### Rolf Engelbrecht<sup>1</sup>, John Mantas<sup>2</sup>

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EFMI is a nonprofit organisation concerned with the theory and practice of Information Science and Technology within Health and Health Science in a European context. Its activities focus on annual conferences, MIE (Medical informatics Europe), STC (Special Topic conference), tutorials and workshops. EFMI publishes proceedings and special issues of its activities in scientific journals. It has national societies in 31 member countries in Europe and 16 institutional members. Personal members are welcome in working groups. The EFMI portal provides very actual international news and information about the use of computers in health care. http://www.EFMI.org.

# **Working Groups**

EDU - Education in Health Informatics John Mantas, Athens; Arie Hasman, Amsterdam (jmantas@cc.uoa.gr, a.hasman@amc.uva.nl)

EHR - Electronic Health Records Bernd Blobel, Regensburg (bernd. blobel@klinik.uni-regensburg.de)

EVAL - Assessment of Health Information Systems
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HIIC - Health Informatics for Interregional Cooperation Lacramioara Stoicu-Tivadar, Timisoara; (lacramioara.stoicutivadar@aut.upt.ro)

HOFMI - Human and Organisational Factors of Medical Informatics Jos Aarts, The Netherlands; Marie-Catherine Beuscart-Zéphir, Lille, France (j.aarts@erasmusmc.nl, mcbeuscart@univ-lille2.fr)

IDR - Informatics for the Disabled and Rehabilitation Cristina Mazzoleni, Italy (cmazzoleni@fsm.it)

LIFOSS -Libre/Free and Open Source Software in Health Informatics Peter J. Murray, Nocton, UK; Karl Oyri, Oslo, Norway (peterjmurray@gmail.com, karl.oyri@rr-research.no)

MCRO/MBDS - Casemix, Resources Management and Outcomes of Care Francis Roger-France, Brussels; Jacob Hofdijk, Leiden (frf@skynet.be, jhofdijk@gmail.com)

MIP - Medical Image Processing Alexander Horsch, Munich; Thomas Wittenberg, Germany; Vytenis Punys, Kaunas (alexander.horsch@imse.med.tumuenchen.de, wbg@iis.fhg.de, vpunys@mmlab.ktu.lt) NLU - Natural Language Understanding Robert Baud; Patrick Ruch, Geneva (Robert.Baud@sim.hcuge.ch, patrick.ruch@sim.hcuge.ch)

NURSIE - Nursing Informatics in Europe Patrick Weber, Lausanne; Thomas Buerkle, Erlangen (patrick.weber@nicecomputing.ch, thomas.buerkle@imi.med.unierlangen.de)

PCI - Primary Care Informatics Simon De Lusignan, London (slusigna@sgul.ac.uk)

PPD Personal Portable Devices
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SSE – Safety, Security and Ethics Bernd Blobel, Regensburg (bernd.blobel@klinik.uniregensburg.de)

TRACE - Traceability of supply chains
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# EFMI WG EDU

#### Education in Health Informatics

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# EFMI WG EHR

## Electronic Health Records

#### Chair

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## **Objectives:**

- To disseminate and exchange information on Health and Medical Informatics (HMI) programs and courses.
- To advance the knowledge of how HMI is taught to health care professionals, to students in Europe
- To promote a database on programs and courses on HMI education
- To produce international recommendations on HMI education
- To support HMI courses and exchange of students and teachers.

### **Recent and Future Activities:**

- Preparation of an revised version of Globalization of Health Informatics Education, Studies in Health Technology and Informatics, Edited by: E.J.S. Hovenga and J. Mantas, 276 pp., IOS Press, 2004
- The IMIA WG on Education was held in Buenos Aires in November 2008. The
  document of the revised Recommendations was presented during the Conference as prepared by the Task Force established chaired by the current EFMI
  WG Chair on Education. At MIE2009 in Sarajevo the current educational recommendations will be presented
- Collection of data to update the database of programmes and courses on the WG website.

## **Objectives:**

The working group deals with the issue electronic health records in the different levels of development. Such levels concern the case level, organisational level, regional level, national level, and international level. In that context, the Working Group supports

- studies on specification, implementation, and promotion of standards for EHR,
- the modelling of its architecture and its interoperability, as well as
- the education on that topic.

## **Recent and Future Activities:**

The following activities have been realised (results are published):

- Contribution to the International Conference "eHealth: Combining Health Telematics, Telemedicine, Biomedical Engineering and Bioinformatics to the Edge", 2-5 December 2007 in Regensburg..
- EHR Workshop National Approaches for Sustainable, Semantically Interoperable and Trustworthy EHR Solutions" the latter was jointly organised with the EFMI WG "Security, Safety and Ethics" were held during the MIE 2008, 24-28 May 2008, in Gothenburg, Sweden.
- Workshop at ICMCC 2008, 9-11 June 2008 in London, UK.

