



Activity report

German Surgical Foundation

Report on the fulfilment of the foundation's objectives for 2024

Overview

1 Activities of the German Surgical Foundation in 2024 3

1.1 Ruth Erwig Innovation Award	3
1.2 Training events	4
1.3 Further activities	6

1. Activities of the German Surgical Foundation in 2024

1.1 Ruth Erwig Innovation Award

The Ruth Erwig Prize, endowed with €5,000, was awarded at the 5th Sino-German Symposium. This year's winner is the "Surgical Innovations, Technology and Teaching" working group at the Department of General, Visceral and Transplant Surgery at the Mainz University Medical Centre for the paper "*Real-time augmented reality annotation for surgical education during laparoscopic surgery: results from a single-centre randomized controlled trial and future aspects...*".

The content of this paper can be summarised as follows: Young surgeons depend on the guidance of their instructors to learn the crucial steps of a surgical procedure, to recognise certain structures and to understand the differences between the various tissues. In contrast to open surgery, laparoscopic surgery presents some additional difficulties. These include the fulcrum effect and the distance between the instruments and the patient and the monitor. These aspects make intraoperative guidance more difficult and can even lead to potentially dangerous situations. In order to improve the mostly verbal and therefore often misleading communication in the operating theatre, we have developed an interactive augmented reality tool (HoloPointer) that enables real-time annotation on a laparoscopy monitor for intraoperative guidance. This application works exclusively via verbal commands and head movements to ensure a sterile workflow without interruptions. In this randomised controlled clinical trial, the use of the HoloPointer for intraoperative guidance during laparoscopic cholecystectomies was evaluated in the context of further training to determine its impact on surgical performance and subjective preferences. This prospective, monocentric and randomised study 32 elective laparoscopic cholecystectomies (29 surgical teams, 15 trainees and 13 trainers). The primary endpoint was the influence of the HoloPointer on surgical performance (subjective evaluation, objective score [GOALS] and score for the evaluation of the surgical procedure).

Critical View of Safety [CVS]). The secondary endpoints were the influence on operation time, the quality of assistance (5-point Likert scale) and user-friendliness (System Usability Scale, 0 to 100 points). It was shown that manual corrections could be reduced by 59.4 % ($p > 0.05$) and verbal corrections by 36.1 % ($p > 0.05$). The subjective surgical performance could be improved in 84.6 % of the participants. However, no statistically significant differences were found in the objective parameters GOALS score, CVS score and operating time. In the System Usability Scale for evaluating user-friendliness, the application achieved an average score of 72.5, which

corresponds to good user-friendliness. Of the participants, 69.2 % wanted to use the HoloPointer more often.

In summary, it was shown that the majority of trainees were able to subjectively improve their surgical performance using the HoloPointer during elective laparoscopic cholecystectomies. In addition, the rate of traditional means of communication in the form verbal and manual instructions reduced in favour of using the HoloPointer. This augmented reality tool proved to be a helpful guidance tool in laparoscopic surgery by providing an enriching fourth dimension of intraoperative communication. With the help of this tool, surgical training can be supplemented in a way, that increases not only trainee satisfaction but also patient safety. HoloPointer can therefore improve training in minimally invasive surgery and is transferable to other operations and specialities.

1.2 Training events

1. Further training events of the Competence Centre for Expert Opinions in Law-Psychology-Medicine

The aim of the initiative is to improve and ensure the quality of psychological and medical expert reports in the legal system, as well as to improve the transfer of information to the public and the protection of those affected through greater transparency, traceability and scientific rigour in the field of expert reports.

Under the umbrella of an **interdisciplinary competence centre**, the initiative brings together

- Information and service for legal practitioners, citizens and the media in matters relating to expert opinions on psychological and medical issues in the legal system
- Legal-psychological and medical (online) training with practical and university expertise for experts, lawyers and members of the public service
- Research on psychological and medical issues in the legal system

The Competence Centre for Expert Opinions is a project of the German Surgical Foundation. The DCS **guarantees the non-profit status, independence and neutrality** of the project. It is quality-assured and professionally supported by an interdisciplinary advisory board and co-operation partners from science and practice.

Online live training courses 2024

Name	Speaker	date
Parental work in child protection proceedings	Anke Frölich	18.04.2024
Differential diagnoses of (partial) dissociative identity disorder	Prof Dr Stefan Röpke	23.05.2024
Substantive and procedural links between public youth welfare services, family courts and administrative courts in the implementation of state assistance for minors in problematic family relationships	Burkhard Lange	13.06.2024
The Istanbul Convention and its relevance for expert appraisals in family court proceedings	Dr Petra Volke	19.09.2024
Basic principles of child, spousal and carer's maintenance	Dr Fritz Osthold	10.10.2024
The psychotherapeutic care of acutely traumatised patients	Dr Björn Nolting	07.11.2024
Current decisions in custody and access law	David Oertel	21.11.2024

Supervision/specialist team

The Competence Centre for Expert Opinions offers supervision in specialist teams as part of further training to become a specialist psychologist for legal psychology BDP/DGPs. Participants in further training receive a corresponding certificate in accordance with § 4.3 WBO.

