RENPRO Training Courses

RENPRO offers a tailored training program focusing on renal research. The RENPRO training modules focus on kidney-specific content that broaden and deepen students´ qualification.

Target group for the program: compulsory for PhD students within projects of the TRR, open for interested PhD students, master students, MD fellowship students, Postdocs and physician-scientists

Contact and registration: Michaela Kritzenberger (michaela.kritzenberger@ur.de)

Compulsory Modules	must be attended at least	CPs (accepted by RIGel)
Basic nephrology course	once	0.9
Advanced Nephrology Training Course	4 times	0.3 each
Nephrology Methods Course	4 times	0.3 / 0.6 each
RENPRO Summer School / Workshop	2 times	2 each
EUKISS Summer School	once	2
Congress of the DGfN	once	2

Basic Nephrology Course

Time and place: 3 days at the Universität Regensburg

- Lectures and seminars on renal physiology, renal anatomy, and basic knowledge of renal disease are given by principal investigators of the TRR and their experienced coworkers
- Recommended for the first year of the PhD work

Day 1	Microscopic and macroscopic anatomy of the kidney	Lectures, anatomical demonstration and practical histology course
Day 2 and Day 3	Renal physiology and pathophysiology, Electrolyte and water balance, Acid-base homeostasis, Kidney interstitium, Regulation of blood pressure	Lectures and student practical course in renal physiology as in curriculum for medical students

Advanced Nephrology Training Courses

Time and place: 1 day at the Universität Regensburg, Universitätsklinikum Regensburg
or at the FAU / Universitätsklinikum Erlangen, respectively

- Three courses per year, covering one of the 7 modules listed below, respectively
- PhD students must attend 4 courses during the PhD period

1.	Genetic kidney diseases: basic aspects and clinics Cystic kidney diseases
2.	Innate and adaptive Immunity Renal transplantation: Immunology and clinics
3.	Glomerulonephritis and Tubulointerstitial kidney diseases
4.	Diabetic nephropathy and Cardio renal syndrome
5.	Acute kidney injury and rare kidney diseases in children
6.	The complement system: role in kidney damage Nephropathology: Methods and selected examples
7.	Hypoxia and epigenetics Genome-wide association studies

Nephrology Methods Courses

Time and place: 1 day at the Universität Regensburg, Universitätsklinikum Regensburg
or at the FAU / Universitätsklinikum Erlangen, respectively

- Three courses per year, covering one to two of the methods listed below, respectively. The selection of topics will be based on the students' needs and interests, which will be determined by survey (at the REN^{PRO} workshop or at the internal retreat). **Exceptions** apply **to doctoral candidates in the field of computer science/data science** who do not work in wet labs (please contact Michaela Kritzenberger (michaela.kritzenberger@ur.de) for more information).
- Thorough presentation of the theoretical background, and presentation of the methods in practice
- PhD students must attend 4 nephrology method courses during the PhD period

1.	Electrophysiology
2.	Determination of Ca^{2+} and pH
3.	RNA scope technology
4.	Structural biology
5.	Advanced data analysis
6.	Machine learning and KI

7.	Isolated perfused mouse kidney
8.	Isolation of mouse tubuli
9.	Fluorescence-activated cell sorting
10.	Metabolomics
11.	Electron microscopy

REN^{PRO} Summer School / Workshop

Time and place: 2 days at the Universität Regensburg or Universitätsklinikum Erlangen

- Workshops are organized once a year by the young scientists themselves
- PhD students must attend a REN^{PRO} workshop at least twice during the PhD period
- Access will also be granted to external bachelor, master, MD and PhD students, as they may become the next generation PhD students or postdocs once enthused by the research topic

- Participants present their project progress in a protected setting and award prizes to the two best contributions, which are then presented at the next International Symposium of the TRR, EUKISS or at the Annual Meeting of the DGfN (TRR sessions in basic science slot)
- Two to three (inter-)national experts, invited by the students, will attend the summer school to give a lecture and to comment on the students' research
- The workshops include a course section on key skills (e.g. diversity awareness, scientific writing, career planning, "science communication skills", etc.)
- Informal evening meetings

European Kidney Summer School (EUKISS)

EUKISS is a kidney specific Summer School (https://eukiss.org/), which is jointly organized by the Zurich Kidney Center, CRC 1453 (Nephgen, Freiburg), SFB 1192 (Hamburg), SFB TRR 219 (Aachen) and TRR 374. The EUKISS is held on a rotating basis at one of the sites. It brings together experts in the field of kidney research and disease to discuss the basics of kidney function and its relevance to kidney disease in a stimulating and interactive setting with participants. Case discussions in small groups highlight both common and rare forms of kidney disease. Participants may present their research projects during a poster session.
PhD students must attend EUKISS at least once during the PhD period.

Special Training Courses

Each student of the REN^{PRO} will have free access to certified courses on animal handling and experimentation (EU Function A and D), good-scientific practice and gene technology (Sachkunde als Projektleiter), which are regularly offered at both universities:
UR: Zentrale Tierlaboratorien FAU: Franz-Penzoldt-Zentrum

Annual Meeting of the Deutsche Gesellschaft für Nephrologie (DGfN)

All participants in the REN^{PRO} are encouraged to attend the DGfN congress (https://www.dgfn.eu/fortbildung-jahreskongress.html) at least once with travel funds provided by the CRC. In addition to scientific exchange, the participation will also serve networking at the national level. Of course, the students are free to attend additional national or international scientific congresses.

Mentoring program

In accordance with the interdisciplinary nature of the research projects, the structure of the planned CRC and the requirements of the respective doctoral degree regulations, the doctoral student supervision will be taken over by a mentoring committee. The committee consists of the supervisor and two additional mentors, preferentially one basic scientist and one clinician scientist. If possible, the mentoring committee should consist of members of both universities. The commission members meet with the PhD student at least once per year for an intense scientific exchange.

Seminars, Internal Lab Meetings and Journal Clubs

The principal investigators ensure that at least biweekly discussions of research results and literature will be held at the respective site.

Laboratory Exchange Visit

If a student wants to learn a new technology, this will be possible within the framework of a laboratory exchange visit in the partnering laboratory (funded by the TRR 374).