

From: Richard D. Braatz, Chair, braatz@uiuc.edu

Subject: Summary of activities of the Technical Committee (TC) on Industrial Process Control (IPC)

Date: October 7, 2006

The applications areas covered by the TC IPC include microelectronic, materials, pharmaceutical, chemical, and electrochemical processes. Most emerging control applications areas, such as molecular manufacturing, microchemical systems, and systems biology, are included in this TC. Most processes of interest are highly nonlinear and spatially distributed with significant model uncertainties and constraints on actuators, states, and outputs. The main role of this TC is in the organization and programming for meetings, in concert with other organizations such as IFAC.

Membership in the TC IPC is open to any member of the IEEE Control Systems Society, and *CSS members interested in organizing sessions, symposia, and meetings are strongly encouraged to email your interest to braatz@uiuc.edu.*

(1) Members of Steering Committee

Richard D. Braatz (Chair), Frank Allgöwer, B. Wayne Bequette, Francis J. Doyle III, Michael A. Henson, Morten Hovd, Mayuresh V. Kothare, Yahya Nazer, Babatunde A. Ogunnaike, Srinivas Palanki, Robert S. Parker, Michel Perrier, and Hector D. Puyosa.

(2) Main Organizational Activities

As the members of the TC IPC steering committee (SC) are very active, only the main activities are summarized here. The most important meetings in 2006+ organized or co-organized by members of the TC IPC are:

- *International Symposium on Chemical Process Control (CPC, <http://www.cpc7.org/>, Lake Louise, Alberta, Canada, January 8-13, 2006):* Henson was Chair of the meeting with most SC members participating. The goal of the CPC, which is held every five years, is to evaluate progress in the process control field and to identify new intellectual challenges that may have a fundamental impact on future industrial practice.
- *International Symposium on Advanced Control of Chemical Processes (ADCHEM, <http://www.eng.ufrgs.br/adchem2006/>, Gramado, Brazil, April 2-5, 2006):* Doyle was Chair of the International Program Committee whose members included nearly all members of the SC, with Braatz, Kothare, and Parker as Program Area Co-Chairs. The focus of ADCHEM, which is part of a three-year rotation of IFAC meetings that includes the IFAC World Congress and IFAC DYCOPS Symposia, is on advances in methods for the modeling and control for all types of chemical processes.
- *American Control Conference (ACC, <http://www.a2c2.org/conferences/acc2006/>, Minneapolis, MN, June 14-16, 2006):* Many members of the SC were involved with the review process. Braatz is the AIChE Director on the American Automatic Control Council.
- *Joint Process Systems Engineering/European Symposium on Computer Aided Process Engineering (PSE-ESCAPE, http://events.dechema.de/ESCAPE_16_PSE_2006.html, Garmisch-Partenkirchen, Germany, July 9-13, 2006):* Braatz was on the International Program Committee. The purpose of this meeting is to bring together the international community of researchers and practitioners who are interested in computing-based methods in process engineering.
- *IEEE International Conference on Control Applications (<http://www.elet.polimi.it/conferences/cca06/>, Munich, Germany, October 4-6, 2006):* Allgöwer and Ogunnaike were on the International Program Committee.
- *Control of Particulate Processes VII (<http://www.engconfintl.org/6avbody.html>, Harrison Hot Springs, British Columbia, Canada, October 29-November 2, 2006):* Braatz, Doyle, Perrier, and Ogunnaike were on the International Advisory Board. The goal of this meeting is to review state-of-the-art developments in particulate process measurement, control, and modeling.

- 17th European Symposium on Computer Aided Process Engineering (ESCAPE 17, <http://www.escape17.upb.ro/>, Bucharest, Romania, May 27-30, 2007): Braatz is on the International Scientific Committee. The purpose of this meeting is to bring together the international community of researchers and practitioners who are interested in computing-based methods in process engineering.
- IFAC Symposium on Dynamics and Control of Process Systems (DYCOPS 2007, <http://www.dycops2007.org/>, Cancun, Mexico, June 6-8, 2007): Hovd and Ogunnaike are on the International Program Committee. The focus of this meeting is on advances in methods for control and modeling for all types of chemical processes
- American Control Conference (ACC, <http://www.a2c2.org/conferences/acc2007/>, New York, July 11-13, 2007): Many members of SC will be involved with the review process. Braatz is the Vice Chair for Invited Sessions and the AIChE Director on the American Automatic Control Council. Allgöwer, Braatz, and Henson are on the Program Committee.

Many members of the IPC (Allgöwer, Braatz, Doyle, Henson, Parker, Perrier) are members of IFAC TCs including the Modelling and Control of Biomedical Systems TC, the Biosystems and Bioprocesses TC, and the Non-Linear Control Systems TC which Allgöwer chairs, and the Chemical Process Control TC which Doyle chairs.

(3) TC IPC Web Page

The TC IPC website is a resource for engineers interested in the area of Industrial Process Control, and includes information on symposia and conferences in the area of Industrial Process Control; educational material including course syllabi, class notes, textbook lists, and software; and links to the websites of organizations and journals in the Industrial Process Control area (go to the TC IPC web link at the IEEE CSS website, <http://www.ieeecss.org/TAB/Technical/industrial>). All TC IPC meetings are announced at least 1 month in advance in the "Newsletter" section of the TC IPC web page (these meetings are typically associated with the ACC or CDC meetings). The next meeting of the TC IPC will be during lunch on Thursday, December 14, 2006. We will meet at noon in the lobby of the Manchester Grand Hyatt Hotel in San Diego.

(4) IEEE/IFAC Editorial Activities

Doyle is Editor-in-Chief of *IEEE Transactions on Control Systems Technology*, whose associate editors include Palanki. Doyle has served as the Reviews Editor for the IFAC-affiliated *Journal of Process Control* for several years, whose Associate Editors include Allgöwer, Braatz, Henson, and Perrier. Allgöwer is the Editor for Process and Computer Control of *Automatica*, where Braatz, Henson, and Kothare serve as Associate Editors. Kothare is an associate editor of *IEEE Transactions on Automatic Control* and *Automatica*.