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## **3-year PhD position in plant biochemistry (Strasbourg, Fr) to work on the biochemistry and evolution of novel defensive alkaloids in the Solanaceae**

**Location: IBMP CNRS/University of Strasbourg (France), Team of Emmanuel Gaquerel**  
(<http://www.ibmp.cnrs.fr/teams/cytochromes-p450-and-associated-metabolic-pathways/?lang=en>)

### **Project description**

Plants are champion synthetic chemists! They take advantage of their metabolic prowess to produce an extremely large repertoire of structurally diverse natural products, also referred to as specialized metabolites. Our research team seeks to elucidate the biochemistry and evolution of metabolic pathways contributing to plants' adaptation to their environment, notably innovations in plant defenses to insects.

The present PhD project is funded by the **IDEX International doctoral program** of the University of Strasbourg and builds on previous research from the team (cf. references). The project aims at deciphering genes contributing to the biosynthesis of novel trichome-specific defensive alkaloids present in allopolyploid species of the genus *Nicotiana* as well as in other Solanaceae.

The project will be conducted at the IBMP and will benefit from facilities hosted in this institute, including a state-of-art metabolomics platform to explore plant metabolic diversity. This project also includes active collaborations with research teams in Germany.

### **Eligibility**

We are seeking a highly motivated PhD student with a **Master degree in (plant) biology, biochemistry or genetics and experience** in some of the following fields: standard DNA/RNA methods, RNAseq analysis, protein biochemistry and metabolic analysis. Experience in bioinformatics and metabolomics is not required but can be plus for this position. Applicants should have a strong interdisciplinary interest coupled with good communication skills and willingness to interact with team members. We expect excellent University grades at the Master level. Fluent spoken and written English are prerequisites for this position.

**We offer** a vibrant research environment that includes state-of-the art research facilities hosted by the IBMP (MS metabolomics, NGS bioinformatics, imaging, ...), an exciting interdisciplinary research project and a dedicated training in emerging techniques in metabolomics and plant chemical ecology.

**How to apply:** Applications must include a motivation letter, a CV including University grades, and contacts of 1-2 previous mentors. Please e-mail application as a single pdf document to [emmanuel.gaquerel@ibmp-cnrs.unistra.fr](mailto:emmanuel.gaquerel@ibmp-cnrs.unistra.fr)

### **References:**

- Xu S, ..., Gaquerel E, Baldwin IT. (2017). PNAS 114(23):6133-6138.
- Naake T, Gaquerel E. (2017) Bioinformatics doi: 10.1093/bioinformatics/btx159.
- Li D, Heiling S, Baldwin IT, Gaquerel E (2016). PNAS.113(47):E7610-E7618.
- Heiling S, Khanal S, Barsch A, Zurek G, Baldwin IT, Gaquerel E (2016). The Plant Journal. 85(4):561-77.
- Li D, Baldwin IT, Gaquerel E (2015). PNAS. 112(30):4147-55.