

Research Profile

To study how genomes are organised and distributed as cells divide, my lab (started August '23) integrates bottom-up reconstitution biochemistry with cell biology, structural biology, and biophysics. We aim to contribute to a molecular understanding of the protein machinery that prevents and processes DNA damage during anaphase.

Research Positions

- 2023 - Group Leader, Max Perutz Laboratories, University of Vienna, Austria
- 2015 - 2023 Postdoc at the Max Planck Institute (MPI) of Molecular Physiology, Dortmund, Germany
Reconstitution of the kinetochore-microtubule interface, advisor: Andrea Musacchio
- 2009 - 2014 PhD student at the Research Institute of Molecular Pathology (IMP), Vienna, Austria
Reconstitution of the human cohesin complex, advisor: Jan-Michael Peters

Education

- 2009 - 2013 PhD, University of Vienna, Austria (*1.0*)
- 2003 - 2009 MSc Molecular Life Sciences, University Nijmegen, the Netherlands (*cum laude*)

Key Publications (link to Google Scholar for complete list)

[°]corresponding author, * equal contribution

- 2023 Stable kinetochore-microtubule attachment requires loop-dependent Ndc80-Ndc80 binding; S Polley, H Müschenborn, M Terbeck, A De Antoni, IR Vetter, M Dogterom, A Musacchio[°], VA Volkov[°], PJ Huis in 't Veld[°]; *The EMBO Journal*; 42:e112504
- 2022 Reconstitution and use of highly active human CDK1:Cyclin-B:CKS1 complexes; PJ Huis in 't Veld[°], S Wohlgenuth, C Koerner, F Mueller, P Janning, A Musacchio[°]; *Protein Science*; 31(2):528-537
- 2019 Molecular determinants of the Ska-Ndc80 interaction and influence on microtubule tracking and force-coupling PJ Huis in 't Veld*, VA Volkov*, ID Stender, A Musacchio[°], M Dogterom[°]; *eLife* 8, e49539
- 2018 Multivalency of NDC80 in the outer kinetochore to track shortening microtubules and generate forces VA Volkov*, PJ Huis in 't Veld*, M Dogterom[°], A Musacchio[°]; *eLife* 7:e36764
- 2016 Molecular basis of outer kinetochore assembly on CENP-T; PJ Huis in 't Veld*[•], S Jeganathan*, A Petrovic, P Singh, J John, V Krenn, F Weissmann, T Bange, A Musacchio[°] *eLife*; 5:e21007
- 2016 Topology and structure of an engineered human cohesin complex bound to Pds5; MT Hons*, PJ Huis in 't Veld*[•], J Kaesler, P Rombaut, A Schleiffer, F Herzog, H Stark[°], JM Peters[°]; *Nature Communications*; 7(12523)
- 2014 Characterization of a DNA exit gate in the human cohesin complex; PJ Huis in 't Veld, F Herzog, R Ladurner, IF Davidson, S Piric, E Kreidl, V Bhaskara, R Aebersold, JM Peters[°]; *Science*; 346(6212):968-972

Fellowships and Awards

- 2021 Early-career reviewer for *eLife* in Structural Biology and Molecular Biophysics
- 2019 Young researcher award at symposium 'Supramolecular principles in biological systems', Essen, Germany
- 2017 EMBO short-term fellowship for research in the Dogterom lab, TU Delft, the Netherlands
- 2016 Fritz Grasenick award from the Austrian Society for Electron Microscopy
- 2014 Best poster and selected student talk at the IMP-IMBA annual recess