

Freitag, den 10. Juni 2016

14:30 - 15:00 Uhr

Hörsaal EW 115 A

## **Laparoscopic Single Port Telesmanipulation Robot with Highly Maneuverable Instruments**

**Seminar lecture presented by Dr.-Ing. Bastian Blase**

Compared to conventional minimally invasive surgery (MIS), less incisions need to be made in laparo-endoscopic single-site surgery. However, movability is reduced, requiring suitable instruments to offer additional flexibility and an advanced design. A newly developed telesmanipulation robot, comprising changeable instruments, a motorized platform, and an intuitive user interface takes up significantly less space in the operating room than conventional systems. The instruments are optimized for maximum dexterity and offer high flexibility and rigidity as well as a workspace with a radius of nearly 100 mm, thus allowing the support base to be fixed and relieving the abdominal wall. Additionally, force and position sensors are integrated into the instruments, allowing the system to perform complex tasks that normally require several entry points into the abdominal cavity. The prototype was tested successfully under laboratory conditions, proving the handling to be precise during the experiments.

