residues adjacent to the catalytic cavity of tetramer L-asparaginase III contributed significantly to its catalytic efficiency and thermostability, Enzyme Microbial Technol, 82: 15-22 (2016).

C Ma, J Ou, N Xu, J Fierst, ST Yang, X Liu, Rebalancing redox to improve biobutanol production by Clostridium tyrobutyricum, Bioengineering, 3, 2 (2016).


Patents

Grant Support
JACQUES ZAKIN

Refereed Paper


Grants


$2,470 (2015). Ohio State Emeritus Academy Small Research Grant Award Equipment Grant.

SUMMER RESEARCH PROJECT:

Zakin’s student, Lucas Watson, won an OSU Undergraduate Summer Research Scholarship to investigate the use of electrical fields to develop a more cost-effective process for increasing heat transfer in drag-reducing solutions.

-Photos by Geoff Hulse

Watson changes mixing devices in shell and tube heat exchanger. Watson tests the output signal on a stepper motor controller. Inspecting for leaks. Draining the recirculating flow system. Surfactant solution responds to an electric field.
GRADUATE PROGRAM

ENROLLMENT
74 Doctoral students, 31 MS students (Fall 2015).

DEGREES AWARDED
15 PhDs:
- Aravind Asthagiri: Wenjia Luo, Li Pan, Simuck Yuk.
- Bhavik Bakshi: Rebecca Hanes.
- Jeffrey Chalmers: Clayton Deighan.
- Martin Feinberg: Daniel Knight.
- Winston Ho: Yuanxin Chen.
- Umit Ozkan: Anshuman Fuller.
- David Wood: Michael Coolbaugh, Elif Miskioglu.
- Barbara Wyslouzil: Viraj Modak.

6 MS Degrees:
- Bhavik Bakshi: Xiang Zhang.
- Liang-Shih Fan: Omar McGiveron.
- Martin Feinberg: Daniel Knight.
- Jessica Winter and Barbara Wyslouzil: Matthew Souva.

SEMINAR SPEAKERS
- Chase Beisel - North Carolina State University
- Lydia Contreras - University of Texas at Austin
- Liming Dai - Case Western Reserve University
- Prodromos Daoutidis - University of Minnesota
- Baolin Deng - University of Missouri-Columbia
- Thomas Edgar - University of Texas at Austin
- Sheryl Ehrman - University of Maryland
- Sharon Glotzer - University of Michigan
- Graduate Research Initiative Seminar: Gauri Nabar, Witopo Salim, Mandar Kathe
- Enrique Iglesia (Lowrie Lectures I and II) - University of California at Berkeley
- Li-Chiang Lin - Delft University of Technology
- Janet Macdonald - Vanderbilt University
- David Scholl - Georgia Institute of Technology
- Carlos Silvera Batista - University of Michigan
- Katelyn E. Swindle-Riley - University of Texas at San Antonio
- Gregory Szeto - Massachusetts Institute of Technology
- Ishi Talmon - Israel Institute of Technology
- Jason Weaver - University of Florida
- Jennifer Wilcox - Stanford University
- Karen Winey - University of Pennsylvania
- Yushan Yan - University of Delaware
- Nicole Zacharia - University of Akron

NATIONAL AWARDS
- AIChE and DSM Science & Technology Award Finalist: Yuanxin Chen.
- American Association for Aerosol Research (AAAR), First Prize, Poster Competition, 34th Conference: Yensil Park.
- North American Catalysis Society 2015 Kokes Award, 24th annual meeting: Anshuman Fuller, Sreshtha Sinha, Majumdar.
- ISIE Conference 2015 Travel Scholarship, University of Surrey, UK: Varsha Gopalakrishnan. Rebecca Hanes also gave a presentation.
- North American Membrane Society (NAMS) 2015 Elias Klein Founders’ Travel Supplement Award and Third Place Poster Award, Membrane Processes Category: Varun Vakharia. Poster co-authored by Zi Tong and Winston Ho.
- Roche/ARCS Scholar Award, National Academy of Sciences: Kunal Parikh.

LOCAL AWARDS
- 2015 University Fellowships: Saurabh Ailawar, Fanhe King, and Mingyuan Xu.
- Elected to The Ohio State University Council of Graduate Students: Jeffrey Ethier.

