

Spring 2006

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The Catalyst

 **University at Buffalo** *The State University of New York*

Department of Chemical & Biological Engineering News

Message from the Chair

David A. Kofke

Following Carl Lund as Chair of this department is certainly a mixed blessing. On the one hand, Carl achieved a tremendous amount during his tenure as Chair. His accomplishments have raised the stature of the Department, and in many other ways has made this job much easier than it was when he first took the helm. On the other hand...well, he's a tough act to follow. My first goal is to do no harm, but of course I hope to do more than that, and keep up the momentum that Carl has given us.

At this time I think it is appropriate to look back on all the things Carl accomplished in his nearly nine years in this job. Some of the highlights include:

Faculty/staff hiring. Profs. Swihart, Errington, Koffas, and Tzanakakis started with Carl as Chair. All are now highly valued members of our faculty. During this time only one faculty left—Prof. Mountziaris, to take the Chair position at UMass (for comparison, seven faculty left in the preceding five years before Carl became chair). Also Dawn Townsend joined our staff. Carl instituted a Lecturer position with responsibilities for the CE labs. This has been filled by Paul Orosz, then Sharon Fritts, and then Tammy Kofke. Carl also restructured the staff, with much-deserved promotions going to Irene Brubaker and Darlene Innes. These changes have helped the running of the Department enormously.

Graduate research symposia. At Carl's initiative, each fall the Department holds a graduate research symposium at which all students present posters on their current work. It is a great medium for exchange of information within the department and with the larger community. Carl also organized a two-day symposium honoring Eli Ruckenstein on the occasion of his award of the National Medal of Science in 1999. Ten nationally prominent speakers came to Buffalo to honor Eli.

AIChE reception. Carl started our tradition to hold a reception for alumni at the Annual Meeting of the AIChE.

This document. The department newsletter you now hold in

your hands was begun by Carl.

Lunch with the Chair. Carl began our biannual meeting with all students for free exchange of suggestion, gripes, etc.

Safety. Probably the single most important change instituted by Carl is to raise the level of awareness of safety in the Department. There are many elements to this change, including biannual training taken by all faculty and students, and rotating safety inspections of all laboratory and office spaces.

Undergraduate labs. Carl oversaw the movement of the UG labs to Jarvis Hall, and raised funds to improve many of the experiments.

Chemical and Biological Engineering. Carl initiated the name change of the Department.

Information Technology. Carl instituted crucial but hard-to-describe changes to improve monitoring of department finances and faculty productivity. Our operation is much more professional now than it was before he started.

Research. Research expenditures more than doubled under Carl's leadership. This is all the more impressive given that many faculty were starting up during this period.

Teaching. The Department was re-accredited by ABET in 2002 with no indicated shortcomings in our program. We also completed a major curriculum change.

This is an impressive yet still incomplete list of what Carl has done for us. Carl has set high standards for the Chairmanship, and I hope in the coming years I can fulfill the expectations now placed in this position.

I close by extending a big "Thank you!" to Carl for his tremendous service to the Department.

You'll hear in the Fall newsletter about some new advances in the works, including the hiring of several faculty. ■

Have a safe and happy summer!



AIChE Finishes Off Successful Year!

By Christopher Wirth

The student chapter of the AIChE finished 2005 – 2006 in a flurry. Steering the AIChE student chapter through yet another successful year was Lindsay Mroz, Abhijeet Kohli, Andrew Waterman, Rachel Frydrychowski, and Alex Buffone as our executive board members. Our multiple successes were recognized by UB's Student Association. The club's budget was increased and we were awarded the *Student Service Award*. This award is given to a club that demonstrates outstanding dedication to the local community. We finished off this successful year with an end-of-the-year banquet at Darien Lake. Although the weather was less than ideal, a large portion of the CBE community braved the low temperatures to enjoy good BBQ and get a visit from a local hair stylist!

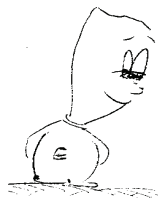
In the fall, our club's Chem-E car team traveled to Cincinnati, Ohio for the National AIChE Student Conference. The trip was a huge success; with our Chem-E Car team finishing 4th in the country! Beyond just the competition, students attended various seminars dealing with issues ranging from financial planning to graduate school. A few students even had the privilege of presenting research they had conducted the previous summer. Also, the conference presented an opportunity for everyone to celebrate Halloween in style – Hulk Hogan, Jake the Snake, Snap, Crackle & Pop, Barney & Wilma, and the Undertaker all made an appearance!

