

pHEALTH 2014

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pHealth 2014

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Preface

The pHealth 2014 Conference is the 11th in a series of scientific events bringing together expertise from medical, technological, political, administrative, and social domains, all related to the provision of personalized health services. Aspects such as cooperation between primary, secondary and tertiary health care establishments, the inclusion of social care, home care and lifestyle management, practical experiences with local or regional telemedicine services, management of chronic diseases, Quality assurance challenges, health games, terminologies and ontologies, data management and visualizations, medical decision support, monitoring of environmental and living conditions of citizens using mobile wearable or implementable technologies as well as social and ethical issues of health (care) provision are to be addressed by almost 40 speakers from various parts of the world. Keynotes, invited talks, and oral presentations discuss foundations and principles, requirements and solutions for pHealth. European success stories and national pilots as well as innovations and industrial products enabling the paradigm change towards participative and personalized health form the scientific program, together with demonstrations of existing and emerging applications in the pHealth domain. Presentations will be complemented by a students' poster competition.

In the last years, the pHealth conferences have emerged as the leading international conference series on wearable micro and nano technologies for personalized medicine and personalized health service provision. Starting in 2003, pHealth has gained importance for attracting well acknowledged scientists in the domains of relevant technologies, medical doctors, and policy makers from academic institutions, hospital administrations, governmental and regulatory bodies, the healthcare industry and allied professions. Collecting the experience of a dynamically emerging professional community from Europe and beyond, the pHealth event series has given visibility to the tremendous potential of micro and nano technologies not only for the future of medicine, but also for the improvement of health care and welfare processes today and tomorrow, thereby helping to integrate health and social care.

Microsystems, smart textiles, telemedicine, mobile computing, smart implants, sensor-controlled medical devices, and innovative sensor and actuator principles and techniques as well as related body, local and wide area networks up to Cloud services have become important enablers not only for monitoring, diagnosis, and treatment in both inpatient and outpatient care, but also for preventive and predictive systems medicine. This is, however, just the beginning of evolutionary and revolutionary changes, paradigm shifts, and the respective significant opportunities for patients, citizens, health professionals, healthcare establishments, and companies engaged in the micro and nano technologies. This indeed addresses the interest of the entire healthcare industry. The multilateral benefits of the whole gamut of enabling pHealth technologies for all addressed stakeholders lead to a win-win situation with enormous potential, not only for medical quality improvement and industrial competitiveness, but for increasing access to care alike whilst managing healthcare costs.

The pHealth 2014 Conference tackles existing and emerging technologies, uptakes the outcome from successful European projects in various domains, and addresses topics beyond the traditional clinical, primary care, and public health scope. The

presentations range from latest developments to running projects and initiatives to lessons learned from keeping project results sustainable.

The pHealth 2014 Conference thankfully benefits from the experience and the lessons learned from the organizing committees of previous pHealth events, particularly 2009 in Oslo, 2010 in Berlin, 2011 in Lyon, 2012 in Porto, and 2013 in Tallinn. The 2009 conference brought up the interesting idea of having special sessions focusing on a particular topic, and being organized by a mentor/moderator. The Berlin event in 2010 initiated workshops on particular topics prior to the official kick-off of the conference. Lyon in 2011 initiated the launch of so-called dynamic demonstrations allowing the participants to dynamically show software and hardware solutions on the fly without needing a booth. Implementing pre-conference events, the pHealth 2012 in Porto gave attendees a platform for presenting and discussing recent developments and provocative ideas that helped to animate the sessions. Highlights of pHealth 2013 in Tallinn was the special session on European projects' success stories, but also presentations on the newest paradigm changes and challenges coming up with Big Data, Analytics, Translational and Nano Medicine, etc.

The pHealth 2014 Conference combines the presentation of emerging principles, future visions and views with a careful analysis of lessons learned from international and national R&D activities and practical solutions. The new EU Framework Program for Research and Innovation, Horizon 2020, also addresses pHealth implementation by focusing on technology transfer support and building ecosystems and value chains to ensure better time to market and higher impact of knowledge-based technologies. As the acceptance of solutions is crucial for the adoption of technologies, and the acceptance heavily depends on the trust in those solutions, security and privacy issues form an important part of the 2014 event. The conference is completed by a Satellite Conference of the Austrian Scientific Society for Telemedicine and eHealth (ASSTeH).

ASSTeH, but also the Working Groups "Electronic Health Records (EHR)", "Personal Portable Devices (PPD)", and "Security, Safety and Ethics (SSE)" of the European Federation for Medical Informatics (EFMI), are supporters of pHealth 2014 and actively involved in the preparation and realization of the conference.

This proceedings volume covers keynotes, oral presentations and poster presentation selected from a bunch of submissions to the pHealth 2014 conference. All submissions have been carefully and critically reviewed. The editors are indebted to the acknowledged and highly experienced reviewers for having essentially contributed to the quality of the conference and the book at hand.

Both the pHealth 2014 Conference and the publication of the pHealth 2014 proceedings at IOS Press would not have been possible without the supporters and sponsors: Health Level 7 International (HL7 International), HL7 Austria, HL7 Germany, ASSTeH, and European Federation for Medical Informatics (EFMI).

The editors are also grateful to the dedicated efforts of the Local Organizing Committee members and their supporters for carefully and smoothly preparing and operating of the conference. They especially thank all team members of the eHealth Research and the management of the University of Applied Sciences Technikum Wien for their continuous involvement in the organization and realization of the conference.

Bernd Blobel, Stefan Sauermaun, Alexander Mense
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