Curriculum: Modules, Courses, Examinations at the
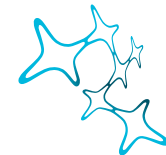
INTERNATIONAL MAX PLANCK RESEARCH SCHOOL FOR
TRANSLATIONAL PSYCHIATRY

IMPRS
Translational Psychiatry

MAX-PLANCK-GESELLSCHAFT

LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

KING'S College LONDON

HelmholtzZentrum münchen

Graduate School of Systemic Neurosciences LMU Munich

MMRS MUNICH MEDICAL RESEARCH SCHOOL

1	2	3	4		5	6	7	8	9	10	11	12	13	14	15	16	17	18
Module							**Course**				**Module Examination | Partial examination**							
Term (mandatory) [recommended]	Prerequisites for admission to examination	Mandatory | **E**lective	Module Code IMPRS-TP	Module Code University Calendar	Module Description	Term offered	Prerequisites for admission to examination	Course Description	Course Type	Semester periods per week	Prerequisites for admission to examination	Examination	Examination type	Examination duration / extent	Scoring | Grades	Score Weighting	Repeatability	ECTS
6	In accordance with the examination and study regulations of the Munich Medical Research School MMRS within the LMU (PhD in Medical Research | July 29th 2011)																	**180**
Term 1																		
[1]	BSc(h) MSc MD	M	T1		Introduction to selected topics in translational Psychiatry Research	WT					none	mo-dule exam	written, essay or participation	2 hrs, 5 pages or 80%	pass/ fail		at will	10 (12)
		[E]	IUCM	Pre-Term	LMU preparation language course [ECTS do not count towards Curriculum]	ST	none	Intensive German language course, orientation to academic life @ LMU.	Seminar		none		essay and participation	80%	pass/ fail			/ [6]
		E	L1	P1.1 19028	GSN	WT	none	Fundamentals in Neuro-science	Lecture	4	none		written exam	2 hrs	pass/ fail		once at next occasion	4
		M	L2			WT	none	Methods in neurogenetics: from genes to behavior and physiology	Lecture	2	none		written exam	2hrs	pass/ fail		once at next occasion	2
		M	L3			WT	none	Clinical aspects of psychiatric diseases	Lecture & Seminar	2	none		participation §/ (essay)		pass/ fail		at will	2 (3)
		M	MPLS			WT & ST	none	Munich Psychiatry Lecture Series: Invited Speakers	Seminar	1	none		participation	80%	pass/ fail			0,5
		M	GS			WT & ST	none	Research Group Seminar	Seminar	1	none		particip. -& presentation	80% min. 1	pass/ fail			0,5
		M	GSP			WT	none	Good Scientific Practice	Lecture	1	none		written exam	2 hrs	pass/ fail		at will	1
		M	T1.1		Structured PhD in Translational Psychiatry	WT & ST								Proposal				see TAC1
		M	T1.1a			WT & ST	none	PhD-Project in Translational Psychiatry | Part I	see Project Proposal					Due end of term 2				see TAC1

1	2	3	4		5	6	7	8	9	10	11	12	13	14	15	16	17	18
		Module						**Course**			**Module Examination | Partial examination**							
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Term 2																		
[2]	/	M	T2		Structured PhD in Translational Psychiatry II	WT & ST												see TAC1
		M	T2.1			WT & ST	none	PhD-Project in Translational Psychiatry | Part II	see Project Proposal									see TAC1
[2]	/	M	T2.2		Mediation of selected topics in translational Psychiatry Research & Transfer Skills	ST					none	mo-dule exam	written, essay or participation	2 hrs, 5 pages or 80%	pass/ fail			10 (15,5)
		M	GS			WT & ST	none	Research Group Seminar	Seminar	1	none		particip. -& presentation	80% min. 1	pass/ fail			0,5
		M	MPLS			WT & ST	none	Munich Psychiatry Lecture Series: Invited Speakers	Seminar	1	none		participation	80%	pass/ fail			0,5
		M	R1			ST	none	Retreat 1: Perspectives in Psychiatry Research	Seminar	2			particip. -& presentation	(orga)	pass/ fail			1 (2)
		E	L4	tba	GSN	ST	(L1)	Fundamentals in Neuro-science II - Development & higher Neural Functions	Lecture	4	none		written exam	2hrs	pass/ fail			4
		E	L5	tba	GSN	ST	none	Clinical Neuroscience	Lecture	2	none		written exam	2hrs	pass/ fail			3
		(E)	S3		(GSN)	WT & ST	none	Animal models in Psychiatry disorders	Seminar	2	none		essay	5 pages	pass/ fail			(3)
		(E)	S4		(GSN)	WT & ST	none	Advanced Seminar Neuro-chemistry: The Chemical language of the brain.	Seminar	1	none		essay	5 pages	pass/ fail			(1,5)

