



COSIMENA

Deutscher Akademischer Austauschdienst  
German Academic Exchange Service

## PROGRAMME

# Winter School II

Neonatal Hydrocephalus: Defending A Morbid Disease

9<sup>th</sup> December – 10<sup>th</sup> December 2024



# Day 1: Monday, 9th December 2024, Workshop 1

8:30 – 9:00 a.m. REGISTRATION

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9:00–9:15 a.m.     **Hydrocephalus**     Neurosurgery  
                         **Prof. Dr Ahmed Zohdi** (*Cairo University*)

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9:15-9:20 a.m.     Q & A Session

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9:20–9:35 a.m.     **Updates in Ventricular Endoscopy (online)**     Neurosurgery  
                         **Prof. Dr med. Henry W.S. Schroeder** (*University  
                         Medicine Greifswald*)

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9:35–9:40 a.m.     Q & A Session

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9:40–9:55 a.m.     **Stenting in Endoscopic Ventricular Surgery**     Neurosurgery  
                         **Prof. Dr med. Ehab El Refaee** (*Cairo University,  
                         Universitätsmedizin Greifswald*)

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9:55-10:00 a.m.     Q & A Session

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10:00–10:15 a.m.     **Endoscopic Lavage as a concept in Management  
                         of Intraventricular Infection**     Neurosurgery  
                         **Assist. Prof. Dr Mohamed Elsayy** (*Cairo University*)

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10:15–10:20 a.m.     Q & A Session

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10:20-10:45 a.m.     Coffee Break

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10:45-11:00 a.m. **Neonatal Care of Premature Infants: Challenges and Innovations** Neurosurgery  
**Prof. Dr Hassan Eissa** (*Evangelisches Krankenhaus Oberhausen*) & **Dr med. Florian Siegerist** (*University Medicine Greifswald*)

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11:00-11:05 a.m. **Q & A Session**

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11:05-11:20 a.m. **CSF Diversion Solutions in Premature Infants** Neurosurgery  
**Prof. Dr Thomas Beez** (*Heinrich-Heine-Universität Düsseldorf*)

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11:20-11:25 a.m. **Q & A Session**

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11:25-11:40 p.m. **Risk Factors of Congenital Hydrocephalus: A Case-Control Study in a Lower-Middle Income Country (Egypt)** Neurosurgery  
**Dr Reem Elwy** (*Cairo University*)

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11:40-11:45 p.m. **Q & A Session**

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11:45-12:00 p.m. Coffee Break

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**End of Workshop 1**

## Day 1: Monday, 9th December 2024, Workshop 2

12:00–12:15 p.m. **Animal Studies in Hydrocephalus** Neurosurgery  
**Dr med. Ahmed Almenabbawy** (*University Medicine Greifswald, Cairo University*)

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12:15–12:20 p.m. **Q & A Session**

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12:20–12:35 p.m. **Fetal Repair of Spina Bifida** Neurosurgery  
**Dr Heba Azooz** (*Cairo University*)

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12:35–12:40 p.m. **Q & A Session**

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12:40–12:55 p.m. **Choroid Plexus Coagulation I** Neurosurgery  
**Prof. Dr Assem Mounir** (*Ain Shams University*)

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12:55–1:00 p.m. **Q & A Session**

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1:00–1:15 p.m. **Choroid Plexus Coagulation II** Neurosurgery  
**Prof. Dr Khaled Bassim** (*Cairo University*)

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1:15–1:20 p.m. **Q & A Session**

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1:20–1:45 p.m. Coffee Break

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1:45–02:00 p.m. **New Theories of Neonatal Hydrocephalus:  
Bridging Anatomy and Pediatrics** Anatomy/ Neonatology  
**Dr med. Florian Siegerist** (*University Medicine Greifswald*)

02:00-02:05 p.m. **Q & A Session**

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02:05-2:20 p.m. **Physical Aspects of the Treatment of Pediatric Hydrocephalus** Neurosurgery & Industry  
**Dipl. Eng. Roland Schulz** (*Christoph Miethke GmbH & Co KG*)

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2:20-2:25 p.m. **Q & A Session**

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2:25-2:40 p.m. **Psychosocial and Economic Impact of Pediatric Hydrocephalus (online)** Neurosurgery  
**or**  
**Management of extreme hydrocephalus and Hydranencephaly (online)**  
**Dr Sylvia Shitsama** (*Jomo Kenyatta University of Agriculture and Technology*)

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2:40-2:45 p.m. **Q & A Session**

