

## Organisers



IHK zu Lübeck  
[www.ihk-sh.de/lisa](http://www.ihk-sh.de/lisa)

## Supported by



BioMedTec Wissenschaftscampus  
[www.bio-med-tec.de](http://www.bio-med-tec.de)



Lübeck University of Applied Sciences – Medical Sensors and Devices Laboratory  
[www.msgt.fh-luebeck.de](http://www.msgt.fh-luebeck.de)



Fraunhofer MEVIS  
[www.mevis.fraunhofer.de](http://www.mevis.fraunhofer.de)



Life Science Nord e.V.  
[www.lifesciencenord.de](http://www.lifesciencenord.de)



Universität zu Lübeck  
[www.uni-luebeck.de](http://www.uni-luebeck.de)

## Networking Partners



B.A.H. e.V.  
[www.bah-bonn.de](http://www.bah-bonn.de)



NETZWERK DIAGNOSTIK BERLIN-BRANDENBURG e.V.

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



F.F.M. e.V.  
[www.ffmpeg-luebeck.com](http://www.ffmpeg-luebeck.com)



Initiative Bildverarbeitung e.V.  
[www.initiative-bildverarbeitung.de](http://www.initiative-bildverarbeitung.de)



ScanBalt BioRegion  
[www.scanbalt.org](http://www.scanbalt.org)



DGBMT  
[www.vde.com/de/dgbmt/](http://www.vde.com/de/dgbmt/)



Lübecker Bezirksverein

Verein Deutscher Ingenieure  
[www.vdi.de](http://www.vdi.de)



Arbeitsgemeinschaft Medizintechnik

VDMA Micro Technologies  
<https://medtec.vdma.org>

## Registration, contact and further information

LSA2018 Website and Online registration  
Please register before 22 June 2018 at [www.ihk-sh.de/lisa](http://www.ihk-sh.de/lisa)  
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 and of Life Science Nord are eligible for the discount fee. Students are exempt from fees. A valid student ID is required at registration.

### Table-top exhibition

Room MF 500  
Fees for table-top stands are 250 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 MF 500  
Posters on (1) regulatory affairs for medical devices, (2) microfluidics or (3) deep learning 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](http://www.hotel-excelsior-luebeck.de)

Klassik Altstadt Hotel Lübeck  
[www.klassik-altstadt-hotel.de](http://www.klassik-altstadt-hotel.de)

Atlantic Hotel Lübeck  
[www.atlantic-hotels.de/luebeck](http://www.atlantic-hotels.de/luebeck)

Park Inn by Radisson Lübeck  
[www.parkinn.de/hotel-luebeck](http://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](mailto: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.



# LSA2018

## Lübeck Summer Academy on Medical Technology

- Regulatory Affairs
- Microfluidics
- Deep Learning

July 4, 2018, 8.30 am to 5.30 pm  
MediaDocks, Lübeck



# Welcome to LSA2018!



Our topics are regulatory affairs for medical devices, microfluidics and artificial intelligence.

The *Medical Device Regulation (MDR)* transition period ends in May 2020. The designation process of notified bodies (NB) in accordance with the MDR is presently ongoing. At this stage, manufacturers are lacking information

from their NB about requirements they will need to fulfil to bring their products on the European market legally in less than two years. In the Regulatory Affairs session, experts will shed light on some aspects of this doubtful situation. It is organised by *Life Science Nord's Working Group on Regulatory Affairs*. We invite you to engage in interactive panel discussions.

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. Research and industrial presentations are accompanied by an exhibition. The session is organised by the *Medical Sensors and Devices Lab* of the *Lübeck University of Applied Sciences*.

*Artificial Intelligence (AI)* continues to be the most hyped, cross-sectional technology today. AI revolutionizes pattern recognition in images and language as well as robotics and autonomous systems. Applications based on deep learning are meant to optimise, i.e. to change their behaviour or the results they produce, during their application in the market. This fundamentally challenges the way of thinking hitherto applied in making rules and regulations for technology. How can future standards safeguard AI- and DL-based products? We will look at some technological and ethical aspects of AI- and DL-based applications in medical technology and beyond. The session is co-organised by *Fraunhofer MEVIS* and the *Institute for Electrical Engineering in Medicine* of the University of Lübeck.

A common introductory session with key notes, posters, and a table-top industry exhibition will complete LSA2018.

You are most cordially invited!