		Module						Course			Module Examination | Partial examination							
1	2	3	4		5	6	7	8	9	10	11	12	13	14	15	16	17	18
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Term 2, 3																		
[2]	/	M	SL			ST	none	Statistical Literacy	Workshop	1	none		participation	full	pass/ fail			1
		(E)	SW			ST	none	Scientific Writing	Workshop	1	none		participation & essays	full	pass/ fail			(1)
[3]	/	M	T3		Structured PhD in Translational Psychiatry III	WT & ST												40
		M	T3.1			WT & ST	none	PhD-Project in Translational Psychiatry | Part II	TAC1		Thesis pro-posal	dln: end of T3	presentation	4 hrs	pass/ fail			40
[3]	/	M	T3.2		Mediation of selected topics in translational Psychiatry Research & Transfer Skills	WT					none	mo-dule exam	written, essay or participation	2 hrs, 5 pages or 80%	pass/ fail			5
		M	GS			WT & ST	none	Research Group Seminar	Seminar	1	none		particip. -& presentation	80% min. 1	pass/ fail			0,5
		M	MPLS			WT & ST	none	Munich Psychiatry Lecture Series: Invited Speakers	Seminar	1	none		participation	80%	pass/ fail			0,5
		M	PW			WT	none	Proposal Writing	Workshop	1	none		participation & essays	full	pass/ fail			1
		M	M3			WT	SL	Statistical Genomics	Seminar/ Workshop	1	none		participation§	80%	pass/ fail			1
		E	M5			WT & ST	none	Interactive Crash-Course: Electrophysiology	Workshop	1	none		written exam	2 hrs	pass/ fail			2

1	2	3	4		5	6	7	8	9	10	11	12	13	14	15	16	17	18
			Module					Course			Module Examination | Partial examination							
Term (mandatory)[recommended]	Prerequisites for admission to examination	Mandatory | **El**ective	Module Code IMPRS-TP	Module Code University Calendar	Module Description	Term offered	Prerequisites for admission to examination	Course Description	Course Type	Semester periods per week	Prerequisites for admission to examination	Examination	Examination type	Examination duration / extent	Scoring | Grades	Score Weighting	Repeatability	ECTS
Term 4																		
[4]	/	M	T4		Structured PhD in Translational Psychiatry IV	WT & ST												see TAC2
		M	T4.1			WT & ST	none	PhD-Project in Translational Psychiatry | Part IV										see TAC2
[4]	/	M	T4.2		Mediation of selected topics in translational Psychiatry Research	ST					none	module exam	written, essay or participation	2 hrs, 5 pages or 80%	pass/ fail			3 (10)
		M	GS			WT & ST	none	Research Group Seminar	Seminar	1	none		particip. -& presentation	80% min. 1	pass/ fail			0,5
		M	MPLS			WT & ST	none	Munich Psychiatry Lecture Series: Invited Speakers	Seminar	1	none		participation	80%	pass/ fail			0,5
		M	R2			ST	none	Retreat 2: Perspectives in Psychiatry Research	Seminar	2			particip. -& presentation	(orga)	pass/ fail			1 (2)
		M	C1			WT & ST	none	Conference Attendence	Conference		none		visitor@ (Poster/ Talk)	full	n/a			1 (2)
		(E)	L06	GSN		ST	L1	Introduction to Neuro-philosophy	Lecture & Tutorial	2	none		essay		pass/ fail			(3)
		(E)	L04	GSN		ST	L1	Audition & Communication	Lecture	2	none		exam	2 hrs	pass/ fail			(2)

