

School of Chemical Engineering

2010 Year in Pictures

PURDUE
UNIVERSITY™



PURDUE UNIVERSITY
School of Chemical Engineering

SAVE THE DATE
OCTOBER 7-8, 2011

Centennial Celebration
A Century of People and Progress

1911-2011





Centennial Celebration 1911-2011

Event-Filled Year

In 2011, the School of Chemical Engineering at Purdue University will celebrate 100 years of education and research excellence. Honored guests are Chemical Engineering faculty, staff, students and alumni who have brought prominence to the school since its 1911 inception.

Save the Date

Plans are being finalized for the spotlight event at Purdue, Oct. 7-8, 2011. Mark your calendars now and attend this special weekend that has been 100 years in the making!

Friday, Oct. 7, 2011

- Centennial Lectures
- Industrial, Academic and Entrepreneurial Panels
- Poster Session for Graduate and Undergraduate Students
- Celebration Dinner

Saturday, Oct. 8, 2011

- Tours of Forney Hall and Discovery Park
- Pregame Reception
- Football Game

Especially You!

You have been instrumental in Purdue Chemical Engineering's reputation as a catalyst of innovation and excellence. We will be honored by your participation in the centennial activities.

Details to come.

<https://engineering.purdue.edu/ChE/Centennial>

E-mail che.centennial@ecn.purdue.edu • Phone 765-494-0027

Wall Street Journal (September 13, 2010)

Corporate Recruiters' Survey

In preparing its students for the work force,
Purdue University – 4th in the US
Purdue Engineering – 2nd in the US!

Survey of 842 top recruiting executives to find the schools that best prepare students to land satisfying, well-paying jobs that also have growth potential.



Purdue ChE Leads in BS & PhD Degrees

C&E News, August 23, 2010

CHEM ENGINEERING GRADUATES

Top 10 producers for 2008–09

BACHELOR'S GRADUATES

1	Michigan, U of, Ann Arbor	113
2	Purdue U	106
3	Texas, U of, Austin	99
4	Georgia Institute of Technology	98
5	Wayne State U	94
6	Pennsylvania State U	93
7	Puerto Rico, U of, Mayaguez	91
8	California, U of, Berkeley	85
9	Cornell U	84
10	North Carolina State U	79

DOCTORAL GRADUATES

1	Massachusetts Institute of Technology	43
2	Georgia Institute of Technology	37
3	Texas, U of, Austin	29
4	Northeastern U	24
4	Purdue U	24
6	Wisconsin, U of, Madison	19
7	Illinois, U of, Urbana-Champaign	18
7	Minnesota, U of, Twin Cities	18
9	Northwestern U	17
10	Cornell U	16
10	Rensselaer Polytechnic Institute	16
10	Wayne State U	16

Source: Report of the ACS Committee on Professional Training, 2009

ChE Strategic Plan 2010-2014

- **Vision:** Be widely recognized among the premier ranks of chemical engineering programs in the world.
- **Mission:** Provide students with a rigorous and relevant education, conduct field-defining research, and enhance the School's global impact.
- **Values:** Leadership, excellence and innovation, relevance and impact, commitment and responsibility, teamwork and partnership, diversity and respect, safety and sustainability.

ChE Strategic Plan 2010-2014

Focus Areas

- **Research:** To pursue breakthrough research that extends the boundaries of chemical engineering into areas which promote sustainability and which will have the greatest positive impact on our global society.
- **Education:**
 - **Graduate Programs:** Recruit and retain high caliber graduate students from top-tier chemical engineering programs, provide challenging and relevant research programs, and a quality graduate level education.
 - **Undergraduate Programs:** Recruit and retain the most capable, motivated and diverse class of undergraduates, and help them to obtain a solid and relevant education throughout their Purdue experience.
- **Global Impact:** Educate undergraduate and graduate students who will be successful in a global environment. Cultivate and expand research relationships with prominent international research organizations.

ChE Strategic Plan 2010-2014

Focus Areas - continued

- **Development** – Secure and improve the School’s financial foundation as a means to continually improve its programs and physical facilities, while balancing short and long term goals.
- **Engagement** - Encourage faculty, students and staff to develop a sense of personal responsibility and accountability for service at both the local and national levels. Promote entrepreneurial activity, leading to intellectual property, including invention disclosures and patents. Become a leader in sustainability on the Purdue campus.
- **Professional Development and Recognition** – Encourage all faculty, staff, and students to participate in activities that will enhance their career, develop their skills, and help them become more creative and productive. Actively promote recognition by internal and external award nominations.
- **Culture and Environment:** Create an environment where faculty, staff and students are treated with respect and where superior teamwork is achieved. Enhance and expand safety activities and safety education.

RESEARCH FRONTIERS

CLEAN ENERGY

SOLAR
BIOFUELS
HYDROGEN
FUEL CELLS
COAL
SUSTAINABILITY

MEDICAL ENGINEERING

METABOLIC
ENGINEERING
BIOLOGICAL &
TISSUE
ENGINEERING
DRUG DELIVERY
BIOMIMETIC
MATERIALS

ChE FUNDAMENTALS

CATALYSIS & REACTION
ENGINEERING
FLUID MECHANICS &
INTERFACIAL
PHENOMENA
MASS TRANSFER &
SEPARATIONS
MOLECULAR &
NANOSCALE MODELING
POLYMERS & MATERIALS
PRODUCT &
PROCESS SYSTEMS
ENGINEERING