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2:45-3:30 p.m. JOINT NETWORKING LUNCH

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**End of Workshop 2**

## Day 1: Monday, 9th December 2024, Workshop 3

3:30–3:45 p.m.	<b>Applications of VR in Hydrocephalus Surgery</b> <b>Dr med. Ahmed Almenabbawy</b> ( <i>University Medicine Greifswald, Cairo University</i> )	Neurosurgery
3:45–3:50 p.m.	<b>Q &amp; A Session</b>	
3:50–4:05 p.m.	<b>Medical Open Network for Artificial Intelligence (MONAI)</b> <b>Prof. Dr Ahmed El Harouni</b> ( <i>Nvidia</i> )	Electrical and Computer Engineering
4:05–4:10 p.m.	<b>Q &amp; A Session</b>	
4:10–4:25 p.m.	<b>AI in Surgery (clinical applications)</b> <b>Prof. Dr Mahmoud Elfiky</b> ( <i>Cairo University</i> )	Pediatric Surgery
4:25–4:30 p.m.	<b>Q &amp; A Session</b>	
4:30–4:45 p.m.	<b>AI Implementations in Hydrocephalus</b> <b>Constantin Klaffus</b> ( <i>University Medicine Greifswald</i> )	Neurosurgery
4:45–4:50 p.m.	<b>Q &amp; A Session</b>	
4:50–5:15 p.m.	Coffee Break	
5:15–5:30 p.m.	<b>VR Implementations in Hydrocephalus (online)</b> <b>Dr Mostafa Alaa</b> ( <i>Ulm University</i> )	Computer Science
5:30–5:35 p.m.	<b>Q &amp; A Session</b>	

5:35-5:50 p.m. **Building machine learning model to predict the management outcome in infantile Epilepsy** Computer Science  
**Dr Caroline Sabty** (*German International University Cairo/GIU*)

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5:50-5:55 p.m. **Q & A Session**

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5:55-6:10 p.m. **Machine Learning in Diagnostic Tools (online)** Computer Science  
**Prof. Dr Ahmed El Harouni** (*Nvidia*)

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6:10-6:15 p.m. **Q & A Session**

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**End of Workshop 3**

## Day 2: Tuesday, 10th December 2024, Closing Session

10:00–2:00 **PREPARATIONS IN WORKING GROUPS**

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2:00 – 2:45 p.m. Coffee Break

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2:45 – 3:00 p.m. **REGISTRATION**

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3:00–3:15 p.m. **Welcoming Words**

**Fatma Soliman** (*Deputy Director, German Academic Exchange Service/DAAD*)

**Annika Kraemer** (*Deputy Head of Culture and Science Department, Embassy of the Federal Republic of Germany to Egypt*)

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3:15–4:00 p.m.

### **OPENING**

Science & Society

Introduction to Zahra Foundation

**Eng. Mostafa Hammouda**

### **The Importance of Neonatal Hydrocephalus**

**Prof. Dr med. Ehab El Refaee** (*Cairo University, Universitätsmedizin Greifswald*)

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4:00–4:20 p.m.

### **Intrauterine MMC repair in Heidelberg:**

Obstetric Medicine/

### **Obstetrical issues**

Gynecology

**Dr med. Michael Elsaesser** (*Universitätsklinikum Heidelberg*)

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4:20–4:40 p.m.

### **Microsurgical Fetal Repair of Meningomyelocele, First German Experience (online)**

Neurosurgery

**Prof. Dr med. Ahmed El Damaty** (*Heidelberg University*)



4:40-4:50 p.m. **Q & A Session**

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4:50–5:00 p.m. **Future Collaboration** Neurosurgery  
**Prof. Dr Ahmed Zohdi** (*Cairo University*)

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5:00–5:10 p.m. **Honorary Words**  
**Prof. Dr Ashraf Mansour** (*President of the Board of trustees German University in Cairo/ GUC*)  
**Prof. Dr Abdelmeguid Kassem** (*Vice Dean of Medicine, Cairo University*)

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5:10-5:40 p.m. Coffee Break

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5:40-6:10 p.m. **PRESENTATIONS OF THE PROJECT PITCHES**  
**Workshop 1: Project 1 Flash Presentation**  
**Workshop 1: Project 2 Flash Presentation**  
**Workshop 1: Project 3 Flash Presentation**  
*Kindly note that only 3 minutes are allocated for each project pitch!*

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6:10-6:20 p.m. **Time out for the Jury**

