

Day 1

4<sup>th</sup> NOVEMBER 2019

8:00 Registration

9:30 **Welcome and opening**

**Plenary talk**

9:45 **Imaging, Robotics and Artificial Intelligence: the 3 weapons of choice to achieve a smart surgery.** Jacques Marescaux

10:20 Coffee break

**Session: New techniques for clinical image-guided interventions**

*Chair: Georg Rose, Steffen Diehl*

10:40 Frank Wacker

**Contributions**

11:05 **Cost-Effectiveness Analysis of Local Ablation and Surgery for Liver Metastases of Oligometastatic Colorectal Cancer.** Matthias F Froelich

11:15 **Description of technique and initial feasibility of fully percutaneous, image-guided cholecysto-enteric anastomosis using a covered lumen-apposing metal stent.** Michael Kostrzewa

11:25 **TISSUE-SPARING TECHNIQUE, integrating stereotactic guidance tools in liver surgery. Stereotactic guided percutaneous radiofrequency assisted liver partition with portal vein embolization for staged hepatectomy (PRALPPS).** Alain Garcia

11:35 **Radiofrequency ablation beyond oncology techniques. New techniques for vascular occlusion before hepatectomy, comparison between Angio-CT needle guidance and CT optical navigation.** Juan Verde

11:45 **Image-guidance and robotic technology to support surgery on the lateral skull base.** Jan Hermann

11:55 **MR Thermometry with an Ablation Electrode.** Thomas Gerlach

12:05 Lunch, poster session & industry exhibition

13:00 Start-up Fails „Dos and Don'ts“

**Panel discussion: Digital physician – from therapy decisions to digital aftercare**

14:30 Frank Giordano, Christian Hieronimi, Christof von Kalle, Florian Jungmann

15:30 Coffee break

## Session: Multi-dimensional Data acquisition and analysis

Chair: Frank Zöllner, Sylvia Saalfeld

16:00 **Medical image analysis with deep learning: can we solve the challenges with challenges?** Bram van Ginneken

16:25 **The future of surgery is flexible and image guided.** Silvana Perretta

### Contributions

16:50 **The Joint Imaging Platform (JIP) of the German Cancer Consortium (DKTK) - Infrastructure for Image Analysis and Machine Learning in Multicenter Oncological Studies.** Jens Kleesiek

17:00 **Direct Grangeat-based CT Reconstruction for Arbitrary Scan Trajectories and Detector Configurations.** Robert Frysch

17:10 **Knowledge-Guided Radiological Reads.** Sebastian Schäfer

17:20 **Motion compensation in flat panel CT using a prior image.** Tim Pfeiffer

17:30 **Kann ein festes Klassenverhältnis im Training die CNN-Lebersegmentierung im CT verbessern?** Alena-Kathrin Schnurr

19:00 **Evening event**

Restaurant Lindbergh

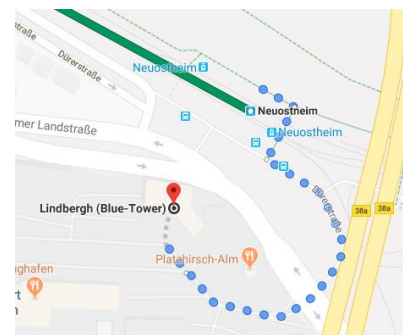
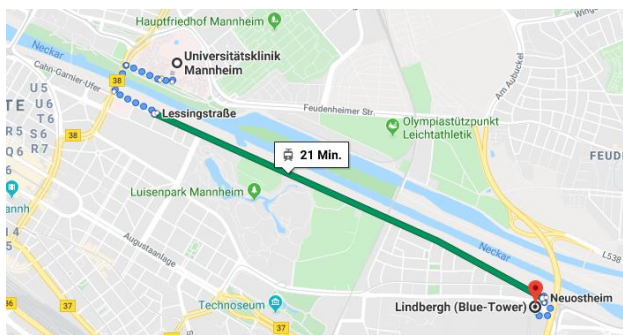
Am City Airport Mannheim, Seckenheimer Landstraße 170, 68163 Mannheim



### Getting there with public transport:

From Mannheim City Center please take tram no. 5 (→ Heidelberg) or no. 6 (→ Neuostheim) and get off the tram at the stop "Neuostheim". The stop is directly opposite to the City-Airport Mannheim-Neuostheim.

