ICCAS – Newsletter 02/2021

INNOVATION CENTER
COMPUTER ASSISTED SURGERY

HIGHLIGHT

ICCAS HAS BEEN ASSIGNED A 5G-FREQUENCY FOR RESEARCH ON 5G-APPLICATION IN MEDICINE | **May 26, 2021**

As part of the MOMENTUM project funded by the German Federal Ministry of Education and Research, ICCAS has been assigned a 5G-frequency for the research on 5G-application in medicine. Thus, the ICCAS research project around 5G for emergency care and OR enters the field test phase, where heterogeneous technologies of networked medical equipment and IT systems must be integrated into a common 5G-based infrastructure.
More about MOMENTUM

RESEARCH & PROJECTS

TWO PROJECTS WITH ICCAS' ACTIVE PARTICIPATION ARE SEEKING TO BECOME ONE OF SAXONY'S NEXT RESEARCH SITES

The ideas competition „Wissen schafft Perspektiven für die Region!" is a joint initiative of the Federal Ministry of Education and Research and the Free State of Saxony. Its aim is to promote the development of and to select the best concepts for the establishment of two new large-scale research centers in the Saxon region of Lusatia and the Central German coal-mining area. The projects aim to open up new perspectives for the once dynamic and prosperous coal regions affected by the energy system transformation.

ICCAS is participating in the competition with two initiatives. The Center for Medicine Innovation (CMI) should become a driving force in the transformation of the Central German coal-mining area into a high-tech region for digitally networked, evidence-based research and health care. Under the slogan „With the people, for the people", the center develops and establishes integrated, digital value chains for personalized medicine.

The other project with ICCAS' involvement called Spin for Life (S4L) combines cutting-edge research from physics, chemistry, engineering and computer science with the aim of further propelling spin research, which will drive fundamental innovations in life sciences and medicine. Its vision: individualized, predictive and preventive medicine in smartphone format.

Learn more about the competition, the CMI and S^{4}L.

VIRTUAL EVENTS

LECTURE ON MEDICAL DEVICE NETWORKING IN THE CONTEXT OF MEDICAL INNOVATION IN EUROPE | **April 14, 2021**

The international 20th Annual Design of Medical Devices Conference was hosted virtually by The University of Minnesota's Earl E. Bakken Medical Devices Center and partner departments and took place from April 12-15, 2021. Thomas Neumuth was an invited lecturer during its Global Med Tech Session with a close focus on Medical Device Innovation in Europe. He elaborated on the overarching topic of Surgical Data Science from a technical point of view. Specifically, he talked about networking and interoperability of medical devices in the operating rooms of the future.

ICCAS AT THE BIGDATA.AI SUMMIT 2021 | **April 22, 2021**

Thomas Neumuth gave an online lecture on "Artificial Intelligence (AI) for the treatment of leukemia" at the bitkom BigData.AI-Summit 2021 – Europe's leading conference on the practical application cases of AI and Big Data in business. His talk took place as part of the overall presentation of the KAIT project, in which ICCAS is participating as a technology partner in collaboration with industry partner Janssen Germany and the Clinic for Hematology, Cell Therapy and Hemostaseology at Leipzig University Hospital. Learn more about the role of ICCAS in the project here.

© bitkom BigData.AI-Summit 2021

FIRST JOINT ROUND TABLE SESSION DGBMT AND DGHNO | May 13, 2021

During the 100th anniversary of the annual German ENT Congress 2021, Andreas Melzer co-moderated the joint Round Table Session of the German Society for Biomedical Engineering (DGBMT). The session was initiated and co-organised by Andreas Melzer and dedicated to the Technical Innovations for the ENT OR of the Future. During the course of the meeting, he also gave a presentation on the use of therapeutic focused ultrasound (FUS).

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WORKSHOP ON THE IMMINENT ROBOT AUTONOMY IN SURGERY AT THE HSMR 2021 | June 16, 2021

Part of the scientific program of this year's Hamlyn Symposium on Medical Robotics (HSMR) was a special workshop dedicated to the imminent robotic autonomy in surgery. Andreas Melzer was part of the organizers and a team of four speakers with surgical, industrial and technology backgrounds, who drew a comprehensive picture on the topic of autonomous medical robotics. The ICCAS' director gave a talk on Robotics for Image guided Therapy and Focused Ultrasound.

