



Health 2021 Program

Monday, 8 November 2021		
9:00 – 10:20	Welcome and Keynote Session	
	Chairs: Lenka Lhotska, Czechia, Mauro Giacomini, Italy	
	Welcome Address: Catherine Chronaki, EFMI President	5'
	Welcome Address: Lucia Sacchi, President of the Italian Scientific Society for BioMedical Informatics	5'
	Welcome Address: Sergio Martinoia, University of Genoa, Italy	5'
	Welcome Address: Gianni Vernazza, Board of Engineers Genoa, Italy	5'
	Welcome Address: Bernd Blobel, SPC Chair, pHealth 2021	5'
	Welcome Address: Mauro Giacomini, LOC Chair, pHealth 2021	5'
	Keynote Autonomous Systems and Artificial Intelligence – Hype or Prerequisite for P5 Medicine? Bernd Blobel, Pekka Routsalainen, Mathias Brochhausen	45'
10:20–10:30	Break	
10:30-12:00	Data and Knowledge Management and Methodologies (Part 1)	
	Session Chairs: Stephen Kay, UK; Giorgio Cangioli, Italy	
	Invited Speech Communicating about Mortality in Health Decision Support: 'What and Why and When' and 'How and Where and Who' Jack Dowie, Mette Kjer Kaltoft, Vije Kumar Rajput (<i>Stonydelph Medical Centre, Tamworth, UK</i>)	30'
	A New Paradigm for Ensuring Digital Drug Care Quality Monitoring Based on Ontology Tools Tatiana Lugovkina (<i>Ural Research Institute of Phthisiopulmonology, Ekaterinburg, Russia</i>) Sergey Gorshkov, Evgeniy Svalov	20'
	The Building Blocks of Information are Selections - Let's Define them Globally! Wolfgang Orthuber (<i>Department of Orthodontics, UKSH, Kiel University, Germany</i>)	20'
	ContSOnto: A Formal Ontology for Continuity of Care Subhashis Das (<i>CeIC, ADAPT, School of Computing, Dublin City University, Ireland</i>), Pamela Hussey	20'
12:00-13:00	Break	
13:00-14:10	Data and Knowledge Management and Methodologies (Part 2)	
	Session Chairs: Frédéric Ehrlér, Switzerland; Silvana Quaglini, Italy	
	Understanding the Gap between Information Models and Realism-based Ontologies Using the Generic Component Model Mathias Brochhausen (<i>Dept. of Biomedical Informatics, University of Arkansas for Medical Science, USA</i>), Sarah Bost, Nitya Singh, Christoph Brochhausen, Bernd Blobel	20'
	Predicting the Aortic Aneurysm Postoperative Risks Based on Russian Integrated Data	20'

