Symposium

Digitalization and new AI technologies in neurosciences

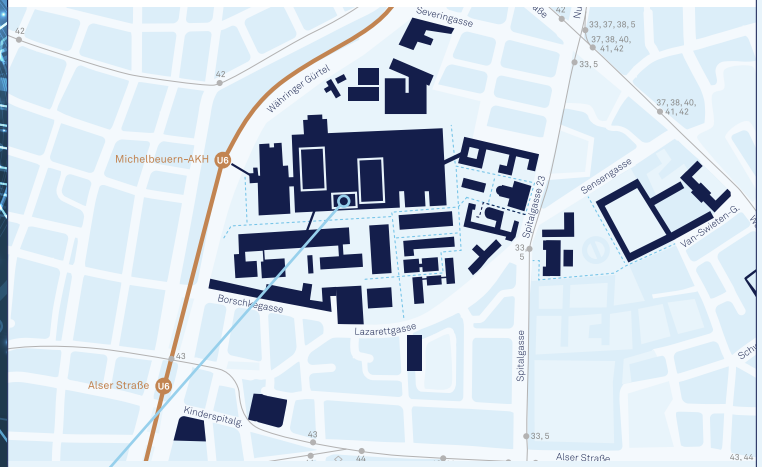
7th June 2024, 3.00 – 6.40 pm
Hörsaalzentrum, Medical University of Vienna,
University Hospital Vienna, 1090 Vienna

cccnmh.meduniwien.ac.at/ai-symposium

COMPREHENSIVE CENTER FOR
CLINICAL NEUROSCIENCES AND MENTAL HEALTH

MEDICAL UNIVERSITY OF VIENNA
Vienna Healthcare Group
University Hospital Vienna

Please register at our website:
cccnmh.meduniwien.ac.at/ai-symposium



Hörsaalzentrum
Medical University of Vienna, University Hospital Vienna,
Room 5, Level 8
Währinger Gürtel 18–20, 1090 Vienna

In cooperation with

ANCO Section Neurosurgical Oncology
Austrian Neurosurgical Society

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Dear colleagues!

Digitalization and automated analyses supported by artificial intelligence (AI) are playing an increasingly important role in everyday clinical practice and research. This is why this future field is also a fundamental focus of the newly created Comprehensive Center for Clinical Neurosciences and Mental Health. In cooperation with the 29th Meeting of the Austrian Neurosurgical Oncology Section (ANCO) with the focus topic "Pediatric CNS Tumors", we are therefore organizing a symposium on digitalization and AI.

We will begin the symposium with a "Meet the Experts Session". Here the participants will have the great opportunity to discuss this future topic with renowned experts in this field. Afterwards, we will perform an overview of digitalization and AI projects with special focus on neuroradiology, neurosurgery, neurology and neuropathology. In this sense, we are very honored that Todd Hollon (University of Michigan) will give a keynote lecture on intraoperative digital tissue diagnostics using the novel "Stimulated Raman Histology" and associated AI technologies. This will be followed by an overview of projects in the field of digitalization and AI at various departments.

We cordially invite you join us and look forward to an exciting joint event.

Georg Widhalm on behalf of the organizing committee
Department of Neurosurgery, Medical University of Vienna, University Hospital Vienna

Programme

3.00 – 3.15 pm
Welcome
Georg Widhalm*, Karl Rössler* and
Michaela Fritz, Vice Rector for Research and Innovation,
Medical University of Vienna

3.15 – 4.00 pm
Meet the Experts Session
Moderator: Wolfgang Schiefer, Journalist and
News Anchor, working for Puls24 and ATV

Introductory lectures

- **Künstliche Intelligenz zwischen Klinik und Wissenschaft**
  Georg Langs**
- **Künstliche Intelligenz und Datenschutz: Warum braucht KI synthetische Daten?**
  Alexandra Ebert, MOSTLY AI
- **Eine humanzentrierte Perspektive auf KI**
  Sabine T. Köszegi, AI Advisory Board of the Austrian Government, Digital Austria

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4.00 – 4.30 pm
Discussion

4.30 – 4.35 pm
Introduction: Novel intraoperative digital tissue analysis using Stimulated Raman Histology
Lisa Körner* and Thomas Rötzer-Pejrimovsky,
Division of Neuropathology and Neurochemistry,
MedUni Vienna/University Hospital Vienna

4.35 – 5.00 pm
Keynote lecture
Rapid digital histology and novel AI approaches for precise characterization of brain tumors
Todd Hollon, Department of Neurosurgery,
University of Michigan

5.00 – 6.35 pm
Overview of Digitalization and AI Projects
Introduced by: Lisa Körner* and Georg Widhalm*

- **Machine-learning in Neuroradiology – State of the art and current projects**
  Martin Watzenböck**
- **AR-Enhanced Visualization and Interaction in preoperative Planning**
  Anna Drechslerová, Medical Imaging,
  Carinthia University of Applied Sciences
- **Digital neurosurgery and AI techniques**
  Stefan Wolfsberger, Department of Neurosurgery,
  Medical University of Graz
- **Augmented reality to optimize brain tumor surgery**
  Karl Rössler*
- **Automated detection of residual glioma tissue with Raman Spectroscopy**
  Ondřej Kalita, Department of Neurosurgery,
  Olomouc University Hospital, Czech Republic
- **Patient specific 3D aneurysm model printing and individualized risk simulations and for microsurgical and endovascular aneurysm treatment**
  Camillo Sherif, Department of Neurosurgery,
  University Hospital St. Pölten
- **What can artificial intelligence do for neurosurgery?**
  Christian Freyschlag, Department of Neurosurgery,
  Medical University of Innsbruck
- **Improving Patient Care and Resource Management based on Enhanced Tumor Board Patient Selection: The Role of Digital Analytics**
  Timothèe Bach, Department of Neurosurgery,
  Hospital Wiener Neustadt
- **The Future is Now: The Role of AI in Research, Clinical Practice and Medical Education**
  Constantin Convalexius, MedUni Vienna

6.35 – 6.40 pm
Conclusion of the day
Georg Widhalm* and Christian Dorfer*

* Department of Neurosurgery,
MedUni Vienna/University Hospital Vienna
** Department of Biomedical Imaging and Image-Guided Therapy, MedUni Vienna/University Hospital Vienna

This event will be approved by the Austrian Medical Chamber with 4 DFP-Points.