Term 5

1 Term (mandatory)[recommended]	2 Prereq. for admission to examination	3 Mandatory | Elective	4 Module Code IMPRS-TP	Module Code University Calendar	5 Module Description	6 Term offered	7 Prereq. for admission to examination	8 Course Description	9 Course Type	10 Semester periods per week	11 Prereq. for admission to examination	12 Examination	13 Examination type	14 Examination duration / extent	15 Scoring | Grades	16 Score Weighting	17 Repeatability	18 ECTS
[5]	/	M	T5		Structured PhD in Translational Psychiatry V	WT & ST												50
		M	T5.1			WT & ST	none	PhD-Project in Translational Psychiatry | Part V	TAC2		TAC1	dln: end of T5	presentation	4 hrs	pass/ fail			50
[5]	/	M	T5.2		Mediation of selected topics in translational Psychiatry Research	WT					none	mo-dule exam	written, essay or participation	2 hrs, 5 pages or 80%	pass/ fail			1 (8)
		M	GS			WT & ST	none	Research Group Seminar	Seminar	1	none		particip. -& presentation	80% min. 1	pass/ fail			0,5
		M	MPLS			WT & ST	none	Munich Psychiatry Lecture Series: Invited Speakers	Seminar	1	none		participation	80%	pass/ fail			0,5
		(E)	L01	GSN		WT	L1	Computational Neuroscience - From Models to Applications	Lecture	2	none		exam	2 hrs	pass/ fail			(2)
		(E)	L02	GSN		WT	L1	General Sensory Physiology	Lecture	2	none		exam	2 hrs	pass/ fail			(2)
		(E)	M02	GSN		WT	L1	Methods in Clinical Neuroscience	Practical course	2	none		particip. -& presentation	80% min. 1	pass/ fai			(3)

1	2	3	4	5		6	7	8	9	10	11	12	13	14	15	16	17	18
Module							**Course**				**Module Examination | Partial examination**							
Term (mandatory) [recommended]	Prerequisites for admission to examination	**M**andatory | **E**lective	Module Code IMPRS-TP	Module Code University Calendar	Module Description	Term offered	Prerequisites for admission to examination	Course Description	Course Type	Semester periods per week	Prerequisites for admission to examination	Examination	Examination type	Examination duration / extent	Scoring | Grades	Score Weighting	Repeatability	ECTS
Term 6																		
[6]	/	M	T6*		Structured PhD in Translational Psychiatry IV	WT & ST												60
		M	T6.1*			WT & ST	TAC2	PhD-Project in Translational Psychiatry | Part VI			TAC2	dln: end of T6	Thesis Submission					10
		M	T6.1a*			WT & ST	T6.1	PhD-Project in Translational Psychiatry | Part VI			T6.1	dln: end of T6	Oral Defense					50
[4]	/	M	T6.2		Mediation of selected topics in translational Psychiatry Research	ST					none	module exam	written, essay or participation	2 hrs, 5 pages or 80%	pass/ fail			1 (3)
		M	GS			WT & ST	none	Research Group Seminar	Seminar	1	none		particip. -& presentation	80% min. 1	pass/ fail			0,5
		M	MPLS			WT & ST	none	Munich Psychiatry Lecture Series: Invited Speakers	Seminar	1	none		participation	80%	pass/ fail			0,5
		(E)	C2			WT & ST	none	Conference Attendence	Conference		none		visitor@ (Poster/ Talk)	full	n/a			(1(2))

*Should the TAC decide during the second meeting (T5.1) that further work is required, the student will need to request in person a prolongation (*Verlängerungsbescheid*) from IMPRS-TP and MMRS. The registration with the MMRS will be prolonged by one year. The TAC has to be summoned on a yearly basis: TAC 3 has to be completed by End of Term 7 (worth 40 ECTS): In this context, Thesis submission (T6.1) and Oral Defence (T6.1a) are being awarded with 10 ECTS, respectively.

Final deadline for completion of the degree is within Term 10. It is therefore recommended to submit the thesis no later than end of **Term 9** to allow for sufficient time for evaluation, printing and appointing the oral defense within the deadline. Meeting the deadlines is the student's responsibility.

@Students attending conferences without presenting Poster or Talk are expected to summarize conference presentations at a subsequent labgroup meeting.

§Students are expected to answer questions related to relevant topics addressed in respective courses during their Thesis Defence.

