

PROGRAMME

Monday 15.6.2026

18:00-20:00 **Pre-conference event: get-together at the Oulu City Hall**

For those who have secured a ticket.

Tuesday 16.6.2026

8:30-9:30 **Registration**

9:30-10:30 **Session 1 Digital Transformation in Healthcare**
101A (Leena Palotie Hall), Chair: Jarmo Reponen

9:30-9:40 Conference opening words Conference president, Prof. Jarmo Reponen, University of Oulu, Finland

9:40-9:50 Greetings from the Finnish Ministry of Education and Culture Minister of Science and Culture Mari-Leena Talvitie

Keynote:

9:50-10:20 Catalonia's Digital Health Implementation – New Innovations and Services Director Joan Guanyabens, TIC Salut i Social Foundation, Catalunya

10:30-11:00 **Coffee, Exhibitions and Posters**

11:00-12:30 **Session 2a – Digital Health Transformation, Innovations & Future Visions**
Chair: Jarmo Reponen

Invited Speeches:

11:00-11:20 How to design digital health services and sustain their use Professor Sabine Koch, Karolinska Institutet, Sweden

11:20-11:40 A Socio- technical journey: Strategies for implementation and digital transformation, the incremental process Professor Rune Pedersen, NORD University, and Norwegian Centre for E-health Research, Norway

Scientific Presentations:

11:40-11:47 Profiting from 6G System for the Smart Hospital of the Future Fan Wang; Seppo Yrjölä; Risto Jurva; Timo Koivumäki; Aigerim Dairabekova; Petri Ahokangas

11:47-11:54 Identifying Social Sustainability Drivers and Future Scenarios in Digital Healthcare Through a Stakeholder-Based Method Sehrish Khan; Petri Ahokangas; Johanna Annunen; Johanna Uusimaa; Jonna Komulainen-Ebrahim; Minna Isomursu

11:54-12:01 Implementation of the Digital-First Policy in Finnish Well-Being Services Counties: A Cross-Sectional Survey Maiju Kyytsönen; Arild Faxvaag; Rune Pedersen; Jeppe Eriksen; Ove Lintvedt; Jarmo Reponen

12:01-12:08 Electronic Health Record System Market Concentration in Finland, 2007-2028 Timo Tuovinen; Petra Kuikka; Paula Veikkolainen; Niina Keranen; Virpi Ekholm; Vesa Jormanainen; Jarmo Reponen

12:08-12:15 Digital Health: From Policy to Reality in the Nordic Countries Arild Faxvaag; Jarmo Reponen; Guðrún Auður Harðardóttir; Tuulikki Vehko; Johanna Viitanen; Jeppe Eriksen; Rune Pedersen; Sabine Koch; Vivian Vimarlund; Christian Nöhr

12:15-12:22 Toward Standardized Evaluation of Synthetic Health Data Across Modalities for the European Health Data Space Aino-Lotta Ilona Alahäivälä; Tunc Asuroglu; Juha Pajula; Ileana Montoya Perez; Tapio Pahikkala; Antti Airola

Corporate presentations:

12:22-12:29 Digital Health Finland
12:29-12:36 OYSTER Incubator

11:00-12:30 **Session 2b – Personalised Digital Health – From Omics to Interventions, Telemedicine and eRehabilitation**
F202, Chair: Eero Kajantie

Invited Speeches:

11:00-11:20 Systemic approach to the development and implementation of national digital health solutions Special Advisor Gudrun Audur Hardardottir, Ministry of Health, Iceland
11:20-11:40 Understanding metabolic ageing and disease risk via omics sciences Docent Ville-Petteri Mäkinen, University of Oulu, Finland

Scientific presentations:

11:40-11:47 Dynamic Digital Precision Nutrition for Cardiometabolic Prevention in Cancer Survivorship Maryam Gholamalizadeh; Saeid Doaei; Raul Zamora-Ros
11:47-11:54 Feasibility Evaluation of a Multidisciplinary Digital Rehabilitation Delivered by Community Health Workers for Mild Stroke in Indonesia Eeva Aartolahti; Suci Muqodimatul Jannah; Opifia Dian Wahyono; Dela Fariha Fuadi; Andrew Wijaya Saputra; Nesi; Moh Rendy Herdiansyah; Michael Oduor; Kari-Pekka Murtonen; Muhammad Irfan; Katariina Korniloff; Hilmi Zadah Faidullah
11:54-12:01 Hybrid Teleophthalmology Pilot for Ophthalmologist Appointments Anniina Häyrynen; Joonas Wirkkala
21:01-12:08 Cost-Effectiveness of a Metabolomic Risk Score-Based Health Check Combined with a Digital Health Intervention for Cardiometabolic Disease Prevention in Finland Piia Lavikainen, Leena Haikonen-Salo, Aku-Ville Lehtimäki, Kari Jalkanen, Jari Heiskanen, Tiina Laatikainen, Janne Martikainen
12:08-12:15 A Telemedicine Pathway for Secondary Prevention in Coronary Artery Disease: Real-World Implementation Outi Haggren, Jari Laukkanen, Anna-Mari Hekkala, Sinikka Yli-Mäyry, Jaakko Immonen, Johanna Keränen, Kari Ylitalo, Kari Kaikkonen
12:15-12:22 Observations from the Digital Social and Health Care Center (DSHCC) of Wellbeing Services County of North Karelia - Siun Sote, Finland Nora Tarvus; Mika Kortelainen; Paulus Torkki; Mikael Ripatti; Marjo-Riikka Huppunen-Vänskä; Enni Sanmark

