Message from the Department Head

To those of you who are new in the department “Welcome!” and to those of you who are returning, “Welcome back!” Of course, many of us were around for the entire summer which was very quiet and not nearly long enough. As you will read later we have a large number of new students: 62 sophomores, 11 PhD students, 10 Masters students and 9 exchange students. I hope that all of you are able to integrate into the department quickly and smoothly.

There have been a few changes to the department over the course of the summer. A large number of students graduated last May and are now gainfully employed or continuing their studies either here or at other institutions. At the end of the last academic year Dr. John Kitchin informed us that he would be joining us as an Assistant Professor. John received his PhD from the University of Delaware. He is now a Humboldt Foundation postdoctoral fellow at the Fritz-Haber Institute in Berlin and will be joining us in January of 2006. Jim Schneider and Steinar Hauan are now both Associate Professors. Ignacio Grossmann has returned from his sabbatical year in Spain and Switzerland. The greatest loss, of course, was due to the death of Ken Meyer in a plane accident in the Rocky Mountains. Ken worked in the department shop for about 28 years, longer than all but a very small number of the people currently in the department. He was a great colleague and wonderful person and will be missed sorely.

We have a new Dean of the College of Engineering, Professor Pradeep Khosla. Pradeep is replacing John Anderson who left last April to take a position as Provost of Case Western Reserve University in Cleveland. John had been a professor of Chemical Engineering at Carnegie Mellon for 28 years and served as department head for 11 years before becoming Dean of CIT and serving in that position for the past eight years. Pradeep was a professor of Electrical and Computer Engineering and served as head of that department for four years before becoming Dean on July 1.

Andrew J. Gellman
**Department News**

**CPS News**
Lectures and experimental workshops were conducted for 50 PA Governor's School for Physical Science Educators on polymers, molecular art and forensic science.

Two hands-on workshops were presented for girls attending schools in the city of Pittsburgh: 60 middle school girls experimented with macromolecules used in the food and toy industries; 45 high school girls learned about Chemical Engineering and cosmetics. Activities included making lip balm, bath fizzes and discussions regarding the chemical ingredients used in the cosmetic industry.

The following posters were presented at the ACS Colloids meeting at Yale University in June, 2004:

*Zeta Potential and Turbidity Measurement in Water Treatment*
A. Jacobson, A. Morfesis, M. Helgeson, R. Frollini

*Electrokinetic Studies of Protein Adsorption on Alumina Adjuvants*
D. Gary, M. Chopard, A. Morfesis, A. Jacobson

**National Chemistry Week**
The CPS Program and Chemical Engineering will participate in the celebration of National Chemistry Week at the Carnegie Science Center on October 22. Volunteers are needed to assist visitors to our display. This year's theme is "Health and Wellness" and our activities will involve heat-shrink tamper detection seals and labels as well as other heat-shrink polymer materials. If you are able to volunteer some time either in the morning or afternoon, please contact Annette Jacobson or Rose Frollini.

**Welcome** the following new students to the MS in CPS Program this fall:
F. Hamilton Gray, American Video Glass/SONY
Cassandra Jodon, Matthews International
Kristin Bartlett, PPG
Paul Arch, NOVA Chemicals, Inc.

**The Chemical Engineering Department’s 2004 Bayer Lecture Series and Distinguished Research Lecture** will be presented by Professor Manfred Morari, of The Swiss Federal Institute of Technology on Tuesday, November 16, 2004 at 4:00 PM in the Singleton Room, Roberts Engineering Hall.

**Faculty News**

**Ignacio Grossmann** returned from his sabbatical leave during the academic year 2003-2004. He spent the first part in Spain at the University of Cantabria as a Fulbright Lecturer. The second part he spent in Switzerland at the Institut fur Automatik at the ETH in Zurich. Finally, he spent two weeks at the Centre for Process Systems Engineering at Imperial College in London.
**Congratulations** to **Larry Biegler, Ignacio Grossmann** and **Dennis Prieve** who have been elected Fellows of the American Institute of Chemical Engineers.

**Larry Biegler** and **Ignacio Grossmann** gave the joint keynote lecture “Challenges and Research Issues for Product and Process Design Optimization” at the 6th International Conference on Foundations of Computer-Aided Process Design that took place on July 11-16 at Princeton University.