Throughout the entire year, our club hosted various social events such as bowling with faculty, happy hours, Laser-Tron night, and an undergraduate research day. These smaller events were

supplemented by a trip to McMaster University and a plant tour at Praxair. Furthermore, our club participated in many community service events that primarily consisted of giving presentations to local schools and the Buffalo Science Museum on what cool things you can do with liquid nitrogen. Finally, our club qualified for the 2006 National AIChE Chem-E Car competition in San Francisco, CA, with a successful showing at the Spring 2005 Regional AIChE Chem-E Car competition at Penn State University.

Our club is very excited about the upcoming year. 2006-2007 is sure to be a year of growth. New for this upcoming year is the AIChE sister club of the Society of Biochemical Engineering. Headed by Stacy Pustulka (Chair) and William Frank (Vice-Chair), the club will seek to bring educational events that will help to alert chemical engineering students to the quickly changing landscape of our profession; this change is emphasizing the fusion of biology and chemistry. The AIChE will be headed by Christopher Wirth (President), Robert Forbes (Vice-President), Justin Lawliss (Chem-E Car rep), Renee Manez (Secretary), and Kimberly Henry (Treasurer). Robert Forbes has already begun planning a new "CBE small groups" program that will be a more directed effort at tutoring underclassman. Also, our club is planning on reaching out to the industrial community by hosting student – industrial rep networking events. *(Please see Page 3 of this newsletter for more information about this new program!)* We are all looking forward to a great year!▪

*Congratulations to the
AIChE on receiving a
Student Service Award!*



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Dear UB Alum:

Hello! My name is Christopher Wirth, and I am the newly elected President for the University at Buffalo Chapter of the American Institute of Chemical Engineers (AIChE). My primary goal in writing you this letter on behalf of our club is to highlight our recent achievements and to share with you our club's vision for connecting with industry. I am certain that this will be beneficial to our club, your company, and our profession.

My colleagues and I are very excited for the upcoming year. We plan on using the momentum we have built over the past year within our renowned department to become more influential on the UB campus, as well as more visible in the local industrial and commercial community. Our club's professional enhancement is something I, along with my classmates, are very excited to pursue. We feel that the relationship that may form between our club and your company can be mutually beneficial. *This is why our club has chosen to initialize a new program that encourages relationships to form between industry and the club.*

This new club/industry relationship will help our chemical engineering students become more knowledgeable of industrial trends and serve as a networking tool for students that may lead to future career opportunities. By joining our team you will personally get to know our students and the strengths of our department in an informal setting. Also, and more importantly, your company will become *far more visible to our students* along with name recognition, *and will give you easy access to the most talented candidates* for future opportunities at your company. Through this program, you will unquestionably encounter young men and women who will be able to add tremendous value to your company.

*Just imagine —
YOUR COMPANY'S LOGO
on the back of the winning
team's t-shirt at a conference
of the nation's most talented
engineering students.*

One of the most notable accomplishments from 2005-2006 is placing 4th in the AICChE National ChemE Car Competition. The ChemE car tails each engineering school's AICChE chapter building a shoe-box sized car that can both run and stop on a chemical reaction. This car must travel a pre-specified distance and carry a certain mass of water (both of these parameters are not revealed until one hour prior to competition). As you can probably imagine, finishing 4th in the nation is a towering achievement and our team, department, and UB were all extremely proud. The months of work we put into the car paid off at this moment. We look forward to continuing our success by traveling to San Francisco, CA, in the Fall 2006 to compete once again in this national chemical engineering competition.

Over the 2006-2007 academic year, our club is planning to have both formal and informal industry/club networking events. These events are designed to help you learn more about the strengths and accomplishments of our department, and also to highlight why hiring a UB Chemical Engineer is a good investment for your company. *Our kickoff event will be a tailgate party on Friday, August 31st for the Bulls' home football game against Temple!* I am personally inviting your company's representatives to this informal networking event, where there will be food, fun, and good football. Our students are looking forward to learning more about your company!

If you are interested in supporting our club and being a part of our nationally competitive ChemE Car team, please contact me by *July 14, 2006* for more details at the email address below.

Please Respond by July 14th!!

Best regards,

Christopher Wirth
AIChE, President
(716) 480-0544
chwirth@buffalo.edu

Congratulations Class of 2006!