#### Future activities:

- Workshop at ICMCC 2009 in London, UK.
- Workshop with HL7 International at MIE 2009, 30 August 2 September 2009 in Sarajevo, Bosnia and Herzegovina

# FFMI WG **FVAI**

# Assessment of Health Information Systems

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# EFMI WG HIIC

# Health Informatics for Interregional Cooperation

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## **Objectives:**

- To foster interdisciplinary discussion on evaluation issues in health informatics.
- To support communication of experiences by organizing tutorials and workshops.
- To promote European networking on evaluation issues in health informatics.

### **Recent and Future Activities:**

- Publication STARE-HI, the Standards for Reporting on Evaluation Studies in Health Care. STARE-HI describes elements to be included into an evaluation paper. Reference: Talmon J, Ammenwerth E, Brender J, de Keizer N, Nykänen P, Rigby M. STARE-HI Statement on reporting of evaluation studies in Health Informatics, Int J Med Inform 2009; 78(1): 1-9.
- Working Group has further worked on the Good Evaluation Practice Guidelines (GEP-HI). Those guidelines describe the activities, roles and outcomes of an IT evaluation study in health care. This work is lead by Pirkko Nykanen, Tampere. Working documents on GEP-HI can be found at http://iig.umit.at/ efmi.
- A workshop on STARE-HI and GEP-HI was held at MIE 2008, May 2008, Göteborg.
- Operation of a web-based Evaluation Inventory of now more than 1.250 abstracts of IT evaluation studies in healthcare is now made available for free at http:// evaldb.umit.at.

# **Objectives:**

- To promote exchange of information and experiences between actors in Europe, especially in developing regions
- To investigate the needs, opportunities and obstacles for e-health and to review and select from different education options for developing regions.
- To disseminate European and world-wide results and experiences across regions and between professionals
- To facilitate access to European groups and their facilities and outcomes by students and health professionals from developing regions
- To disseminate European and world-wide results and experiences across developing regions and professionals

- Mission of evaluation and support of EHR Serbia.
- Support for Serbian Society of Medical Informatics for becoming an EFMI member.
- Participation at the Conference «Electronic Health Record, options for the Future», April 17 2008, Belgrade
- Organizing the Workshop "Integration of Electronic Health Records" National / International and Technical Aspects, 24-25 July, Belgrade
- MIE2009, Sarajevo, Workshop "Is There a Common Background to Support Better Healthcare in Central and South East Europe?"
- Initiation of a regional Co-operation Forum

# EFMI WG HOFMI

# Human and Organisational Factors of Medical Informatics

#### Chair.

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# EFMI WG IDR

# Informatics for the Disabled and Rehabilitation

#### Chair:

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## **Objectives**

- To organize workshops and tutorials dedicated to the WG topics
- To establish networks of people involved in human and organizational issues in the healthcare domain, and to learn about new developments and their activities
- To disseminate knowledge about human and organizational factors in medical informatics by various activities, such as conferences, educational events, publications.

#### Recent and Future Activities:

- Conference "Human Factors Engineering in Health Informatics", 7 and 8 June 2007, Aarhus. This conference was preceded by a doctoral colloquium (http://www.v-chi.dk/HFEinHI2007/). A selection of the papers will be published in the Journal of the American Medical Informatics Association. There were about 100 participants.
- 4th conference "Information Technology in Health Care: Sociotechnical Approaches", Sydney, Australia, 28 30 August 2007. The conference also included a doctoral colloquium. Papers published in "Studies in Health technology and Informatics", Vol. 130, IOS Press. There were over 100 participants. A selection of the best papers will be published in a special issue of the International Journal of Medical Informatics.
- A business meeting will take place at MIE2008 in Göteborg, including paper presentations.

### Objectives:

- Support of research, developmental work and education/information in the field through a systematic progressive collection of the relevant literature and the promotion of a discussion forum
- To promote a multidisciplinary collaboration among the healthcare and informatics professionals on one hand, and the consumer associations on the other hand in order to pursue, and also spread the culture of, accessibility and usability
- To involve researchers belonging to different disciplines and users through the organization of workshops

## **Recent and Future Activities:**

The WG is at its very beginning.