**Lee White, Dennis Prieve and John Anderson** organized the "International Electrokinetics Conference" (ELKIN) on campus from June 13 to 17. This technical meeting had 85 participants from 22 countries, who submitted 63 oral presentations and 30 posters. There were four plenary speakers: Armand Ajdari (Ecole Supérieure de Physique et de Chimie Industrielles of Paris), Menachem Elimelech, (Yale), Ian Morrison (Cabot Corporation) and Juan Santiago (Stanford). Costs of running the conference were partially underwritten by a generous grant from Los Alamos National Laboratory's Yucca Mountain Project. There have been seven ELKIN meetings occuring every other year with the previous meeting held in Cracow and next meeting in Nancy. This is the first time ELKIN was held in North America. More information can be found at the meeting website: [http://www.andrew.cmu.edu/user/dcprieve/ELKIN/index.htm](http://www.andrew.cmu.edu/user/dcprieve/ELKIN/index.htm)

**Congratulations** to **Professor Spyros Pandis** who received the Kun Li Award for Excellence in Education at the 2004 Commencement ceremony. The Kun Li Award has been established to promote excellence in teaching in chemical engineering, and to recognize Emeritus Professor Li who taught in the department from 1962 to 1988.

**Andy Gellman** has been appointed to the editorial board of the Journal *Catalysis Letters*.

**Staff News**

**Ken Meyer**, shop foreman and member of the department for the past 28 years died on August 9, 2004 in a plane crash while flying with his nephew Quinn Peyton. A service in memory of Ken and Quinn was held at the Phipps Conservatory on Tuesday, Aug. 17, 2004 at 11:00. At the request of Ken’s sister Lore, the department has established the Ken Meyer Memorial Fund to accept donations in his memory.

**Undergraduate News**

**The Senior Banquet**
The sixth annual senior banquet sponsored by AIChe and the department was held on May 11 at Club Chemistry in the Strip District. The evening featured the usual awards by students to faculty and other students. Faculty displayed their thespian talents in a play written by the seniors. A few rehearsals would have helped but a good time was had by all!
TOC Breakfast
The TOC Breakfast for seniors and potential employers is scheduled for Tuesday, September 21, 2004, at 8:00 a.m in the Rothfus Lab. Information on the TOC and list of companies seeking chemical engineers can be found in http://www.cmu.edu/toc/

2004 Chemical Engineering Alumni Scholarships.
Congratulations to the following recipients:
Michael Aliprando
Maureen Tang
Michael Nigra
Kristen Henry
Zachary Martin

Members of 2004-2005 SAC – Student Advisory Council

Sophomores:          TBA

Juniors:             Anita Shukla
                     Joe McDermott
                     Lara Kovell
                     Hanish Dayal

Seniors:             Karoline Evans
                     Nicole Gartner
                     Dana Gary

2004 Officers of AIChE Student Chapter
(American Institute of Chemical Engineers)

President:           Nate Lazur
Vice President:      TBA
Treasurer:           David Chan
Secretary:           Michael Jordan
Industrial Liaison:  Dana Gary
                     Tom Sabram
Social Chair:        Kienuwa Osayawe
Lecture Chair:       Allen Yang
Webmaster:           Nicholas Scocozzo
Sophomore Rep:       Bobby Wong
Faculty Advisor:     Professor Jim Schneider
Placement statistics for the 2004 Senior Class are as follows:

The average starting salary was $51,087. The high was $59,000 and the low $24,000. Seniors were hired by the following companies:

- Aventis
- Bristol Meyers Squibb
- Caterpillar
- Emergency Physicians of N. Va. Ltd.
- Exxon Mobil
- GPS Consulting
- L’Oreal
- Merck
- NIH
- Proctor & Gamble
- Samsung Austin Semiconductor
- Schlumberger
- Shell Oil
- Stack LLC
- US Air Force

The Class of 2004 went to the following graduate schools:

- CalTech
- CMU
- Cornell University
- Illinois Institute of Technology
- Johns Hopkins
- Purdue
- Stanford University
- UC Berkeley
- University of Delaware
- University of Minnesota
- University of Pennsylvania
- University of Pittsburgh
- University of Wisconsin, Madison

Congratulations to the following students who were on the CIT Dean's List for Spring 2004:

**SENIORS**

- Steven Back
- Aaron Beaber
- Roy Ludwick
- Timothy O’Dowd
- Gene Pan
- Baris Polat

**JUNIORS**

- Rachel Arffa
- Derrick Chan
- Hanish Dayal
- Rabya Gillani
- Aashish Goswami
- Kenneth Hu
- Lara Kovell
- Mary Mack
- Reema Patel
- Alyse Prince
- Sunil Raman
- Anita Shukla
- Brandon Smith
- Mitchell Tai
- Jordan Umeda
SOPHOMORES

Michael Aliprando
Vincent Chou
Ryan Cullen
Mary Catherine Fisher
Kristen Henry
Hui Shang Kho
Hua-Xing Lee

Zachary Martin
Calvin Ng
William Nicoll
Michael Nigra
Rokhsana Safaai-Jazi
Kristen Schell
Maureen Tang

Welcome to our Sophomore Class!