DOW GRADUATE RESEARCH SYMPOSIUM

The 4th Annual Graduate Research Symposium took place Monday, September 21 at The Blackwell Inn. Keynote speaker Dr. Michael D. Triplett, CEO (‘BS ’97, PhD ’04) of Lattice Biotech discussed his foray into startups and described the potential for the Midwest to be a biotech start-up hub just like the West Coast. Industry attendees included guests from AEP, Clariant, Dow Chemical, Dow Corning, BioOhio, ExxonMobil, Lattice Biotech, Momentive, Parker Hannifin, Procter & Gamble, Shell, Strate Nexus Technologies and Wanhua Corporation.

Lattice Biotech is an early stage biopharmaceutical company commercializing novel anti-infective therapeutics based on technology invented at Nationwide Children’s Hospital in Columbus, OH.
UNDERGRAD PROGRAM

ENROLLMENT
1,045 students (Fall 2015)

DEGREES AWARDED
203 Bachelor of Science degrees

NATIONAL STUDENT AWARDS

Goldwater Scholarship: Lagnajit Pattanaik.

National Science Foundation Graduate Research Fellowships: Angela Chen. Honorable mentions: Joseph Gauthier, Nathan Volchko.

Research Internship in Science and Engineering (RISE): Cailin Buchanan.

LOCAL AWARDS

Research Scholar Award, Ohio State Undergraduate Research Office: Nicholas Liesen.

Denman Research Forum: Joseph Gauthier (first place) and Hannah Zierden (third place).

JAMES AND PATRICIA DIETZ
UNIT OPERATIONS LABORATORY

- 150 students completed Unit Ops in 2015.
- The distillation column, which had to be rebuilt in the new building, is nearly complete!

COOPERATIVE LEARNING

- 94 co-op rotations
- 90 internship or part-time work experiences.

Major companies accommodating three or more students: Battelle Memorial Institute (4); Cargill Inc. (4), Chemical Abstracts Service (9), Cooper Tire & Rubber Co. (3), Dow (7), ExxonMobil (3), Glatfelter (5), Goodyear Tire & Rubber (3), Johnson & Johnson (3), Marathon Petroleum (12), Parker Hannifin (4), pH Matter LLC (3), Sherwin-Williams (4), and Valero (3).

PLACEMENT RECORD*

- 13% are pursuing graduate degrees
- 49% are going directly to industry.

Major companies hiring three or more students: DuPont, Epic, ExxonMobil (all 3), General Mills (5), Goodyear (3), Marathon Petroleum (7), Nestle, Procter & Gamble (both 3), Parker Trutec (4) and Shell Oil (3).

*Information based on senior exit surveys at the time of graduation.

Engineering Career Services (ECS) invites all employers to register for its free services to help companies recruit students for internships, co-ops, and full-time employment. Please visit ecs.osu.edu

COURSE ENROLLMENT

Available online.

Visit the 2015 Annual Report Online for more info: go.osu.edu/AR2015

<table>
<thead>
<tr>
<th>William G. Lowrie Department of Chemical and Biomolecular Engineering Enrollment Summary in Percentages*</th>
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<tbody>
<tr>
<td>Students</td>
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<tr>
<td>Women</td>
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<td>Ethnic Minority</td>
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<td>Premajors (Students Who have not Taken CBE 2200)</td>
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<td>Ethnic Minority</td>
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<td>Majors (Students Completed or Enrolled in CBE 2200)</td>
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<td>Students</td>
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<td>Ethnic Minority</td>
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*Data taken in January
TOM CLAUGUS ‘73:
Lifetime Achievement Award

The College of Engineering presented Thomas E. Claugus with the Lifetime Achievement Award for Leadership at its annual Alumni Awards Banquet last fall. Claugus is president and senior portfolio manager of GMT Capital, a hedge fund with $5 billion in assets. He is also the firm’s founder and majority shareholder.

In addition to his Ohio State ChemE degree, he obtained an MBA with high distinction from Harvard Business School. He received a Distinguished Alumnus Award from the College of Engineering in 2008.

BHAVESH (BOB) PATEL ‘88:
Distinguished Alumni Award

LyondellBasell Chief Executive Officer Bhavesh (Bob) Patel was recognized with a Distinguished Alumni Award at the fall 2015 College of Engineering Alumni Awards banquet.

Patel is a board member for Junior Achievement of Southeast Texas and serves on the executive committee and the board of directors for the American Chemistry Council. He joined LyondellBasell, one of the world’s largest plastics, chemicals and refining companies, in 2010. Previously, he had been general manager at Chevron Phillips Chemical Company, Olefins and Natural Gas Liquids, where he had worked for over 20 years.

RICHARD SCHWARZ ‘73:
Advisory Board Chair

The CBE Advisory Board is re-organizing to create a more active board that can be better involved in the life and success of the department and chemical engineering program.

