

***THE CHEME NEWS***  
Internal Newsletter of the Department of Chemical Engineering  
Carnegie Mellon University  
**Spring 2014**

**Message from the Department Head**

As the spring semester draws to a close, I wanted to offer my best wishes to all for a happy and prosperous summer. We had a somewhat cold semester and a late start into spring. Nevertheless, it was a busy time with a number of new experiences for the Department.

As departmental outreach, the *Journal of Chemical Engineering Education* will showcase our department in a feature article this summer. The article presents a comprehensive overview of history and background, educational programs, research areas and future trends. It is an interesting read as well as a springboard for further discussion. I especially encourage your feedback. Another key achievement was the rollout of our new (and long overdue) departmental website ([www.cheme.cmu.edu](http://www.cheme.cmu.edu)). Based on an efficient design, the new website provides a more consistent “CMU” look and feel. Yet it provides an updated, consolidated vehicle for imparting useful information on a timely basis to a broad community of current and prospective students, faculty, researchers, and alumni. The new website is also much easier to maintain and update. Your comments and suggestions for further development of the website are greatly appreciated. My special thanks go to Toni McIltrout and Justin Dawber for doing such a great job.

My congratulations go to the class of 2014! We have an outstanding graduating class with 71 seniors, 56 masters students and 12 PhDs. I wish you all the best in your future career plans and professional goals. My colleagues and I look forward to celebrating with you at Commencement.

At the same time I would like welcome our 68 first year students, who are now declared Chemical Engineering undergraduate majors. As well, our incoming PhD class of 15 candidates is set. We also look forward to admitting a class of around 50 masters students in the fall. My thanks go to Todd Przybycien and Allyson Briney for their excellent management and organization of the recruiting process. I am also grateful to the PhD student body (ChEGSA) and the faculty for their excellent and enthusiastic help and support.

Finally, special thanks go to our departmental staff and faculty colleagues, who continue the high level of performance in the department. I especially appreciate their experience in covering all of the bases as the academic year comes to a close. In addition, this newsletter also reflects the dynamic research and educational activities of our faculty, researchers, visitors, and students over the past few months. It is a special privilege for me to recognize all of their hard work.

Have a great summer!

*Larry*

## **Department News**

### **Dr. John Berg Donation**

Dr. John Berg, Rehnberg Professor of Chemical Engineering at the University of Washington, presented “Can We Use Thermodynamics to Predict Adhesion?” as the topic for the 2014 Casassa Memorial Lecture which was held on March 25, 2014. Dr. Berg is a graduate of our department. Dr. Berg surprised us by presenting to Larry Biegler a check for \$100,000 to the department. Those funds will be used to support the undergraduate educational programs in our department.

### **Publications News**

#### **Best Theory Paper for the *Journal of Process Control* Paper Prize for 2011-2013**

The paper “Lyapunov Stability of Economically Oriented NMPC for Cyclic Processes,” published in the *Journal of Process Control*, Vol. 21, No. 4, pp. 501-509, 2011, by Rui Huang, (PhD advisor Larry Biegler), Eranda Harinath (former post doc with Larry Biegler) and Larry Biegler, was selected as the Best Theory Paper for the *Journal of Process Control* Paper Prize for 2011-2013. The Awards Ceremony to be held at the Closing of the 19th World Congress of the International Federation of Automatic Control (IFAC) in Cape Town, South Africa, August 24-29, 2014.

*ACS Publications* has just published the article submitted by the John Kitchin Chemical Engineering Research group. The first author is a recent MS graduate. The article is “**Identifying Potential BO<sub>2</sub> Oxide Polymorphs for Epitaxial Growth Candidates,**” by Prateek Mehta, Paul A. Salvador, and John R. Kitchin <http://pubs.acs.org/doi/full/10.1021/am4059149>

### **CPS Outreach**

Chemical Engineering and the CPS program once again participated in the Carnegie Science Center's two day celebration, February 14-15, 2014, of National Engineers Week. The following people volunteered: Bethany Nicholson, Stephanie Kirby, Jacob Boes, Nick Austin, Matt Payne, Mingzhao Yu, Zixi Zhao, Alice Yocum, Xiangan Li, Wenqin You, Alex Dowling, Nitish Govindarajan, Prasansa Desai, Todd Przybycien, Valerie Patrick, Annette Jacobson, Rosemary Frollini, Alex Bertuccio, Zhenjiang Shi, Anchi Cheng, Mahaesh Jayaraman, Palak Pujara. Thanks to all of our volunteers for helping to promote interest in careers in engineering to the many visitors to our tables.

