

Organisers



IHK zu Lübeck
www.ihk-sh.de/lsa2017

Supported by



BioMedTec Wissenschaftscampus
www.bio-med-tec.de



Lübeck University of Applied Sciences – Medical Sensors and Devices Laboratory
www.msgt.fh-luebeck.de



Fraunhofer MEVIS
www.mevis.fraunhofer.de



Life Science Nord e.V.
www.lifesciencenord.de



Micro Technologies

VDMA Micro Technologies
<http://micro.vdma.org>

Networking Partners



B.A.H. e.V.
www.bah-bonn.de



DGBMT
www.vde.com/de/dgbmt/



Diagnostiknetz Berlin-Brandenburg
<http://diagnostiknet-bb.de/>



F.F.M. e.V.
www.ffmpeg-luebeck.com



Initiative Bildverarbeitung e.V.
www.initiative-bildverarbeitung.de



ScanBalt BioRegion
www.scanbalt.org



Universität zu Lübeck
www.uni-luebeck.de

Registration, contact and further information

LSA2017 Website and Online registration

Please register before 23 June 2017 at www.ihk-sh.de/lsa2017
Programme details may be subject to change.

Fees and discount fees

All participants must register. Attendance fee is 50 EUR. Discount fee is 30 EUR. Representatives of member organisations of the BioMedTec Science Campus, Life Science Nord, and VDMA are eligible for discount fees. Students are exempt from fees. A valid student-ID is required at registration.

Table-top exhibition

Room MF500

Fees for table-top stands are 200 EUR plus 19% V.A.T. per stand, including catering and free access to the conference presentations for two staff of the exhibitor's organisation. Stands include a stand-up table and space for one roll-up display. Further details and a service package leaflet are available from IHK zu Lübeck (see below for contact details).

Poster exhibition

Room MF500

Posters on (1) regulatory affairs for medical devices, (2) deep learning or (3) microfluidics are welcome. A limited number of poster boards (1.20 m width, 1.50 m height) is available. For further details please contact IHK zu Lübeck (see below for contact details).

Location

MediaDocks, Willy-Brandt-Allee 31, 23554 Lübeck / Germany
For directions see <http://www.media-docks.de/lage-anfahrt.php>

Accommodation

Hotel Excelsior Lübeck
www.hotel-excelsior-luebeck.de

Klassik Altstadt Hotel Lübeck
www.klassik-altstadt-hotel.de

Atlantic Hotel Lübeck
www.atlantic-hotels.de/luebeck

Park Inn by Radisson Lübeck
www.parkinn.de/hotel-luebeck

Contact

IHK zu Lübeck
Dirk Hermsmeyer
Fackenburger Allee 2
23558 Lübeck, Germany
Phone +49-451-6006-191
hermsmeyer@ihk-luebeck.de

Note: With registration I agree to the organisers using and storing my personal data for the organisation of this event. Personal data will not be forwarded to third parties.



LSA2017

Lübeck Summer Academy on Medical Technology

- Regulatory Affairs
- Deep Learning
- Microfluidics

July 4, 2017, 9 am to 5 pm
MediaDocks, Lübeck



Welcome to LSA2017!



Our topics are regulatory affairs for medical devices, deep learning and microfluidics.

The *Medical Device Regulation (MDR)* is announced to come into effect in 2017. This will drastically increase administrative and financial expenditures of medical device manufacturers. Transition periods apply, but

immediate action will be necessary for manufacturers, importers, dealers and operators of devices, as well as researchers and developers. The Regulatory Affairs session is organised by *Life Science Nord's Working Group on Regulatory Affairs*. Experts will give essential information on the key changes introduced by the MDR. You are invited to engage in interactive panel discussions.

Deep Learning teaches machines to think. By mimicking the neural network structure of the human brain, deep learning promises computers that understand images and voices on an abstraction level so far reserved to humans alone. Applications range from computer games like AlphaGo to human level voice recognition and even automatic medical image analysis for disease diagnosis. Most major tech companies are pursuing deep learning applications today, making it the most hyped technology at present. The Deep Learning session is organised by *Fraunhofer MEVIS*, an institution that develops real-world software solutions for image-supported early disease detection, diagnosis, and therapy. Experts will share their experiences and expectations with researchers, developers and industry.

The *flow of liquids* inside and outside the human body plays a key role in medical technology. Safety and reliability of many medical devices and their components, e.g. dialysis machines, infusion pumps, or liquid-handling systems for in-vitro-diagnostics, require safe and reliable dosing of liquids. Experts from academia and industry will discuss their current projects at LSA2017. Research and industrial presentations will be accompanied by an exhibition. The session is jointly organised by the *Medical Sensors and Devices Lab (Lübeck University of Applied Sciences)* and *VDMA Micro Technologies (Mechanical Engineering Industry Association)*.

A common introductory session, key notes, posters, and a table-top industry exhibition will complete LSA2017. You are most cordially invited!

