



Interdisciplinary Symposium on Signals & Systems for Medical Applications



June 3-4, 2013. Institut Henri Poincaré, Paris, France

We are pleased to announce the Interdisciplinary Symposium on Signals and Systems for Medical Applications (ISSSMA 2013) to be held in the *quartier latin* of Paris on June 3-4, 2013. This symposium aims at presenting recent advances in control engineering, signal processing and electromagnetism for medical applications. It will focus on three application domains, each constituting a workshop of the symposium:

- Workshop on feedback and synchronization in neuroscience
- Workshop on modelling and analysis of cancer cell dynamics
- Workshop on medical imaging.

Each workshop is made of four independent invited sessions and a poster session.

Plenary talks

- **Michel Defrise** (Univ. Libre Bruxelles, Belgium): *"Simultaneous estimation of attenuation and activity in time-of-flight positron tomography: a non-linear inverse problem solved using range conditions"*
- **François Delhommeau** (UPMC - INSERM, France): *"Phylogeny of the malignant clone in leukemia"*
- **Francis Lévi** (INSERM, France): *"Chronotherapy"*
- **Stéphane Palfi** (CEA - H. Mondor hospital, France): *"Prospect and project of Deep Brain Stimulation for neuro-psychiatric disorders"*.

Website / registration / abstract submission:
<http://issma2013.sciencesconf.org/>

Abstract submission deadline:
February 1st, 2013

Workshop on feedback and synchronization in neuroscience

Session 1: From neurons to neuronal
populations dynamics

Session 2: Identification and observer design
in neuroscience

Session 3: Healthy and pathological
oscillations in basal ganglia

Session 4:
Synchronization in neuroscience

Workshop on modelling and analysis of cancer cell dynamics

Session 1: Cancer modelling with new insight
on therapeutics

Session 2:
Modelling of acute myeloid leukemia

Session 3:
Cell cycle modelling

Session 4:
Cell cycle imaging and knowledge extraction

Workshop on medical imaging

Session 1:
Computed tomography

Session2:
Positon emission tomography

Session 3:
Multimodality and Compton scattering

Session 4:
Microwave imaging



June 3-4, 2013. Institut Henri Poincaré, Paris, France

We are pleased to announce the workshop « Feedback and Synchronization in Neuroscience » as a part of the Interdisciplinary Symposium on Signals and Systems for Medical Applications (ISSMA 2013). This workshop aims at gathering expertise from different disciplines (neuroscience, control theory, and medicine) around four sessions. It will take place at Institut Henri Poincaré (Paris) on June 3-4, 2013 in parallel with:

- Workshop on modeling and analysis of cancer cell dynamics
- Workshop on medical imaging.

The workshop is made of four independent invited sessions and a poster session. Contributions to the poster session should be submitted as an abstract through the workshop website before Feb. 1st, 2013.

Four Invited Sessions

Session 1

From neurons to neuronal populations dynamics

Session 2

Identification and observer design in neuroscience

Session 3

Healthy and pathological oscillations in basal ganglia

Session 4

Synchronization in neuroscience

Website / registration / abstract submission:

<http://issma2013.sciencesconf.org/>

Confirmed Speakers

- **Rafal Bogacz** – Univ. of Bristol (UK)
- **Thomas Boraud** – CNRS, Univ. of Bordeaux (France)
- **Constance Hammond** – INSERM, INMED (France)
- **Boris Gutkin** – ENS Paris (France)
- **Henk Nijmeijer** – TUE (the Netherlands)
- **Stéphane Palfi** – CEA, Henri Mondor Hospital (France)
- **Elena Panteley** – CNRS, L2S (France)
- **William Pasillas-Lépine** – CNRS, L2S (France)
- **Romain Postoyan** – CNRS, CRAN (France)
- **Michael Rosenblum** – Univ. of Potsdam (Germany)
- **Alex Roxin** – CRM (Spain)
- **Sridevi V. Sarma**, Univ. John Hopkins (USA)
- **Rodolphe Sepulchre**, Univ. of Liège (Belgium)

Key dates:

- Poster abstract submission due: **Feb. 1st, 2013**
- Poster decision notification: March 8, 2013



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We are pleased to announce the workshop « Feedback and Synchronization in Neuroscience » as a part of the Interdisciplinary Symposium on Signals and Systems for Medical Applications (ISSMA 2013). This workshop aims at gathering expertise from different disciplines (control theory, signal and image processing, data mining and knowledge extraction, biology and medicine) around four sessions. It will take place at Institut Henri Poincaré (Paris) on June 3-4, 2013 in parallel with:

- Workshop on feedback and synchronization in neuroscience
- Workshop on medical imaging.

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Four invited sessions

Session 1

Cancer modelling with new insight on therapeutics

Session 2

Modelling of acute myeloid leukemia

Session 3

Cell cycle modelling

Session 4

Cell cycle imaging and knowledge extraction

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Confirmed speakers

- **Mostafa Adimy** – INRIA (France)
- **Olivier Debeir** – FNRS (Belgium)
- **Christine Decaestecker** – FNRS (Belgium)
- **Franck Delaunay** – IBV, Univ. Nice (France)
- **François Delhommeau** – UPMC, INSERM (France)
- **François Fages** – INRIA (France)
- **Claude Gérard** – ULB (Belgium)
- **Albert Goldbeter** – ULB (Belgium)
- **Pierre Hirsch** – St Antoine Hospital (France)
- **Peter Kim** – Univ. Sydney (Australia)
- **Doron Levy** – Univ. Maryland (USA)
- **Francis Lévi** – INSERM (France)
- **Anna Marciniak-Czochra** – Univ. Heidelberg (Germany)
- **Ali Mohammad-Djafari** – L2S, CNRS (France)
- **Hitay Ozbay** – Univ. Bilkent (Turkey)

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We are pleased to announce the workshop « Medical Imaging » as a part of the Interdisciplinary Symposium on Signals and Systems for Medical Applications (ISSMA 2013). This workshop aims at gathering expertise from different types of medical imaging modality (computed tomography, positron emission tomography, microwave imaging, multimodality) around four sessions. It will take place at Institut Henri Poincaré (Paris) on June 3-4, 2013 in parallel with:

- Workshop on modeling and analysis of cancer cell dynamics
- Workshop on feedback and synchronization in neuroscience.

The workshop is made of four independent invited sessions and a poster session. Contributions to the poster session should be submitted as an abstract through the workshop website before Feb. 1st, 2013.

Four Invited Sessions

Session 1
Computed tomography

Session 2
Positron emission tomography

Session 3
Multimodality and Compton scattering

Session 4
Microwave imaging

Website / registration / abstract submission:

<http://issma2013.sciencesconf.org/>

Confirmed Speakers

- **Eric Barat** – LIST-CEA (France)
- **Irène Buvat** – IMNC, CNRS (France)
- **Claude Comtat** – SHFJ, CEA (France)
- **Ian Craddock** – Univ. Bristol (UK)
- **Laurent Desbat** – TIMC, UJF Grenoble (France)
- **Michel Defrise** – VUB-Brussel (Belgique)
- **Mai Nguyen-Verger** – ETIS, Univ. Cergy (France)
- **Magnus Otterskog** – Univ. Mälardalen (Sweden)
- **Christian Pichot** – LEAT, CNRS, Univ. Nice (France)

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