Annette Jacobson and Ben Yezer provided a session of hands on experiments for 35 4th grade students in ICES' Moving 4th Into Engineering Program on Saturday, April 5. These activities exposed students to the chemistry of polymers involved in many personal care, food, toy and art products. They demonstrated how chemistry translates to consumer products through the efforts of chemical engineers and their expertise with chemical processing and manufacture.

## ChE Car Competition Team Won Most Innovative Design Award



Pictured in the front row holding the cars (left to right) are Chris Kim and Josh Kubiak; standing left to right in the back row are Alex Frankel, Jon Berman, Anna Bandecca, Alex Cerny, Helen Qiu, Amy Yuan, Dennis Guo, Vishnu Razdan, Madison Calhoun, and Anand Sastry.

The ChemE Car Competition Team went to the Mid-Atlantic Regional Conference at UVA. The competition was on March 29, 2014. The team sent two cars - a fuel cell/manometer car and a combustion engine/iodine clock car, which placed 7th and 9th respectively. The fuel cell/manometer car also won the Most Innovative Design Award. In addition, a team presented research on a methanol fuel cell car design.

## 2014 Spring Carnival ChE Alumni, Faculty, & Students Mixer in the Rothfus Lab



Annette Jacobson and alumna Rocio Garay (ChE '13) chat at the Spring Carnival mixer.

### Faculty News

**Larry Biegler** gave the Distinguished Lecture at the Department of Chemical Engineering and Materials Science, University of Southern California, Los Angeles, CA, November, 2013, entitled “Nonlinear Programming Frameworks for Dynamic Real-time Optimization.” In December he gave the plenary presentation at Dynamics and Control of Process Systems (DYCOPS), in Mumbai with the lecture entitled “A Survey on Sensitivity-based Nonlinear Model Predictive Control.” In February he also gave seminars at the Department of Chemical Engineering at Columbia University and at the Department of Chemical Engineering at Northwestern University. In March, Larry was made a Fellow of the Society for Industrial and Applied Mathematics (SIAM).

Please join us in congratulating **Kris Dahl** and Mohammad Islam on their new son, the birth of *Maaziq Alim Islam* on March 27, 2014. We wish them all the best for the future.

**Andy Gellman** will be giving the invited presentation at the Annual Meeting of the Michigan Catalysis Society. Title will be “Alloy Catalysis Across Composition Space” on May 8, 2014.

**Chrysanthos Gounaris** has been spending the spring semester at Carnegie Mellon setting up his new lab and doing research alongside his first group of students. He has also been teaching the two senior-level undergraduate courses on “Optimization Modeling & Algorithms” and “Chemical Product Design,” and he is currently in the process of designing a new graduate-level course on “Supply Chain Engineering,” which will be offered in the coming fall.

**Ignacio Grossmann** visited the Logistics Institute at Northeastern University, Shenyang, in January, where he taught the short course, “Enterprise-wide Optimization for the Process Industries.” He also visited the Department of Control Science and Engineering, Zhejiang University, Hangzhou, where he gave three seminars on Enterprise-wide Optimization, Mixed-Integer Nonlinear Programming and Generalized Disjunctive Programs, and Optimization Models for Design of Infrastructure and Water Management for Shale Gas Production. In March he went to Monterrey where he gave the talks, “Optimal Synthesis and Planning of Sustainable Process Systems: Water, Biofuels and Shale Gas,” at the International Chemical Engineering Congress 2014, Instituto Tecnológico de Monterrey, and “Challenges in the Application of Mathematical Programming in the Enterprise-wide Optimization of Process Industries,” Department of Industrial Engineering, University of Nuevo Leon. In April he delivered two Zandmer Distinguished Lectures at the Department of Chemical and Petroleum Engineering, University of Calgary, “The Increasing Scope of Optimization in the Oil and Gas Industry,” and “Challenges in the Application of Mathematical Programming in the Enterprise-wide Optimization of Process Industries.” In addition, Ignacio was awarded the CIT Distinguished Professor Award. The Distinguished Professor of Engineering Award is granted to a faculty member within the Carnegie Institute of Technology in recognition of exceptional achievements that have enhanced the reputation of CIT.