Heike Wachenhausen
Conference Chair
(Head of Life Science Nord Working Group on RA)

Programme

9.00 Registration and coffee

Plenum Session: Welcome and Introductory Key Notes
Room MF100-1

9.30 **Welcome**
Henrik Botterweck
Chairman, Lübeck BioMedTec Science Campus

9.40 **EUROIMMUN – Cutting-Edge Diagnostic Systems and Innovative Technologies Made in Lübeck**
Christof Lehmann
Director Marketing, EUROIMMUN AG, Lübeck

10.10 **Advanced Technologies and Regulatory Response – Concepts and Challenges for Regulatory Systems of Medical Devices**
Folker Spitzenberger
Professor Regulatory Affairs
Lübeck University of Applied Sciences

10.40 Refreshments and exhibition (room MF500)

Parallel Session 1: Regulatory Affairs
Medical Devices: From EU Directive to EU Regulation
Room MF100-1

11.00 **Challenges of EU-MDR: Transition Periods and Further Provisions of Interest**
Almut Fröhlich (tbc)
German Federal Ministry of Health, BMG, Berlin

11.45 **Implementation of EU-MDR: A Challenge for Manufacturers?**
Jan-Michael Krüger
Olympus Winter & Ibe GmbH, Hamburg

12.30 Lunch and exhibition (room MF500)

13.30 **The EU-MDR from a Notified Body Perspective**
Hans-Gerd Evering
BSI Group Deutschland GmbH, Frankfurt

14.00 **Clinical Evaluation under the EU-MDR and MEDDEV 2.7/1 Revision 4**
Florian Tolkmitt
Regulatory & Clinical Affairs Expert, Frankfurt

14.30 Refreshments and exhibition (room MF500)

15.00 **CE-Documentation under the EU-MDR**
Thomas Bohnen
Qualitätsplan24 GmbH, Lübeck

15.30 **Panel discussion: From EU-MDD to EU-MDR**

16.00 Get-together: Refreshments and exhibition (room MF500)

Parallel Session 2: Deep Learning
From AlphaGo to Diagnostics
Eames Room

11.00 **Deep Networks: An Old Concept Revolutionizes Machine Learning**
Thomas Martinetz
Institute for Neuro- und Bioinformatics, University of Lübeck

11.30 **Deep Learning in Pathology, Radiology and Ophthalmology**
Bram van Ginneken
Diagnostic Image Analysis Group, Radboud University Medical Center, Nijmegen, The Netherlands

12.00 **Machine Learning vs. Explicit Domain Modelling**
Alexander Schmidt-Richberg
Philips Research Laboratories, Hamburg

12.30 Lunch and exhibition (room MF500)

13.30 **Distributed, Secure Deep Learning and Algorithm Validation from a Practical Perspective**
Markus Harz
Fraunhofer MEVIS, Bremen

14.00 **Machine Learning Gaining Ground in the Machinery Industry**
Eric Maiser
VDMA Competence Center Future Business, Frankfurt

14.30 Refreshments and exhibition (room MF500)

15.00 **Rescue From the Flood of Data – Optimised Callus Regeneration Through Deep Learning-Supported Stem Cell Research**
Matthias Steffen
FUUSE-AI Artificial Intelligence Specialists GbR, Hamburg

15.30 **Panel discussion: Deep Learning**

16.00 Get-together: Refreshments and exhibition (room MF500)

Parallel Session 3: Microfluidics
10th Workshop on Low Flows in Medical Technology
VDMA Micro Technologies Roadshow Microfluidics
Room MF100-2

11.00 **Flow Sensor Controlled Dispensing and Metering**
Thomas Weisener
HNP Mikrosysteme GmbH, Schwerin

11.30 **Microfluidics and Application of Microvalves**
Marc Staiger
Staiger GmbH & Co. KG, Erligheim

12.00 **Lab-on-a-Chip Systems with Integrated Microfluidic Pumps: A Flexible Platform for Rapid Assay and Biosensor Integration**
Jörg Nestler
BiFlow Systems GmbH, Chemnitz

12.30 Lunch and exhibition (room MF500)

13.30 **The Role of Micro Diaphragm Pumps in Medical Technologies**
Axel Wille
Fraunhofer Research Institution for Microsystems and Solid State Technologies EMFT, Munich

14.00 **Ultrasonic Fabrication of Disposable Medical Analysis and Dosing Systems**
Werner Karl Schomburg
Design and Development of Micro Systems KEmikro, RWTH Aachen

14.30 Refreshments and exhibition (room MF500)

15.00 **New Optical and X-ray Analysis Methods Utilizing Microfluidic Devices: Concepts and Applications in Medical Research**
Simone Techert
Deutsches Elektronen-Synchrotron, DESY, Hamburg

15.30 **High Accuracy Microarray Spotting for Lab-on-Chip Applications**
Wilhelm Meyer
microdrop Technologies GmbH, Norderstedt

16.00 Get-together: Refreshments and exhibition (room MF500)