Richard Schwarz, a partner in Edgewater Capital Partners in Cleveland, Ohio, will chair the newly-formed board. Schwarz, who joined Edgewater in 2003, has over 40 years of experience in operations management, leveraged buyouts, entrepreneurship, and management consulting and sales. He holds an MBA from the Weatherhead School of Management at Case Western Reserve University and is a Registered Professional Engineer in the state of Ohio.
ED CLAUGUS GIVES $14M

Private investor and aviation enthusiast Edward Claugus ('81) left a very special mark on the William G. Lowrie Department of Chemical and Biomolecular Engineering and the College of Engineering. His $14M estate gift provides 45 scholarships, an Innovation Fund, an endowed chair, and equipment/operating funds.

At a recent commemoration held for Ed, brother Tom Claugus ('73) said, “I am sure Ed would be proud to see the scholarship recipients and the work that’s ongoing to further the mission of Ohio State. He would just be glowing to know he was supporting 45 students.”

We are eternally grateful for Ed’s transformational gift, which provides CBE with a crucial foundation.

STUDENTS PAY BRODKEY BACK

Kris Lakshmanan ('86), Bill Lee ('83) and Tom Heeb ('83), pictured above with other classmates, surprised Professor Bob Brodkey by raising funds from other alumni to create the first-ever graduate scholarship, which they named in his honor. Working over several months, they exceeded their $50,000 goal by 100% when the fund topped $100,000 this past fall.

“It was easy,” said Kris Lakshmanan at last fall’s dinner celebrating Brodkey and the creation of the scholarship. “Nearly everyone we contacted wanted to participate.

The first scholarship recipient, Kai Chen, was present at the dinner. Chen, who is at the top of his class, said “I would like to thank the professor and his students who made this happen. I feel very honored.”

COMMITTEE RAISES $17.5M+ FOR NEW KOFFOLT LABORATORIES

Members of the Campaign for New Koffolt Laboratories met on campus for the Spring 2015 Grand Opening of the new building, marked by a chemical reaction ribbon-cutting which surprised and delighted attendees.

Thanks to our many generous donors and the hard work of the Committee, the campaign exceeded its $17.5 million goal.

Because you cared, over 1,000 of our currently enrolled students, the faculty who serve them, and the alumni who return to visit are benefiting from the vast improvement and opportunities created from having these beautiful, state-of-the-art facilities.
THE IMPACT OF YOUR GIFTS

A chemical engineering education is a precious commodity which requires an investment of time, effort, and resources, the fruit of which enables chemical engineers to individually and collectively make innovative contributions to society.

The impact is enormous - whether it is devising more cost-efficient processes or producing systems which can transform the way in which we live, the work of every chemical engineer benefits society and even the world in some way. This is why it is important that we support the education of future chemical engineers.

The department is fortunate to have loyal alumni and donors who have given generously over many years. Declining state funding means that the cost of tuition only partially covers today's expenses, and it is no longer possible for students to work their way through school and emerge debt-free. Thus, the need for support is ongoing.

Your support literally creates opportunities for chemical engineering students to succeed, and it is crucial to the continuing health of CBE and the betterment of the world at large.

Having the new Koffolt Laboratories is a key element in the formula for this ongoing success, thanks to our donors. What we have created in New Koffolt Laboratories is much more than just a building. It is our home for the lifelong learning, relationships, and innovations that are born and developed here. Thank you for sharing in our vision of a better future for all!

IN THEIR OWN WORDS

“Students love the Dow Student Lounge, which is a great space for student collaboration. The multi-media workstations provide a great space for completing unit ops reports. The large screen simplifies the editing process and allows students to work more efficiently. It’s also just a great place to work on homework and for TAs and students to come together to improve the learning experience.”

-Hussein B Alkhatib
AIChe Co-President, Class of 2016.

"It is such a joy to work in a building where we can conduct cutting-edge research with the most modern safety standards and research capabilities, and where our undergraduate students feel at home. It is such a joy to see our students at every corner of the building, any time of day, working, reading, writing, interacting with each other or with faculty, or taking a break. What could be better than providing such a feeling of belonging to our students?"

-Umit Ozkan
College of Engineering Distinguished Professor.

See more quotes on the 2015 Annual Report website: go.osu.edu/2015AR
SCHOLARSHIPS

Scholarship funding for 2015 totalled $268,100, with 155 students receiving an average of $1,729, compared to $1,242 the previous year.

We thank the corporations and alumni who have established scholarships in Chemical and Biomolecular Engineering, several of which honor other individuals.

