

CV Peter Schlögelhofer

Univ.-Prof. Dr. Mag. Peter Schlögelhofer

Department of Chromosome Biology

Max Perutz Labs

University of Vienna

Dr. Bohr-Gasse 9

A-1030 Vienna, Austria

Phone (office): +43-1-4277 56240

Phone (lab): +43-1-4277 56241

peter.schloegelhofer@univie.ac.at

<https://www.maxperutzlabs.ac.at/research/research-groups/schloegelhofer>

Twitter: The Schlögelhofer Lab (@the_PS_lab)

ORCID: 0000-0002-0909-3587

Main research area

Meiosis, DNA repair, recombination, *Arabidopsis*

Academic career and positions held to date

1996 – 1998	Diploma student, University of Vienna
1998 – 2002	PhD student at the Institute of Botany, University of Vienna, Austria
2002	Post-doc at the Institute of Botany, University of Vienna, Austria
2003 – 2010	Independent research group leader at the Department of Chromosome Biology, Max F. Perutz Laboratories, University of Vienna
2007 – 2010	APART fellowship of the Austrian Academy of Sciences
2010 – 2012	Assistant Professor at the Department of Chromosome Biology, Max F. Perutz Laboratories, University of Vienna
2012 – 2022	Associate Professor at the Department of Chromosome Biology, Max Perutz Labs, University of Vienna
2022 – present	Full Professor at the Department of Chromosome Biology, Max Perutz Labs, University of Vienna
2017 – 2020	Vice Dean for Teaching at the Center of Molecular Biology / Max Perutz Labs / University of Vienna

Most important peer review activities

PLoS Genetics

Nucleic Acid Research

Nature Communications

eLIFE

EMBO

Plant Cell

Plant Journal

Plant Physiology

Planta

National Science Foundation – USA

BBSRC – UK

DFG

Publications

Whole-Mount Immuno-FISH on Arabidopsis Meiocytes (WhoMI-FISH). Sims J, Chouaref J, **Schlögelhofer P***. *Methods Mol Biol.* 2020; 2061:59-66. doi: 10.1007/978-1-4939-9818-0_6.

Targeted Analysis of Chromatin Events (TACE). Sims J, Chen C, **Schlögelhofer P**, Kurzbauer MT*. *Methods Mol Biol.* 2020; 2061:47-58. doi: 10.1007/978-1-4939-9818-0_5.

The Arabidopsis Cdk1/Cdk2 homolog CDKA;1 controls chromosome axis assembly during plant meiosis. Yang C, Sofroni K, Wijnker E, Hamamura Y, Carstens L, Harashima H, Stolze SC, Vezon D, Chelysheva L, Orban-Nemeth Z, Pochon G, Nakagami H, **Schlögelhofer P**, Grelon M, Schnittger A*. *EMBO J.* 2019 Sep 26:e101625. doi: 10.15252/embj.2019101625.

Meiotic DNA Repair in the Nucleolus Employs a Nonhomologous End-Joining Mechanism. Sims J, Copenhaver GP, **Schlögelhofer P***. *Plant Cell.* 2019 Sep;31(9):2259-2275. doi: 10.1105/tpc.19.00367.

Kobayashi, W.; Liu, E.; Ishii, H.; Matsunaga, S.; **Schlögelhofer, P.**; Kurumizaka, H.* Homologous pairing activities of Arabidopsis thaliana RAD51 and DMC1. J Biochem. 2019 Mar 1;165(3):289-295. doi: 10.1093/jb/mvy105.

Orbán-Németh, Z.; Beveridge, R.; Hollenstein, D. M.; Rampler, E.; Stranzl, T.; Hudecz, O.; Doblmann, J.; **Schlögelhofer, P.**; Mechtler, K.* (2018). Structural prediction of protein models using distance restraints derived from cross-linking mass spectrometry data. Nat Protocols 13: 478-494. doi: 10.1038/nprot.2017.146.

Kurzbauer, M.-T; Pradillo, M.; Kerzendorfer, C.; Sims, J.; Ladurner, R.; Oliver, C.; Janisiw, M.P.; Mosiolek, M.; Schweizer, D.; Copenhaver, G.P; **Schlögelhofer, P.*** (2018). Arabidopsis thaliana FANCD2 Promotes Meiotic Crossover Formation. Plant Cell. 2018 Feb;30(2):415-428. doi: 10.1105/tpc.17.00745.

Lorkovic, Z.; Park, C.; Goiser, M.; Jiang, D.; Kurzbauer, M.-T.; **Schlögelhofer, P.**; Berger, F.* (2017). Compartmentalization of DNA Damage Response between Heterochromatin and Euchromatin Is Mediated by Distinct H2A Histone Variants. Curr Biol 27: 1192-1199. doi: 10.1016/j.cub.2017.03.002.

Rampler E., Stranzl T., Orbán-Németh Z., Hollenstein D.M., Hudecz O., **Schloegelhofer P.***, Mechtler K.* (2015). Comprehensive crosslinking mass spectrometry reveals parallel orientation and flexible conformations of plant HOP2/MND1. J Proteome Res. 15: 1732 doi: 10.1021/acs.jproteome.5b00903.