CHEMICAL SYNTHESIS

ADVANCED MATERIALS
CATALYST DESIGN
HYDRODEOXYGENATION
CHEMICAL SENSORS
BIOCATALYSIS

PHARMACEUTICAL ENGINEERING

PARTICLE DESIGN
& PROCESSING
INFORMATICS &
COMPLEX SYSTEMS
SENSING TECHNOLOGY
MULTISCALE MODELING
INTERFACIAL SCIENCE

Chemical Engineering Faculty



Rakesh Agrawal
ScD, MIT, 1980



Osman Basaran
PhD, Minnesota, 1984



Chelsey D. Baertsch
PhD, UC - Berkeley, 2001



Stephen P. Beaudoin,
PhD, NC State, 1995



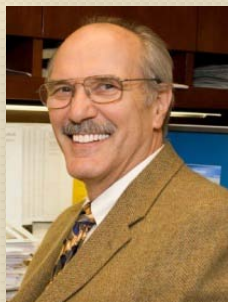
James M. Caruthers
ScD, MIT, 1977



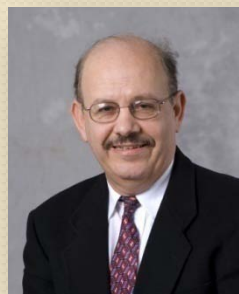
Raj Chakrabarti
PhD, Princeton, 2002



David S. Corti
PhD, Princeton, 1997



W. Nicholas Delgass
PhD, Stanford, 1969



Elias I. Franses
PhD, Minnesota, 1979



Robert E. Hannemann
MD, Indiana, 1959

Chemical Engineering Faculty



Michael T. Harris
PhD, Tenn.- Knoxville, 1992



R. Neal Houze
PhD, Houston, 1968



Sangtae Kim
PhD, Princeton, 1983



Julie Liu
PhD, CalTech, 2006



James D. Litster
PhD, Queensland, 1985



John A. Morgan
PhD, Rice, 1999



Joseph F. Pekny
PhD, Carnegie Mellon, 1989

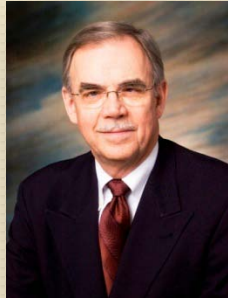


R. Byron Pipes,
PhD, Texas-Arlington, 1972



Doraiswami Ramkrishna
PhD, Minnesota, 1965

Chemical Engineering Faculty



Gintaras V. Reklaitis,
PhD, Stanford, 1969



Fabio H. Ribeiro
PhD. Stanford, 1989



Kendall T. Thomson
PhD. Minnesota, 1999



Arvind Varma
PhD, Minnesota, 1972



**Venkat
Venkatasubramanian**
PhD, Cornell, 1984



Nien-Hwa Linda Wang
PhD, Minnesota, 1978



Phillip C. Wankat
PhD, Princeton, 1970



You-Yeon Won
PhD, Minnesota, 2000



Yue Wu
PhD, Harvard, 2006



Chongli Yuan
PhD, Cornell, 2007

Emeritus Faculty



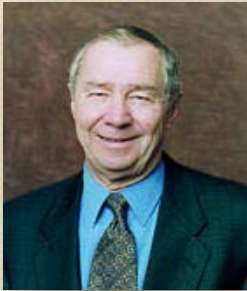
Lyle F. Albright
PhD, Michigan, 1950



Ronald P. Andres
PhD, Princeton, 1962



Kwang-Chu Chao
PhD, Wisconsin, 1956



Robert A. Greenkorn
PhD, Wisconsin, 1957



Robert G. Squires
PhD, Michigan, 1963



George T. Tsao
PhD, Michigan, 1960

Research Faculty



Nancy W. Y. Ho
PhD, Purdue, 1968

David Corti

Promoted to Professor, August 2010

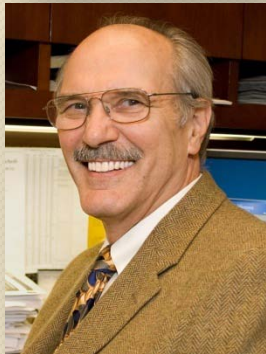


Congratulations to ChE Faculty



Rakesh Agrawal

- Elected Fellow, AIChE (2010)



Nicholas Delgass

- Inaugural NACS Award for Distinguished Service in the advancement of Catalysis (2010)



Neal Houze

- ConocoPhillips Faculty Award (2009-10)

Congratulations to ChE Faculty



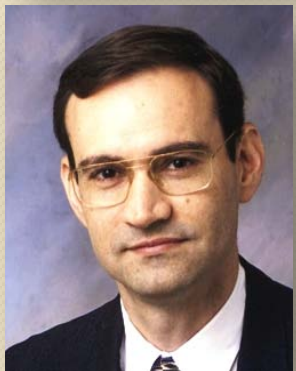
Jim Lister

- Elected Fellow of the Australian Academy of Technological Sciences and Engineering



Rex Reklaitis

- George Lappin Award, National Program Committee Service Award, AIChE (2008)



Fabio Ribeiro

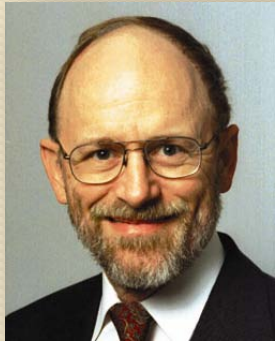
- Appointed as an Editor for the *Journal of Catalysis*

Congratulations to ChE Faculty



Arvind Varma

- Elected Foreign Member of Mexico's National Academy of Engineering (2010)



Phillip Wankat

- Joseph J. Martin Award, ASEE (2010)



Yue Wu

- DuPont Young Professor Grant (2009-13)

Hannemann – 40 Years in Purdue ChE 1970-2010



Houze – 40 Years in Purdue ChE 1969-2009



Wankat – 40 Years in Purdue ChE 1970-2010



Faculty Honors

Purdue College of Engineering - 2010 Faculty Excellence Awards

Team: Pharma ERC led by Gintaras V. Reklaitis

Osman A. Basaran

Stephen P. Beaudoin

Michael T. Harris

James D. Litster

D. Ramkrishna

V. Venkatasubramanian

Mentoring: Ramkrishna

Research: Basaran



Recent Alumni Honors - Purdue



Honorary Doctorate (HDR)

Deb Grubbe (BS '77)

Tim McGinley (BS '63)



Recent Alumni Honors - Purdue



Norman Gilsdorf, BSChE '77

President, Honeywell Process Solutions

- Distinguished Engineer Alumnus (DEA), College of Engineering, Purdue
- Outstanding Chemical Engineer (OChE), School of Chemical Engineering, Purdue

Recent Alumni Honors - Purdue

2010 OChE

William Greer with his wife Carolyn, and his grandson, Eric Vaughan (BS 2006)



William Greer, BS '45, MS '49
with Professors Varma and Reklaitis



Recent Alumni Honors - Purdue

2010 OChE

William Greer (BS '45, MS '49)
Harold Igdaloff (BS '47)
Peter Kraemer (BS '88)



Harold Igdaloff, BS '47
with Professors Varma and Litster



Recent Alumni Honors - Purdue

2010 OChE

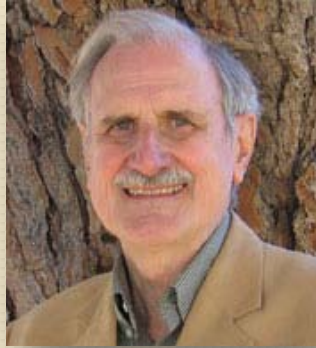


Peter Kraemer and a group of faculty

Peter Kraemer (BS '88) with
Professors Varma and Houze



Alumni Awards



Duncan Mellichamp, PhD '64

Professor Emeritus,
University of California, Santa Barbara

CACHE Award, ChE Division, 2010, ASEE

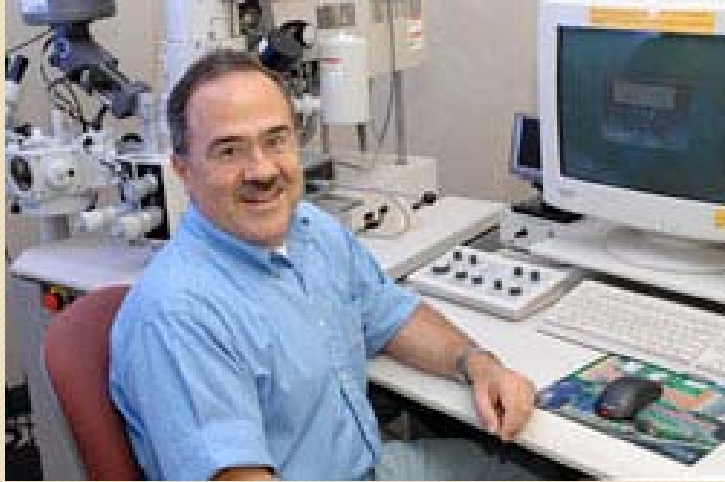


Antonios Mikos , PhD '88

J. W. Cox Professor of Chemical and
Bioemolecular Engineering
Rice University

- **Meriam/Wiley Distinguished Author Award, 2010, ASEE**
- **Food, Pharmaceuticals and Bioengineering Award, 2010, AIChE**

