



Master program “Mind and Brain”

Berlin School of Mind and Brain

Humboldt-Universität zu Berlin

Winter semester 2019/2020

ALL TIMES ARE MEANT S.T. (SHARP)!

Monday	Tuesday	Wednesday	Thursday	Friday
10:00 – 11:30 Berpohl / Brandt Lecture: Clinical Neuroscience	9:00 – 10:30 Dziobek Neuroendocrine mechanisms of socio-emotional functions (B)	10:00 – 11:30 Finke Cognitive Deficits – The famous cases of Oliver Sacks (B)	9:00 – 10:30 Dziobek Lecture Basic Research Methods	9:30 – 11:00 Irmen Tutorial: Cognitive Neuroscience
12:30 – 14:00 Haynes Lecture: Cognitive Neuroscience	11:00 – 12:30 The neuro-science of social interaction and social communication (B)	12:30 – 14:00 Bayer Predictive processing in cognitive and clinical neuro-science (B)	11:00 – 12:30 Finke Tutorial: Clinical Neuroscience	11:00 – 12:30 Bayer Tutorial: Basic Research Methods
	13:00 – 14:30 Dziobek Kolloquium (B)	14:30 – 16:00 Wundrack Dynamic system in Mind and Brain sciences (M/B)	13:30 – 15:00 Ott Tutorial: Neuroanatomy and -physiology	
16:30 – 18:00 Pauen Extrospection	14:30 – 16:00 Coelho Mollo Advanced Philosophy of Mind (M)	17:00 – 18:30 Coelho Mollo Philosophy of Biology (M)	15:30 – 17:00 Kreymann Tutorial: Philosophy of Mind	
	18:15 – 19:45 M. Pauen Philosophical Colloquium (M)			

**Blocks: 30 Sept – 2 Oct, 4 Oct – Ott, Neuroanatomy and Neurophysiology
7 – 11 Oct – Pauen, Philosophy of Mind**

Comprehensive Course Calendar

Block courses:

Before the start of the semester:

D. Ott *Neuroanatomy and Neurophysiology* 30 Sept–2 Oct, 4 Oct '19 (p. 3)

M. Pauen *Basic Phil. Concepts and Philosophy of Mind* 7–11 Oct 2019 (p. 3)

After the end of the semester:

J.-D. Haynes / Th. Schmidt *Ethics and Neuroscience* 17–21 Feb 2020 (p. 4)

Mandatory Lectures:

30 Sept – 2 Oct, 4 Oct 2019, 9:00 – 17:00

Neurophysiology and Neuroanatomy

Dr. Derek Ott (Max Planck School of Cognition / Unfallkrankenhaus Berlin)

venue: Ostertaghaus (House 4), Campus Nord, Philippstraße 12, 10115 Berlin, lecture hall

*Mind and Brain and Einstein Center for Neurosciences students **only!***

The course provides a basic understanding of where (anatomy) in the brain what (physiology) happens. It is of particular value for those students whose background is mainly in a “mind” science such as linguistics or philosophy. Participating students will learn about the fundamental units of brain anatomy, such as lobes, areas, columns, etc. A special emphasis will be put on structure function relationship, i.e., which brain area is responsible for which aspect of brain function. It will be explained how brain areas interact, and what theories exist about bringing together aspects of information from different brain areas into one percept or thought (binding). The physiology part of the course will address fundamentals of neuronal functioning, interaction of neurons, neurotransmission, and will provide an understanding of neurovascular coupling, a basis of the most important functional neuroimaging method, fMRI.

7 - 11 October 2019, 9:00 – 17:00

Basic Philosophical Concepts and Philosophy of Mind

Prof. Dr. Michael Pauen (Department of Philosophy, HU Berlin)

venue: Ostertaghaus (House 4), Campus Nord, Philippstraße 12, 10115 Berlin, lecture hall

The course provides a systematic overview over the most central issues in the philosophy of mind. Participating students will learn to apply relevant philosophical concepts, they will be taught to construct a valid argument; they will learn how to distinguish between the most important options in the mind–body debate and how to assess the consequences of neuroscientific research.

Monday 10:00 – 11:30

start: 21.10.2019 (!)

Clinical Neuroscience

Prof. Dr. Felix BERPPOHL (Klinik für Psychiatrie und Psychotherapie, Charité) / Prof. Dr. Stephan Brandt (Klinik für Neurologie, Charité) / Prof. Dr. Malek Bajbouj (Klinik für Psychiatrie und Psychotherapie, Charité)

venue: Ostertaghaus (House 4), Campus Nord, Philippstraße 12, 10115 Berlin, lecture hall

Mind and Brain and Einstein Center for Neurosciences students **only!**

The course provides basic knowledge about the neuroscience of clinical psychiatry and neurology. Students will learn the basic pathophysiology of important disorders of the brain and how the brain reacts to these challenges. Participating students will learn (a) how alterations of different cognitive systems (e.g., emotion regulation, language, reward) result in mental disorders, (b) how these alterations can be studied using neuroscience methods, (c) how this knowledge may translate into therapeutic applications. Particular emphasis will be placed on practical aspects of clinical neuroscience, e.g. by demonstrating the examination of a patient.

