

PROGRAM MEDICINTEKNIKDAGARNA 2023 MONDAY 9 OCT

10.00 - 17.00	<u>Kursdag på Norrbacka, KS</u>	<u>Lokal</u>
10.00 - 17.00	EKG Medicintekniker	S2:03 Tallen
10.00 - 17.00	Medicintekniska regelverk, MDR - IVDR	S2:03 Granen
15.00 -18.00	Registration Medicinteknikdagarna, BioClinicum	Foyer, ground level
17.30 - 18.00	Virtual guided tour of NKS & BioClinicum	J3:07 Sune Bergström Aula
18.00 - 20.00	Registration	Foyer, ground level
18.00 - 20.00	Welcome reception in the exhibition at BioClinicum <i>(pre-registration required)</i>	Foyer, ground level

PROGRAM MEDICINTEKNIKDAGARNA 2023 TUESDAY 10 OCT

8.30 - 9.30	Registration	Foyer, ground level
9.30 - 9.45	Welcome and opening	Sune Bergström Aula
9.45- 10.30	Plenary 1 - Prof. Barbara Jobst, MD <i>Chair and Professor of Neurology, Geisel School of Medicine at Dartmouth</i> Neurostimulation for seizures, memory and consciousness	J3:07 Sune Bergström Aula
10.30 - 11.00	Poster pitch	Sune Bergström Aula
11.00 - 11.30	Coffee break in the exhibition	Foyer, ground level

Note: All presentations with English titles are given in English.

Parallel Sessions

	J3:07 Sune Bergström Aula	Lars Klareskog	J3:12 Nanna Svartz
	SA1: Artificial intelligence <i>Session chair: Magnus Cintho, Lunds universitet</i>	SB1: Biomechanics <i>Session chair: Helena Grip, Region Västerbotten</i>	SC1: Utbildning och näringslivets erfarenheter <i>Session chair: Mats Nilsson, KTH</i>
11.30	Automatisk utvärdering av regional lungfunktion möjliggörs med datortomografi och maskininlärning, Emelie Bäcklin/ KTH-KI	Acoustics and Fluid Structure Interaction of collapsible tubes relevant for biomedical applications, Marco Laudato/KTH	Safeguarding Healthcare: the role of data in medical device cybersecurity, Arno van der Heijden/Philips
11.45	Age-Related Brain Atrophy Detection in Alzheimer's Disease via Deep Learning-Based Healthy Templates: A Cross-Sectional Study, Jingru Fu/ KTH	An experimental setup for assessment of traction force and associated fetal brain deformation in vacuum-assisted delivery, Estelle Pitti / KTH-KI	Innovationsjakten: En vindlande resa från idé till färdig produkt, Hannes Hultgren, RaySafe/Fluke
12.00	Effect of data leakage in deep learning-based image classification: A show-case on optical coherence tomography data, Iulian Emil Tampu/ Linköpings universitet	Fat-IBC(Intra-Body Communication) based 3D printed Bionic Arm with multiple degrees of Freedom, Arvind Selvan Chezian / Uppsala universitet	Digital lärplattform för Sveriges medicintekniska avdelningar, Lars Carlsson/ MTpodden
12.15	Early Characterization of Stroke Using Video Analysis and Machine Learning, Stefan Candefjord/ Chalmers	Geometrical influence on backflow in centrifugal blood pumps in low flow conditions, Federico Rorro/KTH	Healthcare Transformation Academy: Empowering Healthcare Professionals through continued education across Europe, Fernando Seoane/KI
12.30	A convolutional neural network-based method for the generation of super-resolution 3D models from high-resolution clinical CT images, Yijun Zhou / Uppsala universitet	Motor performance after treatment of pilocytic astrocytoma in childhood - A study if motor performance is affected during different balance tests, Fredrik Öhberg/Umeå universitet	Certifiering av medicintekniska ingenjörer – lägesrapport och diskussion, Björn-Erik Erlandsson/KTH paneldiskussion 30 minuter
12.45	Lesion Localization in Digital Breast Tomosynthesis via Deformable Detection Transformer, Zhikai Yang/KTH	Numerical investigation of fluid-structure interaction of simplified three-dimensional human soft palate in unsteady airway flow, Peng Li/KTH	