	Julia Lenivtceva (ITMO University, 49 Kronverskiy prospect, 197101, Saint Petersburg, Russia), Sofia Grechishcheva, Georgy Kopanitsa, Dmitry Panfilov, Boris Kozlov	
	A NLP Pipeline for the Automatic Extraction of Microorganisms Names from Microbiological Notes Sara Mora (Department of Informatics, Bioengineering, Robotics and System Engineering – DIBRIS – University of Genoa, Italy), Jacopo Attene, Roberta Gazzarata, Giustino Parruti, Mauro Giacomini	20'
	Factors Predicting Sexual Risk Behaviors of Adolescents in North-Eastern Thailand Athiwat Butdabut (Health System Science Department, Faculty of Medicine, Mahasarakham University, Maha Sarakham, Thailand) Pissamai Homchampa	5'
	Conceptual Model for Behaviour Change Progress – Instrument in Design Processes for Behaviour Change Systems Helena Lindgren (Department of Computing Science, Umea University, Umea, Sweden), Saskia Weck	5'
14:10-14:25	Break	
14:25-15:45	Data and Knowledge Management and Methodologies (Part 3) Session Chairs: Pekka Ruotsalainen, Finland; Francesco Pinciroli, Italy	
	Invited Speech Towards Personalized Medication Michael Huptych (Czech Institute of Informatics, Robotics and Cybernetics, Czech Technical University in Prague, Prague, Czech Republic), Jiri Potucek, Lenka Lhotská	30'
	Statistical Inference for Clustering Results Interpretation in Clinical Practice Alexander Kanonirov (ITMO University, Saint Petersburg, Russia), Ksenia Balabaeva, Sergey Kovalchuk	20'
	Development of a Didactic Online Course Concept for Heterogeneous Audience Groups in the Context of Healthcare IT Matthias Katzensteiner (University of Applied Sciences and Arts, Hannover, Germany), Stefan Vogel, Jens Hüßers, Jendrik Richter, Johannes Hölken, Natalia Lesniewska, Oliver J. Bott	20'
	Automatic Extraction and Decryption of Abbreviations from Professional Texts Michil Egorov (ITMO University, Saint Petersburg, Russia), Anastasia Funkner	5'
	Mapping of OpenEHR Archetypes to FHIR Resources in Use Case Oncology Abdul-Mateen Rajput (Universitätsklinikum Köln, Kerpener Str. 62, 50937 Köln, Germany), Ina Brakollari	5'
15:45-16:00	Break	
16:00-17:30	Round Table Discussion on Health and Social Care Transformation Bernd Blobel, Mauro Giacomini, Gabriella Paoli, Massimo Nicolò, Maurizio Michelini, Pekka Ruotsalainen, Lenka Lhotska	
	Tuesday, 9 November 2021	
9:00-10:30	Data and Knowledge Management and Methodologies (Part 4) Session Chairs: Oleg Metsker, Russia, Romania; Silvana Quaglini, Italy	

	Invited Speech The International Patient Summary and the Summarization Requirement Stephen Kay (<i>The Health Informatics Standards Consultancy Ltd</i>)	30'
	Predictive Modeling of COVID and Non-COVID Pneumonia Trajectories Nikita Mramorov (<i>ITMO, University, Saint Petersburg, Russia</i>), Ilya Derevitskii, Sergey Kovalchuk	20'
	A Modeling Framework for Decision Support in Periprosthetic Joint Infection Treatment Vasiliy Leonenko (<i>ITMO, University, Saint Petersburg, Russia</i>), Yulia Kaliberda, Vasili Artyukh	20'
	A Web Based Tool to Support a Personalized Therapeutic Path through the Use of Psychological Tests Elena Lazarova (<i>Department of Informatics, Bioengineering, Robotics and System Engineering – DIBRIS – University of Genoa, Italy</i>), Sara Mora, Davide Armano, Alessandro Poiré, Fabio Furlani, Mauro Giacomini	20'
10:30-10:45	Break	
10:45-12:00	Data and Knowledge Management and Methodologies (Part 5) Session Chairs: Jaime Delgado, Spain; Mauro Giacomini, Italy	
	Treatment Trajectories Graph Compression Algorithm Based on Cliques Svetozar Milykh (<i>ITMO, University, Saint Petersburg, Russia</i>), Sergey Kovalchuk	20'
	Machine Learning Based Metagenomic Prediction of Inflammatory Bowel Disease Andrea Mihajlović (<i>BioSense Institute, University of Novi Sad, Novi Sad, Serbia</i>), Katarina Mladenović, Tatjana Lončar-Turukalo and Sanja Brdar	20'
	Dynamic Aortic Aneurism Risk Factors Oleg Metsker (<i>ITMO, University, Saint Petersburg, Russia</i>), Georgy Kopanitsa, Olga Irtyuga, Vladimir Uspenskiy	20'
	Detection of COVID-19 from Chest CT Images Using CNN with MLP Hybrid Model Sakthi Jaya Sundar Rajasekar, Vasumathi Narayanan, Varalakshmi Perumal (<i>Department of Computer Technology, MIT Campus, Anna University, Chennai, India</i>)	5'
	Psychological Stress is a Risk Factor for Type 2 Diabetes Mellitus in College Students Kukiat Tudpor (<i>Faculty of Public Health, Mahasarakham University, Maha Sarakham, Thailand</i>), Chatcharida Saisawai, Sasina Kaewpho, Amraporn Jitseedha	5'
	An openEHR Virtual Patient Template for Pancreatic Cancer Samer Alkarkoukly, Abdul-Mateen Rajput (<i>Universitätsklinikum Köln, Kerpener Str. 62, 50937 Köln, Germany</i>)	5'
12:00-13:00	Break	
13:00-15:00	Personal Health Records, Patient-Centered Data Management, and Cloud Services Session Chairs: Mathias Brochhausen, USA; Carmelina Ruggiero, Italy	
	Digital Phenotypes for Personalized Medicine Carlos Molina (<i>Software Engineering Department, University of Granada, Spain</i>), Belén Prados-Suarez	20'

