



## 6th pHealth Workshop on Wearable Micro and Nano Systems for Personalised Health

### pHealth 2009 “Facing future health care needs”

24th, 25th and 26th June 2009

OSLO, Norway

#### **Organised by:**

- SINTEF
- Norwegian Centre for Telemedicine (NST)
- The Interventional Centre, Oslo University Hospital, Rikshospitalet

#### **With the collaboration of:**

- IEEE EMBS (technical co-sponsor)
- MedCoast Scandinavia
- Oslo MedTech Network
- Oslo Cancer Cluster

#### **Sponsored by:**

- Innovation Norway
- Research Council of Norway
- MedCoast Scandinavia

#### **Local organising committee:**

- Dag Ausen, SINTEF (chairman)
- Berit Sundby Avset, SINTEF (co-chairman)
- Annebeth Osa, SINTEF
- Trine Seeberg, SINTEF (chair posters & demos)
- Per Hasvold, NST
- Ole Jakob Elle, Oslo University Hospital
- Morten Fraas, Oslo Teknopol
- Susanne Werner, Oslo Teknopol/MedCoast Scandinavia

## Local programme committee:

- Per Hasvold, NST (chairman)
- Dag Ausen, SINTEF ICT
- Liv Furuberg, SINTEF ICT / University of Oslo
- Hilde Færevik, SINTEF Health Research
- Toril N. Hernes, SINTEF Health Research / Norwegian Technical University
- Gustav Bellika, NST
- Rune Fensli, University of Agder
- Ilangko Balasingham, Oslo University Hospital / Norwegian Technical University
- Karl Øyri, Oslo University Hospital
- Laura Slaughter, Norwegian Technical University / Oslo University Hospital
- Gunnar Hartvigsen, University of Tromsø
- Marius Mikalsen, SINTEF ICT
- Frode Strisland, SINTEF ICT
- Morten Borch, SINTEF ICT

## Scientific Committee:

- Andreas Lymberis, European Commission, Microsystems
- Loukianos Gatzoulis, European Commission, eHealth
- Danilo De Rossi, UNIPI (IT)
- Eric McAdams, NIBEC (UK)
- Georges Kotrotsios, CSEM (CH)
- Nicos Maglaveras, Univ. Thessaloniki (GR)
- Sergio Guillén & Vicente Traver, ITACA (ES)
- Brian MacCraith, Biomedical Diagnostics Institute, Dublin City University (IE)
- Paolo Bonato, Harvard Medical School (US)
- Jean Luprano, CSEM (CH)
- Josep Roca, Hospital Clinic Barcelona (ES)

## Programme:

WEDNESDAY 24 JUNE 2009				
10:00	Opening session	HP HCoE		
10 – 13:30	<p><i>Personalised health at the hospital</i></p> <p>Presentations and technology demo</p> <p>Additional speakers:</p> <ul style="list-style-type: none"> <li>- Morten Andresen, CEO, Imatis</li> <li>- Hans Chr. Haugli, director, Telenor R&amp;I</li> </ul>	HP HCoE, Oslo <sup>1</sup>	<p>Smart Textiles Network meeting <sup>2</sup></p> <p>Speakers:</p> <ul style="list-style-type: none"> <li>- Jean Luprano, CSEM</li> <li>- AnnaLisa Bonfiglio, University of Cagliari</li> </ul>	Hotel Bristol
14:30 – 18:00	<p><i>Biomedical in-vivo sensors – in action</i></p> <p>Presentations and live demo at the hospital</p> <p>Additional speakers:</p> <ul style="list-style-type: none"> <li>- Marc Schurr, Novineon</li> <li>- Antoine Ferreira, ENSI</li> <li>- Dr. Catherin Dehollain, Ecole Polytechnique Federale de Lausanne, Switzerland or Prof. Ilangko Balasingham, Oslo University Hospital</li> </ul>	Rikshospitalet, Oslo	<ul style="list-style-type: none"> <li>- Hilde Færevik, SINTEF</li> <li>- Ivar Grøneng, HellyHansen</li> <li>- TST-Sweden</li> <li>- Lena Berglin, The Swedish School of Textiles</li> <li>- Nils Krister Persson, University College Borås</li> </ul>	