Alumni Awards



Elefterios “Terry” Papoutsakis, MS '77, PhD '80

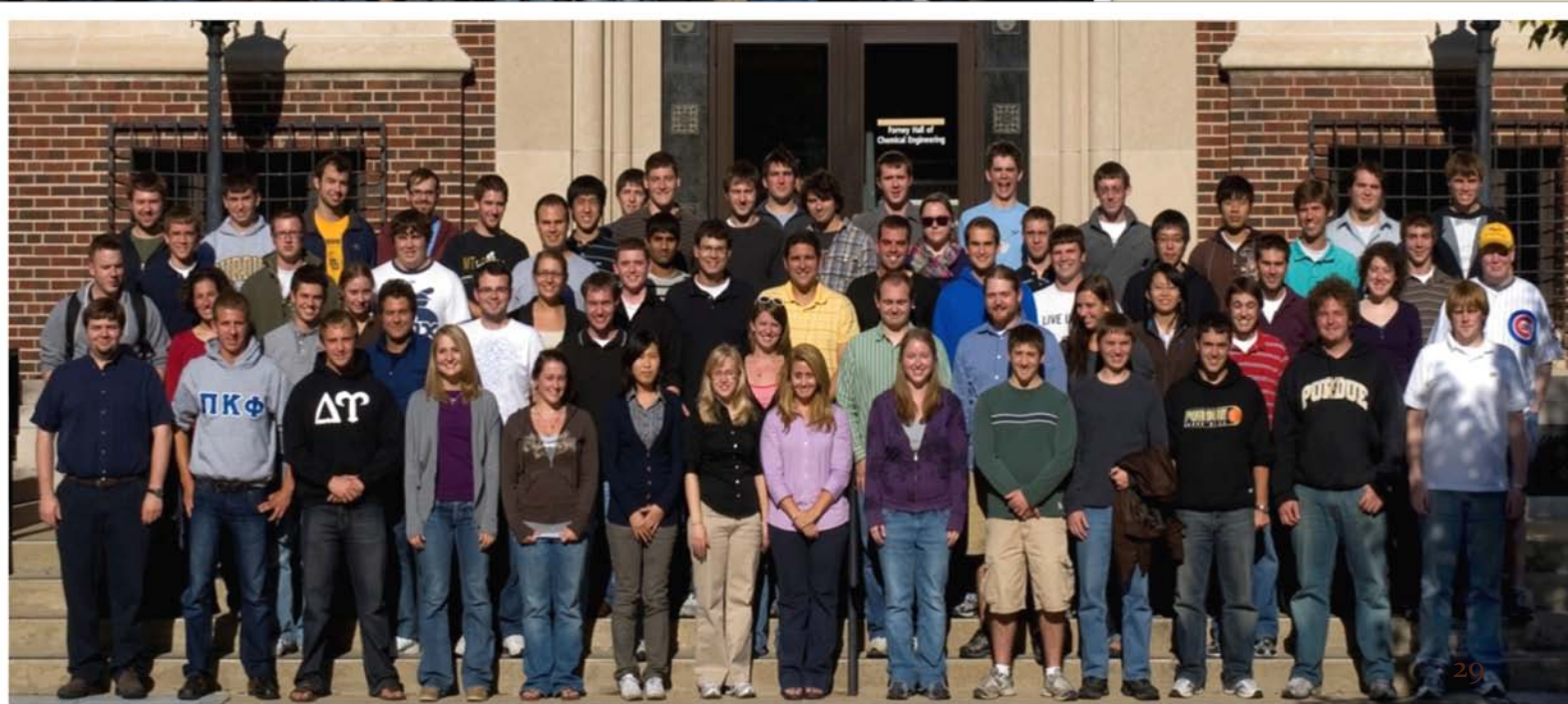
Eugene DuPont Chair

Department of Chemical Engineering

Delaware Biotechnology Institute

International Metabolic Award, 2010

Class of 2010



Graduate Student Recognitions



Grayson Ford

Graduate Student
Poster Award

35th Photovoltaic Conference



Hye Yeon Park

Graduate Student

ConocoPhillips Scholarship, 2010-11

Graduate Student Recognitions



Vishesh Shah

Graduate Student
Graduate Student Award
AIChE Separations Division, 2010



Sara Yohe

Graduate Student and
GSO President
NSF Graduate Fellowship, 2010

Undergraduate Student Honors



Caitlin Schmitt

ChE Senior

PESC President, 2010-11



Tyler Teykl

ChE Junior

Elected Purdue Student Trustee

Undergraduate Student Honors



Lindsey Williams

Class of 2010

- **Purdue Engineering Student Council (PESC) President, 2009-10**
- **Purdue Student Engineering Foundation (PSEF) Outstanding Senior Award, 2010**

Co-Op Students, Spring 2010



Staff Awards



Linda Davis

Industrial Education Director

2010 Leadership Award, College of Engineering

Staff Awards



Jeff Valley

Building Deputy

15 Years of Service with the School of Chemical Engineering

Staff Awards

December 1, 2009



Larry Campbell,
Shipping and
Receiving Clerk,
40 Years at Purdue



Carolyn Blue,
Administrative Assistant,
30 Years at Purdue



Karen Heide, Secretary,
35 Years at Purdue

AIChE Blood Drive

November 30, 2009



ChE-SAC Hot Chocolate Social

December 13, 2009



January 2010



Freezing 5k – OXE

February 19, 2010



- During E- week 2010 (Purdue Engineers Week)
- Attendance of over 100 students
- Raised \$900 for the American Cancer Society



“Strike Out Suffering”

March 19, 2010



ChE Undergrads Bowling for "Strike Out Suffering", a bowling fundraiser held by Market Square Lanes and the Almost Home Humane Society

Kelly Lecture

March 30-31, 2010



Rakesh K. Jain

- Andrew W. Cook Professor of Tumor Biology
Harvard Medical School
- Director, Edwin L. Steele Laboratory for
Tumor Biology



Kelly Lecture

March 30-31, 2010

Normalizing Tumor Vasculature to Treat Cancer: From Mathematical Model to Mouse to Man

3:30-4:30 p.m. Tuesday, March 30 • Room G140, Forney Hall

Cancerous tumors require blood vessels to grow and spread to other organs. Dr. Jain demonstrated that the blood vessels of tumors are abnormal — not only in their structure, but also in their function. Using a mathematical model, he showed consequences of this abnormality — specifically, how this abnormality contributes directly to malignant properties of a cancer and prevents treatments from reaching and attacking tumor cells.

Dr. Jain proposed a novel concept that “normalizing” tumor vessels would allow cancer therapies to penetrate the mass and to function more effectively. He then went on to show first in mice and then in cancer patients that drugs originally designed to destroy tumor vessels could, paradoxically, also repair them, creating a window of opportunity to attack the cancer most effectively. This concept is also opening doors for treating other vascular diseases such as macular degeneration, a leading cause of blindness, and neurofibromatosis-2, which can lead to deafness.