13.00 - 14.15

Lunch in the exhibition

Foyer, ground level

PROGRAM MEDICINTEKNIKDAGARNA 2023 TUESDAY 10 OCT

Parallel Sessions

	J3:07 Sune Bergström Aula	Lars Klareskog	J3:06 Ulf von Euler
	SA2: Imaging and image processing <i>Session chair: Matilda Larsson, KTH</i>	SB2: LfMT 1 <i>Session chair: Niklas Fridolf, Västra Götalandsregionen</i>	SC2: "Innovation Hive Live" - öppen workshop <i>Session chair: Jenny Christensson, MedTech4Health</i>
14.15	Speed-of-sound as a novel ultrasound imaging biomarker for breast cancer and density, Bezek Deniz Bezek/ Uppsala universitet	MTP-rådets arbete med nationellt ordnat införande - framgångsfaktorer och utmaningar, Sofia Medin/ SKR	Vi kommer arbeta med utmaningar i kommunal vård och omsorg, skapa förslag på medicintekniska lösningar som skulle kunna lösa dessa och sätta en riktning framåt tillsammans. Arbetet sker i bikupor bestående av patienter, studenter, vård- och omsorgspersonal från regioner och kommuner samt alla de på plats som vill vara med. Jenny Christensson /MedTech4Health, Anna Berghpltz /Unique Power, Frida Lindberg /KTH, Helena Bysell /Uppsala Universitet
14.30	Improved frequency estimation using pre-beamformed ultrasound data, Tobias Erlöv/ Lunds universitet		
14.45	Motion magnification improves 2D micrometer motion estimation in skeletal muscle B-mode ultrasound images, Christer Grönlund/ Umeå universitet	Medicinteknisk säkerhet inom regionerna, Salvatore Capizzello/ LfMTs MT-säkerhetsnätverk	
15.00	Speed-resolved perfusion imaging for assessment of chronic limb-threatening ischemia, Tomas Strömberg/ Linköpings universitet		
15.15	Invited speaker: AI for breast cancer detection in screening mammography in Sweden, Karin Dembrower/ St. Göran's hospital	Regelverket för MTP (MDR/IVDR) - förändringsbehov och hantering i regionen / Jessica Ylvén och Niklas Fridolf, Västra Götalandsregionen	
15.45			

15.45 - 16.15	Coffee break in the exhibition	Foyer, ground level
16.15	Erna Ebling prize lecture - Urban Wiklund	J3:07 Sune Bergström Aula
16.45 - 18.00	Poster Exhibition	
17.15 - 18.30	MTF Annual Meeting	J3:07 Sune Bergström Aula
19.00 - 23.00	Gala dinner (pre-registration required)	Stockholm City Hall

PROGRAM MEDICINTEKNIKDAGARNA 2023 WEDNESDAY 11 OCT

Parallel Sessions

	J3:07 Sune Bergström Aula	J3:12 Nanna Svartz	J3:06 Ulf von Euler	
	SA3: Sensors and diagnostic systems <i>Session chair: Niclas Roxhed, KTH</i>	SB3: LfMT 2 <i>Session chair: Ulrika Sandberg, Region Kronoberg</i>	SC3: Cardiovascular engineering <i>Session chair: Seraina Dual, KTH</i>	
8.30	Continuous monitoring of lung function for patients in intensive care using diode laser spectroscopy, Anna-Lena Sahlberg/Lunds univ	Standardisering inom MT-området – en möjliggöra för framtida vård / Anders Grundin, Region Västerbotten	The physiological basis for the longitudinal motion of the arterial wall, Magnus Cinthio/Lunds universitet	
8.45	Dissecting the multiomics atlas of extracellular vesicles in Parkinson's disease, Vaibhav Sharma/Luleå universitet		Heart rate variability analysis in heart rate regions – a tool to study autonomic function in children with Long QT Syndrome?, Anna Lundström/Umeå universitet	
9.00	On-chip colorimetric assay for point-of-care lithium blood level determination using finger-prick-blood, Carl Olsson/KTH		Segmentera MT-utrustning i nätverket – Vilka problem löser vi? /Rasmus Engblom Strucke, Södersjukhuset AB	Numerical and experimental investigation of an ECMO drainage cannula, Fransesco Fiusco/KTH
9.15	In-line detection of TNF- α using an acoustic trap connected to an Infection-on-Chip model, Gabriel Werr/Uppsala universitet		Hur man genomför ett utbyte av flera tusen MTP/ Jacob Lidman, Medicinsk Teknik Sahlgrenska	Vascular robotics: A bioinspired robot for versatile application in vascular channels, Bobins Augustine/Uppsala universitet
9.30	A mobile app-based hearing test to detect 'the hidden hearing loss', Amin Saremi/Umeå universitet		Berättelsen Emboless®/ Per Jonsson, Region Västerbotten	Assessment of Femoro-femoro Extracorporeal Membrane Oxygenation in a Computation Fluid Dynamics Model, Hanna Hörwing/KTH
9.45	In-ear pulse wave amplitude recordings during synchronized walking, Aurora Rosato / KTH			A computational platform for virtual trials of fluid responsiveness in critically-ill patients, Marijn Mulder/Twente