<sup>1</sup> HP HCoE – Hewlett Packard European Health Centre of Excellence, Oslo ([www.hp.no/hcoe](http://www.hp.no/hcoe))

<sup>2</sup> <http://www.smarttextiles.se/eng/>

**THURSDAY 25 JUNE 2009**

08:30 – 09:30	Registration	Hotel Bristol
09:30 – 11:00	<p><b>Welcome and keynote session</b></p> <p><i>Empowering citizens through pHealth - the European agenda</i>, Roberto Giampieretti, European Commission - eHealth</p> <p><i>Personal Health Systems – roadmap towards 2020</i>, Cristiano Codagnone, Milan State University</p> <p><i>Digital Soldiers: Transforming Personalized Health in Challenging and Changing Environments</i>, Karl Friedl, Telemedicine and Advanced Technology Research Centre</p>	
11:00 – 11:30	Coffee break	Exhibition area
11:30 – 13:00	<p><b>Session 1: Topic – Medical sensors</b></p> <p><i>In-vivo and in-vitro sensors and sensor systems targeting medical problems, physiologic and biomedical parameters, using micro and nano sensors</i></p> <p>Chairman: Prof. Brian MacCraith, Biomedical Diagnostics Institute, Dublin City University</p> <p>Co-chairman: Dag Ausen, SINTEF ICT</p> <p>Speakers:</p> <ul style="list-style-type: none"> <li>- Lars-Olof Hansson, Uppsala University: <i>pHealthLab, a need for effective pHealthCare</i></li> <li>- Clifford C. Dacso, Abramson Center for the Future of Health: <i>The new personalised medicine: low cost sensors, robust analytics, ubiquitous computing</i></li> <li>- Stig Morten Borch, SINTEF: <i>In vitro diagnostic platforms of the future. Technological possibilities and challenges.</i></li> <li>- Frank Karlsen, NorChip: <i>Business case POCNAD</i></li> </ul> <p>Roundtable discussion chaired by prof. MacCraith.</p>	
13:00 – 14:00	Lunch	Exhibition area
14:00 – 15:30	<p><b>Session 2: Topic – Activity and context sensors</b></p> <p><i>Sensors and systems targeting physical activity, motion tracking, ambient assisted living, context and life-style parameters, using micro and nano sensors, and smart textiles</i></p> <p>Chairman: Paolo Bonato, Harvard Medical School</p> <p>Co-chairman: Rune Fensli, University of Agder</p> <p>Speakers:</p> <ul style="list-style-type: none"> <li>- Rune Fensli: <i>Wearable Sensors and Systems: Integrating Technology for Clinical Applications</i></li> <li>- Dr. Emil Jovanov, University of Alabama: <i>System</i></li> </ul>	

	<p><i>Architecture of Wireless Body Sensor Networks</i></p> <ul style="list-style-type: none"> <li>- Venere Ferraro, Politecnico di Milano: <i>Designing a Sensorized Glove for Post-Stroke Rehabilitation</i></li> <li>- Juan Jacobo Estrada, Universidad Politécnica de Madrid: <i>Monitoring of motor status in Parkinson's disease</i></li> <li>- Roundtable discussion chaired by Dr. Bonato</li> </ul>	
15:30 – 16:00	Coffee break	Exhibition area
16:00 – 17:30	<p><b>Session 3: Topic – User interaction and personal health systems</b></p> <p><i>Personal health systems are constructed from a number of underlying technologies and services. In this session we focus on the components of personal health systems that provide a platform for computation, storage, acquisition and retrieval of data, and an interface to those data. This will include wearable computers and smart textiles, implants and actuators, as well as multi-modal user interfaces.</i></p> <p><i>The targeted issues are: chronic diseases, continuity of care, efficacy of medical decisions and interventions, citizen empowerment for managing and controlling their health.</i></p> <p>Chairman: Jean Luprano, CSEM  Co-chairman: Per Hasvold, NST</p> <p>Speakers:</p> <ul style="list-style-type: none"> <li>- Elina Mattila, VTT (FIN): <i>Pervasive Health</i></li> <li>- Geir Østengen, NST (NO): <i>Diabetes management</i></li> <li>- Sergio Guillén, ITACA Institute UPV (ES): <i>Personalisation of health in Heart Failure and Coronary Artery Disease patients via closed loop systems. The Heart Cycle approach</i></li> </ul> <p>Roundtable discussion chaired by Dr. Luprano</p>	
18:00 – 19:30	Reception Oslo City Hall	
19:30 – 22:30	Boat trip including dinner at the Oslo-fjord	