Please visit the 2015 Annual Report online at go.osu.edu/2015AR for the scholarship recipient list.

DONORS

Robert W. Adams Memorial Scholarship
Harold W. Almen Scholarship
The Bazell Scholarship in Chemical and Biomolecular Engineering
The George S. Bonn Scholarship
J.R. Boothe Scholarship Fund
William I. Burt Memorial Scholarship Fund
The Bernice L. Claugus Endowed Scholarship Fund in Chemical and Biomolecular Engineering
The James F. and Patricia C. Dietz Engineering Scholarships Fund
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David H. George Chemical Engineering Scholarship
Allan I. Gordon Undergraduate Scholarship for Study in Biochemical Engineering
Todd David Harris Memorial Scholarship
William R. & Doris M. Harris Scholarship in Chemical Engineering
Milton & Karen Hendricks Scholarship
Smith E. Howland Scholarship
The Samuel S. and Grace Hook Johnston Memorial Chemical Engineering Scholarship Fund
Webster B. Kay Scholarship in Chemical Engineering
Lubrizol Foundation Scholarship
The Tom and Gail Reardon Chemical Engineering Scholarship Fund
Pankaj Shah Chemical Engineering Scholarship Fund
The Howard R. Steele Memorial Scholarship in Chemical Engineering
Aldrich Syverson Scholarship
H. Richard Unkel Chemical Engineering Class of 1941
Harry B. Warner Scholarship
William H. Whirl Scholarship
The Michael D. Winfield Scholarship
Fred H. Winterkamp Memorial Scholarship

