



Q1/2024 ICCAS NEWSLETTER

Study Center of the Faculty of Medicine Liebiastraße 27 04103 Leipzig

17th LEIPZIG RESEARCH FESTIVAL FOR LIFE SCIENCES 2024



Dear Reader,

we are pleased to present you the latest newsletter of ICCAS for Q1 2024.

Various conferences, events, and presentations attended are briefly presented, as are new publications and personnel achievements. We hope you enjoy reading our update and find interesting information.

Andreas Melzer & Thomas Neumuth

#TECHNOLOGIES_AND_SCIENCE_ PRESENTATION

- · ICCAS @ RESEARCH FESTIVAL 2024
- INNOVATIVE JOURNEY INNO3 VISITED ICCAS
- ICCAS @ UROtech 2024
- ICCAS @ KUNSTSTOFF TRIFFT MEDIZINTECHNIK
- ICCAS @ EAES-WINTERMEETING
- ICCAS @ MOBILE WOLD CONGRESS
- VICE-RECTOR PROF.DR. EILERS VISITED ICCAS
- START OF THE TELENOMA PROJECT

#MISCELLANEOUS_FROM_ICCAS

- Plattform Life Science Presentation of the Certainty and MediNet projects
- ICCAS and SPECTARIS present recommendations for the integration of telemedicine in emergency services in a joint white paper______
- Clinical electives data-driven
 methods and artificial intelligence in
 medicine

#TECHNOLOGIE_AND_SCIENCE_PRESENTATIONS

PRESENTATIONS AND CONFERENCES IN Q1

January 18th, 2024 - Leipzig ICCAS @ Research Festival 2024

After the Research Festival for Life Sciences had to be cancelled for three years due to the pandemic, it was held again at the Faculty of Medicine's Study Centre after a long break. It offers young scientists and researchers a platform to present their research results and discuss the findings and progress of their work.

With 220 submissions and over 200 posters on display, the local Research Festival was one of the most successful events in this series. The content of the posters covered 15 different areas, including topics from biology, chemistry, medicine, physics and psychology. ICCAS scientists also took part in the event and submitted 10 poster contributions.



Albrecht Bloße and Malte Blattmann displaying their posters at the Research Festival at the University of Leipzig.

January 25th, 2024 - Leipzig Innovative Journey – iNNO3 visited IC-CAS

iNNO3 from Leipzig has set itself the task of shaping the healthcare world of the future and to further develop healthcare system with the help of innovative ideas. It's aim is to bring sustainable solutions to the market.

To this end, the four core aspects for improving the healthcare system should be realised: the healthcare of the future should be seamless, predictive, user-centric/easily accessible and sustainable.

The iNNO3 team and Managing Director Martin Blaschka visited ICCAS on January 25th 2024 to find out about the latest innovations in the medical field. They were given a guided tour of the IC-CAS premises and were given an insight into the Demo OR 2.0, the KAIT project and the functions and possibilities of the MOMENTUM ambulance car. They were also given the opportunity to display holograms and interact with them using the HoloLens 2.

January 25th – 27th, 2024 - Vienna, Austria ICCAS @ UROtech2024

Andreas Melzer took part in this year's UROtech, which was held for the second time from January 25th - 27th 2024 in Vienna, Austria. He presented the latest research findings on endourological, laparoscopic and robotic surgery. It also offered participants the opportunity to attend live surgeries, challenging case videos, plenary sessions and thematic sessions.

Andreas Melzer chaired the session "Focal therapy in 2024" and gave a presentation on "Fluorescence imaging in laparoscopy, for which surgery? Can hyperspectral and multispectral imaging replace fluorescence in the future?"

January 31th – February 01st, 2024 - Leipzig, Da Capo Oldtimer Museum & Event Hall ICCAS @ Kunststoff trifft Medizintechnik

The event series - "Kunststoff trifft Medizintechnik" which took place on January 31th - February 1st, 2024 at the Da Capo Oldtimer Museum & Event Hall in Leipzig. At this event, experienced experts will discussed the topics of materials, design, function & research, processes, measurement technology and quality. One of the main aims of the event is to highlight the latest developments in the field of plastics technology and their potential applications in medical technology. These include advanced materials that could be used in medical devices, prostheses and minimally invasive surgery. Another focus is on sustainability and how innovative plastics can help to minimise the environmental impact of medical technology. Albrecht Bloße was the keynote speaker at the event and gave a presentation on the topic: "Potential von weichen Materialien für die Softrobotics und deren Einsatz in der Medizin."



Albrecht Bloße during his presentation at the event series -"Kunststoff trifft Medizintechnik" about Potential of soft materials for soft robotics.

February 22th – 24th, 2024 - Bucharest, Romania ICCAS @ EAES – Wintermeeting

The EAES Winter Meeting 2024, held in Bucharest from February 22th – 24th, focused on the latest innovations in minimally invasive surgery (MIS). The comprehensive scientific programme included sessions on "New Technologies for Surgical Education", "Optimising Ergonomics in MIS" and "Clinical Impact of Robotic Technology on Surgery".

In addition to these, live oesophagectomies using two different robotic platforms and hands-on courses on safer upper gastrointestinal (UGI), colorectal or image-guided procedures were among the highlights of the symposium.

