

PROGRAM MEDICINTEKNIKDAGARNA 2023 MONDAY 9 OCT

10.00 - 17.00 10.00 - 17.00	<u>Kursdag på Norrbacka, KS</u>	<u>Lokal</u>
	EKG Medicintekniker Medicintekniska regelverk, MDR - IVDR	S2:03 Tallen 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 18.00 - 20.00	Registration Welcome reception in the exhibition at BioClinicum (pre-registration required)	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 Chezhan / 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

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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, Francesco 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		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		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

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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 förklar - 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
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	Life Science Venture Capital (EIR), Lovisa Backemar
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	EIT Health, Christina Bergstrand
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		MT4H, Avesta Starkholm
11.30	Additively manufactured Mg alloys may provide improved bioactivity, Niccoló De Berardinis /Uppsala universitet	Information och IT-säkerhet för MT-lösningar, Föreläsning och diskussion/ Carl-Johan Ekelund/Atea (45 minuter)	Vinnova, Sanna Englund
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		Sting, Olof Berglund

12.00 - 13.15

Lunch in the exhibition

Foyer, ground level

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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: Anders Eklund, Umeå Universitet</i>	SB5: Safety, Regulatory affairs, Standards <i>Session chair: Lars Carlsson, Carlsson Consulting AB</i>	SC5: Neural engineering and Bioelectronics <i>Session chair: Lena Strömberg, MedTech4Health</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 Högdefors / FMV	Calibration-Free Myoelectric Decoding, Olsson Alexander/Lunds universitet
13.45	Adding the third dimension to histology, Jenny Romell/Exciscope AB	Försvarmaktens Sjukvårdssystem. En viktig del av Funktionskedja sjukvård, Jens Lönnblad / Försvarmakten	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**