VENUE FOR DORS 2014

The school will be held in the city of Leipzig in two exciting venues: in the Felix Klein Lecture Hall of the central university building and in the university library.

UNIVERSITY OF LEIPZIG
Bibliotheca Albertina
Beethovenstr. 6
04107 Leipzig

UNIVERSITY OF LEIPZIG
Felix Klein Lecture Hall
Paulinum, Main Building
Augustusplatz 10-11
04109 Leipzig

CONTACT

Prof. Dr. Thomas Neumuth, Universität Leipzig,
Innovation Center Computer Assisted Surgery
Phone: 0341/97-12001
Mail: dors@iccas.de

Dr. Kerstin Denecke, Universität Leipzig,
Innovation Center Computer Assisted Surgery
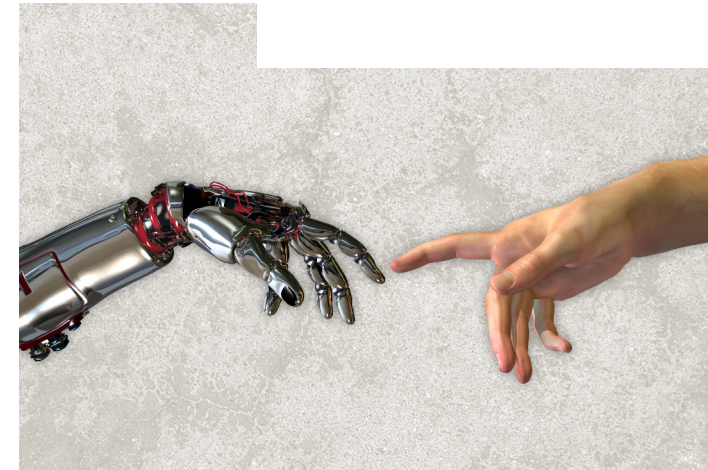Phone: 0341/97-12002
Mail: dors@iccas.de

ZENTREN FÜR
INNOVATIONSKOMPETENZ
UNTERNEHMEN
REGION
Die BMBF-Innovationsinitiative
Neue Länder

Digital Operating Room - Summer School (DORS) 2014
MEET THE DIGITAL OR

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9:00 - 12:00 **ARRIVAL AND REGISTRATION**	9:00 - 14:00 **SESSION 2: MEET THE EXPERTS** Personalized Operative Medicine	8:00 - 12:00 **PRACTICE 2:** OR Visit	9:00 - 14:00 **SESSION 4: MEET THE EXPERTS** Infrastructure and Technical Standards	9:00 - 10:30 **SESSION 5: MEET THE HOSPITAL OPERATOR**
				10:45 - 12:15 **SESSION 6: MEET THE FUTURE**
12:00 - 13:00 **LUNCH BREAK**		12:00 -13:00 **LUNCH BREAK**		12:15 - 13:00 **FAREWELL**
13:00 - 14:00 **WELCOME AND INTRODUCTION**				
	14:00 - 15:00 **LUNCH BREAK**	13:00 - 18:00 **SESSION 3: MEET THE EXPERTS** Processes and Workflows	14:00 - 15:00 **LUNCH BREAK**	
14:00 - 16:00 **SESSION 1:** Meet the Clinicians	15:00 - 17:00 **PRACTICE 1:** Anatomy and Physiology for Engineers			From 13:00 **DEPARTURE**
16:00 - 17:00 **ATTENDEE POSTERS PRESENTATIONS**			15:00 - 21:00 **PRACTICE 3:** Tech-Lab	
18:00 - 21:00 **MEET THE PEER RESEARCHERS** Social Event	17:00 - 21:00 **PRACTICE 2:** Medical Lab	18:30 - 21:00 **MEET THE PEER RESEARCHERS** Social Event		

22th - 26th September 2014

iccas | UNIVERSITÄT LEIPZIG

Innovation Center Computer
Assisted Surgery

MOTIVATION AND DESCRIPTION

Operative medicine is a research field in which the need for medical systems engineering and networked applications is growing rapidly. New technologies need to be integrated into clinical settings that support an optimal surgical treatment for the individual patient. Furthermore, these services and technologies need to be able to interact and communicate with the hospital IT-environment.