- Photo by Geoff Hulse
2015 CHARITABLE DONATIONS

CBE ALUMNI BY CLASS YEAR

1941  David Thomas, H.R. Unkel (deceased).
1944  Wallace L. Bostwick, William R. Harris (deceased),
      Edward W. Powell.
1945  Arch G. Robison.
1946  Edward A. Broestl (deceased).
1948  David E. James, Henry B. Lange, Dorothy E. Pettenski,
      Manuel Ramos, Robert M. Tarr.
1949  Paul E. Bates (deceased), John A. Burgbacher, Kurt M.
      Dubowski, Richard P. Heintz, J.H. Kerstetter.
1950  Richard L. Scott, Ralph E. Sieber.
1951  Charles L. Dornbusch, Bruce E. Hill, John S. Koegle
      (deceased), John R. Parkinson, Norbert F. Reinert, Donn
      P. Rice.
1952  Donald E. Haupt, C.R. Heil, Charles J. Schmitz, Paul W.
      Schramm.
1953  Robert A. Bates, G.C. Bazell (deceased), Roger L. Briggs,
      David E. Buskirk, Walter E. Donham, Donald E. Findlay,
      Herbert G. Krane (deceased), Wilfred C. Ling, Donald A.
      MacDougall, Ernest Reinmuller, Harold L. Stelzer.
1954  Paul M. Engle.
1955  John R. Blunden, Wendell B. Hammond, David G.
      Stephan.
1956  John W. Cammarn, Robert A. Cody, William D. Coe,
      Herbert H. Fanning, David A. Strang.
      Helms.
1958  Robert L. Bates (deceased), Edward H. Bollinger, John
      J. Connelly, Barry C. Hartley, Werner S. Lichtenstein,
      Thomas R. Loy, Frank J. Nagy, Valdis E. Petritis, Harold
      A. Sorgenti, James W. Stark, Wolf R. Vieth, Bruce W.
      Wilkinson.
1959  James O. Albery, James H. Laughlin, Darryle J. Von
      Lehmden.
1960  Virgil L. Anderson, Carl E. Brooks, Guy A. Crossley,
      Joseph O. Estill, William D. Gieseke, Warren E.
      McAdams, Phillip J. McAteer, Joe Ohler, Irwin Weinstock,
      Russell L. Wilt.
1961  Paul R. Bigley, Richard B. Cooper, Clyde W. Folk, Ronald
      L. Follmer, Jack A. Hammond, Ted J. Hanson, Ronald
      D. Harris, Gordon R. Howard, Jerry B. Pausch, John N.
      Rapach, L.E. Woodworth (deceased).
1962  Martin F. Cohen, Kenneth J. Fulk, Richard L. Hoffman,
      Jon H. Lee, C.D. Osbon, Jon A. Oxley, William P. Rozon,
      Dean Snider, Michael J. Sorocak, Lawrence R. Steele,
      Michael D. Winfield.
1963  Nelson W. Barnhill (deceased), Jon E. Fletcher John P.
      Henry, Robert P. Kasper, Kay L. Snider.
1964  Alkis Constantinides, Michael B. Cutlip, William R. Ferris,
      Girish D. Parikh, James B. Sapp, Donald J. Wilhel.
1965  Edward R. Corino, Ronald S. Evanko, Frederick H. Flor,
      John P. Gegner, Frederick J. Jerko, Michael C. Royer,
      Paul H. Schmitz, Fred A. Shaffstall, Gary L. Street,
      Eugene N. Wheeler.
1966  David E. Bidstrup, James V. Braun, Dale A. Denny,
      Thomas E. Fitz, William G. Lowrie, Glenn L. McKeef, John
      W. Mitchell.
1967  Charles E. Baumann, John W. Bradshaw, William F.
      Deerheake, John S. Dorsey, C.D. Dunlap, F.W. Hauschildt,
      Dennis W. Hurley, Graham F. Painter, Anthony
      Santavicca.
1968  Douglas W. Hissong, Lloyd G. Jones, Ronald M. Kovach,
      William E. Lewis, Richard T. Linak, John M. Salladay,
      David J. Walters, John M. Yacher.
1969  Wayne E. Ballantyne, Smith E. Howland, Geoffrey A.
      Prentice, Doug Smith, John W. Touscant.
1970  James F. Dietz, David R. Grove, Doyle R. Painter,
      Gautam A. Patel, Steven E. Russell, Richard B. Strait,
      Rosa Uy, Harry H. Yieh (deceased).
1971  Juliet A. Balmer, Dale A. Draudt, Karen L. Hendricks,
      Kerry G. Hertenstein, Paul D. Jachimiai, Jeffrey L.
      Koscik, David O. Kutch, Arthur H. Morth, William E.
      Pitchard, James N. Stambolis, Harrison L. Stebbins,
      Richard D. Stolk, Paul R. Swartz, Armen Tergevorkian,
      Stephen Zakanycz.
1973  Charles N. Carpenter, David A. Dargan, John A.
      Douglas, Norman F. Lucas, Dennis D. Terry.
1974  Mark E. Forry, James A. McCaw, George L. Ott, Michael J.
      Pedersen.
1975  Paul C. Auh, John T. Erikson, Stephen L. Grant, John E.
      Myers, Michael A. Patterson, Yoon S. Song, James S.
      Watt.
1976  Harold N. Conkle, James M. Delabar, Darlene H.
      McCalmont.
1978  James H. Etherton, Janet L. Inkrott, Mike P. Moore,
      David W. Sass, Radv Y. Scott, David P. Steinmetz,
      Elizabeth A. Stubber, Neil P. Stubbe, Brian K. Weider,
      Thomas E. Winkler.
1979  Douglas T. Brown, Darice A. Davis, Karen T. Murphy,
      Gary S. Phillips, Ronald D. Vlcek, Michael W. Weber, Tak
      K. Williams.
1980  Frederick T. Clark, Bruce R. DeBruin, Paul T. Dubetz,
      Carol B. Ehrman, Fred D. Ehrman, Matthew J. Galosi,
      Mark A. George, George J. Krieski, Richard L. Mayer,
      Joseph Petrarca, Gary R. Prok, Daniel R. Schawegerle,
      Pankaj P. Shah, Timothy L. Strickler, Debra S. Warfield,
      Mark R. Warfield.
1981  Edward W. Claugus (deceased), Nancy C. Dawes,
      Ronald A. Gibson, Doubles V. Lenz, William E. Nasehan,
      Pamela J. Simpkins, James A. Telllohan.
1982  Douglas H. Baughman, Alex W. Kawczak, Daniel P.
      Lambert, Chi-Hu Xia, Lee, James J. Mazza, Christina S.
1983  Michael B. Begland, Tracy F. Begland, Richard H.
      Brandon, Stephen R. Cammarn, Mark H. Gaston,
      Christopher R. Richied, James M. Sauer, Clark B. Wade,
      Robert E. Young.
1984  Yousef G. Aoud, Kristin H. Cook, Daniel R. Hertzler,
      Joseph L. Herzog, Gregory M. Masica, George W. Miller,
      Patrick A. Renner, Sunil Satia, Leonore C. Witchey-
      Lakshmanan.
1985  Douglas J. Ball, Andre W. Bur, Becky K. Bur, Thomas
      D. Burns, Roger G. Facer, Mark J. Hogan, Timothy A.
      Johnson, David J. Moonay, David G. Vutetakis.
1986  Kris Lakshmanan.
1987  Jeffrey D. Adams, Denise M. Burcham, Samuel D. Fink,
      Karen S. Johnson, D.B. Noel, Timothy A. Rash, Robert L.
      Tattersson, Donna M. Walter (deceased).
1988  Amy E. Doty, Rajeev L. Gorawara, M.A. Jabbour,
      Rongher Jean, David W. Miller, Bhavesh V. Patel, Craig
      L. Shoemaker, Annette L. Ventura.
1989  Stuart F. Doty, Micahel J. Pishkula, Amy J. Pressly,
      Jonathan M. Vinson.
1990  Craig M. Kehres, James V. Lombardi, Scott A. Westfall.
1991  Kristan K. Latham, Rick L. Wright.
1993  Andrew W. Mauk, Frank E. Seipel.
1994  Joseph M. Ruscak, Christopher W. Voight.
1997  John D. Clay, Xukum Luo, Nanette Nardi Tripplet, Ellen
      M. Silva.
1999  Matthew F. Ehlerding, James W. Holder, Anita L.
      Nuckols.
2000  Thomas J. Jaynes, Scott A. McAlpine, Paul M.
      Noltinemeyer.
2001  Adam R. Baxter, Xia Cao, Lisa A. Catauro, Elizabeth M.
      Melvin, Yunying Qi.
2002  Derrick A. Butler, Siyi Lai.
2003  Nicholas A. Brunelli, Lori A. Engelhardt, Erica N. Jones,
      Michael D. Tripplet, Adam M. Woeste, Guojun Xu.
1999 Matthew F. Ehlerding, James W. Holder, A. Catauro, Elizabeth M. Melvin, Yunying Qi.