11:00-12:30 **Session 2c – Data-Driven and Modelling-Based Decision Support & Multimodal Health Data Analysis I**
H1091, Chair: Simo Saarakkala

Invited Speech:

11:00-11:20 From Multimodal Models to Trustworthy Decision Support: Bridging Data-Driven AI and Clinical Impact Professor Karim Lekadir, University of Barcelona, Catalunya

Scientific Presentations:

11:20-11:27 A Multi-Filter and Multi-Scale U-Net for Cone-Beam Computed Tomography Mustafa Al-Rubaye; Andreas Hauptmann; Miika Nieminen; Mikael Brix
11:27-11:34 Robust Running Cadence Estimation Using Multi-Axis IMU in Different Body Locations Nastaran Taefi Aghdam; Kai Noponen; Timo Hyart; Ahmed Shaheen; Rasmus Valtonen; Mikko Tulppo; Tapio Seppänen
11:34-11:41 Computer Vision-Based Breast Volume Quantification Using Digital Mammography Data with Manual Measurement Validation Katariina Kilpivaara; Antti Isosalo; Pasi Ohtonen; Pieta Ipatti; Miika Nieminen; Terhi T Piltonen; Tero Rautio
11:41-11:48 Multimodal Machine Learning Approach for Timed Up and Go Test Score Prediction from Wearable Gait Data Nabid Faiem; Tunc Asuroglu; Koray Açıcı; Antti Kallonen; Mark van Gils
11:48-11:55 Latency-Aware Evaluation of Bleeding Monitoring Algorithms for Real-Time Surgical Applications Prosper Magara; Bessie Malila; Lamees Ras; Sudesh Sivarasu
11:55-12:02 Explainable Video-Based Facial Expression Analysis for Quantifying Temporal Emotion Dynamics: A Methodological Framework Toward ADHD Research Sameera Gamage

12:02-12:09	A Modern Hopfield Network Approach for Alzheimer's and Dementia Classification Using EEG Signals	Bhargava Bhamidipati; Sarthak Acharya; Rajkumar Saini
12:09-12:16	Synthetic Data-Guided Feature Selection for Robust Activity Recognition in Older Adults	Shuhao Que; Dieuwke van Dartel; Ilse Heeringa; Han Hegeman; Miriam Vollenbroek-Hutten; Ying Wang
11:00-12:30	Session 2d – Connectivity Architectures and Cybersecurity in Digital Health 338B, Chair: Erkki Harjula	
	Invited Speech:	
11:00-11:20	Edge AI in Digital Health	Assoc. Professor Aaron Ding, TU Delft, The Netherlands
	Scientific Presentations:	
11:20-11:27	Auditable Continuous Verification for Adaptive Security in Healthcare	Ijaz Ahmad; Ijaz Ahmad; Erkki Harjula
11:27-11:34	Cybersecurity Considerations for Home Care Within the Digital Transformation of Healthcare	Jenni Siermala; Hanna Paananen; Jarmo Reponen
11:34-11:41	End-to-End Architecture for Secure Cardiovascular Disease Risk Assessment and Clinical Care	Gaurang Sharma; Juha Pajula; Tuomas Granlund; Petri Alhainen; Tommi Kiljander; Ornela Bardhi; Jaakko Lähteenmäki; Aada Illikainen; Antti Väänänen; Noora Lipsonen; Sari Kaari; Ville Salaspuro; Mika Hilvo
11:41-11:48	Secure Cloud-Based Firmware Distribution Architecture for Medical Devices	Dinesh Kumar Sah; Lauri Lovén; Sharon Stephen
11:48-11:55	Analytical Power Model for SmartBAN Protocol	Thashmila Delkandura Arachchige; Matti Hämäläinen; Konstantin Mikhaylov
11:55-12:02	An Edge-Cloud Service Orchestration Platform for Cone-Beam CT Image Denoising	Abu Taher; Johirul Islam; Antti Isosalo; Erkki Harjula
12:02-12:09	Medical Device and System Security in 6G: Learnings from 5G and Edge	Ian Oliver; Kiti Mueller
12:09-12:16	The Surgical Cyber Safety Checklist	Ian Oliver; Kiran Pokharel; Ganesh Acharya
12:30–14:00	Lunch, Exhibitions and Posters	
14:00-15:30	Session 3a – Next-Generation Wireless Health Technologies, Wearable Sensing, and Digital Twin Innovations 101A (Leena Palotie Hall), Chair: Matti Hämäläinen	
	Invited Speech:	
14:00-14:20	Healthcare in the 5G/6G Era: Opportunities for Wireless Sensing and Monitoring	Professor Sandra Dudley, London South Bank University, UK
	Scientific Presentations:	
14:20-14:27	5G/6G Enabled Ultrawideband Radar-Based System for Non-Contact Remote Monitoring	Dilshan N. Wickramarachchi; Wai Lwin Phone; Robert Brown; Tasos Dagiuklas; Sandra Dudley
14:27-14:34	Spectrum Occupancy Characteristics of a Private 5G Network in Hospital Environment	Mohsin Iqbal Khan; Matti Hämäläinen; Erkki Harjula; Timo J Mäkelä; Jani Katisko
14:34-14:41	Prediction of Body Composition with a Low-Cost and Wearable Bioimpedance Analysis Device Across Various Body Locations	Leon Robertz; Nastaran Taefi Aghdam; Joni Kilpijärvi; Egor Panfilov; Tuire Salonurmi; Mika Nevalainen; Seppo Korkala; Tommi Jaako; Simo Saarakkala
14:41-14:48	The Future of Digital Twins in Healthcare: Results from an Expert Survey	Kerstin Denecke; Octavio Rivera
14:48-14:55	Digi-Phy Twin: An Augmented Framework for Medical Applications	Daljeet Singh; Sarthak Acharya; Rajkumar Saini; Mariella Särestöniemi; Teemu Myllylä
14:55-15:02	Characterizing Implant to Surface Radio Channels for Brain Computer Interface Applications	Mariella Särestöniemi; Kamran Sayrafian; Jani Katisko; Mikael von und zu Fraunberg; Teemu Samuli Myllylä; Jari Iinatti
15:02-15:09	Toward Stroke Rehabilitation: A Single Hand-Mounted IMU and TinyML for Therapeutic Hand Movement Recognition	Xiru Chen; Sohail Ahmed Soomro; Georgi V. Georgiev
15:09-15:16	Beyond the Wrist: Wearables as Reflective Infrastructure for Nurse Well-Being	Ove Lintvedt; Rune Pedersen; Karla Muñoz Esquivel; Nick Timmons

