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Editorial

Call for Papers for a Special Issue on Systems Biology

The control community has made significant contributions to the field of systems biology, bringing rigorous tools from dynamic systems, feedback, modeling and robustness analysis. These contributions range from elegant theories to explain principles of regulation, to more technological developments that advance the state of treatments and therapies. The field has reached a certain level of maturity in both tools and applications that makes the timing opportune for a special issue capturing its current state of development. Accordingly, this special issue of *Automatica* will address the state of the art in theories, tools, and applications of control to systems biology. Among the topics to be covered in the special issue are:

- Robustness in gene regulatory networks
- Information processing in signal transduction cascades
- Control architectures that shed light on biological regulation
- Multiple scales of length and time in biophysical networks
- Network inference and problems of model identification
- Synchronization phenomena in coupled oscillators at the cellular and subcellular level
- Control principles that lead to novel approaches to drug target identification
- Novel approaches to biomarkers in complex biophysical models
- Applications of control principles to specific disease problems (with clinical or experimental studies).

High quality papers on topics listed above, or related ones, are invited for publication in the Special Issue. The timetable is:

Submission Deadline: 1 February 2010

Tentative Publication Date: March 2011

The Special Issue will be prepared by a team consisting of guest editor Francis J. Doyle III and *Automatica* Editor Frank Allgöwer.

Guest and Corresponding Editor:

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Prospective authors should submit their contributions by February 1, 2010 via the *Automatica* web-based paper handling system, available at <http://www.autsubmit.com>. Submissions can be in either full paper format or brief paper format. They should be submitted as a Special Issue Paper to Special Issue Corresponding Editor Frank Doyle only.

Frank Allgöwer
 Editor, *Process and Computer Control*

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