2001 Thomas J. Jaynes, Scott A. McAlpine, Paul M. Noltemeyer.

2002 Adam R. Baxter, Xia Cao, Lisa A. Catauro, Elizabeth M. Melvin, Yunying Qi.

2003 Derrick A. Butler, Siyi Lai.


2005 Miguel A. Garcia, Garrett E. Pavlovicz.

2006 Emily A. Shears, Robert H. Walters.


2008 Jeffrey R. Skinn.


2010 Matthew R. Isabel, Matthew D. Nilsen.


2013 Jasline K. Sahota.


OTHER OSU GRADS WHO GAVE TO PHILANTHROPY -

- 1999 -
Cheryl L. Ball 1985
Mary E. Ballantyne 1981
Betty B. Bates 1948
Mary B. Baumann 1963
Katherine C. Bower 2003
Janet A. Brown 1978
Nancy A. Cammarn 1956
Anna M. Ehlerding 2000
Sharon R. Clark 1980
Kristy S. Clay 1996
Rochelle P. Cohen 1962
Mark D. Dawes 1981
Judith F. Denny 1959
Beth A. Dibble 1988
Gloria H. Douglas 1972
Anna M. Ehlerding 2000
Eugenia M. Etherton 1985
Matilda W. Fischer 1954
Roland C. Fischer 1950
Linda M. Forry 1975
Marylin M. George 1949
Wilson K. Gibbins 1979
George T. Giaros 1986
Christine C. Gorowara 1988
Kathryn W. Grant 1975
Vicki Grove 1969
Kay Stratton Hanson 1960
Jane A. Harris 1960
Deborah Haushildt 1968
Martha J. Herterz 1984
Judy Hoffman 1962
Jeanne A. Howard 1990
George D. Huffman 1966
Barbara B. Hurley 1970
Timothy R. Ingle 2008
Kenneth E. Inkrott 1976
Rachel M. Isabel 2010
Marliy A. Jones 1956
Margaret L. Koegle 1950
Mitchell S. Loveall 2015
Lisa B. Marszal 1990
Janet G. Mazza 1982
Sue E. Mitchell 1965
Vicki O. Moore 1978
Nancy K. Morth 1965
Sandra K. Myers 1976
Yosieh Narui 2003
Rita S. Painter 1988
Sarah N. Parsons Clinger 2011
Carolyn E. Patch 1966
E. L. Pausch 1963
Merlyn E. Prentice 1968
Michelle S. Prok 1980
Susan L. Royer 1964
Elizabeth C. Salladay 1966
Robin S. Scott 1978
Sally H. Sorocak 1961
Donna H. Steele 1960
Louise M. Stelzer 1952
Patricia J. Stolt 1970
Kimberly J. Strickler 1981
William R. Syverson 1974
W. I. Tarr 1948
Kathleen G. Tatterson 1987
Sandor J. Telljohann 1983
Thomas J. Tibblits 1955
Libby W. Toussant 1969
Bettie F. Unkel 1942
C. S. Vicke 1980
Jill C. Wade 1984
Shu-Huan Weng 1979
Berdella T. Wilkinson 1952
Molly C. Yieh 1971
David A. Zimmer 1981

