Call for Papers to pHealth 2018

The upcoming pHealth 2018 is the 15th event in a series of international conferences on personalized health, facilitating the needs of all stakeholders in the complex domain of health such as the entire health and social care industry with provider, vendor and payer organization, politics and administration, but especially health professionals and patients including their social circles. Having started back in 2003 with personal health management systems as technology focused International Conference on Wearable Micro and Nano Technologies for Personalized Health, pHealth has evolved to a truly interdisciplinary meeting of internationally recognized experts on the one hand, and young scientists as well as students on the other hand, by combining medicine, technologies, biomedical engineering, legal, ethical, social, and organizational aspects and impacts with basic research for enabling future care paradigms. That way, pHealth increasingly brings together, and bridges between, advanced medical services, public health and epidemiological monitoring, prevention, social and elderly care, as well as wellness and fitness. These activities aim at establishing participatory, predictive, personalized, preventive, and effective care settings. Thereby, smart mobile systems, health apps, sensors and actuators, native or attached to mobile phones available to eHealth and telemedicine, are emerging as enablers for ubiquitous pervasive health and the main components for the next wave of health services delivering integrated care. Thus they still present advances in wearable or implantable micro, nano and biotechnologies for healthcare and wellness. Social media and gamification further highlight the potential of pHealth.

Following that stream, the 2018 edition of pHealth will emphasize the interrelations framing ubiquitous pervasive health and wellness like precision medicine and virtual care, mobile technologies, micro-nano-bio smart system, bio-data management and analytics. It specially addresses new potential risks for security and privacy as well as safety chances and challenges, the motivation of patients in care processes by game and gamification, and health systems challenges in developing countries. The intended outcome is intelligent and connected health devices and services leading to integrated care. The multilateral benefits of pHealth technologies for all stakeholder communities give enormous potential, not only for medical quality improvement and industrial competitiveness, but also for managing health care costs and, last but not least, improving patient experiences.

The 2018 Norwegian version will include workshops and a pre-conference student hackathon, and it will showcase the Norwegian healthcare system and health related EU and national projects. Being hosted in Gjøvik, Norway's cyber security capital, the conference is managed by the Norwegian University of Science and Technology (NTNU) with its departments Information Security and Communication, Center for Cyber and Information Security (CCIS), Computer Science, and Health Science.

For the first and hopefully not for the last time, the 2018 pHealth event will be performed in coordination and collaboration with the "World Congress on Medical Physics and Biomedical Engineering" to be held in Prague, Czech Republic, the week before (3 – 8 June 2018). The intention of both SPCs in Prague and Gjøvik is to encourage participants of the other event with their specific perspective to submit papers to, and to participate in, both conferences, so really integrating those traditionally separated groups.

Following a long-term tradition, pHealth 2018 is supported by the Working Groups "Personal Portable Devices" and "Security, Safety and Ethics" of the European Federation for Medical

Informatics (EFMI), but also by HL7 International Inc. as well as by the Research Council of Norway and the Ministry of Health and Care Services in Norway.

Conference Contributions

The conference will be opened by a few Conference Keynotes held by globally leading experts. Invited Session Keynotes will introduce into the session topics and the Full Papers and Posters presented there. Workshops and Panel discussions about EU and national research projects, industrial developments and innovations in the healthcare domain will be intertwined with the paper and poster sessions, completed by a Hackathon.

Awards

The scientific program committee will bestow the pHealth 2018 Young Scientists Best Paper Award to be proclaimed at the end of the conference. Additionally and beyond the regular paper sub-mission process, students from around the world are cordially invited to join the Best Student's Poster Contest by submitting poster proposals directly to the conference organizers, so passing the online-registry system for submissions.