**Annette Jacobson** presented a paper at the 2104 ABET Symposium in Pittsburgh, PA on April 3. The title of the presentation was “Incorporation of Innovation, Communication and a Global Perspective in General Education for Carnegie Mellon Undergraduate Engineers.” Co-authors were Pradeep Khosla, Granger Morgan and James Garrett. The new general education program in the College of Engineering was presented, including the motivation and rationale for the program.

**John Kitchin** received the CIT Dean’s Early Career Fellows award. Also, John was awarded the Philip L. Dowd Fellowship Award. The CIT Dowd Fellowship is awarded to a faculty member in engineering to recognize educational contributions and to encourage the undertaking of an educational project such as textbook writing, educational technology development, laboratory experience improvement, educational software, or course and curriculum development.

**Meagan S. Mauter** received a Wimmer Faculty Fellows award. Her project title is "Technical, Policy, and Regulatory Driver of Innovation in Water." <http://www.cmu.edu/celebration-of-education/wimmer/index.html>

**Dennis Prieve** was invited to present a seminar at the Department of Chemical Engineering at Katholieke Universiteit Leuven in Belgium on May 19, 2014. His seminar is entitled "Charge Effects in Doped Nonpolar Liquids." Alumnus Christopher Wirth is currently a postdoctoral fellow at Katholieke Universiteit. May 20-24, 2014, Dennis will present a keynote talk at the bi-annual International Symposium on Electrokinetic Phenomena (ELKIN) which will be in Ghent, Belgium. More information of this conference can be found at <http://www.elkin2014.ugent.be/>

**Nick Sahinidis** spent a week at Imperial College visiting the Center for Process Systems Engineering, where he gave a one-day short course on global optimization and a seminar on ALAMO. In March, Nick spent two weeks visiting the University of Vienna in Austria, where he gave a two-week long short course on global optimization.

**Jim Schneider** has been elected to the College of Fellows of the American Institute for Medical and Biological Engineering (AIMBE). The induction was held at the National Academy of Sciences during AIMBE's Annual Meeting on March 24, 2014, in Washington D.C. <http://aimbe.org/>

**Jeff Siirola** was on his other half-time appointment at Purdue polishing up courses in process design, process synthesis, and chemical technology that will also be taught next Fall when he returns to CMU. He did return for the CAPD Annual Review and gave a talk on the Impact of Disruptive Change in Energy Price and Feedstock Availability on Chemical Process Development. He will also conduct the Process Synthesis component of the CAPD Short Course in May. This Spring Jeff also delivered keynote addresses at a Natural Gas R&D Workshop at Oak Ridge National Laboratory and at a Shale Gas Monetization Workshop sponsored by Texas A&M and Texas A&M Qatar, delivered two UOP Invitational Lectures on Process Synthesis Integration and on Synthesis of Separation Schemes for Nonideal Mixtures, and a seminar on Natural Gas Pricing History at UCLA, and participated on a site visit for the NSF Engineering Research Center for Biorenewable Chemicals at Iowa State.

