CAPD e-Newsletter, April 2009
http://capd.cheme.cmu.edu

Dear CAPD member,

Welcome to the CAPD e-Newsletter!

We hope this newsletter will have information that is of interest to you.

Best regards, Ignacio Grossmann

- The CAPD Newsletters can now be accessed through the webpage http://capd.cheme.cmu.edu/newsletters.html. All registered users of CAPD can access these by using their email addresses as userid and password. If you have any problems, please contact Laura Shaheen (lr23@andrew.cmu.edu). We also welcome any suggestions you may have for our webpage http://capd.cheme.cmu.edu .

- The annual review meeting of the CAPD took place on March 9-10, 2009. Despite the economic crisis, 28 representatives from industry attended the meeting. The list of companies who are current members can be found in: http://capd.cheme.cmu.edu/participants.html
March 9 was devoted to reviews by Ignacio Grossmann, Larry Biegler, Nick Sahinidis and Erik Ydstie, followed by presentations by industry and a poster session from PSE students and researchers. March 10 was devoted to oral presentations by final year's students and a special session on Stochastic Programming with presentations by Jeff Linderoth (U. Wisconsin-Madison), Alex Meeraus (GAMS) and Peter.Nieuwesteeg (AIMMS). The annual meeting was followed by the semi-annual meeting on Enterprise-wide Optimization that currently involves projects with 8 companies from the CAPD.

- Presentation files of the Annual Review Meeting that took place on March 9-10, 2009, are now available in http://capd.cheme.cmu.edu/newsletters.html

- Please take note that the next Annual Review Meeting will take place on March 8-9, 2010. This will be followed by the meeting of the special group on Enterprise-wide Optimization on March 10, 2010.

-The CAPD Short Course, Optimization Modeling and Integrated Process Operations, immediately followed the Annual Review Meeting on March 12-18, 2009. The course was taught by Larry Biegler, Ignacio Grossmann, Nick Sahinidis and Erik Ydstie. http://capd.cheme.cmu.edu/shortcourse/index.html
Next year the short course will be offered on May 20-27, 2010.

- Enterprise-wide Optimization http://egon.cheme.cmu.edu/ewocp/
The meeting of the EWO group took place on March 11, 2009. The group is currently composed of the following companies: ABB, Air Products, BP, Dow Chemical,

ExxonMobil, NOVA Chemicals, PPG, Praxair and Total. The next meeting of the EWO will take place on Tuesday, September, 29, 2009. Slides on presentations of these meetings can be found in: http://egon.cheme.cmu.edu/ewocp/slides_meetings.html; slides of seminars on EWO can be found in:
http://egon.cheme.cmu.edu/ewocp/slides_seminars.html

- CMU-IBM Cyberinfrastructure for MINLP. This is a collaborative site that is nearing completion, and has as a major objective to promote the optimization of nonlinear models involving discrete and continuous variables through mixed-integer nonlinear programming (MINLP). Two major challenges in this area are model formulation and solution algorithms. For model formulation, this site contains a collection of MINLP problems for which high level descriptions are provided together with one or several model formulations with their corresponding input files. Researchers and practitioners will be able to contribute to the library of problems and models, and to participate in the discussions on these problems. The site will also contain information on tutorials, bibliography and resources on MINLP. You will receive an email within the next month announcing the availability of this new website where we hope you will be able to contribute with your problems.

- Faculty News

- Larry Biegler served as an evaluator for the Special Priority Program on "PDE-Constrained Optimization" funded by the German National Science Foundation. In May, he will be a visiting professor at Zhejiang University in Hangzhou, China, where he will present short courses on nonlinear programming and dynamic optimization. In Fall, 2009, Larry will be the Hougen Visiting Professor at the University of Wisconsin, where he will interact with PSE colleagues, Christos Maravelias, Jim Rawlings and Ross Swaney.

- Ignacio Grossmann gave the seminars "Process Synthesis and Optimization" at Dow Chemical in Midland, and "On the Scope of Discrete-Continuous Optimization in Process Systems Engineering," at the Department of Industrial and Systems Engineering, Lehigh University. He also gave two papers at the INFORMS Computing Society Meeting in Charleston on disjunctive programming and cyberinfrastructure for MINLP problems. Ignacio also participated in the advisory board meetings of the Chemical Engineering Departments of Penn State, Princeton and Purdue.

- Nick Sahinidis is continuing the work on editing a special issue on "Global Optimization" for the journal *Optimization Methods and Software*. Sixteen papers have been accepted and three more are under review. The volume is expected to be completed by early summer 2009. Nick organized a session on "Derivative-free Optimization" at the 2009 Computational Management Science conference in Geneva, where he also gave a presentation on a review and comparison of derivative-free algorithms.