	A Multilayer LSTM Auto-Encoder for Fetal ECG Anomaly Detection Inna Skarha-Bandurova, Tetiana Biloborodova (<i>G.E. Pukhov Institute for Modelling in Energy Engineering</i>), Illia Skarha-Bandurov, Yehor Boltov, Maryna Derkrach	20'
	Prerequisites of Personal Health Record for Chronic Kidney Disease: A Scoping Review and Evaluation of the Content Validity Fatameh Salehi (<i>Health Human Resources Research Center, School of Management & Information Sciences, Shiraz University of Medical Sciences, Shiraz, Iran</i>), Peivand Bastani, Leila Ahmadian, Katayoon Samadi, Azita Yazdani, Roxana Sharifian	20'
	An Unsupervised Approach to Structuring and Analyzing Repetitive Semantic Structures in Free Text of Electronic Medical Records Varvara Koshman (<i>ITMO University, Saint Petersburg, Russia</i>), Anastasia Funkner, Sergey Kovalchuk	20'
	Toward an Agile System: Iranian Information System for Covid-19-Affected Patients Data Collection from Iranian Hospitals Somayeh Abedian, Pirhossein Kolivand, Hamid Reza Lornejad	20'
	Data-Driven Modeling of Complex Business Process in Heterogeneous Environment of Healthcare Organization with Health Information Systems Alexander Kshenin (<i>ITMO University, Saint Petersburg, Russia</i>), Sergey Kovalchuk	20'
15:00-15:15	Break	
15:15-16:45	Security, Privacy, Safety, and Ethics Issues in pHealth (Part 1)	
	Session Chairs: Georgy Kopanitsa, Russia; Giulio Iannello, Italy	
	Invited Speech How a Service User Knows the Level of Privacy and to whom Trust in pHealth Systems? Pekka Ruotsalainen (<i>Faculty of Information Technology and Communication Sciences (ITC), Tampere University, Finland</i>), Bernd Blobel	30'
	Implementation of Privacy and Security for a Genomic Information System Jaime Delgado, Silvia Llorente (<i>Information Modeling and Processing -IMP – group – DMAG, Computer Architecture Dept. - DAC</i>), Guillem Reig	20'
	Sentiment Analysis on USA vs. New Zealand on Health and Safety Mandates during Early Stages of COVID-19 Pandemic Joshua Dales (<i>Auckland University of Technology, Auckland New Zealand</i>), Farhaan Mirza, Amr Adel	20'
	A User-Centered, Integrated Model to Improve Medication Prescription, Administration and Adherence in Switzerland Katherine Blondon, Frédéric Ehrler (<i>Direction of Information System, University Hospitals of Geneva, Switzerland</i>)	20'
	Wednesday, 10 November 2021	
9:00-10:00	Security, Privacy, Safety, and Ethics Issues in pHealth (Part 2)	
	Session Chairs: Michal Huptych, Czechia; Norbert Maggi, Italy	
	Regulation Modeling and Analysis Using Machine Learning During the Pandemic of Covid-19 in Russia	20'