FRIENDS OF CBE -

- Beverly B. Deerhake
- Colette C. Delabar
- Patricia C. Dietz
- Pamela Dillon
- Trudy Donham
- Beverly J. Dornbusch
- Carmel P. Dorsey
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- Victoria B. Dubetz
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- Donna Ernst
- Elaine S. Ernst
- Thomas Ernst
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- Diana K. Estill
- Bonnie S. Evanko
- Karen S. Facer
- Liang-Shih Fan
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- Martin R. Feinberg
- Phyllis E. Ferris
- Marilyn J. Findlay
- Donna S. Fink
- June W. Fitz
- Deanna D. Fletcher
- Marlene G. Flor
- Suzanne Folk
- Carol J. Fosnaugh
- Helen M. Fulk
- Susan S. Galosi
- Nicole A. Garcia
- Sally J. Gibson
- Beppy A. Giesek
- Marie L. Glaros
- Lisa M. Hall
- Mary Z. Hammond
- Doris M. Harris
- Mary Lou S. Hartley
- Mildred B. Haupt
- Beth M. Heil
- Joyce E. Heintz

OTHER OSU GRADS WHO GAVE -

- Cheryl L. Ball 1985
- Mary E. Ballantyne 1981
- Betty B. Bates 1948
- Mary B. Baumann 1963
- Katherine C. Bower 2003
- Janet A. Brown 1978
- Nancy A. Cammarn 1956
- Sally C. Carpenter 1960
- Sharon R. Clark 1980
- Kristy S. Clay 1996
- Rochelle P. Cohen 1962
- Elizabeth C. Salladay 1966
- Mark D. Dawes 1981
- Judith F. Denny 1959
- Beth A. Dibble 1988
- Gloria H. Douglas 1972
- Anna M. Ehlerding 2000
- Eugenia M. Etherton 1985
- Matilda W. Fischer 1954
- Roland C. Fischer 1950
- Linda M. Forry 1975
- Marilyn M. George 1949
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- George T. Giaros 1986
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- Kathryn W. Grant 1975
- Vicki Grove 1969
- Kay Stratton Hanson 1960
- Jane A. Harris 1960
- Debbra Haushildt 1968
- Martha J. Herterz 1984
- Judy Hoffman 1962
- Jeanne A. Howard 1990
- George D. Huffman 1966
- Barbara B. Hurley 1970
- Timothy R. Ingle 2008
- Kenneth E. Inkrott 1976
- Rachel M. Isabel 2010
- Marilyn A. Jones 1956
- Margaret L. Koegle 1950
- Mitchell S. Loveall 2015
- Lisa B. Marszal 1990
- Janet G. Mazza 1982
- Sue E. Mitchell 1965
- Vicki O. Moore 1978
- Nancy K. Morth 1965
- Sandra K. Myers 1976
- Yosieh Narui 2003
- Rta S. Painter 1988
- Sarah N. Parsons Clinger 2011
- Carolyn E. Patch 1966
- E. L. Pausch 1963
- Merlyn E. Prentice 1968
- Michelle S. Prok 1980
- Susan L. Royer 1964
- Elizabeth C. Salladay 1966
- Robin S. Scott 1978
- Sally H. Sorocak 1961
- Donna H. Steele 1960
- Louise M. Stelzer 1952
- Patricia J. Stolt 1970
- Kimberly J. Strickler 1981
- William R. Syverson 1974
- W. I. Tarr 1948
- Kathleen G. Tatterson 1987
- Sandra J. Telljohann 1983
- Thomas J. Tibblits 1955
- Libby W. Toussant 1969
- Betty F. Unkel 1942
- C. S. Vicke 1980
- Jill C. Wade 1984
- Shu-Huan Weng 1979
- Berdella T. Wilkinson 1952
- Molly C. Yieh 1971
- David A. Zimmer 1981
Sharon A. Helms
Milt Hendricks
Kathleen A. Hertenstein
Barbara K. Hissong
Helen H. Hogan
Lee A. Holder
Christine H. Howell
Judith G. Huffman
Bonnie S. Hutchinson
April P. Ingle
Carol E. Ingle
Richard J. Ingle
Charles S. Jabbour
Margaret M. Jachimiak
Ellen H. James
Jillian B. Jaynes
Audrey M. Johnson
Henrietta T. Kawczak
Dawn M. Kehres
Thomas J. Koffolt
Linda J. Kosch
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Reta N. Krane
Spencer Krane
Elizabeth Kuhn
Nancy L. Kutscher
Nancy K. Lambert
James L. Latham
Sandra M. Laughlin
Janet E. Lee
Sandra W. Lenz
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Celia C. Ling
Janice A. Pressley
Robert F. Pressley
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Wenda Williamson
Cynthia E. Wilt
Arlene S. Winfield
Caroline Winkler
Jessica O. Winter
David W. Wood
JoAnn Woodworth
Barbara E. Wyslouzil
Shang-Tian Yang
Debra F. Young
Barbara A. Zakanycz
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Laura P. Zakin
Carolyn R. Zimmer

