

# ICHI 2013

Vilamoura, Portugal  
November 7-9, 2013

# IFMBE International Conference on Health Informatics



Theme: "Integrating Information and Communication Technologies  
with Biomedicine for Global Health"

## CONFERENCE COMMITTEE

### Conference Chair:

**Dr. Yuan-ting Zhang**

*The Chinese University of Hong Kong, China*

### Conference Co-Chair:

**Dr. José Principe**

*University of Florida, USA*

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*Universidade Nova de Lisboa, Portugal*

## ICHI2013 CONFERENCE WEBSITE:

<http://www.ichi2013.org/>

## FINAL CALL FOR PAPERS

The International Conference on Health Informatics (ICHI) is a new special topic conference initiative by the International Federation of Medical and Biological Engineering (IFMBE) - the world largest organization focusing on biomedical engineering. The inaugural of the IFMBE-ICHI2013 will be held in **Vilamoura, Portugal** on **7-9 November, 2013**. The main theme of the IFMBE-ICHI2013 is "**Integrating Information and Communication Technologies with Biomedicine for Global Health**".

Health informatics becomes a fast-evolving interdisciplinary field and advancing health informatics has been identified as a grand challenge for engineering in the 21<sup>st</sup> century. Maintaining and improving human health in this century will require systems engineering approaches to translate care practices and integrate local, regional, national, and global health information networks. The ICHI2013 will provide a unique forum to examine enabling technologies of sensors, devices and systems that optimize the acquisition, transmission, processing, storage, retrieval of biomedical and health information as well as to report novel clinical applications of health information systems and the deployment of m-Health, e-Health, u-Health, p-Health and Telemedicine. Members of the biomedical, life sciences and engineering communities are encouraged to attend this highly multidisciplinary meeting.

### IFMBE-ICHI2013 SPECIAL FEATURES:

\* Mini-Symposia Proposed: **1)** Towards Unobtrusive and Wearable Blood Pressure Measurements; **2)** Monitoring and Screening of Vulnerable Patients with Acute Cardiovascular Diseases, and **3)** Photo-acoustic Imaging and its Applications.

\* Selected papers from this conference will be published in a special issue on IEEE Journal of Biomedical and Health Informatics (J-BHI) which was retitled from IEEE Transactions on Information Technology in Biomedicine in 2013.

\* IFMBE Young Investigator Award:

<http://www.ichi2013.org/YoungInvestigator.aspx>

### INVITED KEYNOTE SPEAKERS (Alphabetic Order)

**Dr. Joerg Habetha** *Philips Research, Netherlands*

**Dr. Shankar Krishnan** *Wentworth Institute of Technology, Boston, USA*

**Dr. Zhi-Pei Liang** *University of Illinois, USA*

**Dr. Xiaochuan Pan** *University of Chicago, USA*

**Dr. Roderic Pettigrew** *National Institute of Biomedical Imaging and Bioengineering, USA*

**Dr. Niilo Saranummi** *VTT Technical Research Centre of Finland, Finland*

**Dr. Bruce Wheeler** *University of Florida, USA*

**Dr. Guang-Zhong Yang** *Imperial College London, London, UK*

### IMPORTANT DATES

\* Extended Online Paper Submission Deadline: **Aug. 30, 2013**

\* Extended Student Paper Competition Deadline: **Aug. 30, 2013**

\* Notification of Acceptance: **Sept. 10, 2013**

\* Conference Dates: **Nov. 7-9, 2013**

### SPONSORED BY

\* International Federation of Medical and Biological Engineering (IFMBE)

### TECHNICALLY CO-SPONSORED BY

\* University of Coimbra, *Portugal*

\* University of Zagreb, *Croatia*

\* Portuguese Society of Biomedical Engineering, *Portugal*

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# IFMBE International Conference on Health Informatics



Theme: "Integrating Information and Communication Technologies  
with Biomedicine for Global Health"



## INTERNATIONAL PROGRAM COMMITTEE

### Chair:

**Dr. Ratko Magjarević**  
University of Zagreb, Croatia

### Co-Chair:

**Dr. Dona Hudson**  
University of California,  
San Francisco (UCSF)

**Dr. Shankar Krishnan**  
Wentworth Institute of  
Technology, USA

### Members (Invited):

**Dr. Maria Teresa Arredondo**  
Universidad Politécnica de Madrid, Spain

**Dr. Vedran Bilas**

University of Zagreb, Croatia  
**Dr. Aurélio Campilho**  
Universidade do Porto, Portugal

