

**Foundation of Systems Biology in Engineering (FOSBE)
IFAC sponsored conference
Santa Barbara, California, USA, August 7-10, 2005**

The first International Conference on *Foundations of Systems Biology in Engineering* was held in Santa Barbara, California during August 7th-10th, 2005. This conference drew over 160 participants from over 14 countries, and included strong representation from industry, government agencies, as well as academic researchers. The conference was organizing by the CACHE corporation (www.cache.org), and was supported financially by a number of organizations including: the National Science Foundation, the Institute for Collaborative Biotechnologies at UCSB, Pfizer, Entelos, Johnson & Johnson, and Astra-Zeneca. In addition, technical co-sponsorship was provided by: the Society for Biological Engineering of AIChE, the Computing and Systems Technology Division of AIChE, and the International Federation for Automatic Control (IFAC).

Recognizing that the topic of systems biology is a central theme for numerous conferences, we sought to distinguish this meeting with an emphasis on: (i) applied problems from the pharmaceutical industry, (ii) research methodologies, and (iii) challenges in education and training. The applied research problems were detailed in many keynote talks, and the challenges in education and training were addressed in a focused keynote session. In addition, the conference featured a panel discussion on the future challenges in funding for systems biology. The slides for the various keynote talks are archived on the conference www site (www.fosbe.org).

The conference format included 1 plenary speaker (Leroy Hood from the Institute for Systems Biology), 15 invited keynote speakers, and 70 contributed presentations in the form of posters. While all contributed papers and several of the keynote papers appeared in conference format (5 pages) in the FOSBE Meeting Proceedings, it was decided to invite selected papers to appear in a special issue of *IEE Systems Biology*. The papers were selected on the basis of favorable reviews from the initial submission, and included papers from the keynote speakers as well as the contributed paper authors. Full-length papers were resubmitted, and a formal peer-review procedure was conducted. I am grateful to the authors and the reviewers for their prompt handling of these papers.

These papers represent the most significant contributions from the FOSBE conference, but they also illustrate the range of important topics addressed at the meeting: systems biology tools for the pharmaceutical industry, development of new educational initiatives, cutting edge research in mathematical modeling, to name a few.

A final note of thanks is owed to the many individuals who played a key role in the organization of the FOSBE conference, including the review process for this special issue. In particular I would like to acknowledge the tremendous efforts of the conference co-chairs: Mike Henson (U. Massachusetts), Alex Bangs (Entelos), and Costas Maranas (Penn State).

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