15:16-15:23	Wearable Device-Based Assessment of Sleep Timing and Structure in Frontotemporal Dementia	Eeva Alina Nevanranta; Sami Kauppinen; Emma Vitikka; Noora-Maria Suhonen; Kasper Katisko; Barbara Borroni; Anne Portaankorva; Annakaisa Haapasalo; Eino Solje; Mikko Finnilä; Johanna Krüger
	Exhibitor presentations:	
15:23-15:30	Polar	
15:30-15:37	Philips	
14:00-15:30	Session 3b – Health Technology Assessment & Impact Evaluation F202, Chair: Miia Jansson	
	Invited Speeches:	
14:00-14:20	Evaluation of Digital health technologies in Europe: from fragmentation to the harmonised european EDIHTA framework	Research Project coordinator Emmanouil Tsiasiotis, Università Cattolica del Sacro Cuore, Italy
14:20-14:40	What societal-economic effects can be identified from the implementation and use of eHealth services in the Nordic Countries? Issues and challenges to measure outputs	Professor Emerita Vivian Vimarlund, Linköping University, Sweden
	Scientific Presentations:	
14:40-14:47	Clinical Investigation of Health Technologies: A Scoping Review of Evaluation Methods	Axa Saukkonen; Henna Härkönen; Jenna Syrjälä; Minna Vanhanen; Elina Laukka; Paulus Torkki; Kirsi Talman; Monira Yesmean; Miia Jansson
14:47-14:54	Development of an Assessment and Reimbursement Model for Digital Therapies in the Finnish Healthcare System	Jari Haverinen; Raija Järvinen; Teemu Mustola; Petra Falkenbach
14:54-15:01	Post-Implementation Monitoring of CE-Marked AI-CDS in Radiology: A Longitudinal Mixed-Methods Evaluation of Spread, Scale-Up, and Sustainability	Line Silsand; Gro-Hilde Severinsen
15:01-15:08	Waiting Times from the Real-World Earliest Contacts to Realized Visits to Public Primary Healthcare in 2019-2025 in Finland: A National Register Study	Vesa Jormanainen
15:08-15:15	HTA and Ethical Impact Assessment: Preliminary Perspectives	Jaakko Hakula
15:15-15:22	A Novel Smartphone App Increases Smoking Cessation, Participants' HRQoL and Cost-Effectiveness in LDCT Lung Cancer Screening of Heavy Smokers	Antti Kurtti; Sanna Iivanainen; Jussi Koivunen
15:22-15:29	Coverage and Utilization of Digital Healthcare Services: A Registry-Based Observational Study	Alexandra C. H. Dahlberg; Taavi Kaartinen; Sakari Jukarainen; Petja Orre
15:29-15:36	Development of Health Promotional Support Service Based on the Mobile Personal Health Record Application to Prevent Heart Failure	Hiromasa Ito; Naoki Fujimoto; Kaoru Dohi
14:00-15:30	Session 3c – Education in Digital Health I H1091, Chair: Erika Jarva	
	Invited Speech:	
14:00-14:20	Learning with Intelligent and Immersive Systems: Rethinking Education in Digital Health	Maryam Alimardani, Associate Professor at Vrije Universiteit Amsterdam, Netherlands
	Scientific Presentations:	
14:20-14:27	Designing Safe Hybrid AI-XR Simulations for Healthcare Communication and Interaction Training	Kristina Mikkonen; Egle Butkeviciute; Patrikas Armalis; Evelina Aluzaitė; Rita Baranauskaitė; Lukas Paulauskas; Lina Spirgiene; Andrejus Subocius; Tomas Blažauskas; Olga Riklikienė
14:27-14:34	Examining Nursing Students' Perceptions of Virtual Reality for Language Learning and Culture Immersion	Agostinho Antônio Cruz Araújo; Paula Ropponen; Sari Pramila-Savukoski; Lucas Gardim; Isabel Amélia Costa Mendes; Kristina Mikkonen
14:34-14:41	Paramedic and Nursing Students' Experiences of Developing Pre-Hospital	Sari Pramila-Savukoski; Sofia Jaakkola; Heli-Maria Kuivila; Petri Roivainen; Erika Jarva; Hanna-Mari Ylitalo; Kristina Mikkonen