## **CAPD News**

The Annual Review Meeting successfully took place on March 10-11, 2014. It was preceded by the meeting of the Energy Systems Initiative group on March 9, and followed by the meeting of the group on Enterprise-wide Optimization on March 12. The group had a total of 37 participants. Copies of the slides of the meeting are available at <http://capd.cheme.cmu.edu/newsletters.html>

The seven-day short course scheduled for May 7-14, 2014, is titled Conceptual Design, Optimization Modeling and Integrated Process Operations. To register visit the site at: <http://capd.cheme.cmu.edu/shortcourse/index.html>. The short course is organized into

three parts consisting of 7 modules which can be taken in any combination (e.g. 1, 2 3 or all 7):

I. Conceptual Design will focus on creation of superior process concept alternatives:

- Process Synthesis (Siirola, May 7)

II. Optimization Modeling will focus on modeling and algorithms with applications to process optimization, process synthesis and molecular design:

- Nonlinear programming (Biegler, May 8)
- Mixed integer and disjunctive programming (Grossmann, May 9)
- Global optimization and optimization under uncertainty (Sahinidis, May 10)

III. Integrated Process Operations will focus on three major decision levels in plant and enterprise-wide optimization:

- Mixed-integer models for planning and scheduling (Grossmann, May 12)
- Advanced Process Dynamics and Control (Ydstie, May 13)
- Differential/algebraic models for real time optimization (Biegler, May 14)

The material in each module is independent and self-contained and can be taken in any combination. A detailed description of the topics covered in the course is given in: [http://capd.cheme.cmu.edu/shortcourse/shortcourse\\_details.htm](http://capd.cheme.cmu.edu/shortcourse/shortcourse_details.htm).

Enterprise-wide Optimization <http://egon.cheme.cmu.edu/ewocp/>

The meeting of the EWO group took place on March 12, 2014. The group is currently composed of the following companies: ABB, Air Liquide, Air Products, Braskem, Dow Chemical, ExxonMobil, Petrobras, P&G, Praxair, Sasol, SK Innovation and Unilever.

MINLP 2014 <http://minlp.cheme.cmu.edu/2014/index.html>

Nick Sahinidis and Ignacio Grossmann are organizing the workshop, MINLP 2014, which will take place at Carnegie Mellon on June 2-5, 2014. The workshop program will be announced in late April and include three plenary speakers (Mehrotra, Weismantel and Westerlund), a panel on industrial challenges in MINLP, over 50 invited oral presentations, and over 10 poster presentations. All members of the CAPD are welcome to attend this workshop with a modest registration fee of \$100.

## **Visiting Scholars**

### **Welcome to these visitors:**

Daison Manuel Yancy Caballero from University of Campinas, Brazil, is working with Prof. Larry Biegler's group on optimization of gas-solid reactors (spouted bed) with a detailed fluid dynamics model.

Dr. Taeho Lim from Seoul National University in Korea is working with Prof. Paul Sides' group on imaging amperometry for high throughput research in electrocatalysis.

## Undergraduate News

### **COMMENCEMENT 2014**

Carnegie Mellon's commencement will take place at 11am on Sunday, May 18<sup>th</sup> in Gesling Stadium (rain or shine). The procession of candidates across campus will begin at 10:15am. Guests are asked to be seated in the stadium by 10am. The ceremony will begin at 11am and last about 75 minutes.

The Chemical Engineering department ceremony will begin immediately following the university ceremony at The Carnegie Lecture Hall in The Carnegie Museum. After the ceremony, a special reception will be held at Phipps Conservatory for graduates and their guests.

Graduating students have received the e-mail information & RSVP request from Toni. Be sure to RSVP to Toni McIltrout at [TM2L@ANDREW.CMU.EDU](mailto:TM2L@ANDREW.CMU.EDU) to reserve your seats.

The Doctor's hooding ceremony will take place at 8 p.m. on Saturday, May 17<sup>th</sup> in the Wiegand Gymnasium in the University Center. Doctor's candidates, participating faculty and other ceremony participants will robe in Rangos Hall (second floor, University Center) at 7:00pm and begin to process at 7:45pm. Doctor's candidates and faculty members should have confirmed their participation.

Be sure to follow the schedule of events and latest news at the commencement web site <http://www.cmu.edu/commencement/>.