Delivery of Molecular and Nanomedicine in Tumors

9:30-10:30 a.m. Wednesday, March 31 • Room 3059, Forney Hall

A solid tumor is like an aberrant organ — comprised of cancer cells and host cells embedded in an extra-cellular matrix — nourished by blood vessels and drained by lymphatic vessels. In its journey from the blood stream to cancer cells, a therapeutic agent must cross the vessel wall and the extra-cellular matrix in which the cancer cells are ensconced. By developing novel imaging tools and tumor animal models, Dr. Jain showed that blood and lymphatic vessels as well as matrix associated with tumors are abnormal and can impair drug delivery in tumors.

Dr. Jain also discovered that the lack of functional lymphatic vessels within tumors contributes to elevated hydrostatic pressure and reduces convective transport in tumors. His team discovered the molecular and cellular mechanisms underlying these abnormalities, and then developed strategies to “normalize” these barriers and thus, improve delivery and efficacy of treatments. Finally, he translated some of these strategies from bench to bedside. His findings are critical not only for the delivery of conventional drugs, but also for gene therapy and nanomedicine.

2nd Women in Chemical Engineering Seminar – Career Perspectives

Saturday, April 10, 2010

Undergraduate and graduate women Chemical Engineering students and Chemical Engineering alumnae met for a day of networking on career choices, opportunities and challenges for women chemical engineers. Two of our remarkable Chemical Engineering alumnae and a Shell representative shared their career and personal experiences and perspectives during this energizing and fun event.



Funding Provided by Shell

Women in CHE Seminar



Linda Davis, Director of Industrial Education and Seminar Organizer, Delivering the Welcome Address at the 2nd Women in ChE Seminar

Women In ChE Seminar



Emily Liggett (BS '77)

CEO

Nova Torque

Women In ChE Seminar



Nicole Vaughn (PhD 2005)

Senior Engineer
ExxonMobil

Women In ChE Seminar



Mary Slater
(BS Mgmt 2003, MBA 2005)
Project Manager
Shell

Relay for Life – 2010

April 10, 2010



Undergraduate Chemical Engineering students participating in a night walk to raise funds for Relay for Life

Chemical Engineering Kids Day

April 17, 2010

ChE Undergraduates students provided the opportunity for 40 3rd & 4th graders in Lafayette and West Lafayette to learn about Chemical Engineering



Activities included:

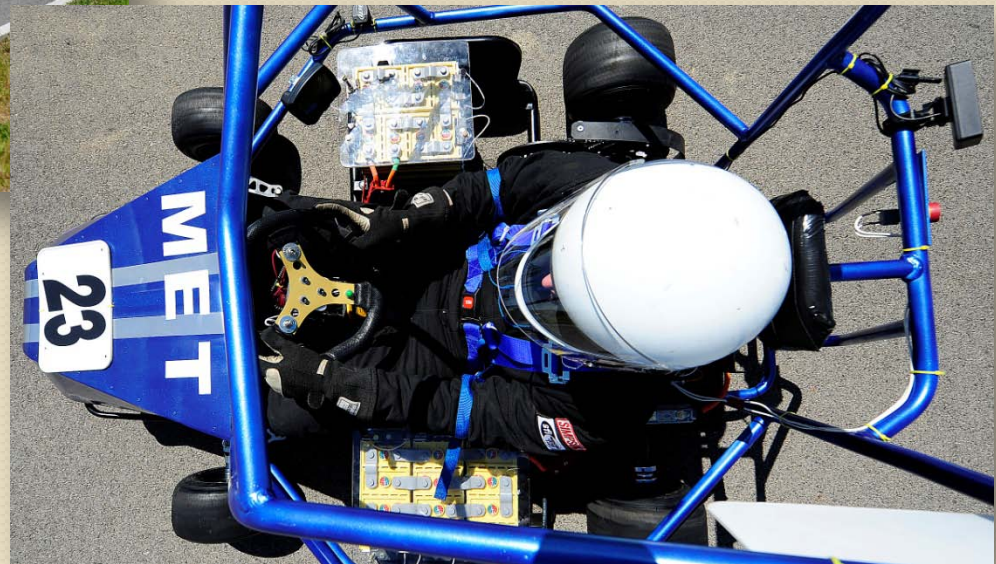
- Clean It Up! (filtration)
- Ice Cream in a Bag (freezing-point depression)
- Magic Milk (Hydrophilic/hydrophobic interactions)
- Fuel Mystery Dissolved (reaction rates)

EV Grand Prix

April 18, 2010



The Purdue Electric Vehicle Grand Prix was launched in 2010 as part of Purdue's electric vehicle initiative and is funded by a \$6 million federal grant led by Professor Caruthers.



EV Grand Prix



EV Grand Prix



EV Grand Prix



AICHE Cook Out

April 20, 2010



Chemical Engineering Sustainability Initiative (CSI)

April 23, 2010

At the invitation of CSI, faculty, staff and students visited the Fowler Wind Farm in Benton County, IN.



Other CSi Initiatives



Reusable
mugs for
seminars and
receptions

Live trees for
the Henson
Atrium

Spring Around the School



Renovation Progress



Forney Go60 in April 2010 and August 2010

Ground Floor –Renovation in Progress



Ice Cream Social

April 30, 2010

Faculty and staff served ice cream to students to wish them good luck to exams!



Ice Cream Social



ChE Faculty, Staff and Student Appreciation Reception

May 7, 2010



ChE Faculty, Staff and Student Appreciation Reception



ChE Faculty, Staff and Student Appreciation Reception



ChE Faculty, Staff and Student Appreciation Reception



Graduation Reception

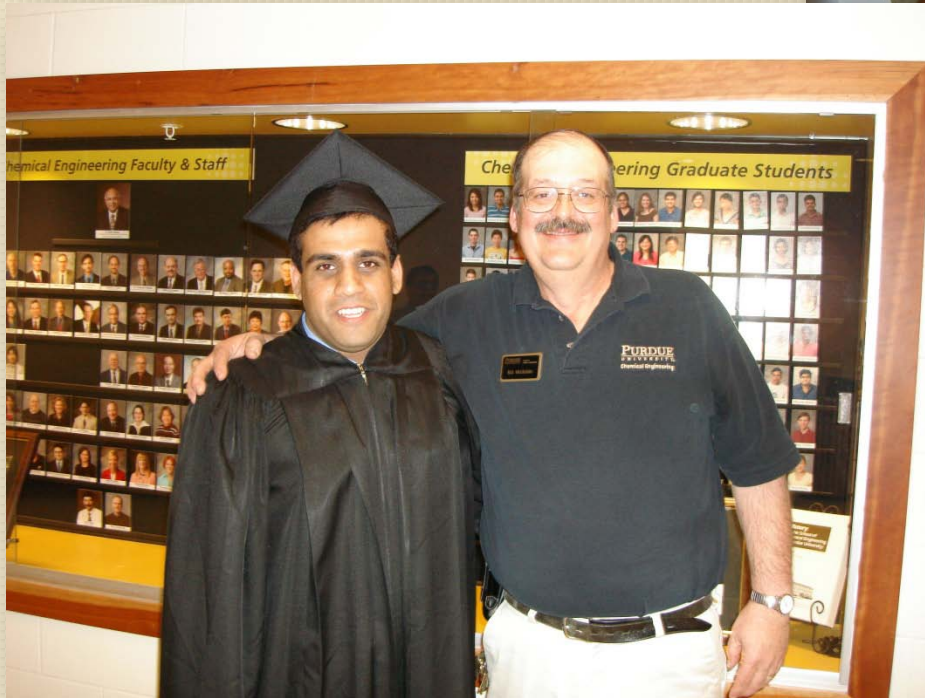
May 15, 2010



Graduation Reception



Graduation Reception



Larry Campbell 70th Birthday

May 18, 2010



Larry Campbell, Shipping and Receiving Coordinator, received a surprise party for this 70th birthday. Larry has been employed at Purdue since 1969 and in Chemical Engineering since 1982.



