



## Open position for the LSM call of applications

**Institute: LMU Munich, Faculty of Biology, Genetics**

**Subject areas/Research fields:**

Biochemistry/ Pharmacology/ Genetics/ Molecular Biology/ Molecular Plant Sciences

**Keywords:**

*Drosophila suzukii*, Plant secondary metabolites, *Fragaria vesca*, Strawberry

**Name of supervisor: Prof. Dr. Martin Parniske**

**Funding:**

LSM-CSC / DAAD-GSSP (LSM) / Application for funding by the DFG in progress

**Project title:**

**Harnessing natural genetic resources to defend fruits against insect attack**

**Project description:**

*Drosophila suzukii*, a member of the vinegar fly family, has become the most damaging pest worldwide for a wide variety of soft fruits. While other *Drosophila* species lay their eggs into decaying fruits, *D. suzukii* has evolved the ability to insert eggs into the flesh of ready-to-harvest ripe fruits either on plants or in storage. Hatched larvae then consume the fruits from inside out and infected fruits are no longer suitable for human consumption. Aiming for a sustainable and effective control method, we utilized a diverse collection of strawberry plants (genus *Fragaria*) and identified sources of natural resistance to *D. suzukii*, the first-reported herbivore resistance in fruits (Gong et al., 2016). Our results indicate inhibitory effect at early stages of *D. suzukii* larvae development and involvement of plant secondary metabolites. As a consequence, resistant genotypes do not support proliferation of flies, hence limiting the source of infestation. In this project, we aim to identify the genes and mechanisms underlying this resistance and thus provide alternative strategies that can replace insecticide application for the production of healthy fruits. Our two-pronged approach will involve on the one hand the bioassay-based purification and identification of the larvae inhibiting compounds from resistant strawberries and on the other hand the genetic identification of the strawberry gene(s) responsible for this resistance.

Applicants will benefit from a theoretical background and ideally practical experience in plant genetics and/or plant secondary metabolite analysis.

**References:**

<https://scholar.google.com/citations?user=1g3whIEAAAAJ&hl=en>

**For further information, please contact:** Martin Parniske (parniske@lmu.de)

**Research group website:**

<https://www.genetik.biologie.uni-muenchen.de/research/parniske/parniske/index.html>

**Apply: Please send your application through the [online portal](#) of the Graduate School Life Science Munich (LSM)**