From the University Medical Center please use the tram stop „Lessingstraße“ on the opposite site of the Neckar. Use line no. 5 (→ Heidelberg) or no. 6 (→ Neuostheim) and get off the tram at the stop "Neuostheim".



Day 2

5<sup>th</sup> NOVEMBER 2019

8:00 Registration

**Session: Digital laboratory: ePathology and molecular diagnostics**

*Chair: Christoph Hoeschen, Björn Wängler*

9:00 **How To Successfully Implement a LIMS - Our Experiences.** Tri Hien Viet Huynh

9:25 **Die vielen Facetten der Digitalen Pathologie.** Johannes Haybäck

**Contributions**

9:50 **Automatisierung und Digitalisierung einzelzellbasierter, molekularer Verfahren der Diagnostik von Lymphknotenkrebs.** Sebastian Schöning

10:00 **Digital reconstruction of complete organ cross-sections.** Cleo-Aron Weis

10:10 **Lab-IoT – Anwendungen des Internet-of-Things in klinischen Laboren.** Sebastian Schöning

10:20 **Development of a MC1R-specific near-infrared fluorescent contrast agent for optical fluorescence imaging of malignant melanoma.** Valeska von Kiedrowski

10:30 **Pharmakokinetische Modellierung von Goldnanopartikeln: Parameterschätzung und Identifizierbarkeitsanalyse.** Melanie Facht

10:40 Coffee break

**Session: Data Analytics and Artificial Intelligence**

*Chair: Armin Heinzl, Myra Spiliopoulou*

11:00 **Learning from smartphone data for health self-management.** Myra Spiliopoulou

11:25 **Translationale Forschung im Bereich Deep Learning für die medizinische Bildverarbeitung.** Markus Thorsten Wenzel

**Contributions**

11:50 **Challenges of Rejecting Biased AI-based Decision Aids– An Experimental Investigation of Medical Diagnosis on COPD.** Ekaterina Jussupow

12:00 **Hyperrealistic Minimally Invasive Surgical Training Using Generative Adversarial Networks.** Sandy Engelhardt

12:10 **Touchless, intra-operative image viewing using convolutional neural networks.** Hannah Syrek

12:20 **Generation of Synthetic CT Scans Via Removal and Insertion of Liver Lesions.** Benedikt Kersjes

12:30 **Comparison between the usage of same and different variable density undersampling patterns for Deep Learning based MRI Reconstruction.** Soumick Chatterjee

12:40 **The impact of variations in annotation on the AIF and perfusion parameter.**  
Christian Tönnies

12:50 Lunch, poster session & industry exhibition

13:00 **Workshop: How to found a startup company?** Elmar Bourdon

**Session: Intelligent systems in the intervention room**

*Chair: Christian Hansen, Jan Stallkamp*

14:00 **Context-aware assistance in the operating room of the future.** Stefanie Speidel

14:25 **Künstliche Intelligenz in der Medizinischen Bildverarbeitung – Von Daten zu Services.** Thomas Wittenberg

**Contributions**

14:50 **Learning needle placement for biopsy: A comparison of visually-guided versus robot-assisted navigation.** Philipp Lautenschläger

15:00 **Intelligentes robotergestütztes Biopsie-Assistenzsystem für minimalinvasive Radiologische Interventionen.** Patrick Schuelein

15:10 **Software-gestützte interstitielle Bestrahlung inoperabler Hirntumore mit dem Intrabeam.** Ralf Bieber

15:20 Closing remarks

15:30 Coffee and departure