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Pfizer Foundation
Rita E. Broestl Revocable Trust
Rosa Uy Trust Agreement
Sealed Air Corporation
SePro Corporation
Shell Oil Company Foundation
Silicon Valley Community Foundation - PepsiCo
The Big Give Bonus Pool Fund
Tom and Darlene McCalmont
Fund of Schwab Charitable Foundation
Toussaint Charitable Fund of Fidelity Charitable
W. G. Lowrie Charitable Lead Trust
Williams Companies Foundation

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P&G Fund of The Greater Cincinnati Foundation
Pfizer Foundation
Rita E. Broestl Revocable Trust
Rosa Uy Trust Agreement
Sealed Air Corporation
SePro Corporation
Shell Oil Company Foundation
Silicon Valley Community Foundation - PepsiCo
The Big Give Bonus Pool Fund
Tom and Darlene McCalmont
Fund of Schwab Charitable Foundation
Toussaint Charitable Fund of Fidelity Charitable
W. G. Lowrie Charitable Lead Trust
Williams Companies Foundation

Nordson Corporation
Fund
Network for Good - Abbott
Network for Good - Abbott
Fund
Nordson Corporation
FACULTY / STAFF

Professors
Bhavik Bakshi
Jeffrey Chalmers
Stuart Cooper
Liang-Shih Fan
Martin Feinberg
W.S. Winston Ho
Kurt Koelling
L. James Lee
Umit Ozkan
Andre Palmer
James Rathman
David Tomasko
Jessica Winter
Barbara Wyslouzil
Shang-Tian Yang

Associate Professors
Aravind Asthagiri
Isamu Kusaka
David Wood

Assistant Professors
Nicholas Brunelli
Lisa Hall
Li-Chiang Lin
Katelyn Swindle-Reilly

Clinical Faculty
John Clay
Ilham El Monier
Deborah Grzybowski
Carlo Scaccia

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Robert S. Brodkey
Harry C. Hershey
Michael Paulaitis
Thomas L. Sweeney
Jacques L. Zakin

Research Assistant Professor
Andrew Tong

Adjunct Professor
Gang Ruan

Research Scientists
Jonathan Brown
Richard Lease

Research Associates
Kwang Joo Kwak (Sr. Assoc.)
Dawei Wang
William Kane Wang

Post Doctoral Researchers
Feng Chen
Zhao Cheng
Doruk Dogu
Seval Gunduz
Pengfei He
Jiaming Hu
Veysi Malkoc
Lang Qin
Yan Sheng
Mengmeng Xu
Zhaogang Yang
Aili Zhang
Yanan Zhao

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Zhou Chen
Hua Fan
Jin Huang
Yujing Huang
Zhiqian Jia
Tairog Kuang
Hui Li
Jianxin Li
Weiming Li
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Aleksandra Mostrag-Szlichtyng
Jinhua Piao
Pajareeya Songserm
Yue Wang
Zhongqiang Wang
Xuefeng Xu
Guojun Yan
Yexia Zhang
Zhien Zhang

Administrative Staff
Angela Bennett, Graduate Program Coordinator
Katie Bush-Blenn, Academic Advising
David Cade, Building Coordinator
Bill Cory, Human Resources Manager
Mike Davis, Systems Manager
Brian Endres, Academic Advising
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Jessica Schmitt, Director of Development
Geoff Hulse, Director of Information Technology
Susan Tesfai, Fiscal Associate
Mike Wilson, Laboratory Supervisor
Wenda Williamson, Public Relations Coordinator
Liang-Shih (L.-S.) Fan presenting the 67th AIChE Institute Lecture at AIChE’s November 2015 Annual Meeting, Salt Lake City, UT.

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