pHealth 2019

16th International Conference on Wearable, Micro & Nano Technologies for Personalized Health

Genoa, 10 - 12 June 2019
PROGRAMME

Monday, 10 June 2019

8,00 - 9,00   Registration

9,00 - 10,30   Welcome and Keynote Session
Chairs: Pekka Ruotsalainen, Finland
        Sergio Cerutti, Polytechnic Milan, Italy

Welcome Address: Sonia Viale, Liguria Council Member for Health
                 Marco Bucci, Mayor of Genoa
                 Giorgio Roth, Dean of the Polytechnic School
                 Enrico Puppo, Director of DIBRIS
                 Gianni Vernazza, Member of the governing council of the order of Engineers in Genoa
                 Andreas Lymberis, European Commission, DG Connect
                 Bernd Blobel, Chair SPC pHealth 2019
                 Mauro Giacomini, Chair LOC pHealth 2019

09,45 - 10,30   Keynote: Healthcare Transformation Towards Personalized Medicine — Chances and Challenges
                 Bernd Blobel, Pekka Ruotsalainen - 45’

10,30 - 11,00   Coffee and Demo Break - Exhibition Area

11,00 - 13,05   Decision Support (Part I)
Chairs: Lenka Lhotská, Czech Republic
        Carmelina Ruggiero, University of Genoa, Italy

11,00 - 11,25   “Translating the Results of Discrete Choice Experiments into p-/e-/m—Health Decision Support Tools” Jack Dowie, Mette Kjer Kaltoft - 25’

11,25 - 11,50   “Optimization of Clinical Decision Support Based on Pearson Correlation of Attributes”
                 Aleksei Dudchenko, Matthias Ganzinger, Georgy Kopanitsa - 25’

11,50 - 12,15   “A Multi-Criterial Support Tool for the Multimorbity Decision in General Practice”
                 Vije Kumar Rajput, Mette Kjer Kaltoft, Jack Dowie - 25’

12,15 - 12,40   “Using Neural Networks for Diagnostics in Dermatology”
                 Margarita Bobrova, Maksim Taranik, Georgy Kopanitsa - 25’

12,40 - 13,05   “Risk Classifications Interfere with Preference-Sensitive Decision Support”
                 Mette Kjer Kaltoft, Jack Dowie - 25’
13,05 - 14,00  Lunch (Exhibition Area)

14,00 - 14,50  Decision Support (Part II)
   Chairs: Lenka Lhotská, Czech Republic  Carmelina Ruggiero, University of Genoa, Italy
   14,00 - 14,25  “Development and Pilot Testing of a Mobile Based Patient Decision Aid for Childbirth Decision Making” Zahra Madhani, Azam Aslani, Maryam Kasraeian - 25’
   14,25 - 14,50  “Microservice Architecture to Provide Medical Data Management for Decision Support” Georgy Kopanitsa - 25’

14,50 - 16,45  Other pHealth Issues
   Chairs: Bernd Blobel, Germany  Roberta Gazzarata, Healthropy, Italy
   14,50 - 15,15  “Multicompartment Hydrogels for the Local Delivery of Chemotherapic Drugs” Stefania Boi, Elena Dellacasa, Nadia Rouatbi, Orietta Monticelli, Laura Pastorino - 25’
   15,15 - 15,40  “Systematic Review on Features Extracted from PPG Signal for the Detection of Atrial Fibrillation” Nathalia A. Girón, César Millán, Diego M. López - 25’
   15,40 - 16,05  “Brain-on-a-Chip: A Human 3D Model for Clinical Application” Lorenzo Muzzi, Sergio Martinoina, Monica Frega - 25’
   16,05 - 16,30  “End-to-End Notifications and Interactivity in Standard Based EHR Networks” Patrick Mangesius, Dmytro Rud, Samred Saboor, Thomas Schabetsberger - 25’

16,30 - 16,35  Poster:  Information Technology System Including Patient Generated Health Data for Cancer Clinical Care and Research” Norbert Maggi, Luca Douglas Magnoni, Carmelina Ruggiero, Roberta Gazzarata, Mauro Giacomini - 5’

16,35 - 16,40  “A Web-Based Tool for a Complete Evaluation of Fragility in Senior HIV+ Patients” Sara Mora, Alberto Venturini, Giovanni Cenderello, Daniela Fiorellino, Alberto Pilotto, Mauro Giacomini - 5’

16,40 - 16,45  “Critical Appraisal of Mental Health Applications” Fatameh Salehi, Zahra Arab Kermani, Fatameh Khademian, Azam Aslani - 5’

16,45 - 17,15  Coffee and Demo Break (Exhibition Area)

17,15 - 19,00  Security and Privacy, Social Factors and Environmental Context in pHealth
   Chairs: Georgy Kopanitsa, Russia  Victor Erokhin, CNR, Italy
17,15 - 17,45  **Invited Speech:** Digital pHealth - Problems and Solutions for Ethics, Trust and Privacy  
*Pekka Ruotsalainen, Bernd Blobel - 30’*

