Kirill Schenstniy, Ph.D.

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Education

2017 – 2021 **Doctor of Natural Sciences (*Dr. rer. nat.*) in Biology**
The Center for Plant Molecular Biology (ZMBP), Eberhard Karls University of Tuebingen, Germany
Dissertation: Analyses of TALE-induced resistance and putative susceptibility genes in tomato
Principal Investigator: Prof. Dr. Thomas Lahaye (link)

2014 – 2016 **Master of Science in Plant Breeding & Genetic Resources**
Wageningen University & Research, the Netherlands

2010 – 2012 **Bachelor of Science in Agronomy**
Dnipro State Agrarian and Economic University, Ukraine

Research Experience

2025 – Present **Department of Chemical and Biomolecular Engineering, University of California, Berkeley**
Postdoctoral Researcher – lab of Prof. Dr. Markita Landry (link)
- Development and optimization of gene-editing tools for transient plant transformation.

2024 – 2025 **Plant Development and Physiology Lab, Tokyo Metropolitan University, Japan**
Visiting Postdoctoral Researcher / *Lecturer* – lab of Prof. Dr. Takashi Okamoto (link)
- Studying cell death execution during early zygote & fertilization-independent egg cell development;
- DNA-free RNP-mediated gene editing in rice zygotes and non-fertilized egg cells;
- *in vitro* fusion of germ cells from different plant species: rice × wild rice and rice × wheat.

2021 – 2024 **Institute for Molecular Physiology, Henrich Heine University of Duesseldorf, Germany**
Postdoctoral Researcher – lab of Prof. Dr. Wolf Frommer (link)
- DNA-free RNP-mediated gene editing in rice zygotes and non-fertilized egg cells;
- Nanoparticle-mediated delivery of gene-editing tools into plant cells;
- Development of selectable markers for plant transformation.

2021 – 2021 **Department of General Genetics, ZMBP, Eberhard Karls University of Tuebingen, Germany**
Research Assistant – lab of Prof. Dr. Suayib Uestuen (link)
- CRISPR/Cas9-mediated editing of autophagy-related genes in tomato.

2017 – 2020 **Department of General Genetics, ZMBP, Eberhard Karls University of Tuebingen, Germany**
Research Assistant – lab of Prof. Dr. Thomas Lahaye (link)
- Dissecting genetic pathways mediated by NLR and executor (E) proteins in tomato;
- Identification of putative susceptibility genes (TALE targets) in tomato;
- CRISPR/Cas9-mediated editing of immunity-related genes in tomato.

2016 – 2016 **Plant Breeding, Wageningen University & Research, the Netherlands**
Research Fellow – lab of Prof. Dr. Luisa Trindade (link)
- Genetic analysis and QTL mapping of cell wall components and digestibility in maize.

2015 – 2016 **Plant Breeding, Wageningen University & Research, the Netherlands**
Research Fellow – lab of Prof. Dr. Yuling Bai (link)
- Identifying the role of potato "helper" NLR proteins in mediation of resistance to *P. infestans*.

Research Contributions

1. Kumaran, G., Pathak, P.K., Quandoh, E., Mursalimov, S., Devi, J., Alkalai-Tuvia, S., Leong, J.X., **Schenstnyi, K**., Levin, E., Üstün, S., Michaeli, S. **(2023)**. Autophagy restricts tomato fruit ripening via a general role in ethylene repression. *bioRxiv* [in revision]. https://doi.org/10.1101/2023.12.20.572633
2. **Schenstnyi, K**., Zhang, Z., Liu, B., Nakamura, M., Schepler-Luu, V., Loo, E.P.I., Yang, B., Frommer, W.B. **(2023)**. Loss-of-function mutation in the polyamine transporter gene *OsLAT5* as a selectable marker for genome editing. *bioRxiv* [in revision]. https://doi.org/10.1101/2023.12.12.571390
3. Schepler-Luu, V., Sciallano, C., Stiebner, M., Ji, C., Boulard, G., Diallo, A., Auguy, F., Char, S. N., Arra, Y., **Schenstnyi, K.**, Buchholzer, M., Loo, E.P.I., Bilaro, A.L., Lihepanyama, D., Mkuya, M., Murori, R., Oliva, R., Cunnac, S., Yang, B., Szurek, B., Frommer, W.B. **(2023)**. Genome editing of an African elite rice variety confers resistance against endemic and emerging *Xanthomonas oryzae* pv. *oryzae* strains. *eLife*, *12*, e84864. https://doi.org/10.7554/eLife.84864

4. **Schenstnyi, K.**, Strauß, A., Dressel, A., Morbitzer, R., Wunderlich, M., Andrade, A.G., Phan, T.-T.-T., Aguilera, P.d.l.A., Brancato, C., Berendzen, K. W., Lahaye, T. **(2022)**. The tomato resistance gene *Bs4* suppresses leaf watersoaking phenotypes induced by AvrHah1, a transcription activator-like effector from tomato-pathogenic xanthomonads. *New Phytologist*, *236*(5), 1856-1870. https://doi.org/https://doi.org/10.1111/nph.18456
5. Monino-Lopez, D., Nijenhuis, M., Kodde, L., Kamoun, S., Salehian, H., **Schenstnyi, K.**, Stam, R., Lokossou, A., Abd-El-Haliem, A., Visser, R.G.F., Vossen, J. H. **(2021)**. Allelic variants of the NLR protein Rpi-chc1 differentially recognize members of the *Phytophthora infestans* PexRD12/31 effector superfamily through the leucine-rich repeat domain. *The Plant Journal*, *107*(1), 182-197. https://doi.org/https://doi.org/10.1111/tpj.15284

Honours, Awards, and Scholarships

2023 **CEPLAS Seed Fund** – Funding for the development of independent and innovative projects (10.000 EUR / ≈11.000 USD).

2014 **Worldwide Studies Program** – Scholarship covering tuition fees at Wageningen University & Research (33.000 EUR / ≈36.000 USD)