	Emergency Care Competence Using Mobile Game - a qualitative study	
14:41-14:48	Temporal Stress Patterns in VR-Based Trauma Care Training: a multimodal study of nursing students' physiological and interactional responses	Laura Kohonen-Aho; Delfin Tursin; Joonas Ojanen; Matti Pouke; Kristina Mikkonen
14:48-14:55	Induction of Empathic Concern and Cognitive Empathy with Experts and Adults in an Immersive Virtual Reality Magnetic Resonance imaging (MRI) Experience with child's perspective	Iresh Bandara; Paula Alavesä; Severi Pitkänen; Sirpa Kekäläinen; Nirasha Thennakoon; Tarja Pölkki
14:55-15:02	Co-Teaching with Machines: Generative AI in Simulation-Based Education	Nicholas Wee Siong Neo; Joko Gunawan; Tracy Levett-Jones; Eng Tat Khoo; Wei Ling Chua; Sok Ying Liaw
15:02-15:09	SurgiVerse-6G: AI Surgical Intelligence for Education	Paulo Sergio Rufino Henrique; Ramjee Prasad; Wagner de Oliveira; Marco Antonio Firmino de Sousa; Graça Bressan; Ricardo Zugaib Abdalla; Pavlos I. Lazaridis
15:09-15:16	MetaHealth Infra and MetaHealth Infra Development Projects: Building an Immersive Digital Development and Testing Environment for the Health Sector	Mika Paldanius; Outi Kajula
15:30-16:00	Coffee, Exhibitions and Posters	
16:00-17:30	Session 4a – AI and LLMs in Healthcare: Tools for Professionals, Support for Citizens I 101A (Leena Palotie Hall), Chair: Daljeet Singh	
	Invited Speech:	
16:00-16:20	Large Language Models for clinical text handling: Recent Advances and Challenges	Professor Mourad Oussalah, University of Oulu, Finland
	Scientific Presentations:	
16:20-16:27	Deep Learning Models for Human Activity Recognition Using a Chest-Wearable Accelerometer Sensor	DK Arvind; Passara Chanchotisatien
16:27-16:34	Prognostic Risk Stratification of Hypertrophic Cardiomyopathy	Long Dang; Felix Agakov; Jari Hyttinen; Iacopo Olivotto; Mark van Gils
16:34-16:41	Trustworthy Federated Machine Learning in Healthcare: A Sociotechnical and Risk-Based Evaluation Using the Z-Inspection® Method	Pedro Kringen; Antti P Happonen; Petra Ekman; Charles Vesteghem; Benjamin Barlous; Antonios Danelakis; Mark van Gils; Pedro A Moreno-Sánchez; Magnus Westerlund
16:41-16:48	Feasibility of deep learning-based classification of lumbar T2-weighted MRIs in subjects with and without low back pain symptoms	Mustafa Al-Rubaye; Satu Inkinen; Jaro Karppinen; Miika Nieminen; Juuso Ketola
16:48-16:55	EEG-Based Mental Workload Classification Using Machine Learning in Software Engineering Tasks: A Methodological Approach	Sameera Gamage; Pantea Keikhosrokiani; Minna Isomursu
16:55-17:02	Real-Time Thermal Monitoring and Respiratory Analytics on Edge AI for Remote Healthcare	Christian Schuss; Kari Remes; Atte Koskela; Tapio Fabritius
17:02-17:09	Ethical Impact of AI Systems in Healthcare: A Survey of Recorded Incidents	Lauri Tuovinen
17:09-17:16	Alternative Regulatory Strategies for AI Medical Devices in the EU	Alpo Varri; Ilkka Juuso
17:16-17:23	Evaluating Predictive Performance of Machine Learning Based Patient Selection for Spinal Cord Stimulation in Chronic Pain	Mohosina Akhter; Minna Isomursu
17:23-17:30	A HumanAI Digital Health Architecture for Scalable Visually Impaired People (VIP) Navigation	Babar Shahzad Chaudary; Erkki Harjula; Petri Pulli
16:00-17:30	Session 4b – User Experience, Acceptance & Adoption of Health Information Systems F202, Chair: Vesa Jormanainen	