Graduate Student Organization (GSO)



Sara Yohe
President



Qing Zhu
Vice President



Ahmad Al-Kukhun
Co-Curricular
Committee

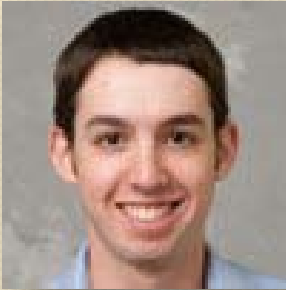


**Santosh
Appathurai**
Co-Curricular
Committee



Shane Bates
Outreach Committee
Chairperson

Graduate Student Organization (GSO)



Paul Dietrich
Voting Representative



Laura Hirshfield
First Year
Representative



Dharik Mallapragada
Co-Curricular Committee



Oluwaseyi Ogebule
Co-Curricular Committee



Rasika Prabhu
Non Voting
Representative



Krishnaraj Sambath
Social Committee Chair



Vinod Venkatakrishnan
PGSG Senator

GSO Soccer Tournament

June 28, 2010



GSO Social Pitch In

August 2, 2010



19th Annual Graduate Research Symposium

August 18- 19, 2010



Graduate Student
Kaoutar Abbou Oucherif
presenting a poster



Arvind Varma with Seminar Speaker
Shekar Shetty, CTO Air Liquide,
and Sara Yohe, GSO President

