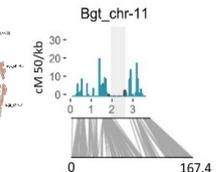
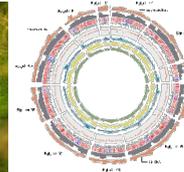




University of  
Zurich<sup>UZH</sup>



**Postdoc Position in the Group of Prof. Dr. Beat Keller, University of Zürich:**

## **Molecular Identification of Plant Immunity Genes Involved in Non-Host Resistance of Triticale to the Wheat Powdery Mildew Pathogen**

The successful applicant will use genetic, molecular and bioinformatic approaches to identify the host genes involved in host determination of the mildew pathogen that has recently adapted to the Triticale host. The work builds on earlier findings of hybridization as the cause of adaptation of mildew to triticale (<https://www.nature.com/articles/ng.3485> , <https://nph.onlinelibrary.wiley.com/doi/abs/10.1111/nph.15529>) and the genetic analysis of host determinants in the mildew pathogen (Müller et al., unpublished). Based on the pathogen analysis, corresponding genes involved in non-host resistance will be identified using mutagenesis and mutant chromosome sequencing (<https://link.springer.com/article/10.1186/s13059-016-1082-1>). Functional analysis will include studies in wheat and Triticale as well as in the heterologous *N. benthamiana* system. For recent publications in the group also see: [scholar.google.com/](https://scholar.google.com/) (Beat Keller).

### **Requirements and requested skills:**

- Proven experience (including publications in international well recognized journals) in genetics or molecular biology, ideally in the field of host pathogen interactions.
- Strong bioinformatic background to handle large genomic sequencing datasets. Programming skills (e.g. Python) are preferred.
- Experience in phytopathology is desirable but not essential.
- Ability to frame questions and to test them experimentally and bioinformatically.
- Writing skills for scientific publications.
- Very good English communication skills and ability to both work in a team and individually.

**Starting date:** Ideally, early Summer 2021 (position is open immediately), but given the current situation we are flexible. The position is available for 2-3 years. The successful candidate will be involved in some teaching activities (1 week/year).

### **Application procedure:**

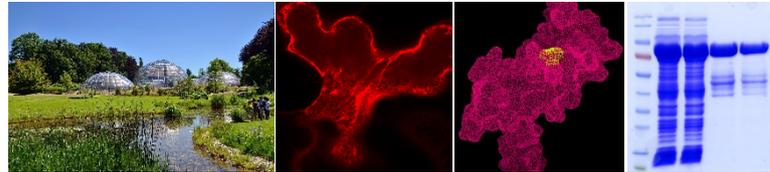
- Send a single PDF titled **Hostspecifity\_familyname** to [javier.sanchezmartin@botinst.uzh.ch](mailto:javier.sanchezmartin@botinst.uzh.ch) with CV including publication list, a short (max. 2 pages) motivation letter explaining your interest in, and qualification for the position and contact details of 2-3 referees.
- Applications will be reviewed from April 20, 2021 until the position is filled.

The Department of Plant and Microbial Biology provides an excellent in-house infrastructure as well as access to the central genomics facilities (<https://fgcz.ch/>). We offer an international, English-speaking work environment. Zürich is located centrally in Europe and offers easy access to outdoor activities particularly in the Swiss alps.

The position is funded by a grant from the University Research Priority Programme “Evolution in Action” <https://www.evolution.uzh.ch/en.html>. Questions on this position can be addressed to [javier.sanchezmartin@botinst.uzh.ch](mailto:javier.sanchezmartin@botinst.uzh.ch), [marion.mueller@botinst.uzh.ch](mailto:marion.mueller@botinst.uzh.ch) or Prof. Dr. Beat Keller ([bkeller@botinst.uzh.ch](mailto:bkeller@botinst.uzh.ch)).



University of  
Zurich <sup>UZH</sup>



**Postdoc Position in the Group of Prof. Dr. Beat Keller, University of Zürich:**

## **Molecular and Biochemical Analysis of Novel Types of Race-Specific Resistance Genes from Wheat**

The successful applicant will use biochemical, molecular, cellular biological and genetic approaches to characterize novel types of race-specific disease resistance proteins in wheat. We have recently identified two new types of proteins acting in a race-specific resistance way against leaf rust and powdery mildew, respectively: A membrane-bound ankyrin-repeat protein encoded by the *Lr14a* gene (see Nature Communications <https://doi.org/10.1038/s41467-020-20777-x>) and a chimeric kinase-MCTP protein encoded by *Pm4* (see Nature Plants <https://doi.org/10.1038/s41477-021-00869-2>). The applicant will play a key role in the further biochemical and molecular characterization of these novel type of resistance proteins to gain a mechanistic functional understanding. The envisaged project involves the identification of interaction partners from the host and the pathogen, as well as protein functional studies in homologous and heterologous systems. For recent publications in the group also see: [scholar.google.com/](https://scholar.google.com/) (Beat Keller).

### **Requirements and requested skills:**

- Proven experience (including publications in international well-recognized journals) in *in-vitro/in-vivo* protein biochemistry and molecular biology, ideally in the field of plant-microbe interactions.
- Experience in fluorescence microscopy will be advantageous.
- Ability to frame questions and to test them experimentally.
- Writing skills for scientific publications.
- Excellent English communication skills and the ability to both work in a team and individually.

**Starting date:** Ideally, early Summer of 2021 (position is open immediately), but given the current situation we are flexible. The position is available for 2-3 years. The successful candidate will be involved in some teaching activities (1 week/year).

### **Application procedure:**

- Send a single PDF titled **Resistanceposition\_familyname** to [javier.sanchezmartin@botinst.uzh.ch](mailto:javier.sanchezmartin@botinst.uzh.ch), with CV including publication list, a short (max. 2 pages) motivation letter explaining your interest in, and qualification for the position and contact details of 2-3 referees.
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The position is funded by a grant from the Swiss National Science Foundation and in-house funding. Questions on this position can be addressed to Dr. Javier Sánchez-Martín ([javier.sanchezmartin@botinst.uzh.ch](mailto:javier.sanchezmartin@botinst.uzh.ch)) and Prof. Dr. Beat Keller ([bkeller@botinst.uzh.ch](mailto:bkeller@botinst.uzh.ch)).