*Prosper Kandabongee Yeng, Bian Yang, Einar Arthur Snekkenes - 25’*

18,10 - 18,35  “Access Control Models - A Systematic Review”  
*Giorgia Gazzarata, Bernd Blobel - 25’*

18,35 - 19,00  “iSupport: Building a Resilience Support Tool for Improving the Health Condition of the Patient During the Care Path”  
*Angelina Kouroubali, Haridimos Kondylakis, Lefteris Koumakis, George Papagiannakis, Paul Zikas, Dimitrios G. Katehakis - 25’*

19,00 - 20,00  **pHealth 2019 - Welcome Concerto**  
Introduction to the music pieces and the authors  
N. Paganini: Quartet op.4 n.3 for violin, viola, cello and guitar  
L. Boccherini: Quintet G.448 for two violins, viola, cello and guitar

20,00 - 21,30  **Aperitii**

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**Tuesday, 11 June 2019**

9,00 - 10,45  **pHealth Solutions and Architectures (Part I)**  
**Chairs:**  
Inês Lopes, Portugal  
Mauro Giacomini, University of Genoa, Italy

9,00 - 9,30  **Invited Speech:** Patient’s Empowerment: an Advantage or a Burden? A Use Case in Cognitive rehabilitation  
*Silvana Quaglini - 30’*

9,30 - 9,55  “A SOA Based Solution for MDRO Surveillance and Improved Antibiotic Prescription in the Abruzzo Region”  
*Roberta Gazzarata, Maria Eugenia Monteverde, Monica Bonetto, Vincenzo Savini, Ennio Polilli, Serena Corridoni, Alberto Costantini, Fiorenzo Santoleri, Giorgia Rapacchiale, Italia Palmieri, Stefania Melena, Arturo Di Girolamo, Antonina Sciaccia, Marco De Benedictis, Heber D’Alberto, Giacomo Galeani, Mauro Giacomini, Giustino Parruti - 25’*

9,55 - 10,20  “Extraction from Medical Records”  
*Aleksei Dudchenko, Polina Dudchenko, Matthias Ganzinger, Georgy Kopanitsa - 25’*
10.20 - 10.45  “Development and Usability Evaluation of Web-Based Telehabilitation Platform for Patients after Myocardial Infarction”  *Saba Jameie, Habib Haybar, Azam Aslani, Maryam Saadat* - 25’

10.45 - 11.15  **Coffee and Demo Break** (Exhibition Area)

11.15 - 12.10  *pHealth Solutions and Architectures (Part II)*
**Chairs:** Inês Lopes, Portugal
Mauro Giacomini, *University of Genoa, Italy*

11.15 - 11.40  “Affordable Personalized, Immersive VR Motor Rehabilitation System with Full Body Tracking”
*Jindrich Adolf, Jaromír Doležal, Lenka Lhotská* - 25’

11.40 - 12.05  “Usability Testing of Two Mini-Games and One Serious Game to Educate People about Genetics”  *Renato Mainetti, Serena Oliveri, Alessandra Gorini, Ilaria Cutica, Gabriella Pravettoni, N. Alberto Borghese* - 25’

12.05 - 12.10  **Poster:** “Personalized Assistance for Patients with Chronic Diseases through Multi-Level Distributed Healthcare Process Assessment”  *Liubov Elkhovskaya, Maksim Kabyshev, Anastasia Funkner, Marina Balakhontceva, Vladimir Fonin, Sergey Kovalchuk* - 5’

12.10 - 13.05  *Artificial Intelligence and Machine Learning (Part I)*
**Chairs:** Jack Dowie, *United Kingdom*
Silvana Quaglini, *University of Pavia, Italy*

12.10 - 12.40  **Invited Speech:** Suitable Data Representation for Abnormal Pattern Detection in Smart Home Environment
*Jiri Petnik, Lenka Lhotská* - 30’


13.05 - 14.00  **Lunch** (Exhibition Area)

14.30 - 16.30  *Artificial Intelligence and Machine Learning (Part II)*
**Chairs:** Jack Dowie, *UK*
Silvana Quaglini, *University of Pavia, Italy*
14,00 - 14,25  “Characterising Physical Rehabilitation Exergames for Player Experience Evaluation Purposes” *Edwin Gamboa, Maria Trujillo* - 25’

14,25 - 14,50 “Estimating Systolic Blood Pressure Using Convolutional Neural Networks”  *Solmaz Rastegar, Hamid Gholamhosseini, Andrew Lowe, Farhad Mehdipour, Maria Lindén* - 25’

14,50 - 15,15 “Graph-Based Predictive Modelling of Chronic Disease Development: Type 2 DM Case Study”  *Ilya Derevitskii, Anastasia Funkner, Oleg Metsker, Sergey Kovalchuk* - 25’

