

## TRENAL

### Translational kidney research – from physiology to clinical application

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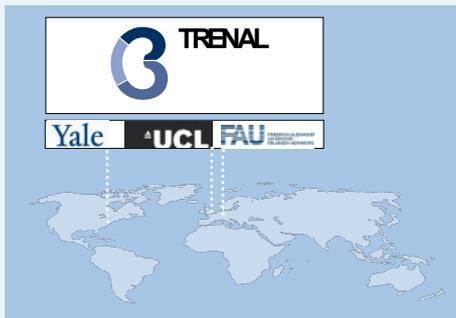
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**Program Line:** Thematic Networks

**Partners:** Yale University (USA), University College London (UK), Max Planck Institute for the Science of Light Erlangen (DE)



#### Summary



Kidney disease represents a growing global health burden. Kidney research has been ground-breaking in identifying fundamental mechanisms of transport physiology, vascular biology and immunobiology. However, the translation of basic knowledge of renal function and insights about the pathophysiology of diseases into causal therapies has so far been inadequate. To date, novel therapeutic interventions in nephrology lag behind all other medical disciplines. Collaborative, interdisciplinary efforts are needed to leverage on the achievements of basic kidney research and translate them into novel diagnostic and therapeutic strategies. All three institutions share a strong track record in kidney research, follow complementary research themes and have already begun to establish an extensive exchange at the level of education, science and clinical application. The network will attract students and talented graduates to the field of nephrology, stimulate novel research avenues for young investigators to form a new generation of renal scientists, and may eventually form the basis for an expanded global network of centers of excellence in translational kidney research.

#### Strategic goals



The strategic goals of the TRENAL network are:

1. Strengthen the existing interaction between the partners through an exchange program for medical and doctoral students, postdoctoral researchers and faculty members.
2. Provide the opportunity for medical students, scientist and physicians to undertake a period of education, research or clinical exchange at the three partnering institutions.

#### Aims

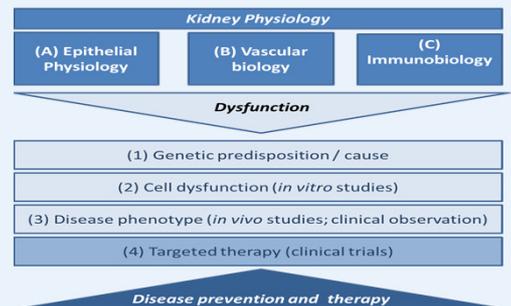
##### General aims

- Bridging the gap between excellent research and so far limited progress in translation in kidney medicine in an international, inter-disciplinary approach.
- Creating a model for an innovative collaborative structure that combines excellence in science and patient care and integrates international exchange into the training of clinician scientists.
- Addressing the impending lack of young academics in medical research by creating entry opportunities to high-level research programs and by supporting a sustained engagement through measures that are precisely tailored to different levels of career development.
- Improving the understanding for differences between three international health care systems to enable reflection of strengths and weaknesses and best practice approaches.
- Promoting the internalization strategy of FAU by creating a model of excellence in one of its medical research priorities.

##### Specific aims

- To identify and pursue research opportunities involving at least two laboratories from two partner institutions within TRENAL that will lead to novel insights and joint publications.
- To identify molecular causes of rare and complex disease manifestations by joining forces of three large renal research institutions.
- To explore the potential of cutting edge physical science to address and solve questions that are relevant to the discovery, understanding and treatment of kidney disease by establishing a collaborative platform with a world leading institute of physics (MPL Erlangen).
- To promote the career development of young investigators through participation in exchange measures and scientific / educational events.
- To attract talented junior (under)graduates to the field of kidney research.
- To promote high quality M.D. thesis projects under joint supervision of two partner institutions.
- To propagate the traditional strong link between physiology and clinical science within and beyond the network through joint research projects and focused conferences.
- To overcome limitations of sub-specialization in medicine by combing resources of large patient cohorts with expertise in molecular biology and animal models.
- To develop a strong basis for successful third party funding applications leading to extended research periods and collaborative projects.

#### Overview of research focus



#### Activities

##### Trilateral exchange programs and conference grants

- Research program for students.
- Clinical sub-internships for medical students
- Clinical electives for physicians-in-training
- Postdoctoral training for research fellows
- PhD in investigative medicine from YALE for FAU postdoctoral fellows
- Exchange opportunities for faculty members
- Support for conference participation in the US and the UK

##### Web-based training and exchange activities

- Renal quiz
- Monthly renal biopsy conference
- "Research in progress" conference

##### Scientific / educational meetings

- Scientific symposia  
 "Molecular targets in renal disease"
- Summer schools  
 "From renal physiology to clinical application"

#### Contact

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