Andreas Melzer led the hands-on ultrasound course (intraoperative) "Comparison of wireless ultrasound devices". He also co-chaired the "New Projects" meeting and presented the HSI and MSI research areas.

February 26th - 29th, 2024 - Barcelona, Spain ICCAS @ Mobile World Congress

The Mobile World Congress is one of the world's leading trade events in the mobile communications industry and offers a comprehensive overview of topics and trends. For this reason, leading companies in the industry come together to discuss the latest innovations. The event also offers exhibitors the opportunity to enter new international markets and provides all attendees with realistic future prospects and sustainable benefits. In addition to exhibitors, visitors also have the opportunity to find out about relevant services and products.

As part of the 6G-Health project, Max Rockstroh took part in the World Mobile Congress to find out about the latest innovations and familiarise himself with new technologies for the project.



View of the venue for the Mobile World Congress 2024 in Barcelona, Spain.

February 29th, 2024 - Leipzig Vice-Rector Prof. Dr. Eilers visited ICCAS

The Vice-Rector for Excellence Development: Research and Transfer Prof. Dr. Jens-Karl Eilers of Leipzig University visited ICCAS on February 29 th 2024 to get to know the institute and was given a demo tour of some of the institute's research areas, including the Demo-OP, Momentum-RTW, Robotics, HSI, KAIT, 3MP-FUS, followed by a short discussion.



Hannes Köhler presents Vice-Rector Prof. Dr. Eilers the HSI-project.

PROJECTS AND RESULTS IN Q1

March 1^{st,} 2024 - Leipzig Start of the TeleNoma project

The TeleNoma project - Telemedical applications based on nomadic radio networks started on March 1st, 2024.

The research project aims to develop an improved communication infrastructure for mobile medical teams in rural and underserved areas. It focuses on the use of nomadic radio networks and the integration of 5G technologies to create a cost-efficient and scalable telemedicine platform. A hardware-software kit is being developed that sets up a temporary 5G network and seamlessly connects medical devices. The aim is to bring high-level medical services, such as diagnosis and treatment, to underserved regions and improve the response to special or crisis situations. The aim is to enable smaller and medium-sized companies to enter the market through open standards.

PUBLICATIONS IN Q1

Katalinic M, Schenk M, Franke S, Katalinic A, Neumuth T, Dietz A, et al. Generation of a Realistic Synthetic Laryngeal Cancer Cohort for Al Applications. Cancers (Basel). 2024 Feb 1;16(3):639.

MISCELLANEOUS IN Q1

1st Quarter 2024 Plattform Life Science - Presentation of the Certainty and MediNet projects

Virtual medical twins, computer-based images of patient data, including laboratory findings, imaging procedures and genome data, are an advanced approach in healthcare management. They enable optimised therapy planning and prediction of treatment outcomes.

The MediNet project in Leipzig is developing the next generation of this technology to accelerate data

transfer in the healthcare sector and enable comprehensive, time- and location-independent medical care. The focus is on the integration of mobile sensor technology and medical IT to promote improved patient care and support companies in integrating their systems.

The MediNet platform and the CERTAINTY project, which focuses on virtual twins for cancer immunotherapy, aim to simplify the development and introduction of new healthcare technologies by operating independently of medical specialities and existing IT infrastructures. In the long term, this could lead to a significant improvement in patient care and an acceleration of medical research.



The March edition of the Plattform Life Sciences 2024.

February 20st, 2024 - Leipzig

ICCAS and SPECTARIS present recommendations for the integration of telemedicine in emergency services in a joint white paper

As part of the hospital and emergency services reform, the medical technology industry association SPECTARIS and the ICCAS at the University Leipzig presented recommendations for the integration of telemedicine into emergency care. These are summarised in a white paper entitled "Telemedizin im Rettungsdienst: Weichenstellung für eine digitale Zukunft".

In view of rising costs and structural problems in

the healthcare system, they propose the introduction of teleconsultations, tele-emergency doctors, uniform communication standards and the legal anchoring of telemedicine in the state rescue laws. The establishment of telemedicine competence centres, data protection standardisation, mandatory network coverage information from mobile phone providers and financial support from health insurance companies are also recommended.

Tele-emergency doctors could make better use of resources, shorten response times and care for several patients at the same time, making emergency care more efficient and effective.

Telemedicine as an important step towards improving emergency care in the German rescue service | ku-gesundheitsmanagement.de

Emergency care: Appeal to Lauterbach to utilise the potential of tele-EMS doctors |aerztezeitung. de

Summer Semester 2024 Clinical electives - data-driven methods and artificial intelligence in medicine

The new master class: "Data-driven methods and AI in medicine" has been offered since this semester 2024. This provides a comprehensive insight into data-based research and development methods in medicine, with a focus on machine learning and AI. It aims to create a sustainable understanding of their application in medical research without the need for programming skills. The course covers topics such as data collection, processing, exploratory analysis methods, visualisation and the use of data-driven methods in clinical practice, supported by practical examples and code demonstrations.

https://student.uniklinikum-leipzig.de/studium/pdf wahlfach.php?action=wahlfach klinik&id=39

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