

SMC 2016

IEEE INTERNATIONAL CONFERENCE ON
SYSTEMS, MAN, AND CYBERNETICS
OCTOBER 9-12



<http://www.smc2016.org/>

Special Session Call for Papers SMC2016 Special Session on **Model-based Healthcare**

Special Session organizer

Dr. habil. Levente Kovács

Obuda University, Hungary

E-mail:

kovacs.levente@nik.uni-obuda.hu

Co-organizer(s):

Prof. Dr. Hamido Fujita

Iwate Prefectural University, Japan

E-mail:

HFujita-799@acm.org

Dr. Clara Ionescu

Ghent University, Belgium

E-mail:

ClaraMihaela.Ionescu@UGent.be

Introduction/Call for Papers

Medical technological advancement and devices nowadays are tightly connected with engineering achievements. In order to create personalized healthcare solutions, drug delivery systems or deal with safety-critical medical applications it is important to understand and mathematically describe the physiological process, to be able to accurately measure / estimate the corresponding state variables, and develop a control algorithm reaching the desired scope. Therefore intelligent, model-based applications are needed, robust enough to generalize its healthcare target, but individualized as well to personalize its applicability. In this way it could increase the quality of life of the patients, optimize therapy and hence, reduce treatment costs. The session gives adequate up-to-date applications of intelligent, model-based healthcare problems covering diabetes, anesthesia, cancer, blood flow simulation, cardiovascular systems.

Indicative Topics/Areas

1. Comparison of discrete controls for an antiangiogenic tumor growth model
2. Investigation of the TP-based modeling possibility of a nonlinear ICU diabetes model
3. A software component approach to GPU accelerated physics-based blood flow simulation
4. Robust control in hemodialysis machines
5. Model-based control methods for biomedical systems
6. A robust explicit hybrid MPC strategy for intravenous anesthesia
7. Workflow generation for traceability defect correction over multidomain management tools

The special session is submitted to Section:[C]

C: Cybernetics

Important Dates

April 15, 2016: Deadline for submission of full-length papers

May 25, 2016: Acceptance/Rejection Notification.

July 9, 2016: Final camera-ready papers due in electronic form.

Submission

Manuscripts for a Special Session should **NOT** be submitted in duplication to any other regular or special sessions and should be submitted to SMC2016 main conference online submission system on SMC2016 conference website.

All submitted papers of Special Sessions have to undergo the same review process (three completed reviews per paper). The technical reviewers for each Special Session paper will be members of the SMC2016 Program Committee and qualified peer-reviewers to be nominated by the Special Session organizers.