This year's School of Engineering and Applied Sciences Commencement ceremony was held on Saturday, May 13, 2006 in the Alumni Arena of the North Campus. We would like to congratulate our students on their fine accomplishments and extend to them our very best wishes for their continued success! This year's Chemical Engineering degree recipients include:

Bachelor of Science

Matthew David Brumbaugh
Alexander Buffone
Ashish Pravinbhai Chitalia
Chieh Yi Choo
Hsinying Gloria Chu
Michael Richard Difiore
Aylen Fonseca
Rachel Marie Frydrychowski
Michelle Jean Halvarson
Nicole Danielle Hartley
Chuensing Johnson Ho
Do Yeh Jeong
Christopher Michael Johnas
Daniel Eun Kim

Abhijeet Kohli
Jeffrey Gordon Kraska
Chin Giaw Lim
Hui Chean Lin
Eric Michael Litwin
Lye Theng Lock
Brett J. Loschiavo
Christopher Michael Meigel
Malaika Michel
Matthew Booth Miller
Matthew Joseph Moynihan
Lindsay Taylor Mroz
David Harold Mullineaux, Jr.
Sarah Elizabeth O'Hara

Wei Seang Ooi
Dhaval Surendra Patel
Sonya Marie Pegler
Jonathan Michael Pond
Seth W. Pond-Weimer
Jamie Ringer
Martin George Seggio
Elizabeth Sokol
Raju M. Somani
Howard Tan
Stephen Thomas
Su-Yen Yap
Man Tsz Yau

Combined Bachelor of Science/Masters in Business Administration

Gary Mark Pritchard, Jr.

Kristen Michelle Vollmer

Masters of Engineering

Gerald William Hunt
Adam Krol
Siew Shee Lim

Christopher Steven Renzi
Kok Onn Soh
Chirag Jitendra Thakkar

Dinesh Shankar Yemul

Masters of Science

Adebimpe Moradewun Ogunade

Nga-Leung Law

Shushan Z. Munshi

Doctor of Philosophy

Bharat Gaurav Bajaj
Bin Chen
Yuanqing He
Haohao Huang

Georgios Karanikolos
Qi Qiu
Christos Sarigiannidis
Jun Wang

Di Wu
Yi Zhang



Student Awards

Carlos Buitrago (Undergraduate Student) received an *Engineering Undergraduate Fellowship*.

Zachary Fowler (Graduate Student) received a *Praxair Fellowship*.

Daniel E. Kehoe (Graduate Student) received the *2006 Graduate Teaching Assistant Excellence Award*. (The only SEAS student to received the award this year). Dan also received a *Praxair Fellowship*.

Chin Giaw Lim (Undergraduate Student) received the *ACS Outstanding Senior Award*.

Renee Manez (Undergraduate Student) received an *Engineering Undergraduate Fellowship*.

Lindsay Mroz (Undergraduate Student) received the *AIChE Outstanding Senior Award*.

Christopher Wirth (Undergraduate Student) received the *AIChE Outstanding Junior Award*.

Andrew Waterman (Undergraduate Student) selected by his classmates as the *AIChE Student of the Year*.

Arthur Beyder and **Chiara Spagnoli**, students of Adjunct Professor **Fred Sachs** won 2nd place in the Panasci Competition (run by the School of Management) for development of a startup company, kBTwist, that produces a new design of AFM torsion cantilevers. The award includes a check for \$10,000.▪

We would like to hear from you to know what you've been up to since graduation! Please take a few minutes to fill out the form below and mail it to us, or reply via the web at: www.cbe.buffalo.edu/alumni. We'll put your news in future issues of our newsletter, unless you indicate otherwise. (Please check one of the boxes below to indicate your preference).

Name: _____

Address: _____

UB CE degree(s) and years: _____

Spouse's Name and Children: _____

News/Comments: _____

Please return to: The Catalyst
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Yes, you may print my news in a future issue.

No, I prefer you don't print any information about me in future issues.

What Are Your Former Classmates Doing Now?

David Conlin (BS, 1965) was listed among top intellectual property attorneys by *The Best Lawyers in America*. *The Best Lawyers in America* has been published biennially since 1983. Widely regarded as the preeminent referral guide to the legal profession in the United States, The Best Lawyers lists are compiled through a peer-review survey in which thousands of the top lawyers in the U.S. confidentially evaluate their professional peers.

Helena Holeckova Guerra (BS, 2000) has been commissioned a Second Lieutenant in the Air Force Nurse Corps.

Marc A. Lefebvre (BS, 1983) is Vice President/Principal Engineer of Environmental Consulting and Technology, Inc. He specializes in groundwater and soil remedial system design, works with superfund projects, industrial wastewater and is involved in the restoration of the everglades in south Florida. Marc is a Professional Engineer in Florida.

