Pervasive digital technologies for health care

May 16, 2019

They are being discussed at Trento-based FBK May 20 through 23, 2019

The 13th international scientific conference on "Pervasive Health", co-organized by EAI, the European Alliance for Innovation and Fondazione Bruno Kessler with TrentinoSalute 4.0, will be held at the FBK premises at Povo, Via Sommarive, Monday 20 through Thursday, May 23, 2019.

The event, which takes place in Trento for the first time, will bring together **over 100 digital technologies experts**, healthcare professionals, business representatives and international authorities.

What is "**pervasive health**"? It refers to that research environment in which digital technologies make it possible to make services for disease prevention and health care accessible to all people, anywhere and at any time.

Promoting and spreading research on "Pervasive Computing Technologies for Healthcare" therefore means being familiar with a number of technical and scientific disciplines related to health and well-being, identifying and understanding problems also from a social, medical, legal and financial point of view (with special attention to understanding and supporting the needs of patients and professionals); understanding the processes of transformation taking place, the needs and habits of people, the organizational problems; having the skills needed to design, implement and evaluate hardware infrastructures, software, algorithms, services and support applications that will allow to **best steer investments** for the management of the places where care is provided.

During these three days in Trento, experts will therefore try to start new collaborations between the different fields of study that will allow them to adopt a **multidisciplinary approach to the research and development** for these technologies. It is essential to create places where technologies, through a combined approach to collecting, correlating and presenting data, help health professionals to provide **high level patient care** and empower individuals and their families to take care of themselves and their families.

Two of the conference's **top talks**: Tuesday, May 21, at 9:30 am, **Wendy Nilsen**, with the NSF – National Science Foundation and director of the "[Smart and Connected Health](#)" program (Virginia, United States), will talk about how we can make health smarter. The next day, Wednesday, May 22, at 2:00 pm, Oliver Harrison, doctor and manager of the innovative project entitled "Alpha Health" of Telefónica (Barcelona, Spain), will address the challenges of treating chronic diseases with a "closed loop" approach "scalable to the whole population (Bringing digital innovation to scale – closed-loop public health).

"Pervasive Health is being held for the first time in Trento, where it was conceived back in 2005 and since then taken around the world" – says **Oscar Mayora**, researcher with the e-health group at FBK, founder and organizer of the conference. "We are very pleased to have organized this important event here since it allows us to show the international community the research we do in Trentino thanks to the **TrentinoSalute4.0** digital health competence center."

Previous editions of the "Pervasive Health" conference were held in:

[2018](#) – New York, United States
[2017](#) – Barcelona, Spain
[2016](#) – Cancun, Mexico
[2015](#) – Istanbul, Turkey
[2014](#) – Oldenburg, Germany
[2013](#) – Venice, Italy
[2012](#) – San Diego, California, United States
2011 – Dublin, Republic of Ireland
2010 – Munich, Germany
2009 – London, Great Britain
2008 – Tampere, Finland
2006 – Innsbruck, Austria

General Chairs:

Oscar Mayora, FBK – TrentinoSalute4.0

Stefano Forti, FBK – TrentinoSalute4.0

Program Chairs:

Olena Mamykina, Columbia University

Jochen Meyer, OFFIS, DE

Posters Chairs:

Margarita Anastassova, CEA

Bert Arnrich, University of Potsdam

Workshops Chairs:

Claudio Eccher, FBK – TrentinoSalute4.0

Floriana Grasso, University of Liverpool

Local Chair:

Sara Testa, FBK – TrentinoSalute4.0

Program: http://pervasivehealth.org/conference-program/

Website: http://pervasivehealth.org/

Keynote abstracts

Wendy Nilsen, National Science Foundation (Tuesday, May 21, 9:30 am – 10:30 am)

Title: *Making Health Smarter*

Personalized medicine and prevention approaches, thanks to new detection, analysis, language, visualization and interface methods, have the potential to adapt the health care model to the characteristics of the individuals. In order for this to happen, new scientific advances are needed in the fields of information technology, engineering, behavioral and social sciences, which must evolve in step with biomedical research. These collaborations between different disciplines are necessary because the solutions to complex health problems and processes must effectively satisfy a multitude of constraints deriving from the heterogeneity of the data, from the semantic misalignment, from the limitations of current cybernetic systems, from the lack of information deriving from direct observations, from cultural dynamics, from cognitive limitations and hindrances to behavioral change in patients, providers and caregivers. The talk explores the opportunities and challenges for the development of a smarter health ecosystem and highlights promising new areas of research.

Oliver Harrison, Telefónica (Wednesday, May 22nd, 2.00 pm – 3.00 pm)

Title: *Bringing digital innovation to scale – closed-loop public health*

Keynote abstracts

Wendy Nilsen, National Science Foundation (Tuesday, May 21, 9:30 am – 10:30 am)

Title: Making Health Smarter

Personalized medicine and prevention approaches, thanks to new detection, analysis, language, visualization and interface methods, have the potential to adapt the health care model to the characteristics of the individuals. In order for this to happen, new scientific advances are needed in the fields of information technology, engineering, behavioral and social sciences, which must evolve in step with biomedical research. These collaborations between different disciplines are

necessary because the solutions to complex health problems and processes must effectively satisfy a multitude of constraints deriving from the heterogeneity of the data, from the semantic misalignment, from the limitations of current cybernetic systems, from the lack of information deriving from direct observations, from cultural dynamics, from cognitive limitations and hindrances to behavioral change in patients, providers and caregivers. The talk explores the opportunities and challenges for the development of a smarter health ecosystem and highlights promising new areas of research.

Oliver Harrison, Telefónica (Wednesday, May 22nd, 2.00 pm – 3.00 pm)

Title: Bringing digital innovation to scale – closed-loop public health

Since 1960, the percentage of GDP spent on health care has increased from ± 4% to over 10%, but at the same time the historical growth in life expectancy has stabilized. The reason is to be found in the change in the incidence of infectious diseases and accidents, compared to chronic diseases. Worldwide health systems are committed to managing these diseases among many hurdles due to their chronicity and their roots in people's daily behavior (beyond the influence of the clinical environment). To treat **chronic diseases**, a "closed loop" system is needed that can observe health and behavior, understand the causes and provide targeted interventions. Today, the advances in the digital sensors for health monitoring industry, in the design of systems for user involvement, in neuroscience and in behavioral economics have created a historic opportunity to provide health care services according to a "closed loop" model "scalable to the entire population. Business opportunities are huge, as is the promise to transform people's health across the planet and deepen our understanding of human behavior.

PERMALINK

https://magazine.fbk.eu/en/news/pervasive-digital-technologies-for-health-care/

TAGS

- #digital health
- #digitalhealthwellbeing
- #medicine
- #pervasive health
- #trentinosalute4.0

RELATED MEDIA

- Conference website: http://pervasivehealth.org/

AUTHORS

- Marzia Lucianer