

## EFMI Working Group Medical Image Processing

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Chair:

Assoc. Prof. Dr. Dr. Alexander Horsch  
Dept. of Medical Statistics and Epidemiology  
Munich University of Technology  
Ismaninger Str. 22  
D-81675 Munich, Germany  
[alexander.horsch@imse.med.tu-muenchen.de](mailto:alexander.horsch@imse.med.tu-muenchen.de)

Co-chair:

Dr. Thomas Wittenberg  
Fraunhofer Institute for Integrated Circuits IIS  
Dept. of Image Processing and Medical Engineering  
Am Wolfsmantel 33  
D-91058 Erlangen, Germany  
[wbg@iis.fhg.de](mailto:wbg@iis.fhg.de)

Co-chair:

Dr. Vytenis Punys  
Image Processing & Analysis Lab  
Computational Technologies Centre  
Kaunas University of Technology  
Studentu 56-304  
LT-51424 Kaunas, Lithuania  
[vytenis.punys@ktu.lt](mailto:vytenis.punys@ktu.lt)

### Objectives

To establish a reference image database for medical image processing research and development groups within the EFMI member countries

To establish a web-based information system for European image processing groups and their current activities

To create and maintain a working group website providing public information and (in a protected sub-area) WG-internal documents and work plans

To organize and conduct workshops dedicated to the WG topics at the MIE conferences and other events

To build and maintain close relationship with persons, groups, organizations and standardization bodies working on the MIP field and medical domains involved

### Recent activities

The *Reference Image Database Work Prototype RID-WP 1.0* has been under discussion in the working group. Promotion of the initiative has been done on various occasions, such as national image workshops and conferences, or by a conceptual publication in a special Issue of the *Methods of Information in Medicine* journal. Close collaboration with the US *Cancer Imaging Program* of the *National Cancer Institute*, and the *Insight Software Consortium* and *Kitware Inc.* has been started. This shall in particular help in pushing the efforts, create synergies and avoid uncoordinated parallel developments.

On behalf of the working group, co-chair Thomas Wittenberg has participated as panelist in the Breakout Session 2: *Databases as Required for Assessment and Application of Software Tools* (moderated by Maryellen Giger) at the National Institutes of Health (NIH) symposium on *Biomedical Informatics for Clinical Decision Support: A Vision for the 21st Century*, jointly organized and coordinated by the Bioengineering Consortium (BECON) and Technology Initiative Consortium (BISTIC), June 21-22, 2004 on the NIH main campus in Bethesda, Maryland. The meeting was very fruitful, ending up with short term (< 5 years) and long term (> 5 years) recommendations for how to build up reference databases. The recommendations are available on the WG Website [www.efmi-wg-mip.net](http://www.efmi-wg-mip.net).

The 2<sup>nd</sup> WG workshop with seven presentations has been held successfully at Medical Informatics Europe (MIE) conference 2003 in Saint Malo on Monday, May 5th, 2003 on the topic *Integration of Medical Image Processing into Clinical Workflow and the Electronic Patient Record*. The 3<sup>rd</sup> WG Workshop with the topic *Medical Image Processing for Health - State of the Art, Challenges and Obstacles* has taken place on 16 June 2004, Munich, Germany, at the EFMI Special Topic Conference 2004. The participation for both events was very good. Lively discussions and new contacts made have made both events a success for the working group. All presentations are available on the WG Website.

The cooperation with CARS (Computer Assisted Radiology and Surgery) has been continued, the contacts to the organizers have been intensified. After the jointly organized scientific session on "Image Processing and Display" consisting of 15 presentations at CARS'2003 in London, UK, it was decided to skip the CARS'2004 in Chicago and concentrate on the next conference in Berlin, 2005 (see below).

A WG meeting has taken place at EFMI Special Topic Conference in Munich on June 16th, 2004. Strategy and harmonization of efforts for reference image databases stood in the focus of this very productive meeting (protocol see WG Website).

### **Future activities**

It has been decided in a WG chair meeting in Munich in June 2004, not to postpone the implementation of a Web-based Information System for European Image Processing Groups any more until funding is available. Instead, a first version shall be implemented with students at Kaunas University, Lithuania, under the leadership of WG co-chair Vytenis Punys.

For CARS'2005 conference in Berlin it is planned to organize a special track about "Medical Image Data Reference Archives and Correlated Software Tools and Technologies" co-operatively by CARS and EFMI.

With the Cancer Imaging Program of the National Cancer Institute the working group will harmonize the efforts and try to strengthen the position for another application for funding by the European Commission. Human networking will be intensified for this purpose, taking the preparatory work, done for a Network of Excellence application to the EC last year, as a starting point.

With the Insight Software Consortium and Kitware Inc. an improved version of the RID-WP will be used for hosting of the image datasets of a new medical image processing online journal. Contributors to this journal will have to deliver their image datasets, algorithms and parameters they have used to create the results to be published, and the image datasets shall be stored in the database of the working group.

## **Publications**

Clarke L: The LIDC Database Project. In: Blobel B, Gell G, Hildebrand C, Engelbrecht R (eds): Contribution of Medical Informatics to Health (EFMI STC'2004). Aka Verlag, Berlin, 2004, 128

Horsch A, Prinz M, Schneider S, Sipilä O, Spinnler K, Vallée JP, Verdonck-de Leeuw I, Vogl R, Wittenberg T, Zahlmann G: Establishing an International Reference Image Database for Research and Development in Medical Image Processing. *Methods Inf Med* 43(4)2004:409-412

Horsch A: The Potential of Medical Image Processing and the Need for Reference Data and Software to Accelerate its Exploitation for Patients' Health. EFMI STC'2004, 126

Punys V: About an Initiative to Build a European Network of Excellence for Medical Image Processing. EFMI STC'2004, 127

Wittenberg T: The Basic Principles of the Reference Image Database Concept of EFMI WG MIP. EFMI STC'2004, 129