Roitinger, E., Hofer, M., Kocher, T., Pichler, P., Novatchkova, M., Yang, J., **Schlögelhofer, P.***, and Mechtler, K.* (2015). Quantitative Phosphoproteomics of the ATM and ATR dependent DNA damage response in *Arabidopsis thaliana*. Molecular and Cellular Proteomics 14: 556-571. doi: 10.1074/mcp.M114.040352.

Cabral, G., Marques, A., Schubert, V., Pedrosa-Harand, A., and **Schlögelhofer, P.***. (2014). Chiasmatic and achiasmatic inverted meiosis of plants with holocentric chromosomes. Nature communications 5, 5070. doi: 10.1038/ncomms6070

Rosa, M., Von Harder, M., Cigliano, R.A., **Schlögelhofer, P.**, and Scheid, O.M.* (2013). The Arabidopsis SWR1 Chromatin-Remodeling Complex Is Important for DNA Repair, Somatic Recombination, and Meiosis. Plant Cell 25, 1990-2001. doi: 10.1105/tpc.112.104067

Uanschou, C., Ronceret, A., Von Harder, M., De Muyt, A., Vezon, D., Pereira, L., Chelysheva, L., Kobayashi, W., Kurumizaka, H., **Schlögelhofer, P*** and M. Grelon (2013). Sufficient Amounts of Functional HOP2/MND1 Complex Promote Interhomolog DNA Repair but Are Dispensable for Intersister DNA Repair during Meiosis in Arabidopsis. *Plant Cell* 25, 4924-4940. doi: 10.1105/tpc.113.118521

Kurzbauer, M.T., Uanschou, C., Chen, D., and **Schlögelhofer, P***. (2012). The Recombinases DMC1 and RAD51 Are Functionally and Spatially Separated during Meiosis in Arabidopsis. *Plant Cell* 24, 2058-2070. doi: 10.1105/tpc.112.098459

Kurzbauer MT, **Schlögelhofer P***. (2011) Retinoblastoma protein goes green: the role of RBR in *Arabidopsis* meiosis. *EMBO J.* 2011 Feb 16;30(4):631-3.

Edlinger B, **Schlögelhofer P***. (2011) Have a break: determinants of meiotic DNA double strand break (DSB) formation and processing in plants. *J Exp Bot.* 2011 Mar;62(5):1545-63.

Dean P J, Siwiec T, Waterworth W, **Schlögelhofer P**, Armstrong S J and West* E C (2009) A novel ATM dependant X-ray inducible gene is essential for both plant meiosis and gametogenesis. *Plant J.* - 2009 Jun;58(5):791-802

Uanschou C., Siwiec T., Pedrosa-Harand A., Kerzendorfer C., Sanchez-Moran E., Novatchkova M., Akimcheva A., Woglar A., Klein F. and **Schlögelhofer P.*** (2007) A novel plant gene essential for meiosis is related to the human CtIP and the yeast COM1/SAE2 gene. *EMBO J.* 2007 Dec 12;26(24):5061-70. doi: 10.1038/sj.emboj.7601913

Vignard J., Siwiec T., Chelysheva L., Vrielynck N., Gonord F., Armstrong S.J., **Schlögelhofer P.*** and Mercier R.* (2007) The Interplay of RecA-related Proteins and the MND1-HOP2 Complex during Meiosis in *Arabidopsis thaliana*. *PLoS Genet.* 2007 Oct;3(10):1894-906. doi:10.1371/journal.pgen.0030176

Kerzendorfer C., Vignard J., Pedrosa-Harand A., Siwiec T., Akimcheva S., Jolivet S., Sablowski R., Armstrong S., Schweizer D., Mercier R.* and **Schlögelhofer P.*** (2006) The *Arabidopsis thaliana* Meiotic Nuclear Division 1 (MND1) homologue plays a key role in meiotic homologous pairing, synapsis and recombination. *J Cell Sci*; 119: 2486-96. PMID: 16763194

Schlögelhofer P., Garzón M., Kerzendorfer C., Nizhynska V. and Bachmair A.* (2006) Expression of the ubiquitin variant ubR48 decreases proteolytic activity in Arabidopsis and induces cell death. *Planta* 223: 684-97. PMID: 16200408

Sary S, Yin X, Potuschak T, **Schlögelhofer P**, Nizhynska V and Bachmair A* (2003) PRT1 of *Arabidopsis thaliana* is a ubiquitin protein ligase of the plant N-end rule pathway with specificity for aromatic amino-terminal residues. Plant Physiol. 2003 133:1360-6

Schlögelhofer P., Nizhynska V., Feik N., Chambon C., Potuschak T., Wanzenböck E.M., Schweizer D., Bachmair A.* (2002) The upstream Sal repeat-containing segment of *Arabidopsis thaliana* ribosomal DNA intergenic region (IGR) enhances the activity of adjacent protein-coding genes. Plant Mol Biol 49(6):655-67. PMID: 12081373

Schlögelhofer P, Bachmair A* (2002) A test of fusion protein stability in the plant, *Arabidopsis thaliana*, reveals degradation signals from ACC synthase and from the plant N-end rule pathway. Plant Cell Rep 21: 174-179

Potuschak T, Sary S, **Schlögelhofer P**, Becker F, Nejjinskaia V and Bachmair A* (1998) PRT1 of *Arabidopsis thaliana* encodes a component of the plant N-end rule pathway. Proc. Natl. Acad. Sci. 95:7904-7908

***corresponding author**