

**iGRAD-Plant Graduate Program – Network, exchange, and training program to understand plant resource allocation (NEXTplant)** (GRK2466 – German Research Foundation) is a joint effort of Heinrich Heine University, Research Center Jülich and the Graduate Program in Genetics at Michigan State University (USA). Researchers of these institutions are pursuing innovative strategies to address fundamental problems in plant biology.

The **iGRAD-Plant Graduate Program** offers a comprehensive, interdisciplinary PhD training program in the fields of molecular plant sciences, plant genetics, synthetic biology, quantitative biology and computer sciences. Future PhD students will join courses in transferable and scientific skills, regular seminars and retreats and practical courses in state-of-the-art laboratory methods. The training program is jointly organized by all three partner institutions. Selected candidates can start their PhD projects between May and September 2019.

## The iGRADplant program offers:

- Excellent research facilities
- Supervision of your research project by a thesis advisory committee
- Interdisciplinary scientific training through lecture series, seminar courses and practical workshops
- International research experience through a 6-9 month research stay at Michigan State University
- Active participation in institute seminars and international conferences
- Training in “Transferable Skills” such as: scientific writing and presentation, grant writing, project management, career planning, etc ...
- All courses offered by the program will be taught in English

## Intensive Course Program

The iGRADplant program offers the opportunity to enter with a Bachelor's degree (from B.Sc. to PhD in 4 years) or a Master's degree (from M.Sc. to PhD in 3 years).

Incoming students with a B.Sc. degree will be initially trained in a structured one-year program. Throughout this qualification period, current topics in plant molecular biology, theoretical biology, statistics, computational biology, and synthetic biology will be taught in comprehensive lecture series and practical courses. Additionally, all students carry out three independent lab rotations in participating laboratories.

## Fellowships and Support

The program supports every student with a fellowship or position funded by the Deutsche Forschungsgemeinschaft (DFG). Students entering the program with a BSc degree receive a fellowship of € 800/month in the first year. For the subsequent three years, PhD students receive a position as doctoral researcher (50-65% EG13 TV-L, German civil service pay scale).

The program will assist in all formal and legal affairs, such as visas, housing, health insurance and enrollment.

## Research Focus of iGRADplant

As sessile organisms plants have evolved to flexibly adjust their life strategies to fluctuating and frequently adverse environmental conditions. A given plant genotype allows for a broad range of phenotypes that are determined by complex interactions between environment and genotype.

iGRADplant students will study the genotype- phenotype relationship in plants and develop models that predict how resources are allocated to growth processes, defence reactions, nutrient uptake and reproduction in selected photosynthetic model systems, at the levels of individual cells, organs, and whole organisms.

This interdisciplinary approach brings together an international group of computational, theoretical, and wet-lab biologists and that builds on extensive resources, platforms, and complementary expertise of the contributing partner institutions.

## Applying

We are looking for talented, highly motivated applicants holding a B.Sc. or M.Sc. degree in biology, biochemistry, bioinformatics or a related field and a strong background in molecular plant sciences, biochemistry, quantitative biology, synthetic biology or a related discipline. Applicants holding an excellent bachelor degree are particularly encouraged to apply.

**Application Deadline: February 25, 2019**

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