L1   **Fundamentals in Neurosciences \|** *Bonhoeffer, Busse, Cappello, Grothe, Hübener, Kröger, Ninkovic, Wullimann*

The lectures discuss neurons and glia, electronic potentials, ion channels, action potentials, synapses, transmitter systems, basic cellular networks, motor systems, learning and memory, general principles of sensory systems, animal orientation, echolocation, bird song, sex and the brain, walking and running, swimming.

L2   **Methods in neurogenetics - from genes to behavior and physiology \|**
Chen, Wotjak, Deussing, Attardo, Baier, Gogolla, Rossner, Cappello, Binder, Ziller

The ability of organisms to translate their genetic code into behavioral and physiological functions is intriguing. The conceptually multi-step gap between the genotype and phenotype is undoubtedly one of the foremost challenges we are facing today in the field of neuroscience. This basic course will present different genetic approaches and relevant studies in the scientific domain of behavioral and physiological neurogenetics.

Neurogenetics employs state-of-the-art molecular and genetic techniques together with behavioral, cognitive and physiological methodologies, in order to address questions concerning the influence of biological and environmental factors on individuals with different disorders and psychopathologies, or concerning normal variations between individuals. The commonly used model organisms (C. elegans, Drosophila fruit fly, zebrafish and mouse) in neurogenetics research will be presented as well as methods using pluripotent stem cells. A variety of genetic techniques, viral approaches, optogenetic methodologies, epigenetics and human behavioral genetics will be discussed.

L3   **Clinical aspects of psychiatric diseases \|** *Falkai, Hasan, Schmitt, Padberg, Keck, Binder, Schilbach*

Lectures and seminars will lead to a deeper understanding of symptoms, neuropsychological deficits, burden of disease and psychosocial outcome. Presentation of patients by experienced psychiatrists from the Department of Psychiatry, LMU with simultaneous translation from German into English. PhD students will be enabled to comprehend diagnostic criteria and differential diagnosis as well as historical aspects. They will gain insight into designing an optimal clinical trial.

GSP   **Good Scientific Practice \|** *Mende (currently Plesnila, Fischer, Ewers, MMRS)*

Scientific honesty and the observance of the principles of good scientific practice are essential in all scientific work which seeks to expand our knowledge and which is intended to earn respect from the public. The principles of good scientific practice can be violated in many ways – from a lack of care in the application of scientific methods or in documenting data, to serious scientific misconduct through deliberate falsification or deceit. All such violations are irreconcilable with the essence of science itself as a methodical, systematic process of research aimed at gaining knowledge based on verifiable results. Moreover they destroy public trust in the reliability of scientific results and they destroy the trust of scientists among themselves, which is an important requirement for scientific work today where cooperation and division of labor are the norm.

Although dishonesty in science cannot be fully prevented through sets of rules alone, appropriate precautions can nevertheless guarantee that all those involved in scientific activity are regularly made aware of the standards of good scientific practice. This is an important contribution to limiting scientific misconduct.

The basic rules of good scientific practice following the Recommendations of the Commission on Professional Self-Regulation in Science by the German Research Foundation (DFG) will be discussed in this lecture/seminar series.

L4   **Fundamentals in Neuroscience II - Development and higher Neural Functions \|**
Wullimann, Grothe, Busse, Ninkovic, Gahr, Dichgans, Kerschensteiner, Haass, Noachtar, Bötzel, Dietrich

The lectures discuss the human brain, comparative neuroanatomy, evolution of the nervous system, neurogenesis, synaptogenesis, electrophysiology, metamorphosis, stem cells and therapy, limbic system, hormonal control and behavior, multiple sclerosis, cerebrovascular diseases, Alzheimer disease, epilepsy, Parkinson and vertigo.

L5 **Clinical Neuroscience |** *Glasauer, Dichgans, Dietrich, Grill, Jahn, Lehnen, Straube, Strupp, Bayer*

The lecture Clinical Neuroscience offers a comprehensive introduction to clinical research in the neurosciences. It covers basic aspects not included in the standard neuroscience curriculum, including methods specific to clinical neuroscience. The last part of the lecture introduces the students to the important topic of clinical trials and their specific considerations.