Ch. Zorumski/E. Rubin, *Psychiatry and Clinical Neuroscience*, Oxford 2011

Monday 12:30 -14:00

start: 21.10.2019 (!)

Cognitive Neuroscience

Prof. Dr. John-Dylan Haynes (Bernstein Center for Computational Neuroscience Berlin)

venue: Ostertaghaus (House 4), Campus Nord, Philippstraße 12, 10115 Berlin, Lecture hall

*Mind and Brain, Bernstein-Center and Einstein Center for Neurosciences students **only!***

The course provides an introduction to the field of Cognitive Neuroscience which is the study of the neural basis of perception, cognition, and behavior in the intact human brain. The course will cover core topics in Cognitive Neuroscience, including typical experimental paradigms and research methods.

A light introduction to Cognitive Neuroscience for beginners:

Ward. *The student's guide to cognitive neuroscience*. Psychology Press, 3rd edition, 2015.

Thursday 9:00 – 10:30

start: 17.10.2019

Basic Research Methods

Prof. Dr. Isabel Dziobek (Institut für Psychologie, HU Berlin / Berlin School of Mind and Brain)

venue: Bernstein Center for Computational Neuroscience, Philippstraße 12 (House 6), 10115 Berlin, lecture hall

Mind and Brain students **only!**

This course intends to provide knowledge on the theoretical principles and practical applications of psychological research methods in general and neurocognitive methods in particular. It will cover predominantly important steps of conducting quantitative research such as research questions, the design of experiments, validity, types of data, and reporting results. Various technologies for measuring brain structure and function and the limitations of these techniques will also be covered, including functional magnetic resonance imaging (fMRI), event-related potentials (ERPs), transcranial magnetic stimulation (TMS). In addition, eyetracking measures and psychophysiological measures such as skin conductance response will be covered. The application of those methods will be illustrated with examples from various cognitive abilities (e.g., emotion understanding, memory). Wherever possible, the course will allow for hands-on experience with the methods (cf. tutorial). The goal for students is to be able to understand the methods covered and critically evaluate research that uses them.

Block course: 17 – 21 Feb 2020, 9:00 – 17:00

Winter School on Ethics and Neuroscience

Prof. Dr. John-Dylan Haynes (Bernstein Center for Computational Neuroscience Berlin)

Prof. Dr. Thomas Schmidt (Institut für Philosophie, HU Berlin)

venue: Ostertaghaus (House 4), Campus Nord, Philippstraße 12, 10115 Berlin, lecture hall /

Bernstein Center for Computational Neuroscience, Philippstraße 12 (House 6), 10115 Berlin, lecture hall

Participants will be familiarized with basic ethical concepts and theories and will gain an overview of ethically relevant aspects of neuroscience. Thereby, participants will learn to know how ethical issues are tackled in philosophical ethics, and they will get an overall view of the theoretical interfaces between ethics and neuroscience.

Mandatory Tutorials:

Thursday 11:00 – 12:30

start: 17.10.2019

Tutorial: Clinical Neuroscience

Prof. Dr. Carsten Finke (Charité / Berlin School of Mind and Brain)

venue: Bernstein Center for Computational Neuroscience, Philippstraße 12 (House 6), 10115 Berlin, lecture hall

Thursday 13:30 – 15:00

start: 17.10.2019

Tutorial: Neuroanatomy and Neurophysiology

Dr. Derek Ott (Max Planck School of Cognition / Unfallkrankenhaus Berlin)

venue: Rhoda-Erdmann-Haus, Philippstraße 13, 10115 Berlin, room 1023

Thursday 15:30 – 17:00

start: 17.10.2019

Tutorial: Philosophy of Mind

Lena Kreymann (Berlin School of Mind and Brain)

venue: Rhoda-Erdmann-Haus, Philippstraße 13, 10115 Berlin, room 1023

Friday 9:00 – 10:30

start: 18.10.2019

Tutorial: Cognitive Neuroscience

Friederike Irmen (Berlin School of Mind and Brain)

venue: Ostertaghaus (House 4), Campus Nord, Philippstraße 12, 10115 Berlin, lecture hall

Friday 11:00 – 12:30

start: 18.10.2019

Tutorial: Basic Research Methods

Dr. Mareike Bayer (Institut für Psychologie, HU Berlin / Berlin School of Mind and Brain)

venue: Ostertaghaus (House 4), Campus Nord, Philippstraße 12, 10115 Berlin, lecture hall

Elective Courses:

Focus MIND

Monday 16:30 – 18:00

start: 21.10.2019 (!)