1.3 Further activities

1. Continuation and finalisation of the project "Professional self-regulation - online peer review process"

Several controversial judgements and studies have brought the discussion about the quality of forensic expert reports to the attention of the media and political public. Initial quality assurance measures have been taken, but further measures are necessary.

The Competence Centre for Expert Opinions takes up this concern and proposes the implementation of a pilot project for professional self-regulation of psychological expert opinions. Previous initiatives have focussed on the training of expert witnesses and thus on the input in the expert witness system. However, the output, i.e. the expert reports, must also be subject to sustainable quality assurance. This possibility is offered by a collegial feedback system, i.e. a peer review process. This principle of anonymous peer review already exists for scientific publications.

The pilot project serves to adapt and test the peer review process for psychological experts. The first step is to adapt the scientific peer review procedure to the area of psychological expert witnesses. This will incorporate the findings from the previous family psychology pilot project. Experts should then submit anonymised expert reports online to the competence centre for expert reports. The appraisals submitted will be anonymously assessed by randomly selected colleagues using assessment forms. The results of this assessment will be returned to the reviewers. They are then asked to provide feedback on the applicability of the assessment forms and the procedure.

In a moderated expert discussion, participating reviewers and experts will then analyse the feedback. Overall, recommendations for the optimisation of the procedure, the updating of the assessment forms and, if necessary, positions on technical issues raised are to be developed.

The aim is to develop a self-correcting feedback system in the appraisal system based on collegial cooperation to establish an interdisciplinary quality seal for orientation in practice.

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2. Supporting students

The DCS has been supporting dental students with its revision programme since 2013. We have set up a specially compiled revision programme, a library and an encyclopaedia for reference to make it easier for dental students to prepare for their exams. Thanks to the support of the German Surgery Foundation, **free registration** is possible **upon presentation of a semester certificate**.

We are pleased to be able to offer some services free of charge to students of dentistry/medicine through sponsorship:



Online repertory



Online textbooks



Online

Registration and presentation of a semester certificate is required for the free services. After successful registration, you will receive an access code.

You will be redirected to the IMC website (www.med-college.de):

3. Support for a group of pupils from Hennef Municipal Grammar School in the "Formula 1 at school" competition

A group of pupils from Städtisches Gymnasium Hennef. won the state championship of the "Formula 1 at school" competition on 3 February 2024. DCS supported the team financially in preparation for their participation in the German championship.

The "Formula 1 at School" competition is a multidisciplinary, international technology competition in which the task is to develop and produce a miniature Formula 1 racing car on the computer and then send it to the national race or, in

the next round, to the Germany-wide race. The winners of the German championships compete against each other in the global competition.

The challenge of the competition lies in the combination of product development, technology, science, business and team competence as well as the presentation of one's own work to the public.

In addition, our task as STEM ambassadors is to arouse young people's interest in STEM activities and professions through a variety of activities. To take part in the competition (design, rendering, production and painting of the racing car, setting up a presentation stand, team clothing with logo, STEM activities, ...) we need sponsors and ask you to support us financially.

Further competition information can be found at: <https://www.flinschools.de/>



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4. 5th Sino-German Symposium on Dental Sciences in cooperation with the Ninth People's Hospital and the Jiao Tong University in Shanghai

TMJ and Related Skeleton Surgical Treatments: 5th Sino-German Symposium 2024

The 5th Sino-German Symposium 2024 convened leading experts in temporomandibular joint (TMJ) disorders, hosted by Duisburg-Essen University and Shanghai Jiao Tong University. The symposium aimed to enhance collaboration and knowledge exchange between scholars from Germany and China. Attendees explored a variety of topics, including anterior disc displacement, condylar resorption, and advanced surgical techniques for TMJ.

Session I addressed anterior disc displacement and condylar resorption, highlighting both surgical and conservative treatment options alongside the utility of MRI for radiological diagnoses.

Session II focused on the complexities of condylar fractures and ankylosis, discussing treatment protocols and soft tissue management, with considerable dialogue surrounding the Shanghai protocol for ankylosis.

Session III examined TMJ reconstruction methods, including costochondral grafts and alloplastic replacements, emphasising the need to balance innovative approaches with established surgical practices.

Finally, Session IV tackled clinical issues related to TMJ and cranio-jaw interactions, including complications from TMJ prostheses and multidisciplinary approaches to complex cases.

The symposium was co-organised by key organisations such as German Surgical Foundation, Chinese Stomatological Association, Chinese Society of Oral and Maxillofacial Surgery and the National Clinical Research Centre for Oral Diseases (Shanghai), China, highlighting its collaborative nature. The proceedings aim to advance the understanding and treatment of TMJ disorders, ultimately benefiting both practitioners and patients in the field.



5th-Sino-German-Symposium_2024.pdf