Topics addressed:

- basics: functional neuroanatomy, pathophysiology, pharmacology, epidemiology, neuropsychology
- methods: principles of experimental research with patients, imaging, therapeutic principles, statistics
- clinical trials: planning, ethical and legal aspects, recruitment, documentation, data management and analysis

S3 **Animal models in Psychiatry disorders |** *Schmidt, Wotjak*

The aim of the seminar is to illustrate how animal models can lead to a better understanding of the molecular basis of psychiatric disorders, using examples from the recent literature. Students will also get an overview introduction on how to find, filter, read, understand and judge scientific literature. Each student will get a specific paper illustrating good (or poor) use of animal models in psychiatric disorder research assigned, which they will present and discuss together with the group.

S4 **Advanced Seminar Neurochemistry: The chemical language of the brain |** *Wotjak*

The advanced seminar consists of 2 blocks (12h each) and a 1-week practical course (30h) in the lab. It provides an overview over general principles of interneuronal communication via chemical messengers and discusses some of the transmitter systems and their pharmacological manipulation in more detail. The practical part deals with microdialysis experiments in freely moving mice and sample analysis via HPLC.

SL   **Statistical Literacy |** *Scavetta (formerly Science Craft)*

Topics covered:

- Good experimental design and sources of bias.
- Systematic versus random error.
- The distinction between samples and populations.
- The most appropriate ways to describe samples.
- Estimation and the principle of hypothesis testing.
- The Standard Error of the Mean and confidence intervals.
- Understanding and reporting uncertainty.
- Power, Type I and type II errors.
- Standard parametric tests and their interpretations, including p-values, test statistics and associated distributuions.

The course emphasises on hands-on learning using custom interactive web apps that demonstrate statistical concepts in real-time. In-class exercises and quizzes reinforce student understanding. The course implements a single story-line throughout the workshop allowing students to see how statistics is involved at every step of the scientific method.

SW   **Scientific Writing |** *Cusack (Science Craft)*

Participants learn how to apply five key principles of scientific writing, write for their readers, construct a memorable "take-home message", connect all parts of their paper in a flowing narrative, overcome writers' block, structure their paper for increased impact, use the writing process to inform their own research, and understand the role of "story telling" in scientific writing.
The course encourages participants to see "the big picture" of their research. It uses discussions, exercises and homework to underscore key-points. Participants are equipped with writing tools rather than being burdened with writing rules. The course includes editing of participants' Abstracts and follow-up one-to-one consultation. Discussions in class are intended to facilitate an understanding of the writing process; encouraging interaction and the sharing of writing experiences. The course aims to create an informal atmosphere that motivates students to enjoy writing.

Mod. Code IMPRS-TP	**Course Titel |** *Tutors*
	Course Outline

PW **Proposal Writing |** *Regierer, Cusack (Science Craft)*

Participants learn how to view proposal writing as a competition in a marketplace of research ideas and as an instrument for career advancement, develop and sell a research idea by matching it to the goals of the targeted funding body, convince reviewers of the relevance and importance of the research idea, develop a work plan with milestones, deliverables and contingency plans, understand reviewers' reading behaviour, engage the reviewer to advocate on their behalf to the review panel, and comply with formalities and manage timelines and deadlines.

The course emphasis on the participants' own research ideas – Participants draft a mini-proposal to be used for in-class training. The course includes relevant homework – Each participant researches a selected funding source, with the focus on understanding the funder's perspective and policy. Instructors edit participants' mini-proposals and give feedback on proposal structure, content and language use. In group-work, the Participants' proposals are developed and receive instructors' feedback. In-class activities help participants see the evaluation process through the reviewer's eyes.

M3 **Statistical Genomics |** *Müller-Myhsok, Andlauer*

In this workshop we will of a short series of lecture (3 hours) on the theoretical background of statistical genomics and focus on the presentation of analytical tools and software. Students will be able to bring their own data or work with example data to get hands-on experience with the quality control, data formatting, data analysis and results interpretation issues relevant for statistical genomics (5 hours).

M5 **Interactive Crash-Course: Electrophysiology |** *Eder, Dine*

A Hands-On workshop introducing principles of electrophysiology and demonstrating the advantages and caveats of the method.

L04 **Audition and Communication \|** *Grothe, Wiegrebe, Behrend, Pecka*

This series of lectures offers detailed insight into the fundamentals underlying mammalian - including human - hearing. The lectures cover a wide range of topics including acoustical basics, main neuronal structures and processing principles within the ascending auditory pathway as well as interesting psychophysical auditory phenomena.