GSO Symposium – Poster Session



GSO Symposium – Banquet

August 19, 2010



GSO – New graduate Students Welcome Picnic

August 23, 2010



GSO – New Graduate Students Welcome Mixer

August 24, 2009



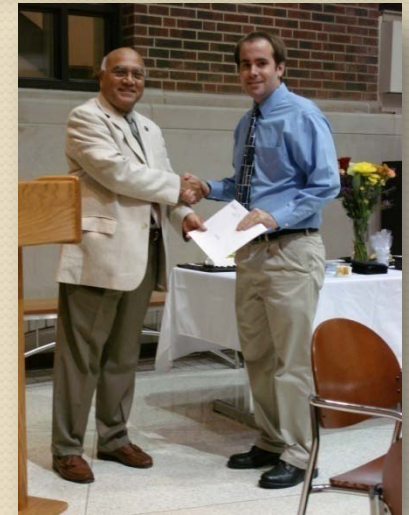
GSO Paintball

September 12, 2010



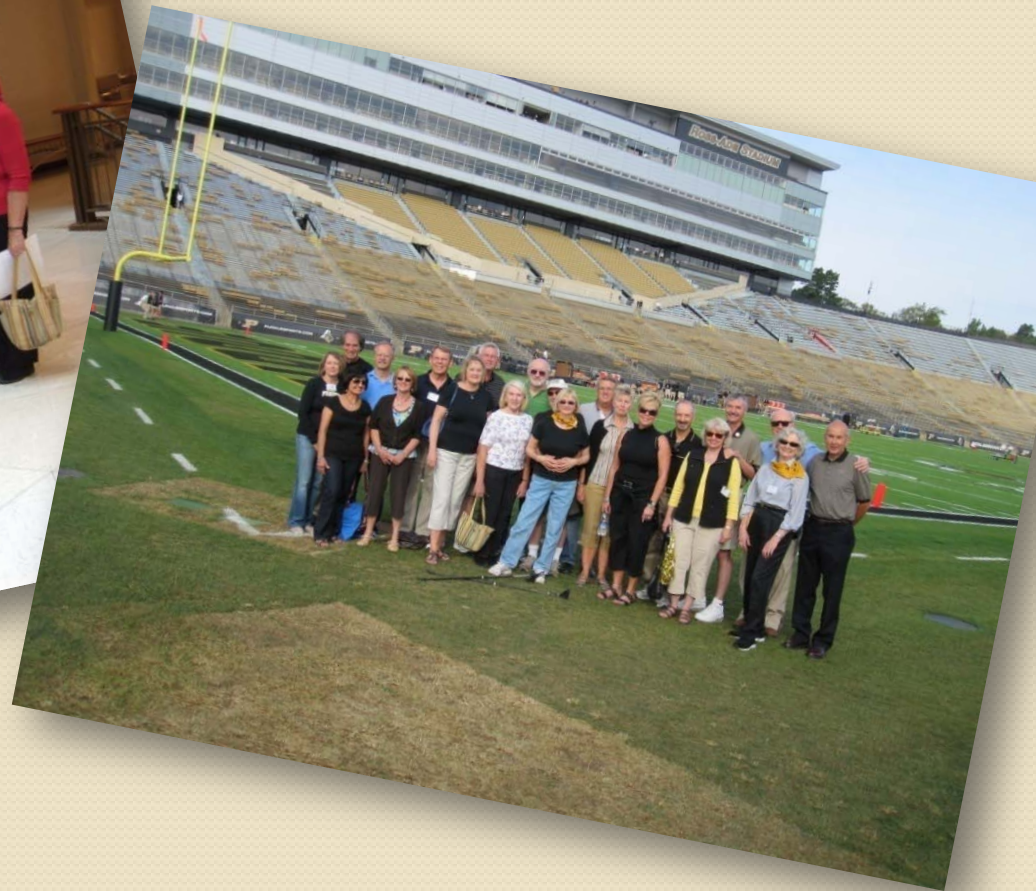
Scholarship Banquet

September 21, 2010



Class of 1970 – 40 Year Reunion

September 23, 2010



November 2010



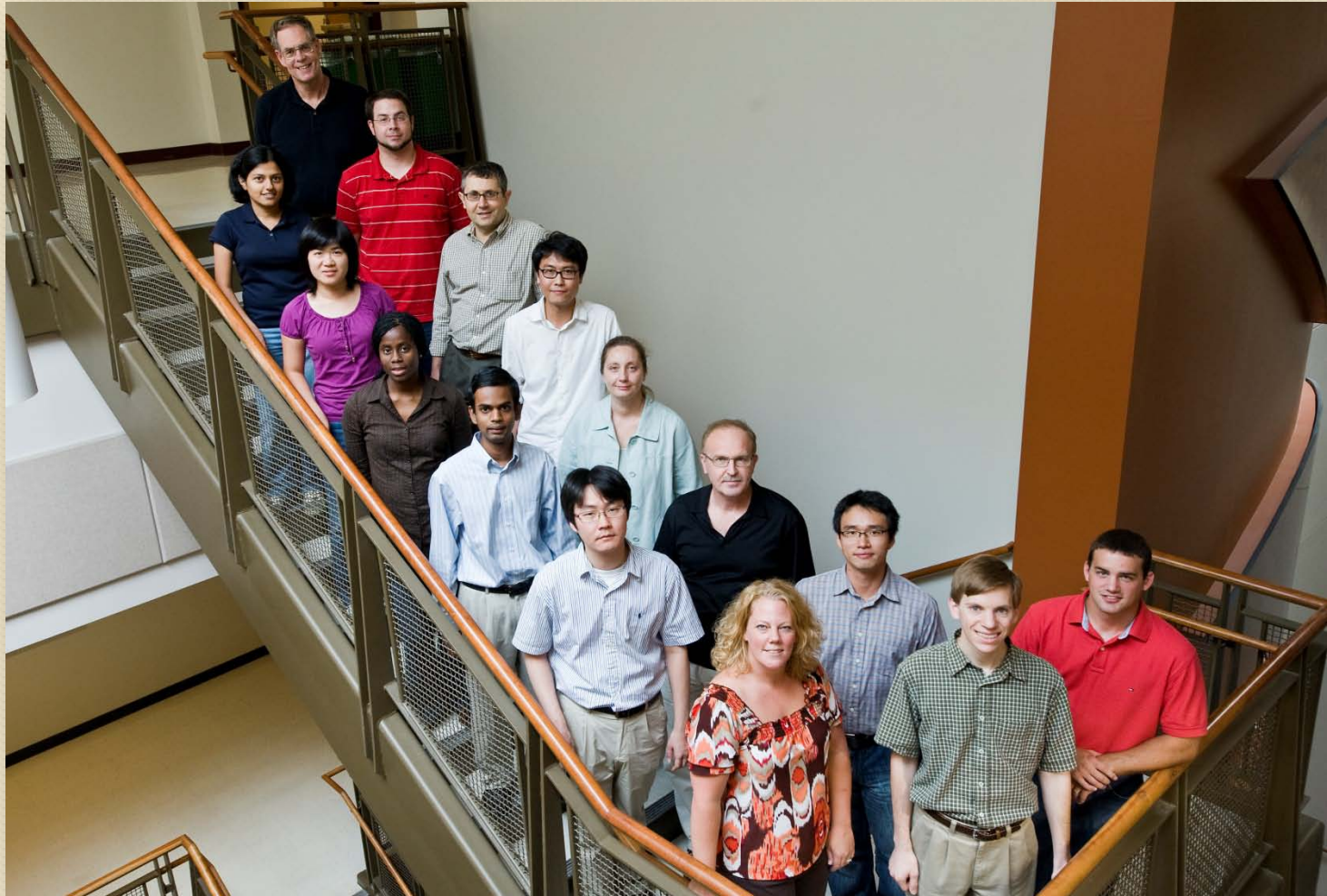
Around the School



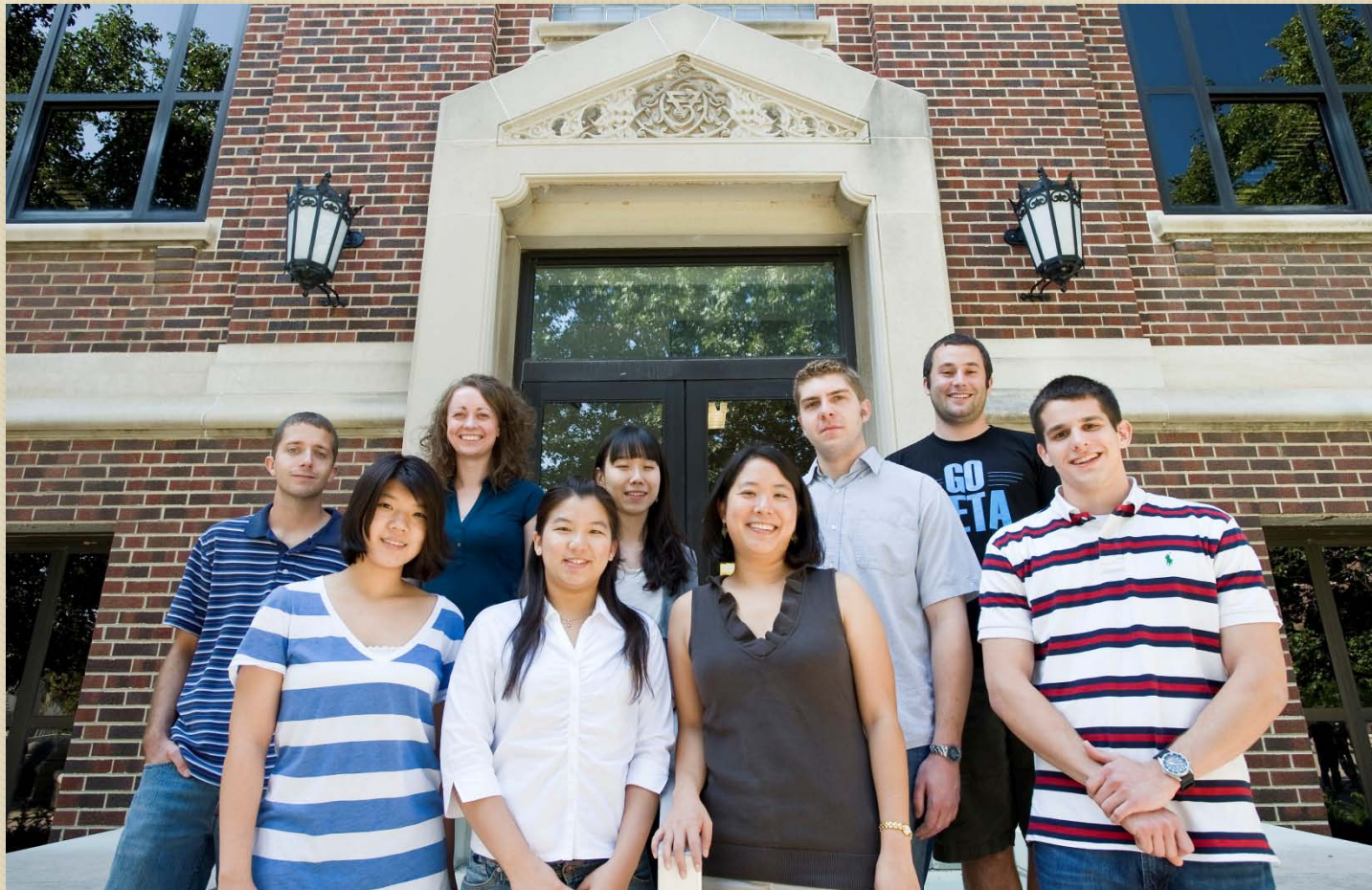
Professor Agrawal and His Research Group