A list of interested people has been collected. On March  $7^{\text{th}}$  2007, a work meeting, with Italian participants of the most representative research institution in the fieldof rehabilitation, has been organized in Pavia. A questionnaire will be circulated to gather consensus on the most relevant and "popular" fields of interest. Moreover, we are designing a database to collect and catalog papers published on both medical informatics and medical literature about the informatics topics related to rehabilitation and disabilities.

# EFMI WG LIFOSS

# Libre/Free and Open Source Software in Health Informatics

#### Co-Chair:

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# EFMI WG MCRO

MBDS - Casemix, Resources Management and Outcomes of Care

#### Chair

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#### Co-Chair:

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## **Objectives:**

- evaluation of free/libre and open source materials and approaches
- exploration and development of open standards
- use of free/libre and open source systems, and knowledge transfer about these systems
- a European focus, including activities aimed at, but not exclusive to, the European Union.

### **Recent and Future Activities:**

Development of:

- a webspace and discussion forum
- a repository of knowledge about free/libre and open source developments of relevance to the health informatics domain
- · discussion papers on specific topics.

## **Objectives:**

- The organisation of special topic conferences, workshops, teaching sessions in the European Region
- The communication of up to date experiences and/or references between members, including national data sets, terminology, coding system and patient classification methods for resource management and quality of care
- The dissemination of results about informatics tools and telematics systems in this specific area among EFMI and IMIA affiliated members and participants to their meetings.

- May 2007 Workshop on Integrated Care Record systems with participation from Contsys and HL7
- August 2007 MEDINFO Workshop on International CaseMix Use
- PCSE 2007 Venice Workshop Go with the flow in the Continuity of care The workshop on CONTsys concepts and workflow
- MIE2008 / Working group session on Casemix and Integrated Care, CHAINE Revisited
- PCSI 2008 Lisbon, Workshop on Casemix and Chronic Disease Management.
- MIE2009 / Joint Session with CONTSYS about Continuity of Case and Casemix tools for Chronic Disease Management.

# FFMI WG MIP

## Medical Image Processing

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# EFMI WG NLU

## Natural Language Understanding

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## **Objectives:**

- Support of communication and common attempts of academia and industry to increase quality of innovation, research and development in the field of medical image processing.
- A reference image database for medical image processing R&D groups (RID-MIP) and a web-based Information System (IS) about European Image Processing including Groups and their current activities.
- to maintain the MIP website and establish a web-based information system for European image processing groups and their current activities
- To organise and conduct workshops at EFMI conferences and other events.
- To build and maintain close relationship with persons, groups, organisations and standardisation bodies

#### Recent and Future Activities:

- WG Wiki has been set up by Sarah Barman. The platform shall be utilized to intensify the collaboration of the WG members to overcome workforce shortcomings more smoothly.
- At CARS conference in June 2008 in Barcelona, a symposium "Cognitive Methods for Image Classification" was supported
- At the MICCAI conference in New York in September 2008 the workshop "Manifolds in Medical Imaging: Metrics, Learning and Beyond" was supported
- Support of the 17th CATAI Winter Course of the University of La Laguna, Tenerife, Spain, in March 2009
- · Cooperation with CARS, NIH and industries has continued and will continue

## **Objectives:**

- To organize workshops and special topic conferences dedicated to NLP
- To have personal connections with people involved in NLP in the medical domain, especially in Europe, and to learn about their current developments and activities. To develop connections with experts in the general NLP domain and to participate to related events (ACL, COLING...).
- To represent EFMI at IMIA WG6; at AMIA new SIG on NLP and at AIME and to participate to events of those societies.

- The NoE SemanticMining by its WG20 has setup an interchange format for multilingual medical lexicon. The WG NLU is actively represented in this initiative. The prospective of participation to the EU FP7 call for projects is now open.
- A workshop about ontology representation has taken place during the STC conference in April 2006 in Timisoara, Romania.
- The WG is actively looking for organizing a track in an EFMI STC conference

# EFMI WG NURSIE

## Nursing Informatics in Europe

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# FFMI WG PCI

### **Primary Care Informatics**

#### Chair:

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## **Objectives:**

- To support nurses and nursing organizations in the European countries (18 members) with information and contacts and the field of medical informatics
- To offer nurses opportunities to build contact networks within the informatics field.
- To support the education of nurses with respect to informatics and computing.
- To support research and developmental work in the field and promote publishing of achieved results.