LO6 **Introduction to Neurophilosophy \|** *Sellmaier*

This course provides an introduction to core topics of neurophilosophy. There will be a combination of short lectures and text-based discussions. Students will write an essay and a protocol and discuss it in tutorials.

L01 **Computational Neuroscience – A lecture series from models to applications \|** *Conradt, Flanagin, Glasauer, Hemmert, Herz, Kleinsteuber, Leibold, Luksch, McNeilage, Seeber, Sirota, Thurley*

A. General overview: Anatomical and physiological basis of neuroscience (2 lectures)
B. Modeling: Neural dynamics and coding (4 lectures)
C. Towards integration in the nervous system (4 lectures)
D. Engineering for Neuroscience and Neuroprothetics (3-4 lectures)

Students take part in the lecture and additionally learn the course content during self study with the materials provided by the lecturers (Handouts, further reading advice). The lecture will be presented by several experts in their respective fields. Students will receive an overview of the various aspects pertaining to computational neuroscience, beginning with the neurobiological foundation and the mathematical tools and extending to applied fields such as auditory prostheses and clinical examinations.

In the written examination, an overview of the various aspects of computational neuroscience will be tested. Knowledge-based learning outcomes from the lecture as well as the understanding and ability to solve (practical) problems will be assessed in a 60 min written examination with questions set and corrected by the respective lecturers. Basic knowledge of biology and mathematics recommended.

After taking part in this course, students are familiar with basic neuroanatomy and the neural processes in different sensory system (visual, auditory, vestibular). Students will learn the fundamental methods for modelling neural behaviour on the cell and the systemic level and how data to fit those models can be obtained from experiments. Additionally, students will learn how such models can be used for engineering neural systems.

L02　　**General sensory physiology** **\|** *Borst, Behrend, Hübener, Straka, Wiegrebe, Deubel, Jahn, Wiltschko, Zieglgänsberger*