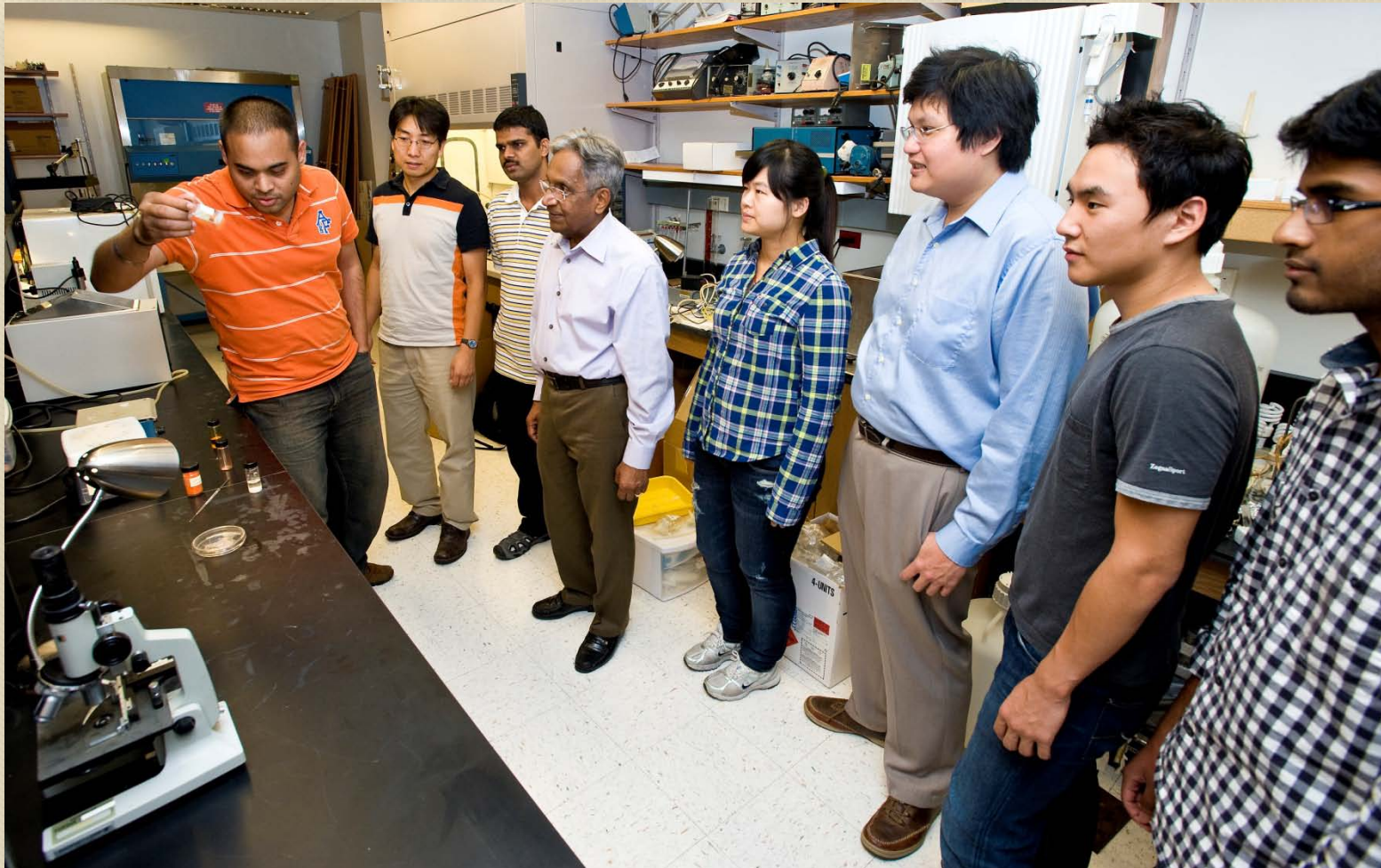
Professor Caruthers and His Research Group



Professor Liu and Her Research Group



Professor Ramkrishna and His Research Group



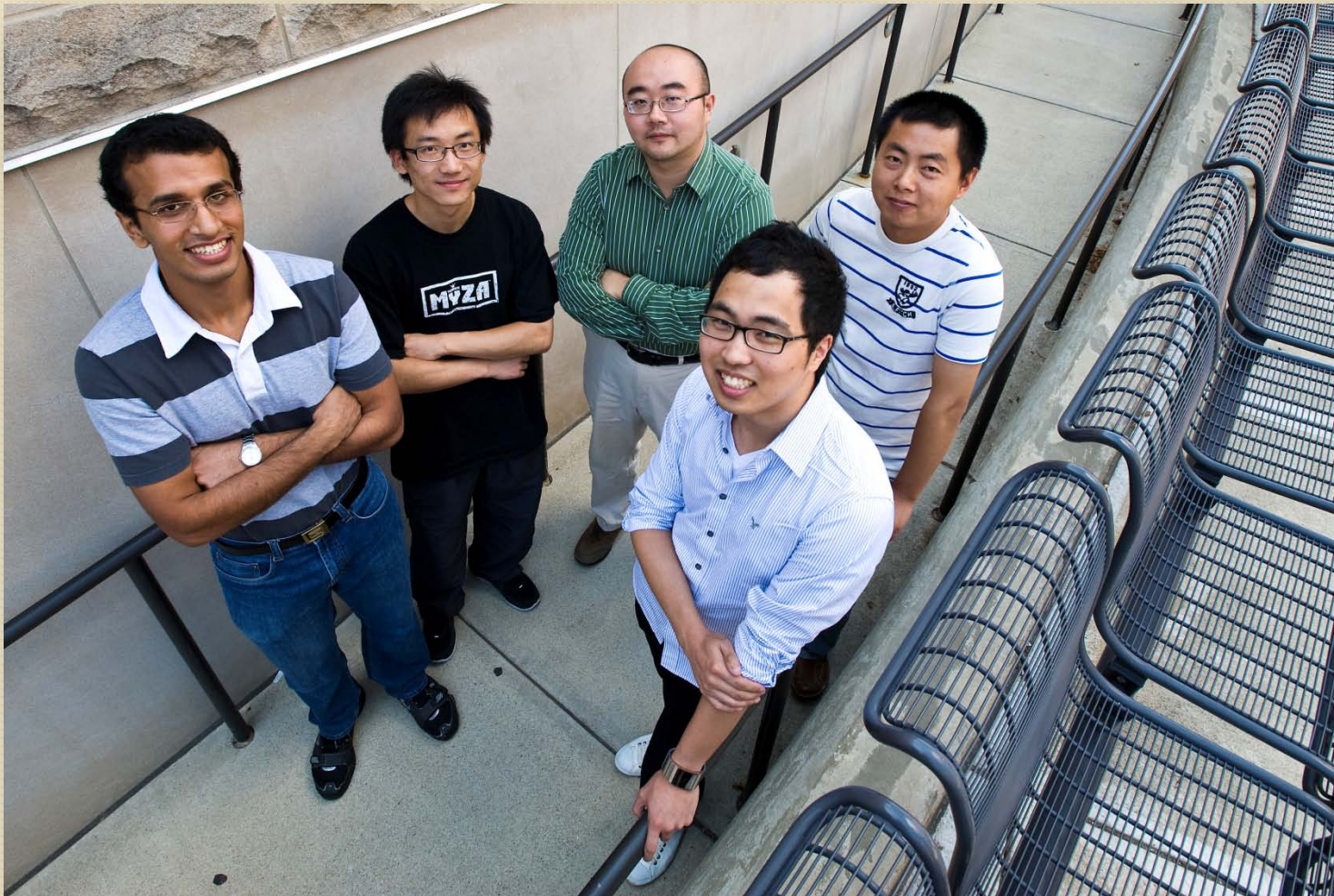
Engineering Research Center Group Led by Professor Reklaitis