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6:20-6:50 p.m. **Workshop 2: Project 1 Flash Presentation**  
**Workshop 2: Project 2 Flash Presentation**  
**Workshop 2: Project 3 Flash Presentation**  
*Kindly note that 3 minutes are allocated for each project pitch!*

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6:50-7:00 p.m. **Time out for the Jury**

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7:00-7:30 p.m. **Workshop 3: Project 1 Flash Presentation**  
**Workshop 3: Project 2 Flash Presentation**  
**Workshop 3: Project 3 Flash Presentation**

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*Kindly note that 3 minutes are allocated for each project pitch!*

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7:30-7:45 p.m.      **Time out for the Jury & Final Selection**

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7:45-8:00 p.m.      **Announcement of the Ranking of Projects**

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8:00 – 9:00 p.m.      JOINT NETWORKING DINNER

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**End of Event**

## Concept Note

Greifswald University is an established academic center with vast experience in bench-side and clinical research. It also develops and implements state of the art technology in clinical practice and research. Furthermore, medical equipment used by neurosurgeons for the management of hydrocephalus are developed by many German companies with ongoing research and innovation in this field. Cairo University is one of the top academic centers in the region with many faculty members boasting illustrious teaching and research international profiles. Cairo University Hospitals are also one of the busiest in the region with a heavy caseload of neonatal hydrocephalus patients. Pediatric neurosurgeons at Cairo University have vast experience in the management of neonatal hydrocephalus and a track record of relevant research expertise. Cairo and Greifswald universities have been partners in fruitful cooperation for more than a decade in medical research and education and therefore, can build on this ongoing partnership to conduct a research study that provides much needed strong evidence for better management of neonatal hydrocephalus. Through the exchange of experiences between Cairo and Greifswald universities, academia and industry will be encouraged to cooperate on projects involving clinicians, scientists, engineers, and policy makers in a multidisciplinary approach. There are still challenges in management of hydrocephalus in the early stages of life, starting from diagnosing the disease when the babies are still not born yet, passing to the premature delivery and premature infants, then till the first year of life. Current literature describes how hard it is to overcome this disease in this critical time of life. Management needs not only surgeons that are capable of doing the surgeries and interventions needed, but also neonatologists that manage these young patients medically. Also needs discussion with the manufacturers of the devices needed for management of this disease (shunts, endoscopes) to reach more feasible usage. And lastly needs research teams that work on better understanding of the disease and analysis of management options which might need experimental studies and development of an animal lab, and a virtual reality lab for the future training. Medical students are an integral part of academic development and are future medical practitioners that would benefit from as early as possible exposure to state-of-the-art technology and practices. Therefore, actively involving medical students in innovative international academic activities serves to enrich their educational experience, widen their horizons and introduce them to pediatric neurosurgical practice which is not emphasized in regular medical curricula, and provide early training to the future clinician scientists who would be the driving force for advancement of the field through international exchange and cooperation. The idea behind this conference is to bring all parties together in a 3-day educational event. In separate workshops each party will present its work. This is to be followed by panel discussions between different parties concerning debatable issues, for example: VP shunts, why neurosurgeons do not like it? Animal lab and experimental hydrocephalus: what can it add? Fetal hydrocephalus, can it be managed?