	Egor Trofimov, Oleg Metsker, Georgy Kopanitsa (<i>ITMO, University, Saint Petersburg, Russia</i>)	
	Association between Physical Activity and Osteoarthritis of Knee with Quality of Life in Community-Dwelling Older Adults Nachalida Yukalang (<i>Faculty of Public Health, Maharakham University, Thailand and Public Health and Environmental Policy in Southeast Asia Research Unit – PHEP-SEA, Maharakham University, Thailand</i>), Niruwan Turnbull, Wisit Thongkum, Adisorn Wongkongdech, Kukiattudpor	20'
	Reinforcing Health Data Sharing through Data Democratization Yuhang Wang (<i>Department of Information Security and Communication Technology, Norwegian University of Science and Technology, Gjøvik, Norway</i>), Bian Yang	20'
10:00-10:15	Break	
10:15-11:45	Solutions for Personalized Care (Part1)	
	Session Chairs: Bian Yang, Norway; Laura Pastorino, Italy	
	Invited Speech eHealth Turning Points as Forced by the Covid-19 Dramatic Experience Francesco Pinciroli (<i>Dipartimento di Elettronica, Informazione e Bioingegneria – Politecnico di Milano</i>)	30'
	Lifestyle Cancer Survival Predictors: Influence of Vegetarian Diet on the Relapse of Endometrial Cancer Georgy Kopanitsa (<i>ITMO, University, Saint Petersburg, Russia</i>), Oleg Metsker, Ekaterina Bolgova, Sergey Kovalchuk	20'
	Gait Analysis Platform for Measuring Surgery Recovery Marc Codina (<i>CEPHIS. MiSE Dpt. Univeritat Autònoma de Barcelona, Bellaterra, Spain</i>), Manuel Navarrete, Ashkan Rezaee, David Castells-Rufas, Maria Jesús Torrelles-Pijuan, Stefan Burkard, Holger Arndt, Sabine Drevet, Medhi Boudissa, Jerome Tonetti, Isabelle Marque, Alexandre Moreau-Gaudry, Armand Castillejo, Jordi Carrabina	20'
	The Effectiveness of Telemedical Monitoring Program DiabCare Tirol for Patients with Gestational Diabetes Mellitus Gihan El Moazen (<i>AIT Austrian Institute of Technology GmbH, Graz, Austria</i>), Bernhard Pfeifer, Agnes Loidl, Peter Kastner, Christian Ciardi	20'
11:45-13:00	Break	
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13:00-14:20	Solutions for Personalized Care (Part2)	
	Session Chairs: Sergey Kovalchuk, Russia; Stefano Lotti, Italy	
	Social Media Chatbot for Increasing Physical Activity: Usability Study Dillys Larbi (<i>Norwegian Centre for E-health Research, Tromsø, Norway</i>), Elia Gabarron, Kerstin Denecke	20'
	A Mobile App to Improve Patient Management in Emergency Departments: Caregiver Needs Analysis, Design and Early Technology Acceptance Assessment Frédéric Ehrler (<i>Direction of Information System, University Hospitals of Geneva, Switzerland</i>), Carlotta Tuor, Robin Rey, Johan N. Siebert	20'
	Assessment of mHealth Solutions Applied to Fall Detection for the Elderly Fellipe Soares de Oliveira (<i>Engineering, Modeling and Applied Social Sciences Center – CECS – Biomedical Engineering Graduate Program - PPGEBM</i>), Camila	20'

	Carvalho da Silva, Talita Santos Pinheiro, Larissa Mayumi Yokoi, Harki Tanaka, Priscyla Waleska Simoes	
	Continuous Stress Detection of Hospital Staff Using Smartwatch Sensors and Classifier Ensemble Muhammad Ali Fauzi (<i>Norwegian University of Science and Technology, Gjøvik, Norway</i>), Bian Yang	20'
14:20-14:40	Break	
14:40-15:30	Closing Ceremony	50'
	CaseMix Young Scientists Best Paper Award	
	Next pHealth Event	
	Closing Remark of SPC and LOC	