## **Recent Activities:**

- MIE2008 preconference nursing workshop on May 25<sup>th</sup> prepared together with by NSF (Norwegian Nurses' Organization) NSFID (Norwegian Nurses' Organization's Special Interest group on Nursing Informatics), Örebro University and IMIA NI working group. The speakers and the experts gave a good overview on "Preparing for eHealth – collaborative efforts in nursing".
- During WoHIT 2008 conference November 3<sup>rd</sup> a full day conference "What Can Technology and Informatics Do for You?" at Herlev Hospital
- Support of the first Croatian Nursing informatics conference in Zagreb November 7<sup>th</sup> to 11<sup>th</sup> 2008
- Second version of "Nursing and Informatics for 21st Century" published together with Ch. Weaver, C. Delaney, P. Weber and R. Carr will be ready February 2010.

## **Objectives:**

This Working Group aims to further develop the theoretical basis for best practice, which should underpin the use of Informatics in Primary Care.

- To advance pan-European cooperation and the dissemination of information in the domain of primary care informatics.
- To promote high and common standards of applications used in primary care.
- To promote research and development aimed at developing a core generaliseable theoretical basis for primary care informatics.
- To encourage high standards in education

- MEDINFO2007 joint Primary Care Informatics Working Groups consensus conference with IMIA and AMIA primary care informatics working groups.
- At MIE2008 in Goteborg the workshop Using routinely collected data to improve quality and patients safety was held The focus of this workshop was on how electronic patient record (EPR) systems can improve patient safety.
- Workshop at the EFMI STC 2008 London, UK, launching the ALFA toolkit. This is a multi-channel video method of precisely observing the impact of the computer on the clinical consultation (www.jmir.org/2008/4/e27/).

# EFMI WG PPD

### Personal Portable Devices

#### Chnir-

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#### Co-Chair: Peter Pharow University Illmenau, Germany

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## FFMI WG SSF

Security, Safety and Ethics

#### Chair:

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## **Objectives:**

EFMI WG PPD aims at being a European competence centre to watch ongoing activities and to provide knowledge to policy makers and systems designers involved in projects related to personalised, portable devices (PPD) like cards, tokens, and similar technologies in the domain of healthcare and welfare:

- Competence and know-how focused on health care identity management (ID) schemes
- Vision of personalised, portable device technology applications.
- Marketing, dissemination and deployment of WG ideas and results on national and European level

#### Recent and Future Activities:

The following activities are planned for 2009

- PPD oriented competence and know-how
- Updated repository of PPD projects (specifically related to cards and tokens) in the health sector
- Liaison with, and input to, identified relevant standards developing organisations (SDO) in the domain of healthcare and welfare and in related domains
- Marketing, dissemination and deployment of WG ideas and results The activity
  plan is being resumed on a yearly basis. The EFMI Working Group "PPD" cooperates with EHTEL so as with other activities appearing in this professional
  sector like the World ID steering committee or SDO (especially ISO TC 215,
  CEN TC 251, and CEN TC 224). Liaison persons link between the WG and the
  identified bodies.

#### **Objectives:**

Speeding up the use of ICT for health care increases the challenge for trustworthiness, security and safety of solutions and infrastructure deployed. The WG aims to promote development, education and training on the field of security and privacy in health care. It establishes close collaboration with other WGs within EFMI and beyond for securing their ICT solutions for health care.

# **Recent and Future Activities:**

The following activities have been realised (results are published):

- Contribution to the International Conference "eHealth: Combining Health Telematics, Telemedicine, Biomedical Engineering and Bioinformatics to the Edge", 2-5 December 2007 in Regensburg..
- EHR Workshop National Approaches for Sustainable, Semantically Interoperable and Trustworthy EHR Solutions" – the latter was jointly organised with the EFMI WG "Security, Safety and Ethics" – were held during the MIE 2008, 24-28 May 2008, in Gothenburg, Sweden.
- Workshop at ICMCC 2008, 9-11 June 2008 in London, UK.

#### Future activities:

- Workshop at ICMCC 2009 in London, UK.
- Workshop with HL7 International at MIE 2009, 30 August 2 September 2009 in Sarajevo, Bosnia and Herzegovina

# EFMI WG TRACE

# Traceability of supply chains

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# **Objectives:**

Traceability is an important aspect of health informatics and

- builds the net of information between supply chains, care processes, outcomes and financial flows.
- faces important challenges, such as entities identification and authentication and serialization
- · implies to track and trace physical entities and linking these entities to virtualized
- information flows. The major benefits of traceability are
- improving efficiency and safety of care processes, including the supply chain of drugs, devices, etc.;
- improved secondary usage of data for outcome research;
- measures against counterfeited drugs and devices.

# **Recent and Future Activities:**

The WG is slowly growing. Interest in healthcare facilities is getting more important, while importance is perceived as major in most supply chain, such as medical devices or pharma.

- Organisation of a Survey on IT support to the decision & supply chains
- A special conference on traceability is planned for STC 2010.