# List of Speakers

**Prof. Dr Ahmed Zohdi**

Professor, Cairo University

**Prof. Dr med. Henry Schroeder**

Universitätsmedizin Greifswald

**Prof. Dr med. Ehab El Refaee**

Cairo University, Universitätsmedizin Greifswald

**Assist. Prof. Dr Mohamed Elsayy**

Cairo University

**Prof. Dr Hassan Eissa**

Evangelisches Krankenhaus Oberhausen

**Prof. Dr Thomas Beez**

Heinrich-Heine-Universität Düsseldorf

**Dr Reem Elwy**

Cairo University

**Dr med. Ahmed Elmenebbawy**

Universitätsmedizin Greifswald, Cairo University

**Dr Heba Azooz**

Cairo University

**Prof. Dr Assem Mounir**

Ain Shams University

**Prof. Dr Khaled Bassim**

Cairo University

**Dr med. Florian Siegerist**

Universitätsmedizin Greifswald

**Mr. Roland Schultz**

Christoph Miethke GmbH & Co KG

**Dr Sylvia Shitsama**

Jomo Kenyatta University of Agriculture and Technology

**Prof. Dr. Ahmed El Harouni**

NVIDIA

**Prof. Dr Mahmoud Elfiky**

Cairo University

**Constantin Klaffus**

Universitätsmedizin Greifswald

**Dr Mostafa Alaa**

Ulm University

**Dr. Caroline Sabty**

German International University in Cairo/GIU

**Eng. Mostafa Hammouda**

**Dr med. Michael Elsaesser**

Universitätsklinikum Heidelberg

**Dr med. Ahmed El Damaty**

Heidelberg Universität

## Organisers & Partners

### Deutscher Akademischer Austauschdienst (DAAD)

It was in 1960 when the DAAD Regional Office was established on the basis of the German-Egyptian Cultural Agreement. Since then, the academic relations between Egypt and Germany have evolved steadily. The close cooperation has unwrapped new horizons for the scientific bonds of both countries to further develop and flourish. Thousands of Egyptian scholars have benefited ever since from these ties. <https://www.daad.eg/>

### Clusters of Scientific Innovation in the Middle East and North Africa (COSIMENA)

In the scope of COSIMENA the DAAD Office Cairo realises interdisciplinary events on current issues in science and innovation, such as workshops, conferences, roundtable discussions, the German Science Day, the COSIMENA Science Night and a Summer School. The several activities aim to bring together various stakeholders from science, business, government, and civil society. Especially scientists are promoted and supported through networking opportunities. [www.daad.eg/cosimena](http://www.daad.eg/cosimena)

### Department of Neurosurgery, University Medicine Greifswald

The Department of Neurosurgery in Greifswald is a renowned medical institution specializing in the diagnosis and treatment of complex neurological conditions. Located at the University Hospital Greifswald, it serves as a regional center for advanced neurosurgical care, combining state-of-the-art technology with cutting-edge research. The department offers a wide range of treatments, including spinal surgery, brain tumor removal, vascular neurosurgery, and neurotrauma management. It is particularly recognized for its expertise in minimally invasive techniques and innovative therapies, ensuring optimal outcomes for patients. A multidisciplinary team of neurosurgeons, anesthesiologists, and specialized nursing staff ensures comprehensive care. Close collaboration with other medical departments allows for an integrated approach to patient treatment, from diagnosis to rehabilitation. In addition to clinical services, the department is deeply involved in research and education, contributing to advancements in neurosurgical techniques and technologies. It also offers training programs for medical students and residents, fostering the next generation of neurosurgical experts around the world. With its focus on patient-centered care, high standards of quality, and ongoing innovation, the Department of Neurosurgery in Greifswald is a leading institution in its field.

### Kasr Alainy Faculty of Medicine, Cairo University

Kasr Alainy Faculty of Medicine is the largest in Egypt and is one of the leading schools of medicine in Africa and the Middle East. It was established in 1827 and joined Cairo University at its establishment in 1908.

With 3842 beds, Kasr Alainy University Hospitals offer the largest tertiary healthcare center in Egypt, treating 1,127,000 outpatients, 230,893 inpatients, and performing 71,253 surgeries annually (as of a 2015 study).

The faculty of medicine works tirelessly to offer top-notch medical education to undergraduate and postgraduate student bodies, as well as investing resources into medical research to advance the field.

### **Cairo Greifswald Neurosurgery**

Cairo Greifswald Neurosurgery cooperation's scientific output represents a joint effort between the Departments of Neurosurgery at Kasr Alainy School of Medicine, Cairo University, Egypt, and Greifswald Medical School, University of Greifswald, Germany to promote research, education, and training programs of collaborative nature.

As pioneers in neurosurgery harvesting the seeds of a longstanding, successful collaboration, the cooperation is set out to nurture a fruitful common ground across disciplines to expand the scope of the field.

Within the scope of advancing neurosurgical skills, Cairo Greifswald Neurosurgery has set up a neuroendoscopy blended learning program: the "Certified Training Fellowship in Neuroendoscopy". Working on recruiting the best and the brightest minds to the field of neurosurgery, the cooperation debuted a program for undergraduate students, the „Cairo Greifswald Summer School“ where selected Cairo University medical students participate in a scientific, research and clinical program with modules in both Cairo and Greifswald Universities.

In parallel, the cooperation contributes to academic neurosurgery, through high-quality research exemplified by its lighthouse project: The Hydrocephalus Research Group and has thus far contributed more than 44 international peer-reviewed publications to the body of neurosurgical literature.

Research, exchange, and training weave together the main focus threads of Cairo Greifswald Neurosurgery.

# Imprint

## Publisher

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## Project Coordination

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