– Erik Ydstie gave seminars on "Process Control and Complex Process Networks" at the Department of Chemical Engineering at Drexel University and the Department of Chemical and Petroleum Engineering at Kansas University. He took part in the ACS

Petroleum Research Fund advisory board meeting in Savannah in February and he participated in the advisory board meeting of the Department of Chemical Engineering at Worcester Polytechnic Institute in April.

- Student News

- Congratulations to Brian Baumrucker, student of Larry Biegler, and to Bora Tarhan, student of Ignacio Grossmann, for having passed their Ph.D. exam. They will both join ExxonMobil, Brian in Fairfax (Refining) and Bora in Houston (Upstream Research).

- Congratulations to Mohit Aggarwal, student of Erik Ydstie, who has obtained a position with Air Products and Chemicals in Allentown.

- Congratulations to Fengqi You, Ph.D. student of Ignacio Grossmann who has been offered a position in the Department of Chemical and Biological Engineering at Northwestern University. Fengqi will join Northwestern after a postdoc at Argonne National Lab.

- Congratulations to Alex Smith, who joined Pavilion Technologies in Austin, Texas. Alex is a former Ph.D. student and recent postdoc of Nick Sahinidis. During the last year Alex worked for Industrial Learning Systems on the development of system identification algorithms for adaptive control and MPC.

- Roger Rocha from Petrobras returned to Brazil after an 18 month stay in the CAPD working with Ignacio Grossmann's group.

- Welcome to Dr. Edwin Zondervan from the University of Eindhoven in the Netherlands who will work in Ignacio Grossmann's group for two months. Welcome also to Dr. Mariano Martin from the Universidad de Salamanca, Spain, and recipient of a Fulbright Scholarship, who will work with Ignacio's group for one year.

-Webpages. The following sites might be of interest to you:

Virtual library on Process Systems Engineering:
http://cepac.cheme.cmu.edu/pasilectures.htm

You can access webpages of all PSE faculty in the Americas in:
http://cepac.cheme.cmu.edu/country.htm

Videos of presentations on MINLP at IMA Workshop
http://www.ima.umn.edu/videos/search.php?q=SW11.17-21.08&search=Search+Video

- Upcoming Meetings

2009 AIChE Spring National Meeting. April 26-30, 2009

Tampa Convention Center, Tampa, FL
http://www.aiche.org/Conferences/SpringMeeting/index.aspx

INFORMS Practice Conference, April 26- April 28, 2009
Phoenix, AZ
http://meetings.informs.org/Practice09/

FOCAPD 2009, June 7-12, 2009
Beaver Run Resort in Breckenridge, Colorado
http://www.focapd.org/

CORS-INFORMS, June 14-17, 2009
Toronto
http://meetings.informs.org/Toronto09/

ESCAPE-19, June 14-17
Cracow, Poland
http://www.escape19.org/

FOSBE, August 9-12, 2009
Denver, Colorado
http://www.fosbe.org/

PSE'09, Aug. 16-20, 2009
Salvador, Brazil
http://www.cepema.usp.br/pse2009

European Control Conference 2009 - ECC'09, August 23-26, 2009
Budapest, Hungary
http://www.conferences.hu/ecc09/

MOPTA 2009, Aug. 19-21, 2009
Lehigh, Pennsylvania
http://coral.ie.lehigh.edu/~mopta/

ISMP 2009, Aug. 23-29, 2009
Chicago, Illinois
http://ismp2009.eecs.northwestern.edu/

World Congress Chemical Engineering, Aug. 23-29, 2009
Montreal, Canada
http://www.chemengcongress2009.com/

INFORMS Annual Meeting 2009, October 11-14, 2009
San Diego Convention Center and Hilton San Diego, San Diego, California
http://meetings.informs.org/sandiego09/

AIChE 2009 Annual Meeting, November 8-13, 2009
Gaylord Opryland Hotel, Nashville, TN
http://www.aiche.org/Conferences/AnnualMeeting/index.aspx

2nd Gas Processing Symposium, Doha, Qatar, Jan 11-14, 2010
http://gpc.qu.edu.qa/symposium.aspx

AIChE Spring National Meeting, San Antonio, TX, March 21-25, 2010

INFORMS 2010 Practice Conference, Orlando, Florida, April 18-20, 2010

ESCAPE-20, Napoli, Italy, June 6-9, 2010

ALIO-INFORMS International, Buenos Aires, June 6-9, 2010

12th International Conference on Stochastic Programming Halifax, Canada, August 16-20, 2010.
http://ispc12.dal.ca/

Distillation & Absorption 2010, Sep 12-15, 2010
Eindhoven University of Technology, The Netherlands
http://www.da2010.nl/

AIChE Annual Meeting, Salt Lake City, Utah, October 17-22, 2010