If you have any questions about the university commencement ceremony, send an e-mail to [commencement@andrew.cmu.edu](mailto:commencement@andrew.cmu.edu).

### **FAREWELL**

Farewell to the exchange students who spent the 2013-14 school year with us!

From RWTH Aachen in Germany: **Jochen Cremer, Lorenz Fleitmann, Andrea Koenig, and Artur Schweidtmann**

From Imperial College in London: **James Phua, Xiaobin Wei, and Yakun Zhang**

From Yonsei University in Korea: **Sun Kyu Lee**

From EPFL in Switzerland: **Memia Fendri**

We have enjoyed meeting all of them and bid them a fond farewell!



## **GOOD LUCK!**

We also send our best wishes with the following students who will be studying abroad in the departmental exchange program for the 2014-15 academic year:

To Imperial College in London: **Corrine Bacigal, Brigid McGovern, and Carrie Qiu**

To RWTH Aachen in Germany: **Santosh Prabha**

To Technische Universität Dortmund in Germany for the Summer 2014 semester: **Muyuan Li**

## **Class of 2017**

Welcome to the following first-year students who have chosen to join the Chemical Engineering Department.

Vishal Ahuja	Rinko Maeshima
Anna Bandecca	Victor Michel
Zachary Blonder	Brandon Ortiz
Frederick Buse	Gordon Pace
Gabriela Cach	Patricia Pan
Neil Carleton	Alexander Peterson
Alexandra Cerny	Jakob Przybycien
Brian Chen	Lauren Relyea
Vikramadhitya	Mariah Richardson
Cherupally	Johnathan Roppo
Deborah Chu	Kalie Rosati
Gillian Crews	Daylin Russo
Siyuan Du	Casey Salandra
Minrui Feng	Michelle Smyk
Rebecca Fortner	Adam Somers
Claire Gianakas	Naomi Sternstein
Trevor Hadick	Chung Ho Suh
Samantha Ho	Emily Swanson
Anna Hoar	Nicole Tom
Maya Holay	Nicholas Torres
Sunah Hong	Maximilien Vachon
Timothy Hui	Ivana Vlahovic
Bradley Jennette	Jamei Wang
Hyo Cheol Jeong	Julia Wang
Ruby Julaj	Nelson Wong
Paul Kim	Benjamin Yang
Allison Kirkby	Patrick Yang
Yein Lee	Yuxuan Yang
Ji Yoon Lee	Ryan Yeh
Yun Jung Lee	Sage Yort
Dianna Li	Mengyang Yu
Sooyeon Lim	Anna Zhang
Jordyn Lopez	Andrew Zheng
Wei Mon Lu	
Matthew MacKinney	

## **Graduate Student News**

### **National Science Foundation Graduate Research Fellowship Awards**

Congratulations to Devin Griffith who has been awarded the National Science Foundation Graduate Research Fellowship. Devin's advisor is Larry Biegler.

Current NSF Graduate Research Fellowship recipients are

Sarah Feicht - advisor, Aditya Khair

Denise Posluszny – advisors, Aditya Khair and Lynn Walker

Sharon M. Vuong- advisor, Shelley Anna

Steven Klara was awarded honorable mention in the 2014 National Science Foundation Graduate Research Fellowship competition. Steve's advisor is Meagan Mauter.

### **John Riley Delivered Eastman Chemical Company Graduate Fellowship Seminar**

John Riley delivered the Eastman Chemical Company Graduate Fellowship seminar "Polymer Brush Nanoparticles: Aqueous Suspension Properties, Adsorption to the Solid/Liquid Interface, and Implications for Surface Forces" at the Eastman headquarters in Kingston, TN, on March 12. His advisor, Bob Tilton, followed up with a short seminar "Complex Fluids Engineering Research at Carnegie Mellon University" to summarize the broad range of research conducted in the multidisciplinary Center for Complex Fluids Engineering.

### **36th Annual ChEGSA Symposium will be held October 16th & 17th, 2014**

Prof. Kristi S. Anseth from the University of Colorado Boulder will be delivering the keynote speech. Prof. Anseth's background is in the area of polymer engineering, which she has applied with great success to tissue engineering and biomaterials. She is now one of only a handful of Americans elected to all three branches of the National Academy.