Extrospection. Third person access to higher cognitive states

Prof. Dr. M. Pauen (Institut für Philosophie, HU Berlin / Berlin School of Mind and Brain)

venue: Ostertaghaus (House 4), Campus Nord, Philippstraße 12, 10115 Berlin, lecture hall

MIND

Higher cognitive states like emotions, perception, belief formation or mind-reading are of essential importance in philosophy, psychology, neuroscience, and psychiatry. It is quite controversial, though, to what extent these processes and particularly their subjective, phenomenal character can be captured adequately by means of extrospection which means: External access to higher cognitive states. The reason is that extrospective methods seem to be restricted to indirect external evidence. Introspection, by contrast, has long been treated as privileged, given its direct first-person access to these processes. Skepticism against extrospection persists although the epistemic credentials of introspection have been attacked, e.g., by behaviorists.

We will focus on philosophical papers by authors like Descartes, David Chalmers, Brie Gertler, Daniel Dennett, William Alston, or Eric Schwitzgebel, representing the most important contributions to this debate. In addition, empirical papers like Nisbett and Wilson's seminal "Telling More than we can Know" will be discussed.

Tuesday 14:30 – 16:00

start: 15.10.2019

Advanced Philosophy of Mind

Dr. Dimitri Coelho Mollo (Cluster Science of Intelligence, HU Berlin / Berlin School of Mind and Brain)

venue: Rhoda-Erdmann-Haus, Philippstraße 13, 10115 Berlin, room 1023

MIND

The aim of the seminar is to delve deeper into issues at the centre of research in philosophy of mind, with especial focus on the metaphysics of mind and cognition, the nature of consciousness, and mental causation. In order to allow a detailed exploration of these topics, the course will be discussion-based, involving careful reading of papers on each subject matter. Given the advanced nature of the course, previous familiarity with the central topics in philosophy of mind is strongly recommended.

Wednesday 14:30 – 16:00

start: 16.10.2019

Dynamic System in Mind and Brain Sciences

Richard Wundrack (Institut für Psychologie, HU / Berlin School of Mind and Brain)

venue: Rhoda-Erdmann-Haus, Philippstraße 13, 10115 Berlin, room 1023

MIND / BRAIN

Dynamic System Theory (DST) has made its way from mathematics and physics into all disciplines of the mind and brain sciences. DST provides a holistic and situated approach to think about the mind, the neuron, the brain, the person, the group, society and how each of them interacts with the environment. Over the course of the semester I want to discuss system thinking in different areas of the mind, brain, and social sciences. In particular, we will spend two sessions each on DST in psychology, neuroscience, cognitive science, and linguistics plus one on sociology. The first session provides an overview and the second session focuses on a specific model or study, respectively. Finally, we spent the last two sessions reflecting on dynamical explanations from the perspective of philosophy of science/mind. Although there is a math-heavy side to DST the seminar tries to focus on a) cross-disciplinary system-theoretical thinking and b) how this can facilitate interdisciplinary exchange through a shared theoretical framework and shared terminology.

Wednesday 17:00 – 18:30

start: 16.10.2019

Philosophy of Biology

Dr. Dimitri Coelho Mollo (Cluster Science of Intelligence, HU Berlin / Berlin School of Mind and Brain)

venue: Rhoda-Erdmann-Haus, Philippstraße 13, 10115 Berlin, room 1023

MIND

This seminar aims at providing an introduction to the philosophy of biology. We will focus on fundamental notions in biology, how to understand them, and the role they play in the biological sciences. We will tackle questions such as: what is an organism? What is a species? How to understand the notions of adaptation and fitness in evolutionary theory? What are the units of selection? What is a biological function? We will moreover be concerned with the nature of biological explanation, as well as with the contributions that the biological sciences may make to understanding the nature of cognition and intelligence.

Tuesday 18:15 – 19:45

start: 22.10 2019

Prof. Dr. M. Pauen (Institut für Philosophie, HU Berlin / Berlin School of Mind and Brain)

Philosophical Research-Colloquium

venue: Berlin School of Mind and Brain, Luisenstraße 56, 10117 Berlin, room 220

MIND

The weekly colloquium is open for advanced students and doctoral students who are interested in current debates in the philosophy of mind. We will discuss recent research papers as well as papers by the participants.

Participation by appointment only. Please contact Ms Anja Papenfuss if you want to sign up for the colloquium: mb-admin@hu-berlin.de.