Alan Abel
Pouja Ahuja
Michael Aliprando
Brea Carlock
Alexander Chang
Vincent Chou
Yuyan Chow
Andrew Chuang
Sang Chung
Rachel Clair
Daron Colflesh
Ryan Cullen
Sabrina Dhanani
Adam Edison
Derek Eguae-Obazee
Mary Catherine Fisher
Justin Forbes
Christina Hallock
Serena Hanor
Deborah Harris

Sally Hayashi
Kristen Henry
Apiradee Honglawan
Bosco Hui
Shehryar Khawaja
Hui Shang Kho
Gloria Gabin Kim
Christopher Klifto
Rhiannon Kolb
Lukasz Krzyzanowski
Hua-Xing Lee
Sara Lewandroski
Andrew Lock
Melanie Lopes
Joshua Lord
Phillip Lowe
Marita Mann
Zachary Martin
Corey Mays
William Minton
Amanda Miskewicz

Calvin Ng
William Nicoll
Michael Nigra
Jennifer Njoroge
Kenneth Piper
Farzad Pourarian
Jose Prado
Nithya Rajendran
Samantha Rosenthal
Rokhsana Safaai-Jazi
Christopher Samstag
Kristen Schell
Nathan Shedd
Lawrence Shieh
Maureen Tang
Katherine Thompson
James Tsui
Caitlin Weigand
Robert Wong
Daqian Wu

RETURNING 2003-2004 Exchange Program Participants

Imperial College:
Yan Xi Chan
Brian Leukart
2004-2005 Exchange Program Participants
Imperial:
Elizabeth Arnade
Akil Simon

EPFL:
Alyse Prince

Welcome to our Exchange Students!

Aachen University, Germany
Andreas Harwardt
Jan Nöcker
Markus Spiegel

Imperial College, London
Elvin Mootooosamy
Pui Chuan Wong
Yee Mag (Vivian) Wong
Clement Zhao

Dortmund
Hans-Christian Domberger

ITESM Monterrey
Carlos Garza Riquelme

Exchange Program Deadline: January 14, 2005. For an application, see Cindy Peters in DH 1101.

Graduation 2004 Awards

The Mark Dennis Karl Outstanding Teaching Assistant Award recipient was Anjanette Koritnik

AIChe Professional Promise Award was presented to Kris Howard.

Ken Westerberg Award was presented to Ben Anderson. The memorial fund "The Ken Westerberg Memorial Prize for Excellence in Chemical Engineering Research" has been established by our department with a generous contribution from Aspen Technology. This prize will be presented every year during the departmental graduation ceremony to a senior who has shown exceptional promise for research in chemical engineering. This prize has been established in the memory of Ken Westerberg who died of Leukemia at the very young age of 35. Ken was the son of Art & Barbara Westerberg.
Geoffrey D. Parfitt Award for Excellence in Research was presented to Greg Allen.

American Institute of Chemists Foundation Award “For Ability, Character, Scholastic Achievement and Potential” was presented to Mithun Shenoi.

Carnegie Mellon McCabe Society honors the memory of Warren McCabe, one of the great leaders in this department's history, by recognizing students who show an unparalleled dedication to their community. The inductees from the Class of 2004 are: Lisa Branden, Becky Gerard, Matt Helgeson, Molly Hosier, Martha Ottenberg.

Graduate News
Welcome to our new graduate students!

**PhD Students**
- Brian Baumrucker
- Adam Bowles
- Andrew Kim
- Andrew Lambe
- Oxana Selivanova
- Lymarie Semidey-Flecha
- Chian-Yuh Sin
- Bora Tarhan
- Scott Turnberg
- Kristina Wagstrom
- Victor Zavala

**UG School**
- University of Kansas
- Case Western Reserve University
- UC Berkeley
- Brown University
- Georgia Institute of Technology
- University of Puerto Rico
- National University of Singapore
- Bogazici University
- University of Massachusetts Amherst
- Illinois Institute of Technology
- Universidad Iberoamericana

**MS Students**
- Woo Jin An
- Amol Apte
- Pil Seung Chung
- Nikunj Dangaria
- Denny Jacob
- Jeffrey Sheehan
- Sichol Srithavatchai

**UG School**
- Yonsei University
- University of Maharashtra of Tech.
- Yonsei University
- D.J. Sanghvi College of Eng.
- Madras University
- West Point
- University of Wisconsin-Madison

**M.ChE Students**
- Kofi Darkwa
- Seung Han
- Hann-Chung Wong

**UG School**
- Carnegie Mellon University
- Carnegie Mellon University
- Carnegie Mellon University
Congratulations to our second year Ph.D. students who passed their qualifier exams:

