Computational Medicine

Integrating computational research & ICT tools for better healthcare

Organizers   LMTC, LICT, BioSCENTer, IBBT-K.U.Leuven Future Health Department

Date: September 12 , 2011
Time: 13.00-19.00

Location: Health Sciences Campus Gasthuisberg-Leuven, Rooms: O&N2 (follow directions)

Program

Theme & Scope
How can mathematics, engineering and computational science be applied for understanding the mechanisms behind, and improving the diagnosis and treatment of human disease?
This is the baseline of the computational medicine symposium that aims to bring together scientists from medical as well as engineering disciplines to present current research in this multi-disciplinary field at the K.U.Leuven. As part of our commitment to innovation and interregional development, a business track organized by Leuven.Inc is integrated into the program. Company representatives will participate in round table discussions with presenters and other delegates.

13.00   *Registration*

13.30   **Welcome**
prof. dr. ir. Bart De Moor, 'Scientific director of IBBT-K.U.Leuven Future Health Department' and
prof. dr. Karin Sipido, research coordinator of the Biomedical Sciences Group
head of Biomedical Sciences Research and Doctoral School.

13.45   **Keynote**
prof. Rodney Hose, University of Sheffield, UK (*Virtual Physiological Human, euHeart , @neurIST*)
"Virtual Physiological Human - share, a new integrated project funded in Virtual Physiological Human programme".

14.30-15.15   **Parallel Sessions (1)**

MODEL-BASED BIOMEDICAL ENGINEERING TRACK	PATIENT MONITORING TRACK (1)	DATA MINING TRACK (1)	MEDICAL IMAGING TRACK
1. *Tissue engineering: from mechanisms to therapy via mathematical modeling* (Lies Geris)	**1. *Predictive data mining in routine clinical data: possible applications* (Geert Meyfroidt)**	**1. *The hospital information system as a data capture tool.* (Bart Van den Bosch)**	**1. *Patient-specific image-guided cardiac therapy.* (Stijn De Buck)**
2. *Bioinformatics for pharmacological compound profiling* (Lieven Thorrez)	**2. *Wireless Biomedical Sensor Networks: Remote Fall Detection* (Dominique Schreurs)**	**2. *Data visualization for human disease and health care* (Jan Aerts)**	**2. *(µ)PET in drug development* (Michel Koole)**
3. *Engineering design of a device for topical cooling of inflammatory tissues* (Bart Nicolai)	**3. *Personalised model-based health monitoring* (Jean Marie Aerts)**	**3. *In silico profiling of the biological activity of novel compound libraries* (Gert Thijs)**	**3. *Subject-specific biomechanical modeling for pre-operative planning of massive acetabular reconstructions* (Ward Bartels)**

15.15 – 16.00   **Business Track (1)**

Moderated round table discussions per session, with at least one company per table as "invited guest"
(discussions start immediately after presentations in same room; coffee served in the rooms; end of discussions at 15:50 for room clearing and opportunity to briefly join parallel plenary coffee break in the welcome/reception area)

MODEL-BASED BIOMEDICAL ENGINEERING	PATIENT MONITORING (1)	DATA MINING (1)	MEDICAL IMAGING
Layerwise	NXP / BioRICS	IBM	Icometrix / Mobelife

16.00 – 16.45   **Parallel Sessions (2)**

OMICS	PATIENT MONITORING TRACK (2)	DATA MINING TRACK (2)	ETHICAL, LEGAL AND SOCIAL ISSUES
1. *The genomics Core: human genomics leverages the integration of patient healthcare and research* (Joris Vermeesch)	1. *Sensorsystem development for patient monitoring* (Bob Puers)	1. *Clinical trials* (Katelijne De Nys)	1. *Security and privacy challenges in eHealth systems* (Dave Singelee)
2. *Genomic data fusion for genetic diagnosis and disease gene discovery* (Yves Moreau)	2. *Biomedical Data Processing* (Sabine Van Huffel)	2. *Clinical data integration for risk prediction and diagnosis: An application on ovarian tumours* (Ben Van Calster)	2. *Legal Issues of eHealth* (Jos Dumortier)
3. *Proteomics & Metabolomics in medicine* (Etienne Waelkens)	3. *Brain-IC interfacing: opportunities and challenges* (Carmen Bartic)	3. *Data mining techniques for computational medicine* (Jan Ramon)	3. *Should we trust machines to make human decisions? - Ethical considerations* (Guido Van Steendam)

16.45 – 17.15   **Business Track (2)**

Moderated round table discussions with companies as "invited guests"

OMICS	PATIENT MONITORING (2)	DATA MINING (2)	ETHICAL, LEGAL AND SOCIAL ISSUES
Cartagenia	AnSem / ICSense	IBM	

17.20   **Towards Top Technology Clusters (TTC):** stimulating cross border innovation in the ELAt and greater EMR area. A brief overview emphasizing the cross-over between life sciences and ICT.
Dr. Claire Bajou, ULg Interface Entreprises, chair of TTC Working Group Life Sciences

17.40   **Wrap up & concluding remarks**
prof. dr. ir. Peter Marynen, vice rector of Research Policy

18.00   ***Reception & networking***
(presentation rooms from parallel sessions remain available for seated 1-on-1 conversations)