Research Training Group 1660: Key Signals of Adaptive Immune Response

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Aims and structure

Since October 2010, the DFG and Bavaria have been supporting the first doctoral Fast-Track program that was established at a German university.
To increase the attractiveness of our program and to recruit the best students, we have developed an innovative doctoral pilot program for undergraduates with a bachelor's degree which will lead to the Dr. rer. nat. in 4.5 years. The program also accepts nine doctoral students with a master's or diploma degree (associated graduates). In addition, we have developed a doctoral training program for six talented medical students. The doctoral students with a bachelor's degree will first pass through a 1.5-year training program where they will receive intensive training in immunology and related disciplines, participate in three research-oriented laboratory rotations (including one at an laboratory abroad), and attend communication and soft skill workshops. After the training period, they will start their thesis with one of the participating mentors. The main objective of this training program is to teach and foster young scientists in the field of adaptive immunity. Based on an excellent evaluation by external reviewers, the DFG has decided in May 2014 to continue funding for a second funding period with 3.5 million euros for 4.5 years.
The program will end in autumn 2019, but a new initiative with similar structures and new training concepts, particularly in the training of medical doctoral students, has already been applied for. This follow-up program will hopefully be launched in 2020, following a positive decision by the DFG.

Research

Our research program focuses on the molecular analysis of three cell populations (dendritic cells, B cells, and T cells) which will contribute to our fundamental understanding of how the adaptive immune response works under physiologic as well as pathophysiologic conditions. The main research focus concentrates on the identification of intra- and extracellular signaling factors that control the activation as well as the interaction of these cell types. Beyond the molecular analysis of these three cell types in mouse model systems, the role of these signals in autoimmunity and inflammatory disease will be investigated.
To achieve this goal, we have recruited 20 research groups headed by internationally recognized experts in the field of the biology of dendritic cells, B cells, and T cells from nine institutes and clinical departments at the FAU. All supervisors have external funding and are experienced in graduate training.

Training

During their theses, the doctoral graduate and medical students will participate in the successfully tested core events and activities of the expired GK 592 and the first funding period of the GK 1660:

1. A bi-weekly doctoral regular meeting organized by the students
2. Subject-specific as well as interdisciplinary workshops
3. Research symposia and network meetings with members of other external training grants
4. External laboratory visits
5. The guest speaker seminar series.

The students will also organize seminars and workshops for the public and high school. The doctoral students are mentored by a thesis advisory committee comprising three members. The final symposium is planned for 2019 in Bad Endorf, Bavaria. In a varied program, not only renowned guest speakers will present new research findings, but also the doctoral students will present their research work. Career lectures by alumni from the first cohort of doctoral students will round off the program.
Our research and innovative training concept resulted in a reduction in the time required to finish a doctoral program, but it also provides a high-quality training environment for young scientists at an internationally competitive level.