

PhD and Postdoc position

Immune receptor signalling in plant-bacteria interactions

PhD and postdoctoral positions in the newly established laboratory of Stefanie Ranf at the Department of Biology at the University of Fribourg in Switzerland (www.unifr.ch/bio) are available from February 2022 to study antibacterial immunity in plants.

Plant immune receptors are of great interest for the development of disease resistance and sustainable agricultural management practices. We are investigating immune receptors localized at the cell surface in the model species *Arabidopsis thaliana* and other crucifers. In particular, candidates will investigate the molecular activation and regulation mechanisms of the immune receptor LORE, which senses lipid metabolites from bacteria. The projects include methods of phytopathology, genetics, molecular biology, protein biochemistry and confocal microscopy, among others.

We are looking for highly motivated applicants who are able to plan and conduct research independently and accurately, who work well in a team and have a strong interest in molecular plant science and plant-microbe interactions. The applicants must hold or anticipate receiving a very good master's degree or PhD, respectively, in biology, biochemistry, biotechnology or related subjects. Knowledge and practical experience in the field of molecular plant sciences is an asset. Good writing and communication skills in English are essential.

We offer an international and scientifically stimulating working environment with a focus on molecular plant sciences. For more information about the Ranf Laboratory, please visit our website (www.ranflab.org). Our lab is equipped with state-of-the-art instruments for molecular, biochemical and cell biological research and has access to core facilities for proteomics, metabolomics, high-end imaging and bioinformatic analyses. The doctoral candidate will participate in the coordinated graduate programme of the interdisciplinary Fribourg Graduate School of Life Sciences and Medicine (www.unifr.ch/bio/en/studies/graduate-school-fglm).

Please send your complete application (including CV, references, one-page motivation letter expressing your interest in and suitability for the project, and the names of two potential academic referees) as a single composite pdf file by email to info@ranflab.org. Screening of applications will begin **immediately**, but applications will be accepted until suitable candidates are found. For further information please contact Dr. Stefanie Ranf (info@ranflab.org).

Related publications:

- Ranf S, Gisch N, Schäffer M, Illig T, Westphal L, Knirel YA, Sánchez-Carballo PM, Zähringer U, Hückelhoven R, Lee J, and Scheel D (2015). A lectin S-domain receptor kinase mediates lipopolysaccharide sensing in *Arabidopsis thaliana*. *Nature Immunology* 16: 426-433
- Kutschera A*, Dawid C*, Gisch N, Schmid C, Lars Raasch L, Tim Gerster T, Schäffer M, Smakowska-Luzan E, Belkhadir Y, Vlot AC, Chandler CE, Schellenberger R, Schwudke D, Ernst RK, Dorey S, Hückelhoven R, Hofmann T, Ranf S (2019) Bacterial medium-chain 3-hydroxy fatty acid metabolites trigger immunity in *Arabidopsis* plants. *Science* Vol. 364: 178-181
- Eschrig S, Schäffer M, Illig T, Eibel S, Shu L-J, Fernandez A, Ranf S (2021). LORE homomerization is required for 3-OH-C10:0 induced immune signaling. *bioRxiv* 10.1101/2021.09.27.461997