William Mueller (BS, 1984) has written his second 'great American novel', *The Magnificent Man*. Bill currently lives and works in Alexandria, VA, and has an appointment with the Alexandria Commission for the Arts. Previously he was a project engineer for the U.S. Navy. Bill's first book was entitled, *Rome Revisited*.

Brian Satterley (BS, 1994; MS, 1996) is currently a Lab/Quality Manager at Advanced Rubber Compounding in Charlotte, NC.

Venkatesh Srinivasan (MS, 1988; PhD, 1993) has been named Director of Business Development for Phyton Biotech, Inc., a DFB Pharmaceuticals affiliate and world leader in the use of plant cell culture technology. Dr. Srinivasan has served as a Senior Scientist of research and development for the company since 1996. As a senior scientist, he and his team optimized the plant cell fermentation processes for production of paclitaxel and other taxanes; dealt with intellectual property issues; consulted in research and manufacturing related to the technology transfer; and documented and managed governmental regulatory filings.

Fenglin Yang (PhD, 2000) is a Research Engineer and Manager of the R&D lab at Harper International Corp. He was featured in an article "Precision Encapsulation" in *Food Engineering Magazine*. Yang discussed his work on the micro-encapsulation process for mint oil and garlic oil for food applications. The process produces perfectly rounded spheres with extremely tight size distribution, even at a microscopic level, and promises higher value foods with broader profit margins. The article can be found at: tinyurl.com/keymo.

Thank You!

We would like to express our gratitude to **Dr. Charles Rader** (PhD, 1974) and IsleChem, LLC for their donation of a high accuracy Abbe Refractometer. This will be used to characterize liquid samples from a batch distillation experiment in the undergraduate Unit Operations Laboratory.▪

In Memoriam

Our deepest sympathies to the family and friends of those who have recently passed away.

Charles Bartholomew (BS, 1978)

Leon Dzygun (BS, 1969)

Mrs. Miriam Weller, beloved wife of **Dr. Sol W. Weller**, passed away on April 13, 2006.



Faculty & Staff News

Paschalis Alexandridis received the 2006 SUNY Chancellor's Award for Excellence in Teaching and the Distinguished Scientist and Researcher Award, Prefecture of Serres (Greece).

Jeffrey R. Errington received the UB Exceptional Scholar (Young Investigator) Award. Jeff was also promoted to Associate Professor.

Carl R. F. Lund was selected by the Chemical & Biological Engineering undergraduate students as the AIChE Professor of the Year.

Mark T. Swihart received the Licensed Innovation Award from the Research Foundation of SUNY, 2005.

Manolis Tzanakakis received the James D. Watson Award, NYSTAR, 2006.

Andrew Schultz was appointed as Research Scientist, with part-time duties to serve the high-level information technology needs of the department.

Irene Brubaker was promoted to Secretary I.

Dawn Townsend was promoted to Keyboard Specialist 2. Dawn has, however, left the department for a position in Human Resource Services.

Darlene Innes completed 30 years of service in the department.

Paschalis Alexandridis and his wife, **Marina Tsianou**, became the proud parents of a baby boy, Jason, on February 21, 2006. They also have a 11 year old daughter, Natalia.

Sriram Neelamegham and his wife, **Sucharita**, also have a new baby boy, Shyam, born May 16, 2006. Their older son, Anirudh, is now 2 years old.

Irene Brubaker and her husband, **Ken**, welcomed grandchild #6, Anderson, on June 14, 2006. Grandchild #7 will arrive later this year.

Manolis Tzanakakis and **Persefoni Kechagia**, exchanged wedding vows on June 25, 2006.

Congratulations and best wishes to all!•

CBE Faculty & Grad Students Help Out with BEAM Summer Program

Local minority high school students participated in the BEAM (Buffalo-area Engineering Awareness for Minorities) Pre-Collegiate Summer Program. This is a five-week program, coordinated by Drexel Gidney, Senior Academic Advisor and Director of Minority Engineering Programs, which consists of math enrichment, introduction to engineering, computing and physics. SEAS faculty and students volunteer their time to help guide participants in various projects.

Dr. Mark Swihart and graduate student, **Folarin Erogbogo** worked with Demetra McIlwain, a 12th grader from Hutch Tech High School, on a project consisting of grafting molecules onto silicon quan-

tum dots. **Folarin** also helped out with other SEAS students to instruct 11th and 12th graders in math and computers.

Another CBE team consisting of **Dr. Mattheos Koffas** and graduate student **Yajun Yan**, worked with Brian Harper, also a senior from Hutch Tech High School, on a project involving DNA cloning, making agarose gel and DNA preparations.

Other projects in this program were in the areas of Mechanical, Electrical and Computer Science Engineering. •



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