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

## Programme

8.30 Registration and coffee

---

Plenum Session: Welcome and Introductory Key Notes  
Room MF 500

9.00 **Welcome**  
Lars Schöning  
Lübeck Chamber of Commerce and Industry

9.10 **Key note 1:**  
**AI Now and in the Future – Opportunities and Risks**  
Wolfgang Hildesheim  
Head of Watson and AI, DACH – IBM Cognitive Solutions  
IBM Deutschland GmbH, Hamburg

10.00 **Key note 2:**  
**Emerging Medical Technology in Politics and Society**  
Christopher Coenen  
Institute for Technology Assessment and Systems  
Analysis (ITAS), Karlsruhe Institute of Technology (KIT)

10.50 **Discussion**

11.10 Refreshments and exhibition

---

Parallel Session 1: Regulatory Affairs  
Room MF 500

11.45 **Medical Device Regulation: Implementation on European Level, First Results**  
Matthias Neumann  
German Federal Ministry of Health, BMG, Berlin

12.30 **Designation Process of Notified Bodies**  
Andrea Johmann  
Central Authority of the Länder for Health Protection with regard to Medicinal Products and Medical Devices, ZLG

13.15 Lunch and exhibition

14.15 **Re-Designation and Transition Period – Impact on Manufacturers**  
Klaus-Dieter Ziel  
MEDCERT GmbH Notified Body, Hamburg

14.45 **Clinical Data for Conformity Assessment and Regulatory Approval**  
Michael Imhoff  
qtec consult GmbH, Lübeck

15.15 Refreshments and exhibition

15.45 **Meeting UDI-requirements – Lessons Learnt and Customer Perspective**  
Sylvia Reingardt  
GS1 Germany GmbH, Köln

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

16.45 Get-together: Refreshments and exhibition

---

Parallel Session 2: Microfluidics

11th Lübeck Workshop on Low Liquid Flows in Medical Technology  
Room MF 50-1

11.45 **Bringing the Lab out of the Lab: A Microfluidic based In Vitro Diagnostics Platform for Multiple Biomarker Point-of-Care Detection**  
Frank Bier  
Fraunhofer-Institut für Cell Therapy and Immunology, Potsdam

12.15 **Isolation of Exosomes Using Viscoelastic Fluids in a Microfluidic Device**  
Daniil Miroshnikov  
POC Solutions ApS, Kongens Lyngby, Denmark

12.45 **The Planned Multi-MicroFlow Facility at PTB**  
Corinna Kroner  
PTB National Metrology Institute of Germany, Braunschweig

13.15 Lunch and exhibition

14.15 **Liquid/Liquid Slug Flow and Mass Transport in a Micro-Capillary Reactor – Simulation and Experiment**  
Peter Ehrhard  
TU Dortmund – Fluid Mechanics

14.45 **Lab-on-Chip: A Universal Microfluidic Platform for Molecular Diagnostics**  
Franz Lärmer  
Robert Bosch GmbH, Stuttgart

15.15 Refreshments and exhibition

15.45 **Micro Fluidic System for the Investigation of the Synovial Liquid by X-ray Scattering Methods**  
Florian Wieland  
Helmholtz-Zentrum Geesthacht (DESY outstation), Hamburg

16.15 **Isolating Adherent Single Cells – The Taming of the Shrew**  
Chris Wetzel  
MMI Molecular Machines & Industries GmbH,  
Microscopic Single Cell Isolation, Eching

16.45 Get-together: Refreshments and exhibition

---

Parallel Session 3: Artificial Intelligence and Deep Learning  
Technological and Ethical Aspects of AI- and DL-Based Products  
Room MF 100-1

11.45 **Machine Learning for Wearable Computing. A Chance for Deep Learning?**  
Robert Dürichen  
Robert Bosch GmbH, Stuttgart

12.15 **Why Deep Learning will not Replace Radiologists**  
Horst Hahn  
Fraunhofer MEVIS, Bremen

12.45 **Deep Learning for Motor Control**  
Elmar Rückert  
Institut für Robotik und Kognitive Systeme,  
Universität zu Lübeck

13.15 Lunch and exhibition

14.15 **Technical Committee on AI at DIN (German Institute for Standardization)**  
Katharina Sehnert  
DIN e.V., Berlin

14.45 **Challenges in Face Recognition**  
Constantin Sandmann  
DERMALOG Identification Systems GmbH, Hamburg

15.15 Refreshments and exhibition

15.45 **Intelligent Agents and the Law**  
Susanne Beck  
University of Hannover

16.15 **Panel discussion: Technological and Ethical Aspects of AI in Health and Beyond**

16.45 Get-together: Refreshments and exhibition