



Symposium

10 Years

Molecular Medicine:

Building bridges between basic science and clinical medicine

01. June 2019

FACULTY OF MEDICINE



10 Years Molecular Medicine:

Building bridges between basic science and clinical medicine

June 1st, 2019 // 8:00-14:00

Crona-Kliniken // Lecture Hall (Floor B04)

08:00 Registration & Breakfast

08:45 Welcome

Prof. Dr. Dr. Ghazaleh Tabatabai

09:00 Monitoring tumor evolution and treatment response using liquid biopsy

Prof. Dr. Stephan Ossowski

09:30 From molecular basis of proliferation control to targeted treatments in oncology

Prof. Dr. Nisar P. Malek

10:00 Human infection models to improve medicine

Prof. Dr. Benjamin Mordmüller

10:30 Break

11:00 Molecular Medicine in Neuro-Oncology

Prof. Dr. Dr. Ghazaleh Tabatabai

11:30 Delivering the power of T cells to cancer patients – novel tumor antigens and cutting-edge immunotherapies made in Tübingen

Dr. Norbert Hilf

12:00 Laudatio Prof. Dr. Thomas Iftner

Prof. Dr. Stephan Zipfel

12:30-14:00 Lunch break

Workshops

June 1st, 2019 // 14:00-17:15

Crona-Kliniken // Hoppe-Seyler-Straße 3 // 72076 Tübingen

Problem-based learning: How interactive discussions and critical analysis can make you a better learner

Dr. Tamia Lapointe

A medical scenario will be critically evaluated and analyzed as a group. This interactive discussion will highlight the importance of active and independent learning, and will encourage attendees to develop their communication skills, critical thinking abilities, and leadership.

Prior knowledge: Human physiology

Maximal participants: 15

Time frame: 14:15-17:15

Language: English

Location: Room 224



Disease modeling and correction of mutations using CRISPR/Cas9 gene editing of primary cells and iPSCs

Prof. Dr. Dr. med Julia Skokowa

Introduction in the topic and main methodological aspects of the CRISPR/Cas9 mediated gene editing and iPSC generation will be provided. After that, the implementation of the discussed methods in the (1) disease modelling or (2) correction of disease-causing mutations will be developed together with the participants in small groups.

Prior knowledge: Basic knowledge in cell and molecular biology, genetics

Maximal participants: 15

Time frame: 14:00-17:00

Language: English

Location: Room 221

Lehr- und Lerngebäude // Elfriede-Aulhorn-Straße 10 // 72076 Tübingen

NGS - Quo vadis

Dr. Dr. med. Saskia Biskup

The session will be covering different methods of sequencing with respect to clinical implications (genome, exome, transcriptome, panel) and will provide an outlook especially focusing on liquid biopsy, tumor mutational burden and neoantigen prediction.

Prior knowledge: None

Maximal participants: 30

Time frame: 14:15-16:15

Language: English

Location: Room 1.202/203



The characterisation of the brain's immune cell: From histological description to single cell profiles of microglia

Dr. Jonas Neher

In this workshop, we will examine how molecular analyses have been crucial for deciphering the function and heterogeneity of microglial cells (brain macrophages). We will also study how molecular approaches can be used to manipulate specific cell types and such approaches can be used for evaluating new treatment options for brain diseases.

Prior knowledge: Basic neuroscience and immunology knowledge are beneficial

Maximal participants: 15

Time frame: 14:00-17:00

Language: English

Location: Room 1.206



Immunology: The History of the Major histocompatibility complex

Prof. Dr. Oliver Planz

This workshop will give an overview on the discovery of the Major histocompatibility complex (MHC). It will introduce and discuss the work that led to Nobel prizes in 1980 and 1996. The workshop will be divided into three parts: After an introduction into the topic, the participants will form four groups and deal with the scientific work on MHC. In the final presentation each group will present their findings. The participants will be introduced into the immunological work, which, among other things, provided far-reaching insights for organ transplantation.

Prior knowledge: Immunology

Maximal participants: 15 (Every second participant should bring a laptop or tablet.)

Time frame: 14:15-17:00

Language: English

Location: Room 2.201

Impact of basic research on melanoma therapy

Prof. Dr. Birgit Schitteck & Dr. Tobias Sinnberg

We will both give an overview about the topic and then discuss with the group what they think still has to be done in basic science and in clinical trials.

Prior knowledge: Oncology

Maximal participants: 15

Time frame: 14:30-17:00

Language: English

Location: Room 1.205



Advances in Neurogenetics: Discovery of novel disease gene

Priv.-Doz. Dr. Rebecca Schüle

How are human disease genes discovered? Students will first be introduced to the variability of the human genome, learn how to interpret genetic variation and then learn the strategies how disease genes are discovered and validated. To exemplify the principles we will work with 'real life' whole exome and whole genome sequencing data and use key genomic databases.