**Dr. Sergio Cerutti**  
Politecnico di Milano, Italy

**Dr. Miguel Coimbra**  
University of Porto, Portugal

**Dr. João Paulo Cunha**  
Universidade de Aveiro, Portugal

**Dr. Joerg Habetha**  
Philips Research, Netherlands

**Dr. Jorge Henriques**  
University of Coimbra, Portugal

**Dr. Timo Jämsä**  
University of Oulu, Finland

**Dr. Pablo Laguna**  
Universidad de Zaragoza, Spain

**Dr. Steffen Leonhardt**  
Aachen University, Germany

**Dr. Paulo Mendes**  
University of Minho, Portugal

**Dr. Nikolaos Maglaveras**  
Aristotle University, Greece

**Dr. Miguel Morgado**  
University of Coimbra, Portugal

**Dr. Leandro Pecchia**  
Faculty of Engineering,  
University Park, Nottingham

**Dr. Laura Roa**  
University of Sevilla, Spain

**Dr. Ana Paula Rocha**  
University of Porto, Portugal

**Dr. Maria Graça Ruano**  
University of Algarve, Portugal

**Dr. João Sanches**  
University of Porto, Portugal

**Dr. Niilo Saranummi**  
VTT Technical Research  
Centre of Finland, Finland

**Dr. Günter Schreier**  
Austrian Institute of  
Technology GmbH, Austria

**Dr. Ron Summers**  
Loughborough University, UK

**Dr. Hannu Tenhunen**  
Royal Institute of Technology (KTH),  
Sweden

**Dr. Mark van Gils**  
VTT Technical Research Centre of Finland,  
Finland

## TRACKS and TOPICS covered by the ICHI 2013 include:

### 1) Information Acquisition

**Chair:** Toshiyo Tamura

**Co-Chairs:** Guy Dumont, Vedran Bilas

- Unobtrusive sensing
- Wearable and implantable systems
- Body nets, body sensor networks, body area networks
- Energy harvesting technologies
- BioMEMS, Biochips, Medical IC and Health chips
- Point-of-Care Technologies (POCTs)
- Multimodal acquisition

### 2) Information Transmission

**Chair:** Majid Sarrafzadeh

**Co-Chairs:** Timo Jämsä, Paulo Mendes

- Health information security and privacy
- Low power wireless IC design
- Wireless health end-to-end quality of service
- Internet and web solutions for healthcare delivery
- Interoperability and connectivity
- Picture archive and communication systems (PACS)
- Internet of things (IoT) for health, healthcare, biomedicine and life sciences

### 3) Information Processing

**Chair:** Sergio Cerutti

**Co-Chairs:** Constantinos Pattichis, Miguel Coimbra

- Multi-scale modeling and information fusion
- Cloudy computing and mobile computing for healthcare
- Healthcare big-data
- Bio-health data mining

### 4) Information Storage and Retrieval

**Co-Chairs:** Nikolaos Maglaveras

Günter Schreier

- Context-aware retrieval
- Electronic health records

### 5) Informatics in Biological Systems

**Chair:** Lin-Tao Cai

**Co-Chairs:** Nazamettin Aydin, Huseyin Seker, Joel Arrais

- Genomics, proteomics, metabolomics and trans-omics
- Data mining in omics study
- Next generation genome sequencing
- Epigenetic and functional genomics
- Personalized biomarkers
- Computational biology and systems biology
- Biomarker detection
- Bioinformatics for health

### 6) Cardiovascular Health Informatics

**Chair:** Steffen Leonhardt

**Co-Chairs:** Dimitrios Fotiadis, Jorge Henriques

- Cardiovascular modeling
- Coronary blood flow dynamics and measurement
- Applications in vascular diseases
- Early diagnostic and monitoring of vulnerable patients
- Characterizations of blood plaque

### 7) Neural Informatics

**Chair:** Nitish Thakor

**Co-Chairs:** Guang-Lin Li, Metin Akay

- Neuro-informatics
- Assistive technologies
- Neural systems and rehabilitation technologies
- Neural modeling
- Brain-computer interfacing and human-computer interfacing

### 8) Biomedical Imaging Informatics

**Chair:** Rui Bernardes

**Co-Chairs:** Sotirios A. Tsaftaris, Joao Sanches

- Real-time imaging
- Multimodal imaging
- Molecular imaging
- Image and video data compression
- Information visualization
- Virtual reality in biomedicine and image-guided surgery

### 9) Deployment of m-Health and Telemedicine

**Chair:** Maria Teresa Arredondo

**Co-Chairs:** Harald Reiter, Kwang Suk Park, João Paulo Cunha

- P-health, m-health, u-health, and e-health systems
- Distributed health information system
- Deployment Issues

### 10) Public Health Informatics and Other Applications

**Chair:** Luis Kun

**Co-Chairs:** Jimmy Liu Jiang, Leandro Pecchia

- Applications in the early diagnosis and early treatment of cancers
- Response in public health emergencies
- Against a pandemic such as flu or some other viral threat
- Informatics system against biological weapons and bio-chemical terror
- Environmental health
- Ambient assisted living, smart homes and community healthcare systems
- Therapy and drug delivery
- Bio-inspired robotics and biomimics
- Health Information Technologies Design Assessment & Management

## ABOUT THE CITY *Vilamoura*

Vilamoura is the largest luxury tourist complex in Europe, covering some 20 km<sup>2</sup> of land. It is located in the municipality of Loulé, in the Algarve, Portugal. Its boundaries lie within the parish of Quarteira. Vilamoura is a purpose-built resort and marina which was started from scratch by Cupertino de Miranda, a wealthy banker from Porto, in 1974 and is still expanding outwards from the marine center. The resort is located 23 km west along the coast from Faro and is at 266 kilometers south of Lisbon. The nearest airport is at Faro.

## CONTACT INFORMATIONS

**Dr. Ratko Magjarević:** [Ratko.Magjarevic@fer.hr](mailto:Ratko.Magjarevic@fer.hr)

**Dr. Y.T. Zhang:** [ytzhang@ee.cuhk.edu.hk](mailto:ytzhang@ee.cuhk.edu.hk)

**Dr. Paulo de Carvalho:** [carvalho@dei.uc.pt](mailto:carvalho@dei.uc.pt)