Invited Speeches:

16:00–16:20	What are the factors for success and non-success in electronic health record systems implementations?	Professor Christian Nøhr, Aalborg University, Denmark
16:20-16:40	Digital health experiences from a patient perspective	Assoc. Professor Jeppe Eriksen, Aalborg University, Denmark.
Scientific Presentations:		
16:40-16:47	Determinants of Citizen Adoption of the EUDI Wallet for Health Services in Finland: A Scoping Review and Conceptual Framework	Khaled Md Saifullah; Mohammad Rakibur Rahman; Miguel Bordallo Lopez; Timo Koivumäki; Kristina Mikkonen; Minna Isomursu; Olli Silvén; Constantino Alvarez Casado
16:47-16:54	Paramedicine Speech Recognition Adoption: A Socio-Technical Ranking Study	Desmond Hedderson; Helen Monkman; Ian E Blanchard; Karen L Courtney
16:54-17:01	Towards Healthy Ageing: Design and Implementation of a Person-Centered Digital Health System	Michele Atzeni; Margherita La Gamba; Laura Giani; Gokce B Laleci Erturkmen; Erika Jarva; Iiro Nerg; Sylvain Sebert; Teija Juola; Maria Bulgheroni
17:01-17:08	Assessing Community Health Workers' Experiences with Digital Rehabilitation: Usability, Barriers, and Implementation Needs in Primary Care Settings	Michael Oduor; Gerard Urimubenshi; Juliette Gasana; Eeva Aartolahti; Nassib Tawa; David Tumusiime; Katariina Korniloff
17:08-17:15	Surveying Nurses' Experiences of the National Patient Portal	Tuulikki Vehko; Kaija Saranto; Marko Elovainio; Vesa Jormanainen; Ulla-Mari Kinnunen
17:15-17:22	Nurses' Experiences Regarding the Impact of the Implementation of Digital Health and Social Center on Their Work and Other Practices: A Qualitative Interview Study	Egne Annala; Taina Pellikka; Hilikka Korpi; Janna Nadav; Anu Kaihlanen; Paulus Torkki; Elina Laukka
17:22-17:29	Nurses' Usability Perceptions of an Established and Newly Adopted Electronic Health Record System, and Associations with Work Schedules	Signe Lohmann-Lafrenz; Eivind Schjelderup Skarpsno

16:00-17:30 **Session 4c – Wearable Sensors, Antennas and Physiological Measurement Systems**
H1091, Chair: Mariella Särestöniemi

Invited Speech:

16:00-16:20	Wearable Sensing for Health Monitoring in Real-World Conditions	Professor Oliver Amft, University of Freiburg, Germany
Scientific Presentations:		
16:20-16:27	Evaluation of Two Novel Methods for Infant Sleep Depth Measurements in Home Environment	Laura Nauha; Hannu Kinnunen; Riikka Marttila; Matias Häggman; Juha Hannula; Tarja Pölkki; Sampsa Vanhatalo
16:27-16:34	Infrastructure Platform for Real-Time Blood Flow Imaging and Vascular Hemodynamics Monitoring	Ivan Lopushenko; Ana Diaz Dochado; Anton Sdobnov; Oleksii Sieryi; Mika Kaakinen; Lauri Eklund; Alexander Bykov
16:34-16:41	Liquid-Based Polarization-Reconfigurable Antenna Using Gravitational Method for WBAN Applications	Thanatchcha Satitchantrakul; Niklas Takanen; Ping Jack Soh
16:41-16:48	AMC-Backed Antenna for mmWave 5G Wearable Applications	Chaïmaâ Kissi; Mohamed Nabil Srifi
16:48-16:55	Skull Fracture Detection Using a Wideband Circularly Polarized Antenna with Metasurface Plane	Emmi Kaivanto; Mariella Särestöniemi; Teemu Samuli Myllylä; Ping Jack Soh; Jarmo Reponen; Mikael von und zu Fraunberg; Daljeet Singh; Kai Zhang; Sen Yan
16:55-17:02	Skin-to-Skin Interventions Provided Promising Results During Neonates' Recovery from Pain Stimulation	Hany Ferdinando; Anna-Kaija Palomaa; Sadegh Moradi; Juha Hannula; Tarja Pölkki; Teemu Samuli Myllylä
17:02-17:09	Bridging Science and Well-Being: Medical DX and Innovative Cuffless Sensors for Preventive Medicine	Yasuko K Bando
17:09-17:16	PPG and ECG Measurements on Physical Stimuli	Matti Huotari
17:16-17:23	New Vision-Portable and Label-Free Optical Detection of Sweat Glucose Using Functionalized Plasmonic Nanopillar Array	Ling Liu; Jianan Huang; Kuo Zhan

Exhibitor presentation:

17:23-17:30 PLM Group

19:30 **Gala dinner at Restaurant Toivo of Radisson Blu Hotel**

For those who have booked the dinner at the time of conference registration

Wednesday 17.6.2026

8:00-08:30 **Bus transportation from hotels to site visits**

8:30 – 10:30 **Site Visits**

Bus transportation from site visits to Kontinkangas campus

10:30 – 11:00 **Coffee, Exhibitions and Posters**

11:00-12:30 **Session 5a – AI and LLMs in Healthcare: Tools for Professionals, Support for Citizens II**
101A (Leena Palotie Hall), Chair: Miika Nieminen

Invited Speech:

11:00-11:20 Human-Centered Large Language Models in Healthcare: Quality, Interaction, and Responsibility Professor Lucie Flek, University of Bonn, Germany

Scientific Presentations:

11:20-11:27 Comparative Analysis: AI and LLMs in Healthcare Syed Ifham Qadri; Syed Rameem Zahra; Juha Rönning; Brejesh Lall

11:27-11:34 EH-FSL: Secure and Scalable Edge-Hosted Federated Split Learning in Data-Intensive Healthcare Bilgehan Akdemir; Erkki Harjula

11:34-11:41 Physiotherapists' Perspectives on AI Tools for Future Practice Tuulikki Sjögren; Hilikka Korpi; Sanna Laine; Ville Heilala

11:41-11:48 Generating BPMN Healthcare Process Models Using LLMs Adam Grík; Silvia Putekova; Anna Petrulova; Marek Rabincak; Fedor Lehocki

11:48-11:55 Delegating Tasks to AI: Current State in Dental Healthcare Ville Tuominen; Jaakko Vuolasto; Kari Koskinen

11:55-12:02 Pre-Treatment Chemotherapy Resistance Prediction in Endometrial Cancer Niny Salma; Chaïmaâ Kissi; Ch. Pradeep Reddy; Mohamed Nabil Srifi

12:02-12:09 Environmental Impacts of AI in Health Decision-Making Iina Latva-Teikari; Elina Hyrkäs; Outi Kanste

12:09-12:16 Measuring the Quality of AI-Generated Clinical Notes: A Systematic Review and Experimental Benchmark of Evaluation Methods Alexandra C H Dahlberg; Tiila Käenniemi; Tiia Winther-Jensen; Olli Tapiola; Rami Luisto; Tuukka Puranen; Max Gordon; Enni Sanmark; Ville Vartiainen

12:16-12:23 Structured Multi-Extraction Prompting Improves LLM-Based Biomedical Relation Extraction Without Fine-Tuning Frederik Marten Labonté; Suraj Giri; Claudius Herbrink; Lucie Flek

11:00-12:30 **Session 5b – Data-Driven and Modelling-Based Decision Support & Multimodal Health Data Analysis II**
F202, Chair: Mark van Gils

Invited Speech:

11:00-11:20	Learning health systems as enabler of value-based care Scientific Presentations:	Professor Arild Faxvaag, Norwegian University of Science and Technology, NTNU, Trondheim, Norway
11:20-11:27	Establishing an AI Competence Center in a Public Healthcare Organization	Timo Alalääkkölä; Aappo Keränen; Jaana Kokko; Niko Korhonen; Roni Huhta; Joonas Haataja; Tenho Moilanen; Miika T Nieminen; Mikko Reinikka; Jarmo Reponen; Heikki Mikkonen
11:27-11:34	Extending Customer Journey Modelling Language for Complex Healthcare: A Design Science Research Approach in Kidney Cancer Care	Essi Miettinen; Anu Vehkamäki; Märta Vesinurm
11:34-11:41	Breath-Hold Effect on the Prefrontal Cortex Hemodynamics When Measured by fNIRS at Source-Detector Distances of 3 and 5 cm	Sadegh Moradi; Davood Simyar; Hany Ferdinando; Teemu Samuli Myllylä
11:41-11:48	Continuous Measurement of Cardiovascular Markers Using SCG During Cycle Ergometer Test	Aleksandra Zienkiewicz; Mikko Tulppo; Rasmus Valtonen; Teemu Samuli Myllylä
11:48-11:55	Lightweight, Explainable, and Efficiency-Aware Deep Learning for Early Sepsis Prediction from Structured Electronic Health Record Time-Series	Attaphongse Taparugssanagorn; Mariella Särestöniemi; Matti Hämäläinen; Jari Iinatti
11:55-12:02	Robust Fatigue Prediction via Hybrid Generative-Ensemble Learning on Wearable Data	Fatemeh Sepehrmanesh; Antti Isosalo; Erkki Harjula
12:02-12:09	Attitudes Towards Workplace Data Collection Among Factory Workers	Milla Immonen; Satu-Marja Mäkelä; Elina Annanperä; Anna Rohunen; Kari Hiekkänen; Anu-Hanna Anttila; Pekka Siirtola
12:09-12:16	Focus is Not Just on the Eyes - Constructing Dynamic Areas of Interest for Eye-Tracking	Jaakko Kauramäki; Kerttu Huttunen
12:16-12:23	Multimodal Driver State Monitoring in a Simulated Environment: A Health-Oriented, Human-in-the-Loop Evaluation	Prabhash Rathnayake; Sameera Gamage; Akke-Pekka Törmänen; Ella Peltonen
12:23-12:30	Task-Dependent Central and Autonomic Responses to Sympathetic and Vagal Challenges	Runwei Lin; Annemijn Hoff; Ying Wang
11:00-12:30	Session 5c – Education in Digital Health II H1091, Chair: Kristina Mikkonen Invited Speech:	
11:00-11:20	Education and Competence Development in Digital Health Scientific Presentations:	Professor and Deputy Dean Gillian Vesty, Melbourne, Australia
11:20-11:27	Educators' Perceptions of a National Learning Material Repository in Finnish Medical and Dental Education	Tiina Salmijärvi; Konsta Parttimaa; Henri Takalo-Kastari; Anu Kajamaa; Hanni Muukkonen; Petri Kulmala; Jarmo Reponen
11:27-11:34	Defining AI Competence for Health and Social Care Professionals: A Scoping Review of Competence Domains, Practice Requirements and Educational Gaps (2020–2025)	Birgitta Tetri; Outi Ahonen
11:34-11:41	From Shared Input to Negotiated Comparison and Situated Action: Staging a Transnational Course in Digital and Data-Driven Healthcare	Casper Knudsen; Signe Pedersen; Ditte Lystbæk Weber
11:41-11:48	Medical Students' Experiences of Digital Collaborative Learning in eHealth Training	Paula Veikkolainen; Erika Jarva; Timo Tuovinen; Petri Kulmala; Tiina Salmijärvi, Jonna Juntunen; Annukka Tuomikoski; Jarmo Reponen; Merja Männistö
11:48-11:55	Digital Competence of Filipino Nurses Working in Finland: A Cross-Sectional Study	Erika Jarva; Floro Cubelo; Elina Laukka
11:55-12:02	Exploring Digital Health Concepts Through Hands-on Education in Biomedical Engineering	Christian Schuss; Atte Koskela; Anuradha Uduwana Athukoralalage Dona; Tapio Seppänen; Tapio Fabritius
12:02-12:30	Pioneering the Future of Healthcare: The Development and Implementation of an Interdisciplinary Master's Program in Digital Health in Japan – a Case of Regional University	Kakuya Kitagawa; Yasuko K Bando; Hiroharu Kawanaka; Yusuke Sugitani; Hajime Sakuma