Prior knowledge: Basic human genetic

Maximal participants: 15

Time frame: 14:15-16:15

Language: English

Location: Room 2.202

Interfakultäres Institut für Biochemie // Hoppe-Seyler-Straße 4 // 72076
Tübingen

Tuning the way to die: implications of membrane perturbations in necroptosis

Dr. Uris Ros

The session will be divided into 3 sections:

1. Introducing the scientific background (about 30 minutes).
2. Students will be divided into groups and each group will be given some topics to discuss (about 30 minutes).
3. Discussion about the state of art of the field, current questions and technical challenges (about 60 minutes).

Prior knowledge: Cell death

Maximal participants: 15

Time frame: 14:15-16:15

Language: English

Location: Room 209



Friedrich-Miescher-Labor, Max Planck-Gesellschaft // Max-Planck-Ring 9 // 72076 Tübingen

Zebrafish models for basic and translational research

Dr. Patrick Müller, Autumn Pomreinke, Laura Reinke

Get acquainted with a zebrafish facility and the utility of zebrafish for basic and translational research. Observe and draw wildtype and mutant embryos at various stages using stereomicroscopes and observe transgenic reporter embryos using a fluorescence microscope.

Prior knowledge: None

Maximal participants: 12

Time frame: 14:15-15:45

Language: English

Location: Lab



Anatomisches Institut (Alte Anatomie) // Österbergstraße 3 // 72074 Tübingen

Advances in Microscopy - from the digital classroom to image stacks of cleared tissues

Dr. Andreas Mack

The session will be a mix of theoretical presentations and practical hands-on demonstrations. We will discuss basics in light and electron microscopy, and advanced methods of optical sectioning and superresolution. The practical part will include working on confocal microscopes (multichannel imaging and image stacks) and optional a demonstration of an electron microscope.

Prior knowledge: None

Maximal participants: 12

Time frame: 14:15-17:15

Language: English

Location: Seminar room 3

Verfügungsgebäude Morgenstelle // Auf der Morgenstelle 15 // 72076
Tübingen

Monitoring of anti-cancer T-cell immune responses: from basic research to clinical studies

Priv.-Doz. Dr. Cécile Gouttefangeas

Workshop divided into 2 parts:

- 1) Lecture on T cell assays with special focus on their application for monitoring clinical studies: approx. 60 min.
- 2) Visit of the lab (Elispot and flow cytometer) and open discussion on the techniques: approx 60 min.

Prior knowledge: Immunology

Maximal participants: 10

Time frame: 14:15-16:15

Language: English

Location: Room 3.065

Felsenbeinlabor, HNO-Klinik // Auf der Morgenstelle 15 // 72076
Tübingen

Anatomie der höheren Wirbeltierembryonen zu Beginn der Organogenese am Mikroskop

Priv.-Doz. Dr. Andrea Wizenmann

Den Teilnehmern werden 3 Tage alte Hühnerembryonen zunächst live mittels Videomikroskop demonstriert und die Anatomie der Embryonen wird erläutert. Anschließend haben die Teilnehmer die Gelegenheit in Zweier-/Dreiergruppen am Präparationsmikroskop lebende und fixierte Hühnerembryonen (3 Tage alt), die lebenden zunächst in ovo und anschließend in vitro, selbst zu beobachten und zu präparieren.

Prior knowledge: None

Maximal participants: 10

Time frame: 14:30-17:00

Language: English

Location: Lab

Map Berg



i Einfahrt Klinikgelände

000 Die Zahlenangaben entsprechen den Gebäudenummern

400 Crona Kliniken
420 Anästhesiologie
 Chirurgie
 Neurochirurgie
 Neurologie
 Orthopädie
 Radiologie
 Radioonkologie
 THG-Chirurgie
 Urologie

410 Kinderklinik

480 Gesundheitszentrum
 Ambulante Rehabilitation, Physiotherapie,
 Psychosomatische Tagesklinik, Sportmedizin,
 ukfit, Gästehaus

500 Medizinische Klinik

510 Blutspendezentrale

520 Konferenzzentrum
 Casino, Cafeteria

530 Nuklearmedizin

600 Hals-Nasen-Ohrenklinik

610 Medizinische Mikrobiologie, Medizinische Virologie

620 Augenklinik

Map Tal



Einfahrt Klinikgelände



Die Zahlenangaben entsprechen den Gebäudenummern



Psychiatrische Klinik



Kinder- und Jugendpsychiatrie



Klinikumsverwaltung



Dekanat Medizinische Fakultät



Frauenklinik
Medizinische Genetik
Neonatalogie



Casino, Cafeteria



Zahnklinik



Hautklinik



ViTa Gebäude

Psychosomatische Ambulanz
Tagesklinik Kinderpsychiatrie
Allgemeinmedizin