Focus BRAIN

Tuesday 9:00 – 10:30

start: 15.10.2019

Neuroendocrine mechanisms of socio-emotional functions: the role of oxytocin, vasopressin, and cortisol

Prof. Dr. Isabel Dziobek (Institut für Psychologie, HU Berlin / Berlin School of Mind and Brain)

venue: Hörsaal 1 (Buchner-Hörsaal), Invalidenstraße 42, 10115 Berlin

BRAIN

The aim of this course is to discuss evidence for the role of neuroendocrine mechanisms in human socio-emotional functions. By covering recent trends and advances in the field of psychoneuroendocrinology, we will specifically focus on the effects of the neuropeptides oxytocin and vasopressin as well as cortisol and their interaction on social stress and social support. We will focus on original scientific literature from human and animal research interrogating the mechanisms by which hormones act in the brain to influence socio-affective behaviour. Further, we will discuss the implications for neuropsychiatric disorders, specifically if hormones represent promising pharmacological biomarkers and treatment targets for social and emotional dysfunction.

Tuesday 11:00 – 12:30

start: 15.10.2019

The neuroscience of social interaction and social communication

Prof. Dr. Isabel Dziobek (Institut für Psychologie, HU Berlin / Berlin School of Mind and Brain)

venue: Hörsaal 1 (Buchner-Hörsaal), Invalidenstraße 42, 10115 Berlin

BRAIN

Human beings evolved in social groups, and therefore, our brains are wired to interact with others and behave adaptively in social situations. By using neurobiological methods scientists are asking questions about how the brain mediates complex human social behaviors. The overarching goals of the field of Social and Affective Neuroscience are the understanding the neural bases of social behavior, affect, and social cognition and using that knowledge to inform psychological and philosophical theory. The primary aim of this seminar is to survey recent research and methods in social neuroscience that target social communication and interaction processes.

Tuesday 13:00 – 14:30

start: 15.10.2017

Research Colloquium

Prof. Dr. Isabel Dziobek (Institut für Psychologie, HU Berlin / Berlin School of Mind and Brain)

venue: Please contact Dr Jennifer Kirchner for information where the course will take place!

BRAIN

Participation by appointment only. Please contact my lab manager Dr. Jennifer Kirchner **by 10 October** if you want to sign up for the colloquium: mb-soccog@hu-berlin.de.

Wednesday 10:00 – 11:30

start: 16.10.2019

Cognitive Deficits – The famous cases of Oliver Sacks

Prof. Dr. Carsten Finke (Charité / Berlin School of Mind and Brain) / Dr. Frederik Bartels (Charité / Berlin School of Mind and Brain) / Josephine Heine (Charité / Berlin School of Mind and Brain)

venue: Alte Nervenlinik, Bonhoefferweg 2 (Studenteneingang), Charité Campus Mitte, 10117 Berlin, Seminarraum Level 3

BRAIN

Oliver Sacks was one of the most influential and famous contemporary neurologists. In his famous books he introduced rare and unusual neurological disorders to a general audience, including encephalitis lethargica, disorders of perception, memory and language, deafness and visual disorders - just to name a few. These case reports are clinically interesting, but also reveal important principles of brain function. In this seminar, we will read some of Oliver Sacks' most interesting patient descriptions and explore their current neuroscientific understanding based on recent research.

Wednesday 12:30 – 14:00

start: 16.10.2019

Predictive processing in cognitive and clinical neuroscience

Dr. Mareike Bayer (Institut für Psychologie, HU Berlin / Berlin School of Mind and Brain)

venue: Rhoda-Erdmann-Haus, Philippstraße 13, 10115 Berlin, room 1023

BRAIN

Perception is not a passive process. Instead, the brain uses an internal model about the world to create predictions about future sensory events. In case that sensory input deviates from the predictions of

this hierarchical generative model, a prediction error is generated to update the model. In the course, we will discuss basic mechanisms of the predictive processing account, and examine the empirical evidence for its claims in different domains of perception and action. We will discuss behavioural and brain data, with a special focus on the mismatch negativity, which is considered as the EEG/MEG-correlate of the prediction error signal. Finally, we will discuss theories that propose aberrant predictive processing as an underlying mechanism in clinical conditions like autism spectrum conditions and schizophrenia, which have gained substantial support over the last years.

If you have questions, please contact

Dr. Dirk Mende

mb-education@hu-berlin.de

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NB: The Mandatory Lectures and the Mandatory Tutorials are for Mind and Brain students only. The Elective Courses are open for students of other programs. If you are a student of Humboldt-Universität, please register for these courses in the *Überfachlicher Wahlpflichtbereich* section of AGNES. If you are a student of another university, you have to fill a registration as guest auditor or visiting student in the beginning of the course. Please find information here: <http://www.mind-and-brain.de/master/course-calendars/>