Keep an eye on the Symposium website (<http://chegsa.cheme.cmu.edu/symposium/>) for information. We will be sending out more details regarding the schedule, abstract deadlines, and judging requests closer to the event.

**Congratulations to the following students who have completed their requirements *Spring Semester* and are expected to receive their degrees on May 18, 2014:**

### **Seniors**

**Luke Auyeung**

Additional Major: Biomedical Engineering

**Katia Bazzi**

**Rachel Bordin**

Additional Major: Biomedical Engineering

**Deanna Bucci**

Minor: Linguistics

**Jaqueline Budz**

Additional Major: Biomedical Engineering

**Helen Bunker**

Minor: Business Administration

**Madison Calhoun**

Additional Major: Biomedical Engineering

Minor: Business Administration

**Adam Cantini**

**William Chai**

Additional Major: Psychology

**Jeffrey Chen**

Additional Major: Biomedical Engineering

Minor: Colloids, Polymers, and Surfaces

**Anusha Chinthaparthi**

Additional Major: Biomedical Engineering

**Yang Choo**

Additional Major: Biomedical Engineering

Minor: Computational Biology

**Cheryl Deng**

Additional Major: Biomedical Engineering

**Julia DeVito**

Minor: Business Administration

**Anshul Dhankher**

Additional Major: Biomedical Engineering

**Caitlyn Dipietro**

Additional Major: Biomedical Engineering

**Rachel Dokich**

Minor: Economics

**Ian Dolan**

**Kevin Iacovino**

**Andrea Farinacci**

**Julieta Gomez-Frittelli**

Additional Major: Hispanic Studies

Minor: Global Engineering

**Joseph Guihan**

Additional Major: Biomedical Engineering

**Dennis Guo**

Additional Major: Biomedical Engineering

**Saakshi Gupta**

**Elizabeth Ha**

Additional Major: Biomedical Engineering

**Jinie Haytko**

Additional Major: Biomedical Engineering

Minor: Hispanic Studies

**Kelley Huang**

Minor: Biomedical Engineering

**Morgan Jaunzemis**

**Mahaesh Jayaraman**

**Jason Kelso**

**Sebastian Kopp**

**Samir Koppolu**

Minor: Biomedical Engineering

Minor: Chemistry

**Bennett Kriete**

Additional Major: Engineering and Public Policy

Minor: Business Administration

**Immanuel Krogmann**

**Sabrina Larkin**

Additional Major: Engineering and Public Policy

**Brianna Leddy**

Minor: Colloids, Polymers and Surfaces

**Jung Min Lee**

Minor: Business Administration

**Gina Lu**

Additional Major: Biomedical Engineering

**Rebecca Lui**

Additional Major: Biomedical Engineering

Minor: Computer Science

**Kiffele McBurnie**

**Mykaya Nixon**

**Alexander Noeth**

**Kaitlyn Nowak**

Additional Major: Biomedical Engineering

**Christa Orvik**

**Yatindra Patel**

Double Major: Biomedical Engineering

Minor: Chemistry

**Victoria Patino**

Additional Major: Biomedical Engineering

**Yijie Qiu**

Additional Major: Economics and Statistics

**Corina Ramirez**

Additional Major: Biomedical Engineering

Minor: Music

**Kruti Rao**

Minor: Business Administration

**Michelle Ruiz**

**Sara Saheb Kashaf**

Additional Major: Biomedical Engineering

Minor: Chemistry

**Anand Sastry**

Double Major: Biomedical Engineering

**Stephen Scannell**

**Kevin Shang**

Additional Major: Engineering and Public Policy

**Christine Sidoti**

Additional Major: Biomedical Engineering

**Anthony Smith**

Minor: Business Administration

**James Solomon**

**Wonyup Song**

**Chan Leong Teng**

**Sam Thomas**

**Ryan Trottier**

Minor: Computer Science

**Laura Valcarce**

Minor: Hispanic Studies

**Shrihari Venkatesh**

Minor: Business Administration