12:30-14:00	Lunch, Exhibitions and Posters	
14:00-15:30	Closing Plenary – Future of Digital Health Chair: Simo Saarakkala	
	Invited Speeches:	
14:00-14:30	Digital Transformation of Primary Health Care: Insights from a multi-country study	Assoc. Prof. Smisha Agarwal, Johns Hopkins, USA
14:30-14:50	From Vision to Infrastructure: The Evolution of Taiwan's Healthcare Systems Consortium in the Digital Age	Prof. Shao-Jen Weng, Tunghai University, Taiwan
14:50-15:10	From Strategy to Practice: The Esko Patient Information System Implementation at Pohde	CIO, Assist. Prof. Pasi Eskola, Wellbeing Services County of North Ostrobothnia, Finland
15:10-15:25	Best Paper Awards	
15:25	Closing ceremony	
15:25	Closing words	Conference Vice-President, Prof. Simo Saarakkala, University of Oulu, Finland
	Poster exhibitions	
1	From Guideline to Gameplay: A Pilot Study on AI Simulation in Medical Training	Maija Paukkunen; Elina Rintamäki; Kari Sinivuori; Eveliina Heikkala; Juhani Määttä; Jaro Karppinen
2	Impact of XR-Based Training on Radiation Knowledge and Workflow Performance in Healthcare Professionals	Marja Jaronen; Karoliina Paalimäki-Paakki; Adam Graham; Niko Männikkö; Tanja Schroderus-Salo; Tuulikki Keskitalo; Milla Immonen; Kristina Mikkonen
3	Industry-Driven Project-Based Learning in Digital Health Education	Raquel Simões de Almeida; Vítor Simões-Silva; Maria João Trigueiro
4	Low-Cost Platform for Self-Measured Balance in Seniors	Thomas Jensen; Pauli Mikkonen
5	A User-Centred mHealth Approach to Remote Routine Management and Mental Health Promotion in Higher Education	Vítor Simões-Silva; Maria João Trigueiro; Raquel Simões de Almeida
6	Use of a Gamified Tool for the Promotion of Physical Activity and the Reduction of Obesity in Young Adults	Maria João Trigueiro; Guilherme R Pinto; José M Nunes; Raquel Simões de Almeida; Vítor Simões-Silva
7	A Phenomenographic Research of Physiotherapy Teachers' Perceptions of Digitalization	Hilkka Korpi; Mari Harjunen; Tuulikki Sjögren
8	Artificial Intelligence-Assisted Clinical Decision Support in Nursing: A Qualitative Descriptive Study	Petra Suonnansalo; Henna Härkönen; Mika Alastalo; Zhou Wentao; Miia Jansson
9	Self-Adaptive AI in Clinical Decision Support: A Systematic Review	Wendakoon Mudiyansele Kavishwa Bhashitha; Nirnaya Tripathi
10	Artificial Intelligence for Reducing Alarm Fatigue in Hospitals: A Systematic Review	Milla Kosonen
11	A Safety-Constrained Architecture for Adaptive Clinical Decision Support	Wendakoon Mudiyansele Kavishwa Bhashitha; Nirnaya Tripathi
12	Structured LLM-Generated Clinical Discharge Summaries for Nordic Healthcare Digitalization and Wireless Health Integration	Aleka Melese Ayalew; Md Rabiul Hasan; Tapio Seppänen; Mourad F Oussalah
13	MEG-QA: Medical Evidence-Grounded Question Abbreviation for Consumer Health Queries via Retrieval-Augmented Generation and Knowledge Graph Constraints in Digital Health	Md Rabiul Hasan; Aleka Melese Ayalew; Mourad F Oussalah