15,15 - 15,40 “Permutation Entropy Applied to Fitbit Data: Long-Term Sleep Analysis on One Health Subject”  *Elisa Salvi, Giordano Lanzola, Silvana Quaglini, Silvia Panzarosa, Riccardo Bagarotti, Laura Rodi, Cristina Larizza, Lucia Sacchi* - 25’

15,40 - 16,05 “Heart Disease Dataset Clusterization”  *Polina Dudchenko, Aleksei Dudchenko, Georgy Kopanitsa* - 25’

16,05 - 16,30 “Using Machine Learning for Personalized Patient Adherence Level Determination”  *Maksim Taranik, Georgy Kopanitsa* - 25’

17,00 - 17,25 “Dynamic Features Impact on the Quality of Chronic Heart Failure Predictive Modelling”  *Ksenia Balabaeva, Sergey Kovalchuk, Oleg Metsker* - 25’


20,00 - 22,30 Gala Dinner at Museo Diocesano. Via Tommaso Reggio, 20r
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>09,00 - 11,00</td>
<td>ALCOTRA Project - ANTEA Workshop (Exhibition Area)</td>
<td>Chair: Fiorenzo Gimelli, Liguria Region, Italy</td>
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<td>09,00 - 09,20</td>
<td>The Interreg Alcotra Antea project for the development of the emerging chain of edible flowers</td>
<td>Barbara Ruffoni</td>
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<td>09,20 - 09,40</td>
<td>The involvement of the University of Genoa in Antea</td>
<td>Angela Bisio</td>
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<td>09,40 - 10,00</td>
<td>Edible flowers and safety: characterization of the microbiological and toxicological profile</td>
<td>Marco Milanese, Anna Schito, Giuliana Drava</td>
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<td>10,00 - 10,20</td>
<td>Edible flowers as source of novel functional food</td>
<td>Ilaria Marchioni</td>
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<tr>
<td>10,20 - 10,40</td>
<td>Active food packaging based on biopolymeric nanocomposite films</td>
<td>Laura Pastorino</td>
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<td>10,40 - 11,00</td>
<td>ANTEA web: a tool to promote the project and to enhance partners’ interaction</td>
<td>Elena Lazarova</td>
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<td>11,30 - 13,15</td>
<td>Wearable Technologies for pHealth (Part I)</td>
<td>Chairs: Diego M. López, Colombia, Laura Pastorino, University of Genoa, Italy</td>
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<td>11,30 - 12,00</td>
<td>Invited Speech: Organic Memristive Device: Towards Synapse Prosthesis</td>
<td>Victor Erokhin - 30’</td>
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<td>12,00 - 12,25</td>
<td>“Obesity Risk Assessment Model Using Wearable Technology with Personalized Activity, Calorie Expenditure and Health Profile”</td>
<td>Hamid Gholamhosseini, Mirza Baig, Joseph Maratas, Farhaan Mirza, Maria Lindén - 25’</td>
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<tr>
<td>12,25 - 12,50</td>
<td>“In-Vehicle Respiratory Rate Estimating Using Accelerometers” Ju Wang, Ioana M. Warnecke, Thomas M. Deserno - 25’</td>
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<td>12,50 - 13,15</td>
<td>“Wearable Kinematic Monitoring System Based on Piezocapacitive Sensors” Gabriele Frediani, Bianca Botondi, Lorenzo Quartini, Giovanni Zonfrillo, Leonardo Bocchi, Federico Carpi - 25’</td>
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<td>13,15 - 14,10</td>
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14,10 - 15,30  **Wearable Technologies for pHealth (Part II)**  
**Chairs:** Diego M. López, Colombia  
Laura Pastorino, University of Genoa, Italy

14,10 - 14,35  **“Smartphone-Based Remote Monitoring Solution for Heart Failure Patients”**  
*Inês Lopes, Filipe Sousa, Emilia Moreira, José Cardoso - 25’*

14,35 - 15,00  **“Adaptation Component based on Wearable Technology to Support Personalized Tracking of Physical Activity in Children”**  
*Ana Díaz, Santiago Pérez, Diego M. López - 25’*

15,00 - 15,25  **“A Novel Medical Device for Early Detection of Melanoma”**  
*Shereen Afifi, Hamid Gholamhosseini, Roopak Sinha, Maria Lindén - 25’*

15,25 - 15,50  **“Heart Rate Variability from Wearables: A Comparative Analysis Among Standard ECG, a Smart Shirt and a Wristband”**  
*Pierluigi Reali, Giulia Tacchino, Giulia Rocco, Sergio Cerutti, Anna Maria Bianchi*

15,50 - 15,55  **Poster:**  
*“Carried Weight Affects Walking Speed Monitoring with the IngVal System”*  
*Per Anders Rickard Hellstrom, Mia Folke - 5’*

15,55 - 16,40  **Closing Ceremony**

- Students’ Best Paper Award
- Next pHealth Event
- Closing remark of SPC and LOC