In 2014 the IMETUM (TUM Central Institute for Medical Engineering) organizes a workshop series that promotes the public visibility of the interdisciplinary and cross-faculty field of Biomedical Engineering. The first workshop held in January 2014 gave a more general overview of the activities at the TUM. Now we are looking forward to announce the second workshop focusing on “Minimal Invasive Interventions” that is co-organized by Prof. Dr. H. Feußner (Director of the Center for Minimally invasive Interdisciplinary Therapeutical Intervention: MITI).

In future, surgeries will ideally be performed using the natural body orifice. Minimal invasive interventions aim a more and more patient-friendly procedure to reduce pain to a minimum and enabling rapid recovery.

For this purpose extremely small, but also flexible multi-functional endoscopes have to be developed. Together with experts from robotics, mechatronics, process control and automation, interdisciplinary teams of surgeons and gastroenterologists are devoted to this highly complex task. Minimally invasive procedures will be revolutionizing surgery in the upcoming decades. The therefore necessary technical and medical developments are presented and discussed in the workshop.

**PROGRAM**

15:00 Introduction and Welcome  
**Prof. Dr. rer. nat. Axel Haase**  
TUM Zentralinstitut für Medizintechnik (IMETUM)

15:10 Surgery in the Year 2025  
**Prof. Dr. med. Hubertus Faulkner**  
MITI - Minimal-invasive Interdisziplinäre Therapeutische Intervention

15:40 Printable Surgical Robots  
**Prof. Dr. rer. nat. Tim C. Lüth**  
Lehrstuhl für Mikrotechnik und Medizingerätetechnik (MiMed)

**Brian Jensen**  
Chair for Robotics and Embedded Systems (Prof. Dr.-Ing. Alois C. Knoll)

16:40 Coffee Break

17:00 Haptics and Computer-aided Situation Report of Instruments in Minimally Invasive Surgery  
**Prof. Dr.-Ing. Heinz Wörn**  
Karlsruher Institut für Technologie (KIT)

17:30 Endoscopy in the Year 2025  
**Prof. Dr. med. Alexander Meining**  
Medizinische Klinik und Poliklinik am Klinikum rechts der Isar der TUM

18:00 Robot Assisted Vitreo-Retinal Surgery  
**M. Ali Nasseri**  
TUM Graduate School of Information Science in Health (GSISH)

18:20 Healthcare Robotics  
**Eva Graf**  
TUM Graduate School of Information Science in Health (GSISH)

18:40 Hybrid 3-D Endoscopy – The best of both worlds  
**Sven Haase**  
TUM Graduate School of Information Science in Health (GSISH)

19:00 Reception

Organized together with:  
TUM Graduate School of Information Science in Health (GSISH) and DFG Forschergruppe FOR1321 „Single-Port Technologie für gastroenterologische und viszeralchirurgische endoskopische Interventionen“.

Registration and Further Information:  
Please register for this event at gsish@tum.de  
For further information please visit the GSISH website at http://gsish.tum.edu/events-jobs/