Sudhakar Alapati  Ramkumar Karuppiah
Haigang Chen     Yoshiaki Kawajiri
Travis Crites    Daniel Kuntz
John Dawson      Andy Kusumo
Eduardo Dozal    Timothy Lane
Muge Erdirik     Jeffrey Pierce
James Hoggard    Jeff Savard

Congratulations to our MS students who passed the PhD qualifier exams:

Xiang He         Jitkang Lim

Congratulations to those that presented their thesis proposal:

Murni Ahmad
Advisors: S. Hauan and T. Przybycien. Title: “Systematic Synthesis of Aqueous Two-Phase Systems for Protein Separation”

Bhawna Bhatia
Advisor: D. Sholl. Title: “Thermal Roughening of Chiral Metal Surfaces”

Calvin Chan

Haibin Chen
Advisor: D. Sholl. Title: “Prediction of Selectivity and Fluxes for Multi-component Separations Using Single Walled Carbon Nanotubes as Membranes”

Rong Fu
Advisor: D. Prieve. Title: "The Study of Electrical Charges in Nonaqueous Media"

Jason Hamm
Advisor: R. Tilton. Title: “Thermally Induced Redispersion of Polymer-Coated Colloidal Aggregates”

Jieyuan Zhang
Advisor: N. Donahue. Title: “On the Mechanism for Nitrate Formation via the Peroxy Radical + NO Reaction”

Congratulations to the following August 2004 Graduates. We wish them luck in their future endeavors.

Susan Daly, PhD
Timothy Gaydos, PhD
Advisor: S. Pandis. Title: “Modeling Atmospheric Aerosol Dynamics: Condensation, Nucleation, and Application”

Aaron Greiner, Master of Science. Advisor: A. Gellman
Thesis Title: “Tailor-Making Polymer Droplets in Microchannels”

Seth Knaebel, Master of Science. Advisor: L. Biegler
Thesis Title: “Simulation and Optimization of Pressure Swing Adsorption Systems: Recovering Hydrogen from Methane”

Congratulations:
Christos Maravelias, student of Ignacio Grossmann, has joined the faculty of the Department of Chemical and Biological Engineering at the University of Wisconsin, Madison.

Anton J. Pfeiffer and John D. Siirola (advised by Professor Steinar Hauan) have won one of four "best contributed paper" awards at the 2004 conference for Foundations of Computer Aided Design. The paper entitled 'Optimal design of microscale separation systems using distributed agents' was also presented at the conference in Princeton (NJ) in July of 2004.

David Rampulla (advised by Professor Andrew Gellman) will receive a ‘Graduate Student Award’ at the 51st American Vacuum Society International Symposium for his work titled “Enantioselectivity of Chiral Copper Surfaces.” The conference will be held in Anaheim, CA from Nov. 14 – 19.

Preeti Kamakoti (advised by Professor David Sholl) won third prize in the student paper contest of the 8th International Conference on Inorganic Membranes for her paper "Ab-initio models and experimental measurements of hydrogen flux through Pd-Cu membranes". Preeti's work is being done in collaboration with researchers from the DOE's National Energy Technology Laboratory.

CHEGSA News
This year's marks the 26th year for the CHEGSA Symposium. The symposium will be held on (Thursday and Friday) October 21st & 22nd, 2004. Professor H. Scott Fogler from the University of Michigan will be this year's Keynote Speaker and Dr. Jeffrey J. Siirola from Eastman Chemical Company will be the Bristol-Myers Squibb Distinguished Industrial Speaker. For more information, please see: http://symposium.cheme.cmu.edu/104/index.html

2004 AIChe Convention
The department will host the Annual Alumni Reception at the Austin, Texas AIChe Meeting on Monday, November 8, 2004. The meeting will be held in Room 410 of the Austin Hilton Hotel.
Visiting Scholars – Welcome!

Esther Coz Diego from Politecnical University of Madrid is working with Professor Pandis’ group.

Gonzalo Guillén Gosálbez from the Universitat Politècnica de Catalunya, Spain, is working with Professor Grossmann’s group.

Anna Bonfill Teixidor from the Universitat Politècnica de Catalunya, Spain, is working with Professor Grossmann’s group.

Ravi Kant Pathak from Hong Kong University is working with Professor Pandis’ group.

Pedro Castro from Instituto Nacional de Engenharia Tecnologia e Inovação, Portugal is working with Professor Grossmann’s group.

Alumni News:

Sarette Van den Heever, who obtained her Ph.D. in 2001 under the direction of Ignacio Grossmann, has been selected winner of the W. David Smith, Jr. Graduate Student Paper Award from the CAST Division of AIChE, for the paper "An Iterative Aggregation/Disaggregation Approach for the Solution of a Mixed Integer Nonlinear Oilfield Infrastructure Planning Model," I&EC Res.39, 1955-1971 (2000). Sarette will receive the award at the Annual AIChE meeting in Austin.