

PROGRAMME



NORDIC CONFERENCE ON
**Digital Health and
Wireless Solutions**

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**

Chair: Jarmo Reponen

Conference opening words

Conference president, Prof. Jarmo Reponen, University of Oulu, Finland

Comission/Government representative

TBA

Keynote:

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:

How to design digital health services and
sustain their use

Professor Sabine Koch, Karolinska Institutet, Sweden

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:

Profiting from 6G System for the Smart
Hospital of the Future

Fan Wang; Seppo Yrjölä; Risto Jurva; Timo Koivumäki; Aigerim Dairabekova;
Petri Ahokangas

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

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

Electronic Health Record System Market
Concentration in Finland, 2007-2028

Timo Tuovinen; Petra Kuikka; Paula Veikkolainen; Niina Keranen; Virpi
Ekholm; Vesa Jormanainen; Jarmo Reponen

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

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 presentation

11:00-12:30

Session 2b – Data-Driven and Modelling-Based Decision Support & Multimodal Health Data Analysis I

Chair: Simo Saarakkala

Invited Speech:

From Multimodal Models to Trustworthy Decision Support: Bridging Data-Driven AI and Clinical Impact

Professor Karim Lekadir, University of Barcelona, Catalunya

Scientific Presentations:

A Multi-Filter and Multi-Scale U-Net for Cone-Beam Computed Tomography

Mustafa Al-Rubaye; Andreas Hauptmann; Miika Nieminen; Mikael Brix

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

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

Multimodal Machine Learning Approach for Timed Up and Go Test Score Prediction from Wearable Gait Data

Nabid Faiem; Tunc Asuroglu; Koray Açııcı; Antti Kallonen; Mark van Gils

Latency-Aware Evaluation of Bleeding Monitoring Algorithms for Real-Time Surgical Applications

Prosper Magara; Bessie Malila; Lamees Ras; Sudesh Sivarasu

Explainable Video-Based Facial Expression Analysis for Quantifying Temporal Emotion Dynamics: A Methodological Framework Toward ADHD Research

Sameera Gamage

A Modern Hopfield Network Approach for Alzheimer's and Dementia Classification Using EEG Signals

Bhargava Bhamidipati; Sarthak Acharya; Rajkumar Saini

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

Corporate presentations

11:00-12:30

Session 2c – Connectivity Architectures and Cybersecurity in Digital Health

Chair: Erkki Harjula

Invited Speech:

Edge AI in Digital Health

Assoc. Professor Aaron Ding, TU Delft, The Netherlands

Scientific Presentations:

Auditable Continuous Verification for Adaptive Security in Healthcare

Ijaz Ahmad; Ijaz Ahmad; Erkki Harjula

Cybersecurity Considerations for Home Care Within the Digital Transformation of Healthcare

Jenni Siermala; Hanna Paananen; Jarmo Reponen

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

Secure Cloud-Based Firmware Distribution Architecture for Medical Devices

Dinesh Kumar Sah; Lauri Lovén; Sharon Stephen

Analytical Power Model for SmartBAN Protocol

Thashmila Delkandura Arachchige; Matti Hämäläinen; Konstantin Mikhaylov

An Edge-Cloud Service Orchestration Platform for Cone-Beam CT Image Denoising

Abu Taher; Johirul Islam; Antti Isosalo; Erkki Harjula

Medical Device and System Security in 6G: Learnings from 5G and Edge

Ian Oliver; Kiti Mueller

The Surgical Cyber Safety Checklist

Ian Oliver; Kiran Pokharel; Ganesh Acharya

Corporate presentation

Session 2d – Personalised Digital Health – From Omics to Interventions, Telemedicine and eRehabilitation

Chair: Eero Kajantie

Invited Speeches:

Systemic approach to the development and implementation of national digital health solutions
Special Advisor Gudrun Audur Hardardottir, Ministry of Health, Iceland

Understanding metabolic ageing and disease risk via omics sciences
Docent Ville-Petteri Mäkinen, University of Oulu, Finland

Scientific presentations:

Dynamic Digital Precision Nutrition for Cardiometabolic Prevention in Cancer Survivorship
Maryam Gholamalizadeh; Saeid Doaei; Raul Zamora-Ros

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

Hybrid Teleophthalmology Pilot for Ophthalmologist Appointments
Anniina Häyrynen; Joonas Wirkkala

Development of Health Promotional Support Service Based on the Mobile Personal Health Record Application to Prevent Heart Failure
Hiromasa Ito; Naoki Fujimoto; Kaoru Dohi

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

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

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

12:30–14:00

Lunch, Exhibitions and Posters

14:00-15:30

Session 3a – Health Technology Assessment & Impact Evaluation

Chair: Miia Jansson

Invited Speeches:

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

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:

Development of an Assessment and Reimbursement Model for Digital Therapies in the Finnish Healthcare System
Jari Haverinen; Raija Järvinen; Teemu Mustola; Petra Falkenbach

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

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

HTA and Ethical Impact Assessment: Preliminary Perspectives
Jaakko Hakula

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

Coverage and Utilization of Digital Healthcare Services: A Registry-Based Observational Study

Alexandra C. H. Dahlberg; Taavi Kaartinen; Sakari Jukarainen; Petja Orre

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

14:00-15:30

Session 3b – Next-Generation Wireless Health Technologies, Wearable Sensing, and Digital Twin Innovations

Chair: Matti Hämäläinen

Invited Speech:

Healthcare in the 5G/6G Era: Opportunities for Wireless Sensing and Monitoring

Professor Sandra Dudley, London South Bank University, UK

Scientific Presentations:

5G/6G Enabled Ultrawideband Radar-Based System for Non-Contact Remote Monitoring

Dilshan N. Wickramarachchi; Wai Lwin Phone; Robert Brown; Tasos Dagiuklas; Sandra Dudley

Spectrum Occupancy Characteristics of a Private 5G Network in Hospital Environment

Mohsin Iqbal Khan; Matti Hämäläinen; Erkki Harjula; Timo J Mäkelä; Jani Katisko

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

The Future of Digital Twins in Healthcare: Results from an Expert Survey

Kerstin Denecke; Octavio Rivera

Digi-Phy Twin: An Augmented Framework for Medical Applications

Daljeet Singh; Sarthak Acharya; Rajkumar Saini; Mariella Särestöniemi; Teemu Myllylä

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

Toward Stroke Rehabilitation: A Single Hand-Mounted IMU and TinyML for Therapeutic Hand Movement Recognition

Xiru Chen; Sohail Ahmed Soomro; Georgi V. Georgiev

Beyond the Wrist: Wearables as Reflective Infrastructure for Nurse Well-Being

Ove Lintvedt; Rune Pedersen; Karla Muñoz Esquivel; Nick Timmons

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

Corporate presentations

14:00-15:30

Session 3c – Education in Digital Health I

Chair: Erika Jarva

Invited Speech:

Learning with Intelligent and Immersive Systems: Rethinking Education in Digital Health

Maryam Alimardani, Associate Professor at Vrije Universiteit Amsterdam, Netherlands

Scientific Presentations:

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

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

Paramedic and Nursing Students' Experiences of Developing Pre-Hospital Emergency Care Competence Using Mobile Game - a qualitative study

Sari Pramila-Savukoski; Sofia Jaakkola; Heli-Maria Kuivila; Petri Roivainen; Erika Jarva; Hanna-Mari Ylitalo; Kristina Mikkonen

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

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

Impact of XR-Based Training on Radiation Knowledge

Marja Jaronen; Karoliina Paalimäki-Paakki; Adam Graham; Niko Männikkö; Tanja Schroderus-Salo; Tuulikki Keskitalo; Milla Immonen; Kristina Mikkonen

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

Corporate presentations

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

Chair: Daljeet Singh

Invited Speech:

Large Language Models for clinical text handling: Recent Advances and Challenges

Professor Mourad Oussalah, University of Oulu, Finland

Scientific Presentations:

Prognostic Risk Stratification of Hypertrophic Cardiomyopathy

Long Dang; Felix Agakov; Jari Hyttinen; Iacopo Olivotto; Mark van Gils

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

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

EEG-Based Mental Workload Classification Using Machine Learning in Software Engineering Tasks: A Methodological Approach

Sameera Gamage; Pantea Keikhosrokiani; Minna Isomursu

EH-FSL: Secure and Scalable Edge-Hosted Federated Split Learning

Bilgehan Akdemir; Erkki Harjula

Ethical Impact of AI Systems in Healthcare: A Survey of Recorded Incidents

Lauri Tuovinen

Alternative Regulatory Strategies for AI Medical Devices in the EU

Alpo Varri; Ilkka Juuso

Evaluating Predictive Performance of Machine Learning Based Patient Selection for Spinal Cord Stimulation in Chronic Pain

Mohosina Akhter; Minna Isomursu

A HumanAI Digital Health Architecture for Scalable Visually Impaired People (VIP) Navigation

Babar Shahzad Chaudary; Erkki Harjula; Petri Pulli

Corporate presentation

16:00-17:30

Session 4b – User Experience, Acceptance & Adoption of Health Information Systems

Chair: Vesa Jormanainen

Invited Speeches:

What are the factors for success and non-success in electronic health record systems implementations?

Professor Christian Nøhr, Aalborg University, Denmark

Digital health experiences from a patient perspective

Assoc. Professor Jeppe Eriksen, Aalborg University, Denmark.

Scientific Presentations:

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
Paramedicine Speech Recognition Adoption: A Socio-Technical Ranking Study	Desmond Hedderson; Helen Monkman; Ian E Blanchard; Karen L Courtney
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
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
Surveying Nurses' Experiences of the National Patient Portal	Tuulikki Vehko; Kaija Saranto; Marko Elovainio; Vesa Jormanainen; Ulla-Mari Kinnunen
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
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

Chair: Mariella Särestöniemi

Invited Speech:

Wearable Sensing for Health Monitoring in Real-World Conditions	Professor Oliver Amft, University of Freiburg, Germany
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Scientific Presentations:

Deep Learning Models for Human Activity Recognition Using a Chest-Wearable Accelerometer Sensor	DK Arvind; Passara Chanchotisatien
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
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
Liquid-Based Polarization-Reconfigurable Antenna Using Gravitational Method for WBAN Applications	Thanatchcha Satitchantrakul; Niklas Takanen; Ping Jack Soh
AMC-Backed Antenna for mmWave 5G Wearable Applications	Chaïmaâ Kissi; Mohamed Nabil Srfi
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
Skin-to-Skin Interventions Provided Promising Results During Neonates' Recovery from Pain Stimulation	Hany Ferdinando; Anna-Kaija Palomaa; Sadeq Moradi; Juha Hannula; Tarja Pölkki; Teemu Samuli Myllylä
Bridging Science and Well-Being: Medical DX and Innovative Cuffless Sensors for Preventive Medicine	Yasuko K Bando
PPG and ECG Measurements on Physical Stimuli	Matti Huotari
New Vision-Portable and Label-Free Optical Detection of Sweat Glucose Using Functionalized Plasmonic Nanopillar Array	Ling Liu; Jianan Huang; Kuo Zhan

Corporate presentation

19:30

Gala dinner at Restaurant Toivo of Radisson Blu Hotel

For those who have it included in the ticket price.

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 – Data-Driven and Modelling-Based Decision Support & Multimodal Health Data Analysis II**

Chair: Mark van Gils

Invited Speech:

Learning health systems as enabler of value-based care

Professor Arild Faxvaag, Norwegian University of Science and Technology, NTNU, Trondheim, Norway

Scientific Presentations:

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

Extending Customer Journey Modelling Language for Complex Healthcare: A Design Science Research Approach in Kidney Cancer Care

Essi Miettinen; Anu Vehkamäki; Märt Vesinurm

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

Continuous Measurement of Cardiovascular Markers Using SCG During Cycle Ergometer Test

Aleksandra Zienkiewicz; Mikko Tulppo; Rasmus Valtonen; Teemu Samuli Myllylä

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

Robust Fatigue Prediction via Hybrid Generative-Ensemble Learning on Wearable Data