Topics

The conference organizers call for innovative paper submissions describing knowledge beyond the state of the art in the area pHealth as outlined above. Specific topics of interest include, but are not limited to:

Wearable and implantable devices and systems
- Sensors and sensing technologies, actuators and patient diagnostic systems
- Bio-signal processing and analysis
- Wireless body area network
- Sensor pattern recognition and data fusion

Solutions for personalized care and food safety (nutrition)
- Personalized diagnostics, care, therapy, and rehabilitation
- Addressing food safety with smart systems
- Biomedicine, biomechanics, bioelectronics, bio-photonics and pHealth
- Artificial organs

Data and knowledge management and methodologies
- Big (bio) data and the quantified self
- Business analytics and visualization
- Personal health records, patient-centered data management, and cloud services
- Data processing and algorithm in eHealth and pHealth

Interoperable ICT and telemedicine
- Connected health and integrated care
- Cross-domain and cross-border health information systems and services
- Telemedicine and home hospital
- Multi-scale and multi-level decision support systems
- Success stories and failure reports

mHealth applications
- Bridging mHealth and pHealth applications
- Health behavior changes and behavioral Health services
- Inclusive user interfaces for pHealth
- Wellness apps, ambient assisted living, active healthy aging, and lifestyle management
- Certification of mHealth and mobile devices for eHealth and pHealth

Security, privacy, safety, and ethics issues in pHealth

- Security, privacy, ethics and trust as enabler for pHealth
- Identity management and privacy enhancing technologies for pHealth
- Socio-technical approaches to security in healthcare
- Future needs for regulation, certification and labelling
- Secure data sharing across trust domains
- Medication and patient safety issues

Challenges and solutions in health education and training

- Education, training and professional development in medicine, bioinformatics, biomedical engineering, medical physics, etc.
- Education of other important user groups including patients and social circles as well as the general public

Game for personalized health

- Gamification of health care from a patient perspective
- Serious games for training health care professionals
- Games for public health care
- Game development tools used for the creation of health technology
- Virtual / augmented / mixed reality games for health

Blockchain and distributed ledger technologies (DLT) in identity management, health and medicine

- Innovative use of blockchain technology for medical records
- Blockchain for verification of medical treatment and information
- Blockchain for tracking of medical processes / objects / and pharmaceuticals
- Identity and data management in the context of health and medicine

Publications

Regular submissions to pHealth 2018 include full papers only. Workshops and Panel can be directly proposed to the pHealth committees. Organizational details of the Hackathon will be published separately.

Full Papers are scientific original papers, future vision papers or review papers, but also advanced implementation experiences related to methodologies and/or applications. If possible, they should provide interrelations to the other ubiquitous pervasive health aspects. The paper structure includes: title, names, and affiliations (city, state, and country) of all authors, abstract (up to 200 words), 4-6 key-words. The body of the text shall include: introduction, methods, results, discussion, conclusions and references. The maximum length of a paper submission is six A4 camera-ready pages, and should strictly follow the formatting rules of the provided IOS Press template. All submitted papers will be subject to a peer-review process by three independent reviewers. Accepted full papers will be included in the pHealth 2018 Proceedings published at IOS Press in the Series "Studies in Health Technology and Informatics", classified as international journal papers. The series is indexed at Elsevier's EMCare, Elsevier's SciVerse Scopus, Google Scholar / Google Books, MEDLINE, PubMed, Thomson Reuters' Book Citation Index, and Thomson Reuters' Conference Proceedings Citation Index. The presentations are planned to be available on the conference website.

Submitters of accepted contributions that tend to be better presented as Posters will be invited to revise their paper to a Poster Paper and to prepare and present a Poster. The camera-ready three pages Poster Paper will be included in the IOS Proceedings.

Paper Submission

All papers formatted in accordance with the IOS Press template instructions have to be submitted through the conference online system at: https://www.ntnu.edu/phealth2018/submission. This site will open soon.

Important Dates
Paper submission deadline: 25 February, 2018
Notification of acceptance: 11 March, 2018
Re-submission of camera-ready papers: 15 April, 2018
Early-bird registration deadline: 1 April, 2018
Conference Dates: 12 – 14 June, 2018

Conference Venue

The pHealth 2018 Conference will be organized at the premise of Norwegian University of Science and Technology (Gjøvik). https://www.ntnu.no/gjovik

Contact
If there are any questions, please do not hesitate to contact the Conference Secretariat at info@phealth18.eu.

The organizers welcome you for pHealth 2018 to the city Gjøvik in the Oppland region, a growing area for science and industry as well as research and development in Norway and the wider area of Scandinavia. Please join us to share your expectations, experiences, projects, and results, and to open our domain up for the digitized future!

Prof. Dr. Bernd Blobel   Assoc. Prof. Dr. Bian Yang
on behalf of the pHealth 2018   on behalf of the pHealth 2018
International Scientific Program Committee   Local Organizing Committee