14	Robust and Imperceptible QR Code Watermarking in Medical Images Using a Hybrid DWT-DCT-SVD Approach	Khadija Dinia; Chaïmaâ Kissi; Ch. Pradeep Reddy; Tarik Boujiha
15	An Evaluation of PQC Placement in Hybrid Quantum CNN and ViT Models	Khadija Amadoun; Chaïmaâ Kissi; Amlan Chakrabarti; Tarik Boujiha
16	Early Detection of Emerging SARS-CoV-2 Variants via Contrastive Siamese BiLSTM Embeddings and Temporal Outlier Persistence	Adnane Touiyate; Chaïmaâ Kissi; Tarik Boujiha
17	AI-Assisted Documentation in Social Welfare Services: Insights from a Pilot Conducted in the Wellbeing Services County of North Ostrobothnia	Niko Korhonen; Jarmo Reponen; Timo Alalääkkölä; Aappo Keränen; Jaana Kokko; Roni Huhta; Joonas Haataja; Tenho Moilanen; Miika T Nieminen; Mikko Reinikka; Heikki Mikkonen
18	WoMED: Designing a Clinical Tool to Aid in Diagnosis, Assessment, and Decision-Making by Utilizing Women's Health Data	Riikka Arffman; Marko Arffman; Janne Wäli; Elisa Hurskainen; Terhi T Pilttonen
19	A Discrete Event Simulation Framework for Analysing and Optimising Emergency Medical Service Workflows	Kean Tang; Patrik Rydén
20	Predicting Length of Stay in High Throughput Hospital Units	Lars Mattsson; Patrik Rydén
21	Service Demand Predictive Models in Well-Being Services Counties Qualitative Research on Project Team Members' Experiences	Helmi Virtanen
22	Multiparametric MRI Analysis in Glioma Grading: Added Value of ADC Maps	Nourhan Ibrahim; Egor Panfilov; Niina Salokorpi; Tuija Keinänen
23	Optical Wireless Power and Data Transfer to Implantable Medical Devices Under Misalignment: Experimental Insights on Energy Harvesting	Syifaul Fuada; Mariella Särestöniemi; Guanghui Ma; Marcos Katz
24	Analysis of Available Optical Power in an in-Body Optical Link at 810 nm for OWPT Across Biological Tissue	Syifaul Fuada; Mariella Särestöniemi; Marcos Katz
25	Compact Antenna Cavity and Reflector Configurations for Portable Skull Fracture Detection	Emmi Kaivanto; Daljeet Singh; Jarmo Reponen; Mariella Särestöniemi; Mikael von und zu Fraunberg; Ping Jack Soh; Teemu Samuli Myllylä
26	Ultra-Low-Power on-Demand Ultrasound-Based Device Identification for Hand Hygiene Monitoring in Healthcare Environments	Frank Russow
27	Secure Connectivity Architectures for Resilient and Privacy-Preserving Digital Health Ecosystems	Himanshi Babbar; Rajeev Kumar; Teemu Myllylä; Daljeet Singh; Mariella Särestöniemi
28	A Modular Approach for Multi-Scale Whole-Brain Simulation: Integrating a Neuron-Astrocyte-Vascular Model Into the Virtual Brain	Rok Virant; Marja Leena Linne
29	Wearable-Measured Heart Rate Variability, Its Multi-Night Fluctuation and Cardiometabolic Health in Adults	Anna Maijala; Vahid Farrahi; Maisa Niemelä
30	BCI Controlled Humanoid Systems: A Multimodal Perspective	Sarthak Acharya; Daljeet Singh; Nampuraja Enose
31	The Human Body Twin Laboratory: A Multimodal Platform for Developing and Validating Wearable and Portable Medical Monitoring Technologies	Mariella Särestöniemi; Erkki Vihriälä; Daljeet Singh; Lukasz Surazynski; Teemu Myllylä
32	Human-AI Interaction in UAE Healthcare Sector	Loubna Saad Saoud; Omer Aftab Qureshi
33	Towards Realistic Phantom-Based Evaluation of MammoWave Microwave Breast Imaging	Mariella Särestöniemi; Daljeet Singh; Jarmo Reponen; Teemu Myllylä; Gianmarco Palomba; Alessandra Ronca; Navid Ghavami; Gianluigi Tiberi