**Rebecca Wells**

Additional Major: Biomedical Engineering

**Joseph Whitmore**

Minor: Electronic Materials

**Robert Winkelman**

Additional Major: Biomedical Engineering

Minor: Chemistry

**Justin Young**

Minor: Business Administration

**Amy Yuan**

Minor: Business Administration

**Zifang Zhao**

**Ziyi Zhu**

**Cecilia Zischkau**

Additional Major: Biomedical Engineering

### **Master of Chemical Engineering**

**Ruoyu Bai**

**William Chai**

**James Church**

**Arkah Ghosh**

**Kevin Iacovino**

**Alexander Noeth** (concurrently with B.S.)

**Jinjian Qian**

### **Master of Science**

**Mingzhe Cong**

Advisor: B.E. Ydstie

**Gabrielle Cusimano**

Advisor: Kathryn Whitehead

**Steven Illes**

Advisor: John Kitchin

**Hyunkyu Lee**

Advisor: Kris Dahl

**Chen Lin**

Advisors: Andrew Gellman and Nisha Shukla

**Jingru Lu**

Advisors: Andrew Gellman and James Miller

**Sejoon Park**

Advisor: Myung Jhon

## **Ph.D.**

### **Alison Cozad**

*Data- and theory-driven techniques for surrogate-based optimization*

Advisor: Nikolaos Sahinidis

### **Max Fahrenkopf**

*Optimization, Dynamics and Stability of Non-Linear Separation Processes*

Advisors: James Schneider and B.E. Ydstie

### **Gamze Gumuslu**

*High-throughput Study of Catalysis on Pd-based Alloys*

Advisors: Andrew Gellman and James Miller

### **Anthony Kotula**

*Dilatational Rheology and Controlled Generation of Microscale Complex Fluid Interfaces*

Advisor: Shelley Anna

### **Karthikeyan Marimuthu**

*Biophysical Modeling and Optimal Control of DNA Amplification*

Advisor: Raj Chakrabarti

## **Alumni News**

**Prof. Norman J. Wagner** of the University of Delaware is the 2014 Bingham Medalist. The award will be presented at the 86th SoR Annual Meeting to be held October 5-9, 2014, in Philadelphia, Pennsylvania. An article on Prof. Wagner will appear in the issue of Rheology Bulletin.

**Jack Hipple** (BSChE CMU '67) is in the third and final year as a member of the Board of Directors of the American Institute of Chemical Engineers after having served as Chair and Program Chair of its Management Division. He is also the "Chemical Engineering for Non-Engineers" instructor for AIChE and the "TRIZ" (Inventive Problem Solving) instructor for AIChE and ASME. He is also the author of the latest book on TRIZ problem solving, "The Ideal Result: What It Is and How to Achieve It" (Springer, 2012).

**Dr. John Walz** was recently appointed as the Dean of Engineering at University of Kentucky. He is a 1992 PhD graduate whose advisor was Dennis C. Prieve. <http://www.engr.uky.edu/research/researchers/john-y-walz/>



**Dr. Ruth Baltus** was honored by AAUW -St. Lawrence County as the 2013 Agent of Change. Ruth Baltus is a professor of Chemical & Biomolecular Engineering at Clarkson University and was a PhD graduate of the department. <http://www.northnet.org/stlawrenceaaauw/agent.htm>

**Suzanne Wint** (CIT 1991) was awarded the Ph.D. in Music from the University of Chicago in August 2013. She accepted a position at Reed College as Visiting Assistant Professor in Music for Autumn 2013 and remains resident as a Visiting Scholar through June 2014.

**Jun Kim** (Ph.D 2004) is working at DuPont Chemicals & Fluoroproducts (Korea) serving as Asia Pacific Regional Manager for Teflon® melts products – ETFE, FEP, PFA. Jun & his family recently met with John Anderson, former ChE department head and CIT Dean, and now president at Illinois Institute of Technology.