## Modular Curriculum

This training program is a series of three modules about eloquent brain tumor treatment and structured as follows:

Module 1: TMS - Transcranial magnetstimulation (250€)
Module 2: White Matter Tractography (250€)
Module 3: Surgery of eloquent brain tumors (750€)

## Trainers

**Prof. Dr. Peter Vajkoczy**
Chair of the Department of Neurosurgery,
Charité - Universitätsmedizin Berlin

**PD Dr. Thomas Picht***
Head of the Image Guidance Lab,
Charité - Universitätsmedizin Berlin

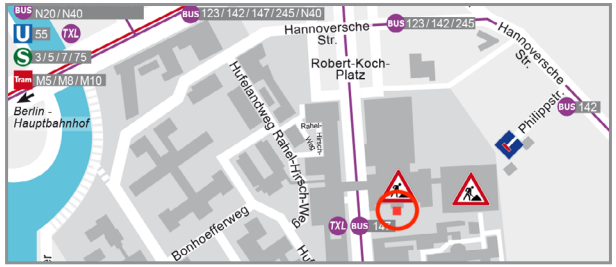
**Dr. med. Anna Zdunczyk**
Head of the research group Motor System Reorganization,
Charité - Universitätsmedizin Berlin

**Dr. med. Tizian Rosenstock**
Head of the research group Language Mapping,
Charité - Universitätsmedizin Berlin

## Partners

IGL
Image Guidance Lab

*scientific director




## Location

Seminar rooms,
Campus Charité Mitte, 10117 Berlin
**Luisenstraße 64 | Room 15003 (15th floor)**

## Arrival

with public transportation
S+U Berlin-Hauptbahnhof (S5/S7/S75/S9)
U Naturkundemuseum (U6)
U Oranienburger Tor (U6)
S+U Friedrichstr. (S1/S2/S5/S7/S75/S9/U6)

Please note that Berlin-Mitte doesn't provide a great number of parking spaces. Therefore, using the city's public transportation system would definitely be a good alternative. If you decide to travel via public transportation, we recommend using www.bvg.de for planning your route.

## Host

Charité Universitätsmedizin Berlin
Berliner Simulations- und Trainingszentrum
Charitéplatz 1 | 10117 Berlin
Contact person: Christine Thol
berliner-simulationstraining@charite.de
Tel. +49 30 450 531 229
Fax +49 30 450 7 531 229

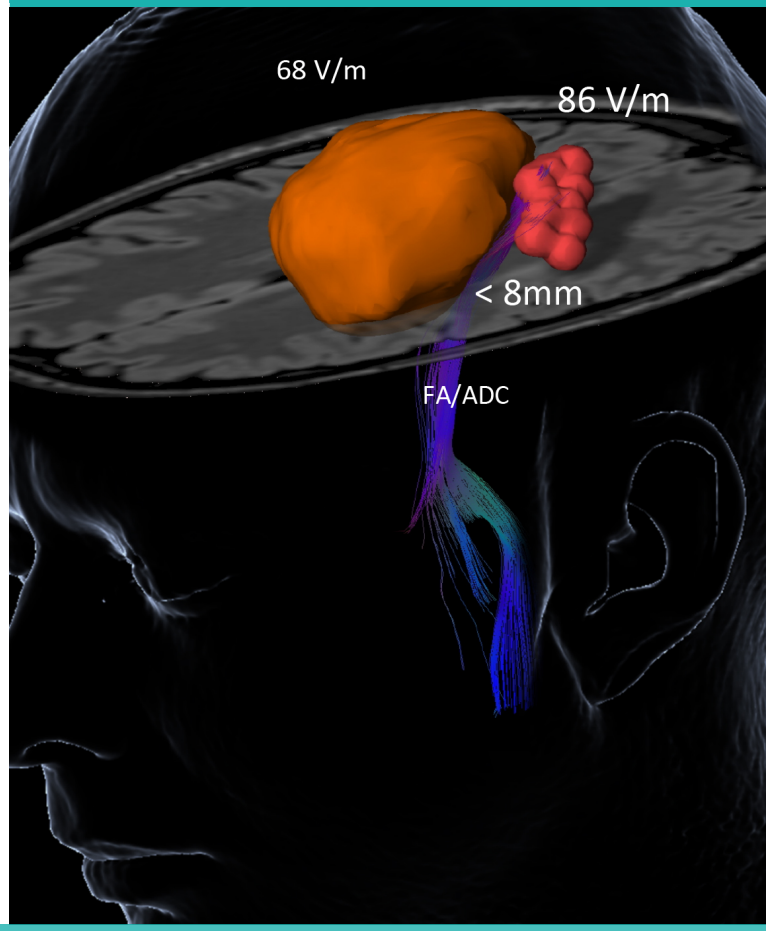
## Registration

via E-Mail: berliner-simulationstraining@charite.de
Online website: best.charite.de
**Participant limit: 12**

CHARITÉ
UNIVERSITÄTSMEDIZIN BERLIN

Berliner Simulations- & Trainingszentrum

# Treatment of the eloquent brain tumor
# Module 1: TMS - Transcranial magnetstimulation




"it's good to know, it's BeST to simulate"



## Dates

04th September 2020
11th December 2020

## Registration fee

250 € per Participant

## Clinical relevance

Due to the progress made in terms of individualization of modern therapy methods in neurosurgery, non-invasive functional diagnostics are expected to become even more relevant than they already are. Being able to create a visual representation of individual functional networks benefits the planning process of therapy strategies as well as the actual procedures. Furthermore, it enables personalized risk stratification for surgery.

One technique of non-invasively mapping brain areas of the motor system and regions associated with language is navigated transcranial magnetic stimulation (nTMS). When correctly applied and interpreted, it is possible to reliably identify essential cortical areas of the brain at high spatial resolution with the aid of nTMS. Apart from its important role in the treatment of the supratentorial brain tumors in presumed eloquent areas, nTMS also proves advantageous when dealing with other pathologies. For example, successful risk stratification in neurosurgical interventions for subcortical processes as well as brainstem and spinal lesions relies on the analysis of individual excitability profiles in motor brain areas based on nTMS derived neurophysiological data.

## nTMS - a tool for analysis:

The analysis of nTMS results facilitates the construction of a map of cortical areas of the brain comprising essential functional brain regions. Combined with a visual representation of subcortical networks, this information is of great clinical value. Not only does nTMS have the potential to standardize DTI visualisation of fiber tracks, but it also builds the base for an evaluation of the functional relevance and the vulnerability of subcortical fiber track connections by providing topographical and functional information about cortical and subcortical areas of the brain (see module 1).

## Competencies taught

- Basic skills in brain anatomy
- Basic skills in functional anatomy
- Basic understanding of nTMS
- nTMS motor and language mapping
- Pitfall-management in difficult cases

## Training schedule

| | |
|---|---|
| 7.30 | Registration and small breakfast |
| 8.00 | TMS introduction |
| | • TMS basics |
| | • functional neuroanatomy |
| | • clinical tests |
| | • „hot seat“ TMS mapping preparation |
| 08.45 | „hot seat“ TMS motor mapping |
| | • RMT determination |
| | • motor area determination |
| 10.15 | „hot seat“ TMS language mapping |
| | • aphasia testing and choice of task |
| | • language mapping |
| 13.00 | LUNCH BREAK |

If you would like to extend your knowledge in tractography, you can book the second module of this series of training courses as well. It will begin subsequent to the first module at 2:00 p.m. Please take a look at the second module’s flyer for further information about this training unit!