The main goal of the Digital Operating Room Summer School (DORS) is to train a new generation of young researchers to bridge the gaps between personalized treatment for patients and the clinicians' need for useful technological support as well as the challenges on the operator side when trying to establish appropriate IT-infrastructures.

The aim is to deliver a stimulating graduate training course for young researchers and Ph.D. students. The participants will benefit from direct interaction with leading senior researchers in the field of medicine and engineering. Additionally, they will be able to present their own research to get feedback from clinical experts as well as to communicate with their scientific peers in a friendly, constructive environment.

DORS 2014 will be scheduled in 6 main sessions and 3 practical lab courses. The courses will consist of in-depth tutorial-style lectures on state-of-the-art methods and advanced research lectures involving examples and practical applications. Renowned experts will report on their experience from the areas of medical imaging, computer vision, and IT engineering. The participants will receive a broad overview of the DORS field and are encouraged to complement the lectures in guided reading groups.

For more information, please visit **www.iccas.de/dors** or send an email to **dors@iccas.de**

SCHOOL APPLICATION AND KEY DATES

The number of participants is limited to 30. Application is open to M.Sc. and Ph.D. students, postdoctoral fellows, young and senior researchers in science or industry, academics, and industrial professionals.

The attendance fee for master and doctoral students is €300 while those in higher academic positions will be charged €400. The fee for all other participants is €600. The fee includes all course materials, lunch, and coffee breaks.

Registration: until 31th August 2014
Poster Submission: 15th September 2014
Local Arrangements Notification: 15th September 2014

For registration, please visit **www.iccas.de/dors.**

SESSION 1 — MEET THE CLINICIANS

Senior clinical researchers and surgeons will present their view on medical technologies and state of the art research conducted by engineers. Examples of wins and fails of surgical technologies will be presented and the success criteria discussed. Additionally, a senior technical researcher will present do's and dont's when dealing with clinicians and explain how to see issues from a clinical perspective.

SESSION 2 — MEET THE EXPERTS: PERSONALIZED OPERATIVE MEDICINE

Session 2 will feature lectures and tutorials on personalized medicine as well as patient-specific surgery. After the introduction into personalized medicine, different aspects of digital patient modeling and its application to operative medicine will be explained.

SESSION 3 — MEET THE EXPERTS: PROCESS MODELING AND SURGICAL WORKFLOW MANAGEMENT

Session 3 will focus on intra- and perioperative process modeling, management and execution. Related strategies as well as aspects like cognition-guided surgery and workflow management will be presented along with methods of process analysis and optimization in medicine.

SESSION 4 — MEET THE EXPERTS: INFRASTRUCTURE AND TECHNICAL STANDARDS

Session 4 will address technical aspects and standards for systems integration towards the digital operating room as well as software service management. The lectures will focus on state of the art architectures as well as frameworks for computer-assisted procedures and man–machine interaction.

SESSION 5 — MEET THE HOSPITAL OPERATORS

Session 5 will examine the viewpoint of hospital operators. Leading representatives of operators will present their role in bringing new technologies into hospital IT and operating rooms. They will cover aspects like budgeting, mid- and long-term investment forecasts, as well as technical requirements for the integration of new technologies such as risk management and approval strategies for medical products.

SESSION 6 — MEET THE FUTURE

The final session will outline future technology road-maps for the digital operating room. Senior technical experts will present their view on how digital operating room infrastructure and technology are expected to advance in the short, medium and long term.

PRACTICE 1 — ANATOMY AND PHYSIOLOGY FOR ENGINEERS

The visit in the Institute of Anatomy will give a deep insight into human anatomy and physiology. The participants will have a macroscopic view onto the human body to understand the function and structure of inner organs, the muscles, the nervous, and the blood system.

PRACTICE 2 — MEDICAL LAB

The Surgery Lab is an exercise session enabling participants to perform surgical interventions on rapid prototyping models. Each participant can train several surgical exercises on software and hardware simulators to gain knowledge about state of the art surgical technologies and their limitations.

PRACTICE 2 — OR VISIT

The operating room visit will show the current state of the art OR technologies in practice. The participants will visit the OR during regular interventions and see surgeons and their technologies at work.

PRACTICE 3 — TECH-LAB

The Tech Lab is an exercise session reinforcing the technical lectures and tutorials by means of practical work on computer assisted software and hardware within the ICCAS operating room lab environment.