FRIDAY 26 JUNE 2009		
08:00 – 08:30	Registration	Hotel Bristol
08:30 – 10:30	Seminar session	
	Personal Portable Devices and Sensor Networks	Cancer diagnostics EU-US pHealth Experiences
10:30 – 11:00	Coffee break	Exhibition area

11:00 – 12:30	<p><b>Session 4: Topic – Systems integration and services</b></p> <p><i>There is a clear need to reduce the societal burden of chronic disorders and ageing. There is a need for successful deployment of innovative and integrated care services supporting healthier and independent living. Many health record suppliers of today are offering pre-Internet era software that is costly and locked to proprietary technology standards that make it difficult to change vendors. The government role should be to set the rules that allow for care services that are based on open software platforms and open standards. This would allow for innovators to write services that are well integrated into an ecosystem of systems. On the organisational and political side, the experiences from the use of such care services are quintessential to ensure uptake. Clear clinical and economical evidence need to be presented. This session will bring together an international group of experts in their fields that will highlight these topics.</i></p> <p>Chairman: Josep Roca, Hospital Clinic Barcelona Co-chairman: Marius Mikalsen, SINTEF ICT</p> <p>Speakers:</p> <ul style="list-style-type: none"> <li>- Dr. Josep Roca: <i>Setting the scene - the Catalanian experience</i></li> <li>- Prof. Dr. Milan Petković, Cluster Leader Information Security, Philips Research Europe: <i>Standardisation and security in personal health systems (Continua work)</i></li> <li>- Mr. Stefan Ohlsson, IBM Nordic: <i>IBM + Google - a collaboration to empower the patients and personal health records</i></li> <li>- Ms. Aase Kari Haugeto, The Norwegian Technology Advisory Board: <i>Taking care of the elderly people in the future</i></li> </ul> <p>Roundtable discussion chaired by Dr. Roca</p>	
12:30 – 13:15	Lunch	Exhibition area
13:15 – 14:30	<p><b>Session 5: Topic – From research to innovation to implementation</b></p> <p><i>Marked analysis, opportunities for innovation, EU and other funding opportunities, future trends, emerging markets</i></p> <p>Chairman: Andreas Lymberis, European Commission</p> <p>Speakers:</p> <ul style="list-style-type: none"> <li>- Andreas Lymberis: <i>Microsystems and pHealth: Relevant activities under EC-ICT program and forthcoming call for proposals</i></li> <li>- Baldur Johnson, Hewlett-Packard</li> <li>- Sverre Flateby, Forefront Innovation</li> </ul>	
14:30	Closing of pHealth 2009	

## Conference Secretariat:

Contact person: Annebeth Osa (SINTEF), Håkon Lauvålien (Congrex-Conference AS)

Email: [phealth2009@sintef.no](mailto:phealth2009@sintef.no)

Web: [www.phealth2009.com](http://www.phealth2009.com)

Address: Conference Secretariat pHealth 2009

SINTEF

P.O.Box 124 Blindern

N-0314 Oslo

NORWAY

Phone:

+47 22 06 77 71

Congress-Conference AS

P.O.Box 2694 Solli

N-0204 Oslo

NORWAY

+47 22 56 19 30