Fatemeh Sepehrmanesh; Antti Isosalo; Erkki Harjula

Attitudes Towards Workplace Data Collection Among Factory Workers

Milla Immonen; Satu-Marja Mäkelä; Elina Annanperä; Anna Rohunen; Kari Hiekkänen; Anu-Hanna Anttila; Pekka Siirtola

Focus is Not Just on the Eyes - Constructing Dynamic Areas of Interest for Eye-Tracking

Jaakko Kauramäki; Kerttu Huttunen

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

Task-Dependent Central and Autonomic Responses to Sympathetic and Vagal Challenges

Runwei Lin; Annemijn Hoff; Ying Wang

11:00-12:30 **Session 5b – AI and LLMs in Healthcare: Tools for Professionals, Support for Citizens II**

Chair: Miika Nieminen

Invited Speech:

Human-Centered Large Language Models in Healthcare: Quality, Interaction, and Responsibility

Professor Lucie Flek, University of Bonn, Germany

Scientific Presentations:

Comparative Analysis: AI and LLMs in Healthcare	Syed Ifham Qadri; Syed Rameem Zahra; Juha Rönning; Brejesh Lall
Real-Time Thermal Monitoring and Respiratory Analytics on Edge AI for Remote Healthcare	Christian Schuss; Kari Remes; Atte Koskela; Tapio Fabritius
Physiotherapists' Perspectives on AI Tools for Future Practice	Tuulikki Sjögren; Hilikka Korpi; Sanna Laine; Ville Heilala
Generating BPMN Healthcare Process Models Using LLMs	Adam Grik; Silvia Putekova; Anna Petrulova; Marek Rabincak; Fedor Lehocki
Delegating Tasks to AI: Current State in Dental Healthcare	Ville Tuominen; Jaakko Vuolasto; Kari Koskinen
Pre-Treatment Chemotherapy Resistance Prediction in Endometrial Cancer	Niny Salma; Chaïmaâ Kissi; Ch. Pradeep Reddy; Mohamed Nabil Srifi
Environmental Impacts of AI in Health Decision-Making	Iina Latva-Teikari; Elina Hyrkäs; Outi Kanste
Human-AI Interaction in UAE Healthcare Sector	Loubna Saad Saoud; Omer Aftab Qureshi
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
Structured Multi-Extraction Prompting Improves LLM-Based Biomedical Relation Extraction Without Fine-Tuning	Frederik Marten Labonté; Suraj Giri; Claudius Herbrük; Lucie Flek

Corporate presentation

11:00-12:30

Session 5c – Education in Digital Health II

Chair: Kristina Mikkonen

Invited Speech:

Education and Competence Development in Digital Health	Professor and Deputy Dean Gillian Vesty, Melbourne, Australia
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Scientific Presentations:

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
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
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
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
Digital Competence of Filipino Nurses Working in Finland: A Cross-Sectional Study	Erika Jarva; Floro Cubelo; Elina Laukka
Exploring Digital Health Concepts Through Hands-on Education in Biomedical Engineering	Christian Schuss; Atte Koskela; Anuradha Uduwana Athukoralalage Dona; Tapio Seppänen; Tapio Fabritius
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
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
MetaHealth Infra and MetaHealth Infra Development Projects: Building an	Mika Paldanius; Outi Kajula

Immersive Digital Development and Testing
Environment for the Health Sector

12:30-14:00

Corporate presentation

Lunch, Exhibitions and Posters

14:00-15:30

Closing Plenary – Future of Digital Health

Chair: Simo Saarakkala

Invited Speeches:

Digital Transformation of Primary Health
Care: Insights from a multi-country study

Assoc. Prof. Smisha Agarwal, Johns Hopkins, USA

From Vision to Infrastructure: The Evolution
of Taiwan's Healthcare Systems Consortium
in the Digital Age

Prof. Shao-Jen Weng, Tunghai University, Taiwan

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

Best Paper Awards

15:25

Closing ceremony

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
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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	Md Rabiul Hasan; Aleka Melese Ayalew; Mourad F Oussalah

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