©HSMR 2021

ICCAS PARTICIPATES AT THE ANNUAL CARS CONGRESS| June 21, 2021

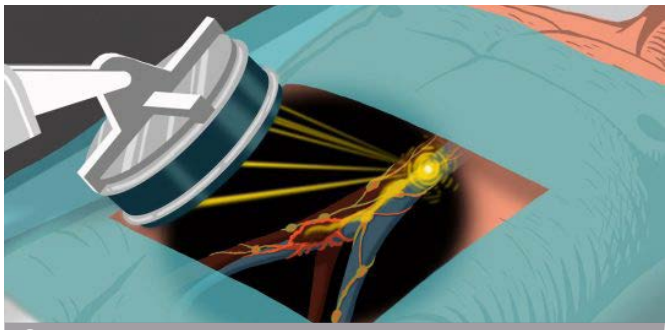
This year's online congress of the Society for Computer Assisted Radiology and Surgery (CARS) took place from June 21 to 25. ICCAS' participation in the scientific program of the annual international meeting has become almost a tradition and the 2021 virtual edition of the congress is no exception in this regard. On the opening day, Thomas Neumuth chaired the session on image-guided interventions. Claire Chalopin – project leader of the Intraoperative Multimodal Imaging research group – further contributed with two lectures on the use of Intraoperative 3D Ultrasound Imaging in brain tumor surgical procedures. Additionally, Richard Bieck – Senior Scientist and Quality Management Representative at ICCAS – was involved in the workshop on the international initiative IHE Surgery and recognized standards such as DICOM dedicated to improving the way computer systems exchange information in the healthcare sector.

PUBLICATIONS

RESEARCH FINDINGS FROM THE SONO-RAY COLLABORATIVE PROJECT PUBLISHED AS OPEN ACCESS | April 22, 2021

ICCAS' research team around the SONO-RAY joint project recently published their study results in Springer Medicine's Journal "Strahlentherapie und Onkologie". The paper examines the tumor radiosensitization effect at the cellular level following combination treatment with focused ultrasound (FUS) and radiotherapy, and is available to the research community and the public as Open Access.

Link to publication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INNOVATIVE IMAGING METHODS: FLUORESCENCE ANGIOGRAPHY AND HYPERSPECTRAL IMAGING IN VISCERAL SURGERY | May 5, 2021

The May edition of Krankenhaus – Technik + Management features an article on innovative imaging techniques for visceral surgery such as Hyperspectral Imaging (HSI) and Fluorescence Angiography (FA). ICCAS scientists led by Claire Chalopin have been developing these novel intraoperative imaging techniques in close cooperation with Ines Gockel and her team at the Visceral Surgery Department of Leipzig University Hospital (UKL), as a contribution to precision surgery.

All publications

TEACHING

NEW MASTER PROGRAM MEDICAL INFORMATICS WITH ICCAS' INVOLVEMENT

The Faculty of Medicine and Faculty of Mathematics and Informatics at Leipzig University are cooperating to launch a new master's course for the upcoming winter term 2021/22. The program "Medical Informatics" is directed towards both bachelor graduates in computer science as well as medical graduates. Thomas Neumuth will teach the already established module on Computer Assisted Surgery annually.

More about the master's program

PEOPLE

TWO OF ICCAS' RESEARCH ASSOCIATES OBTAIN DOCTORATE DEGREES

Congratulations go to our longstanding research associates Marianne Maktabi and Max Rockstroh, who obtained their academic degrees of Dr. rer. med. and Dr. rer. nat. at the Faculty of Medicine at Leipzig University. Maktabi's dissertation examines the extent to which frequency analysis of surgical workflows can be used to improve risk management in the digital operating room. Rockstroh's dissertation addresses the challenges of process support in the OR with a particular focus on activity monitoring and data storage as the basis for recognizing surgical processes.

Dr. Marianne Maktabi and Dr. Max Rockstroh

MEDIA

ICCAS INTRODUCES ITS WORK AT THE VIRTUAL EXHIBITION "F.I.T. FOR FUTURE"

The special exhibition "F.I.T. for future", which took place at the end of 2020 as part of the 4th Saxon State Exhibition "Boom. 500 Years of Industrial Culture in Saxony", has now gone digital. As of June 15, visitors can immerse themselves in it digitally and for free until the end of 2022 on the site https://sachsen-fit-for-future.de/. By means of a 360-degree-tour, the exhibition will take the virtual visitors through five rooms covering the topics "Light. Sound.Projection", "Research and Innovation", "Smart Production Processes", "Experimental Workshop" as well as "Professions and Working Worlds of Tomorrow". ICCAS presents its own research for the operating room and the application of robotics in the medicine of the future in the category "Smart Production Processes". Young people interested in business and technology in particular can benefit from the virtual tour, in which they can acquaint themselves with and be inspired by tomorrow's training, career and work environments.

JOB OFFERS

Please find our vacancies at:
Current vacancies

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