The lecture General Sensory Physiology covers the principles of sensory processing, sensory-motor interactions, and the physics of adequate stimuli. A detailed description of the peripheral and central stages of each specific sensory system is accompanied by theoretical concepts of the underlying neuronal processing. The lecture is given weekly (2 SWS) and requires regular attendance and a final exam. The following topics are covered by participating lecturers:
- An introduction to principles of invertebrate visual processing in the periphery and CNS, with an emphasis on neuronal substrates and models of motion detection
- Fundamentals of visual processing in vertebrates: peripheral transduction, and neuronal representations of visual input across different stages of the central visual pathway
- The mechanosensory lateral line system of aquatic animals and its role in the detection, identification and localisation of objects on the water surface or within the water body
- Electroreception: peripheral and central properties of independently evolved systems, and the systems' role in object detection, orientation, and communication
- The ontogenesis of the vestibular system and general aspects of sensory-motor interaction
- Clinical aspects of disorders in the vestibular system of humans
- Properties of diverse magnetoreceptive systems
- Principles of several chemoreceptive systems, peripheral and central processes of the gustatory and the olfactory system, multimodal interactions
- Peripheral and central stages of somatosensory systems, and their function
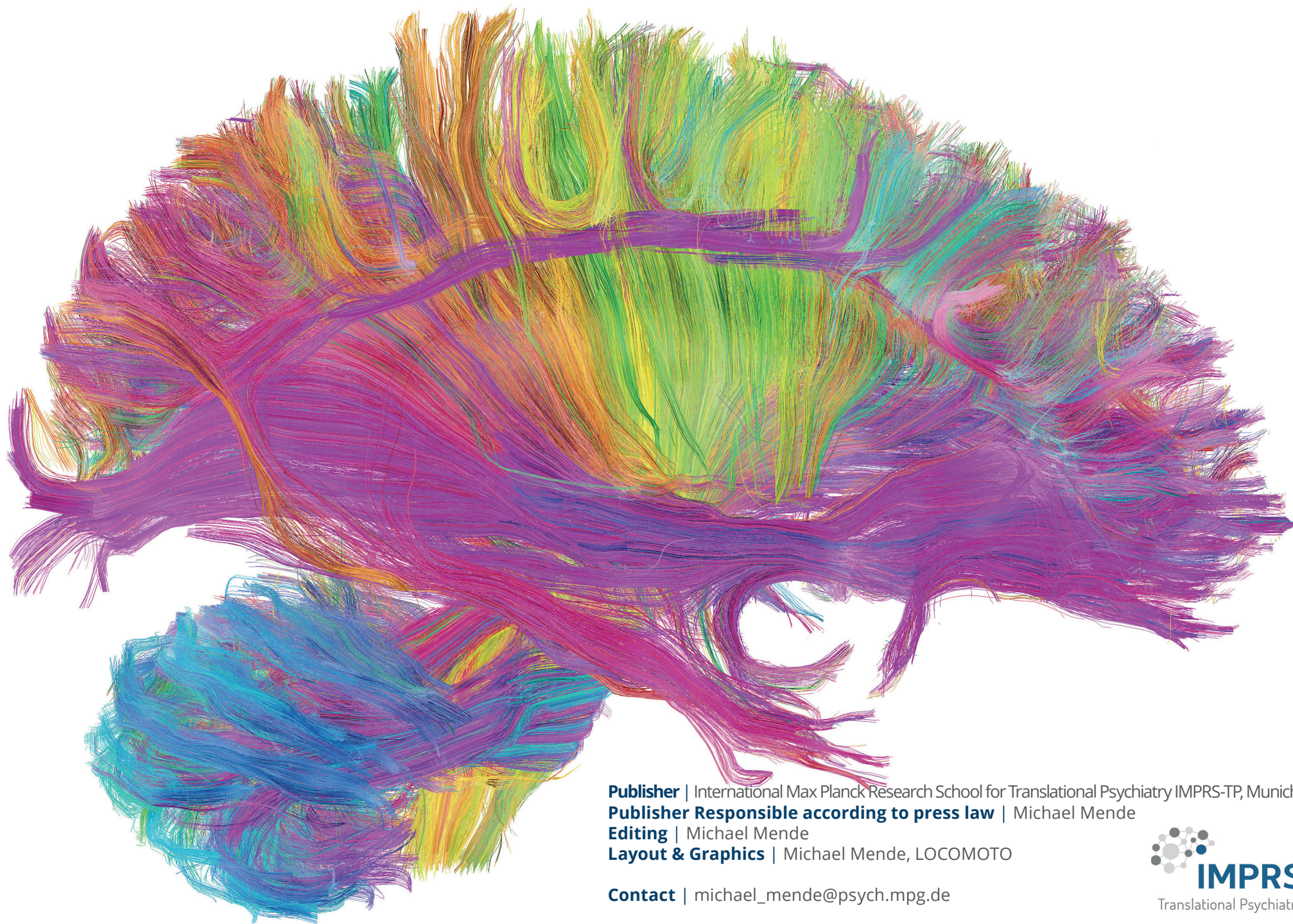- Mechanisms of pain, and temperature perception

Qualification Goals:
Gain an understanding of the principles of peripheral and central sensory processing, as well as physiological and motor responses, and behavioural consequences.
The students should be able to outline these basic principles and transfer their knowledge into an exam situation.
Students will obtain the fundamental knowledge required to participate in further specialized courses of the Master Program and will acquire the basic knowledge prerequisite to physiological research.

MO2   **Methods in Clinical Neuroscience \|** *Kirsch, Dieterich, Ahmadi, Dichgans, Dietrich, Ertl-Wagner, Ertürk, Grill, Himmelein, Karch, Keeser, Lehnen, Malik, Paolini, Prestel, Glasauer, Bayer*

Neuroscience has transformed our understanding of the healthy brain and promises treatments for its disorders. Clinical neuroscience translates these findings into clinical practice. This course is both intended as hands-on approach of the lecture "Clinical Neuroscience" and aimed at students interested in and/or having to deal with the mindset of clinical neuroscientists. The practical course includes the following topics: Structural and functional brain imaging (MRI, EEG, fNRIS), modulation of the human brain (tDCS, TMS, Neurofeedback), research involving patients (including ethical considerations and practical approach), case reports, clinical trials and epidemiology. Participation in the lecture "Clinical Neuroscience" is complimentary, but not required. The participants will be required to give an oral presentation on a recent peer reviewed publication selected by our lecturers.

IMPRS
Translational Psychiatry