Professor Varma and His Research Group



Professor Wu and His Research Group



ChE Academic Advisory Board

Kristi Anseth

Tissone Professor and HHMI Investigator,
Chemical and Biological Engineering
University of Colorado

Michael Ramage

Executive Vice President,
ExxonMobil, Retired

Alexis Bell

The Dow Professor of Sustainable Chemistry
UC Berkeley

Gregory Stephanopoulos

W. H. Dow Professor of Chemical Engineering
MIT

Ignacio Grossman

Rudolph R. and Florence Dean
University Professor
Chemical Engineering,
Carnegie-Mellon

Frank Bates

Regents Professor and Department Head
Chemical Engineering and Materials Science
University of Minnesota

Industrial Advisory Council Meeting

October 15, 2010



Front row, left to right: Hector Dalton (3M), Ronna Robertson (Roquette), Arvind Varma (Purdue), Cristina Farmus (Purdue)
Middle row (left to right): Greg Lewis (Lubrizol), John Morgan (Purdue), William Bussing (BP), Rick Roberts (ChevronPhillips Chemical), Evan Bauman (Shell), Peter Kraemer (Anheuser Busch)
Back row (left to right): Billy Bardin (Dow), Mark Evans (P&G), Richard Narta (ExxonMobil), Shailendra Bordawekar (Abbott), Phillip Armstrong (Air Products)

October 16, 2010 Homecoming



Undergraduate students
Peter Carroll, Ashley Vacchiano and
Tod McMillan at the ChE Table



Julie Paolillo, Director of Development, and
Cristina Farmus, Administrative Director,
Hosting the ChE Homecoming Table

Homecoming Guests

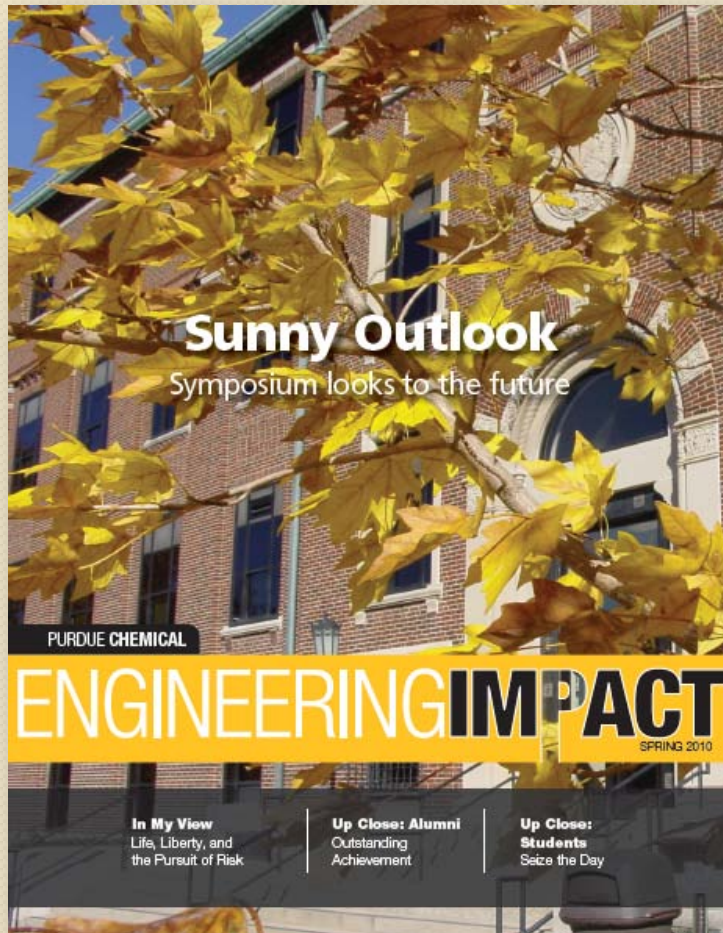


**Roberta Gleiter, BS ChE 1960,
and Professor Varma**

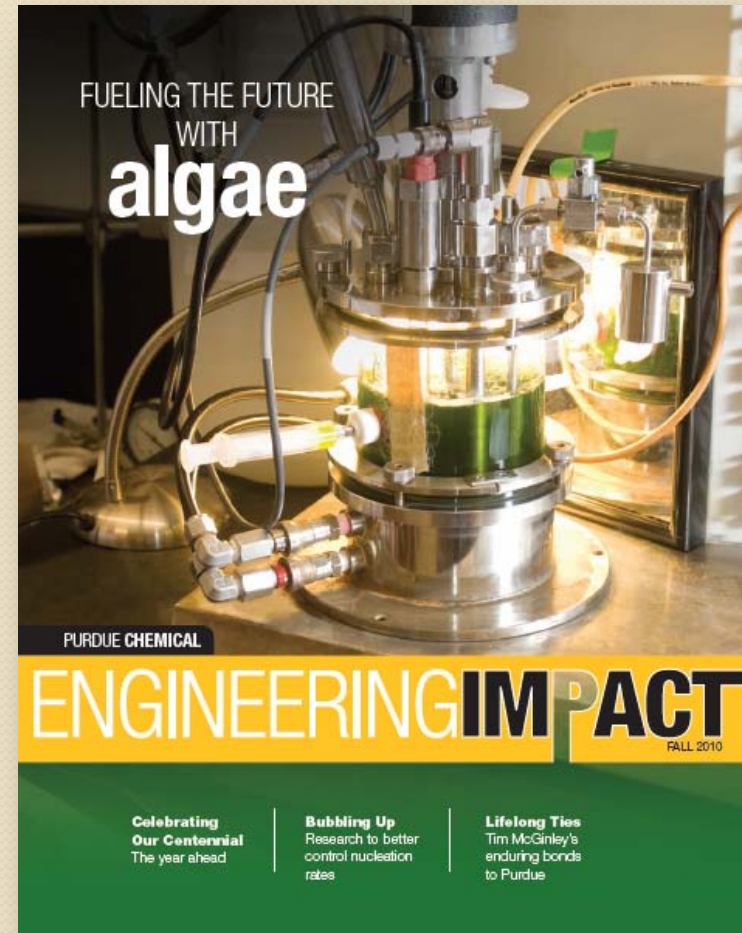


**Roberta Gleiter, BS ChE 1960, (center), with
Leah Jamieson, Dean of Engineering, and
her husband, John Gleiter, BS AAE 1960**

Impact Magazines



Spring 2010 – Risk Taking



Fall 2009 – Creativity

Thank you!

Prepared by

Cristina Farmus

Administrative Director

cfarmus@purdue.edu

765-494-0027