10.00 - 10.30

Coffee break in the exhibition

Foyer, ground level

PROGRAM MEDICINTEKNIKDAGARNA 2023 WEDNESDAY 11 OCT

Parallel Sessions

	J3:07 Sune Bergström Aula	J3:12 Nanna Svartz	J3:06 Ulf von Euler
	SA4: Biomaterials <i>Session chair: Cecilia Persson, Uppsala Universitet</i>	SB4: Digitalization and informatics in healthcare <i>Session chair: Farhad Abtahi, KI</i>	SC4: MedTech4Health Financing "Pengär förenklar - när idé blir en lösning" <i>Session chair: Lena Strömberg, MedTech4Health</i>
10.30	Nanotechnology-enabled medical devices against infections, Sotiriou Georgios/KI	A Scoping Review of Views, Use, and Experiences of Online Access to Pediatric Electronic Health Records for Children, Adolescents, and Parents, Josefin Hagström / Uppsala universitet	Almi Invest (for startups), Gustav Notander Life Science Venture Capital (EIR), Lovisa Backemar EIT Health, Christina Bergstrand MT4H, Avesta Starkholm Vinnova, Sanna Englund Sting, Olof Berglund
10.45	Electrical field accelerated wound repair – what we learnt from cell culture and the next steps towards clinical application, Maria Asplund/Chalmers	Towards providing type-2 diabetes patients with homogenous information on physical activity, Annica Kristoffersson/Mälardalens Högskola	
11.00	Antimicrobial Nanocellulose-based Wound Dressings for Treatment of Wound Infections, Elisa Zattarin/Linköpings universitet	En förstudie av utmaningar och behov i det dagliga arbetet på intensivvården, Maria Sjöberg/Getinge	
11.15	Nanocellulose meets host defense peptides: Investigating the functionalization of cellulose nanofibrils with KR-12 to obtain bioactive wound dressings, Natalia Ferraz/Uppsala universitet	Information och IT-säkerhet för MT-lösningar, Föreläsning och diskussion/ Carl-Johan Ekelund/Atea (45 minuter)	
11.30	Additively manufactured Mg alloys may provide improved bioactivity, Niccoló De Berardinis /Uppsala universitet		
11.45	An examination of microbiological and structural interactions between implants and tissues in a cohort of extracted bone-anchored hearing implants, Ganeyev Marsel/Göteborgs universitet		

12.00 - 13.15

Lunch in the exhibition

Foyer, ground level

PROGRAM MEDICINTEKNIKDAGARNA 2023 WEDNESDAY 11 OCT

Parallel Sessions

	J3:07 Sune Bergström Aula	J3:12 Nanna Svartz	J3:06 Ulf von Euler
	SA5: Innovation and translation in biomedical engineering <i>Session chair: Lena Strömberg, MedTech4Health</i>	SB5: Safety, Regulatory affairs, Standards <i>Session chair: Lars Carlsson, Carlsson Consulting AB</i>	SC5: Neural engineering and Bioelectronics <i>Session chair: Anders Eklund, Umeå Universitet</i>
13.15	Single-use microwell chips for immune cell screening, Niklas Sandström/ KTH	Standarder och dess nytta inom vård och innovation, Jenny Acaralp & Lena Morgan/ SIS	B-CRATOS Wireless Brain-Connect interface TO MachineS, Robin Augustine/Uppsala universitet
13.30	UTI-lizer: Digital Point-of-Care Culture for Urinary Tract Infections, Emre Iseri/ KTH	Militära krav på medicintekniska produkter, Bo Höjdefors / FMV	Calibration-Free Myoelectric Decoding, Olsson Alexander/Lunds universitet
13.45	Adding the third dimension to histology, Jenny Romell/Exciscope AB	Försvarsmaktens Sjukvårdssystem. En viktig del av Funktionskedja sjukvård, Jens Lönnblad / Försvarsmakten	Mapping improvement and side effects in deep brain stimulation, Teresa Nordin/ Linköpings universitet
14.00	Electroosmosis-based Technique for Cerebral Edema Treatment, Xiaogai Li/KTH	Säkerhet i medicinska gassystem: Fjärde utgåvan av SIS HB 370 publiceras med översättning av SS EN ISO 7396-1, Janie Thunman / SIS	Brain microcirculation in neurointensive care, Stina Mauritzon/Linköpings universitet
14.15	3D Spike micro-particles enhance transdermal drug delivery, Iordanidis Theocharis/KTH	Tillsammans för patientsäkerhet, Patrick Borén / LMV	Unlocking the Potential of Ion Channels as Novel Biomarkers and Therapeutic Targets in Endometriosis and Ovarian Cancer, Oliya Abdullaeva/Luleå universitet
14.30	Targeting the vagus nerve non-invasively by using multiple temporal interference technology, Patrícia Mendes /KI	Medicinteknisk apparatur i hemmet (MAH) SLSO, Jimmy Daoud / SLSO	Portable Semi-Shielded Chamber for Evaluation of Fat-Intrabody Communication, Roger Karlsson/Uppsala universitet

14.45 - 15.15 **Coffee break in the exhibition** **Foyer, ground level**

15.15 - 16.00 **Plenary 2 - Prof. Johan Hartman, MD** **J3:07**
Professor of Patology, Karolinska Institutet, Co-founder & CMO Stratipath AB **Sune Bergström Aula**
Stratipath- clinical implementation of AI-based cancer diagnostics

16.00 - 16.30 **MTF Prize lecture- To be announced** **J3:07**
16.30 - 17.00 **IFMBE prizes, photo + exhibition quiz prizes** **Sune Bergström Aula**
17.00 **End**