

2 NOV 2023 10AM — 5:30PM  
AT THE CLUSTER OF EXCELLENCE  
MATTERS OF ACTIVITY



# BRAIN ROADS

EXPLORING NEUROPLASTICITY THROUGH  
ART AND SCIENCE

Organized by  
Patricia Ribault and  
Olaf Avenati

KEYNOTE SPEAKER  
HUGUES DUFFAU  
Professor and Chairman of the  
Neurosurgery Department in the  
Montpellier University Medical  
Center

IN DIALOGUE WITH  
OLAF AVENATI  
Graphic and digital designer in  
Paris and Professor in graphic  
and digital design at École  
Supérieure d'Art et de Design in  
Reims

HORST BREDEKAMP  
Art historian and professor of Art  
& Image History at Humboldt-  
Universität zu Berlin

Alice Iacobone  
PhD candidate in Philosophy at  
FINO Consortium

THOMAS PICHT  
Neurosurgeon, head of the Image  
Guidance Lab and co-director of  
the Berlin Simulation and Training  
Center of the Charité-  
Universitätsmedizin Berlin

JÜRGEN P. RABE  
Professor of the Physics of  
Macromolecules at the  
Department of Physics at  
Humboldt-Universität zu Berlin

PATRICIA RIBAULT  
Professor for Performative Design  
Research at the weißensee kunst-  
hochschule berlin

AND THE STUDENTS  
in art and design from École  
Supérieure d'Art et de Design in  
Reims and weißensee kunst-  
hochschule berlin: Anne De Mauregard,  
Lilly Drosch, Élisab Dubosc,  
Alexandru Ganea, Ash George,  
Marieke Herbst, Mado Lecroart,  
Antoine Sigur, Inyeong Song, Tal  
Snitzer, Leo Ullrich, Jelisa Weber

Cluster of Excellence  
Matters of Activity  
Sophienstrasse 22a  
10178 Berlin

This event is part of Berlin Science  
Week 2023, with the support from  
the Cluster of Excellence «Matters  
of Activity, Image Space Materials» at  
the Humboldt-Universität zu Berlin,  
and the Ambassade de France en  
Allemagne.

Free admission  
upon registration at:



# KEYNOTE SPEAKER

Hugues Duffau

## IN DIALOGUE WITH

Olaf Avenati

Horst Bredekamp

Alice Iacobone

Thomas Picht

Jürgen P. Rabe

Patricia Ribault

and the students in art and design from  
École Supérieure d'Art et de Design in Reims  
and weißensee kunsthochschule berlin

Cluster of Excellence  
Matters of Activity  
Central Laboratory  
Sophienstraße 22a  
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PATRICIA RIBAUT AND  
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Space Material« at the Humboldt-Universität zu Berlin, and the  
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Matters  
of Activity



Image  
Space  
Material

weißensee  
kunsthochschule  
berlin



# BRAIN ROADS

## EXPLORING NEUROPLASTICITY THROUGH ART AND SCIENCE

2 NOV 2023

10AM – 5:30PM

AT THE CLUSTER OF EXCELLENCE

MATTERS OF ACTIVITY

Like the sculptor with marble, neurosurgeons dialogue with the brain they operate on, exploring its inner plasticity. Mapping and representing these »brain roads« can be achieved through various imaging devices and methods. It can also be done with less use of medical imagery. The French Professor in neuro-oncology Hugues Duffau is famous for performing awake surgery with very little technology. He will present his research in a dialogue with the members of the project »Cutting« of the Cluster of Excellence »Matters of Activity«, as well as the students from two art and design academies, one in France, and one in Germany, who produced visual interpretations of his ideas and mode of operation.

## PROGRAM

|       |                                                                                                                              |
|-------|------------------------------------------------------------------------------------------------------------------------------|
| 9:45  | Public access                                                                                                                |
| 10:00 | Welcoming remarks by the directors of the Cluster of Excellence Matters of Activity and the Ambassade de France en Allemagne |
| 10:20 | Introduction to the Brain Roads project: Patricia Ribault & Olaf Avenati                                                     |
| 11:00 | Hugues Duffau on neuroplasticity and awake surgery                                                                           |
| 12:00 | Discussion                                                                                                                   |
| 12:30 | Lunch break                                                                                                                  |
| 13:30 | Presentation of the graphic interpretations by the art and design students of the Brain Roads project                        |
| 14:30 | Thomas Picht, on Planning Brain Tumor Surgery                                                                                |
| 15:00 | Coffee break                                                                                                                 |
| 15:20 | Alice Iacobone on the concept of Plasticity in Aesthetics                                                                    |
| 15:50 | Jürgen P. Rabe on the Sensing Knife project                                                                                  |
| 16:20 | Horst Bredekamp, on Michelangelo and the Plasticity of marble                                                                |
| 16:50 | Discussion                                                                                                                   |
| 17:20 | Concluding remarks from Patricia Ribault & Olaf Avenati                                                                      |

## SPEAKERS

**OLAF AVENATI** is a graphic and digital designer in Paris and Professor in graphic and digital design at École Supérieure d'Art et de Design in Reims. He is an Associated Member of the Cluster of Excellence »Matters of Activity«. Within the »Adaptive Digital Twin« research, he is leading the »Brain Roads« project.

**HORST BREDEKAMP** is an art historian and professor of Art & Image History at Humboldt-Universität zu Berlin. As Senior Co-Director, he leads the Cluster of Excellence »Matters of Activity. Image, Space, Material« together with Peter Fratzl, Claudia Mareis and Wolfgang Schäffner.

**HUGUES DUFFAU** (MD, PhD) is Professor and Chairman of the Neurosurgery Department in the Montpellier University Medical Center and Head of the INSERM 1051 Team »Plasticity of the central nervous system, human stem cells and glial tumors« at the Institute for Neurosciences of Montpellier (France).

**ALICE IACOBONE** is PhD candidate in Philosophy at FINO Consortium (Genoa/Turin) and visiting fellow at the Institut für Kunst- und Bildgeschichte at Humboldt Universität zu Berlin, with a dissertation on »Plasticity and Sculpture. Forms, Materials, Imprints«.

**THOMAS PICHT** is a neurosurgeon, head of the Image Guidance Lab and co-director of the Berlin Simulation and Training Center of the Charité-Universitätsmedizin Berlin. His research group deals with non-invasive brain function diagnostics, connectivity analyses and neuromodulation with the aim of optimally treating brain tumors with individualized therapy concepts.

**PATRICIA RIBAULT** is Professor for Performative Design Research at the weißensee kunsthochschule berlin since 2020 and Principal Investigator of the Cluster of Excellence »Matters of Activity. Image Space Material« at the Humboldt-Universität zu Berlin. She is also a lecturer at the École Nationale Supérieure des Beaux-Arts in Paris.

**JÜRGEN P. RABE** has been Professor of the Physics of Macromolecules at the Department of Physics at Humboldt-Universität zu Berlin since 1994. His research aims to correlate the structure and dynamics of molecular systems at interfaces with mechanical, electronic, optical and (bio)chemical properties. He is also the Founding Director of the Integrative Research Institute for the Sciences — IRIS Adlershof at HU Berlin.

Anne De Mauregard, Lilly Drosch, Élisabeth Dubosc, Alexandru Ganea, Ash George, Marieke Herbst, Mado Lecroart, Antoine Sigur, Inyeong Song, Tal Snizcer, Leo Ullrich, and Jelisa Weber are the art and design students of the Brain Roads project.