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CURRENT POSITION

Sept 2019- present: Associate Professor, Center for Anatomy and Cell Biology, Medical University of Vienna, Vienna, Austria

PREVIOUS POSITIONS

- 2016- 2019:** **Assistant Professor**, Center for Anatomy and Cell Biology, Medical University of Vienna, Vienna, Austria
- 2013- 2016:** **Next Generation Fellow (NGF)**, Centre for Trophoblast Research, University of Cambridge, UK
- 2011- 2013:** **Postdoctoral Researcher**, Babraham Institute, Centre for Trophoblast Research, University of Cambridge, UK (Dr Myriam Hemberger's lab)
- 2008- 2011:** **Postdoctoral Researcher**, Stem Cell Institute, University of Cambridge, Cambridge, UK (Dr Brian Hendrich's lab)
- 2003- 2008:** **Ph.D. student**, Center for Molecular Medicine, Austrian Academy of Sciences, Vienna, Austria (Prof. Denise Barlow's lab)

My laboratory combines trophoblast stem cell and organoid models with multi-omics approaches to study the **transcriptional regulation of trophoblast cell identity**. We explore transcription factor networks operating in trophoblast stem cells - their signalling inputs, hierarchies, interactors, and the downstream outputs (Lackner et al., 2023, *Nat Commun.*; Hornbachner et al., 2022, *PNAS*; Latos et al., 2015, *Nat Commun.*; Latos et al., 2015, *Genes&Dev.*). My fascination with transcriptional control of cell fate dates to my postdoctoral and doctoral training. I studied the role of chromatin remodelling complex in stem cell transitions (Reynolds, Latos et al., 2012, *Cell Stem Cell*; Latos et al., 2012, *Biol. Open*) and transcriptional regulation of genomic imprinting by ncRNAs (Latos et al., 2012, *Science*; Latos et al., 2009, *Development*).

Our laboratory has also developed (in collaboration with Prof. Martin Knöfler's lab) **trophoblast and endometrial organoids** (Haider et al., 2018, *Stem Cell Reports*; Haider et al., 2019, *Endocrinology*), and used them to investigate how signalling controls cell identity.

GRANTS & FELLOWSHIPS

- FWF P32176** "Deciphering the Erf-NcoR1/2 complex cooperation in TS cells" (2019-2024)
- FWF P31738** "Role of ARID1A in endometrial cancer organoid model" (2019-2023)
- FWF P30941** "Deciphering signalling and transcriptional networks in human uterine organoids" (2017-2021)
- ÖAW DOC Fellowship** for a PhD student Henrieta Papuchova (2022-2024)

The Next Generation Fellowship of the Centre for Trophoblast Research, University of Cambridge (2013-2016)

EMBO long-term Fellowship (2009-2011)

COLLABORATIONS

Prof. Martin Knöfler, Medical University of Vienna, Austria

Dr Sandra Haider, Medical University of Vienna, Austria

Dr Sasha Mendjan, IMBA, Vienna, Austria

MOST RELEVANT PUBLICATIONS

Lackner A.[#], Müller M.[#], Gamperl M., Stoeva D., Langmann O., Papuchova H., Roitinger E., Dürnberger G., Imre R., Mechtler K., **Latos P.A.** “The Fgf/Erf/NCoR1/2 repressive axis controls trophoblast cell fate”, **Nat Commun.** 2023 May 4; 14:25589, [#]equal contribution
DOI: [10.1038/s41467-023-38101-8](https://doi.org/10.1038/s41467-023-38101-8)

Hornbachner R.[#], Lackner A.[#], Papuchova H., Haider S., Knöfler M., Mechtler K., **Latos P.A.**, “MSX2 safeguards syncytiotrophoblast fate of human trophoblast stem cells” **Proc Natl Acad Sci USA.** 2021 Sep 14; 118 (37). [#]equal contribution
DOI: [10.1073/pnas.2105130118](https://doi.org/10.1073/pnas.2105130118)

Latos P.A.[#], Pauler F.M.[#], Koerner M.V.[#], Senergin B.H, Hudson Q.J., Stocsits R.R., Allhoff W., Stricker S.H., Klement R.M., Warczok K.E., Aumayr K., Pasierbek P., Barlow D.P., “Aim transcriptional overlap but not its lncRNA product induces imprinted Igf2r silencing”, **Science.** 2012 Dec 14; 338 (6113): 1469-72. [#]equal contribution
DOI: [10.1126/science.1228110](https://doi.org/10.1126/science.1228110)

Latos P.A.^{*}, Goncalves A., Oxley D., Mohammed H., Turro E., Hemberger M.H.^{*} “Fgf and Esrrb integrate epigenetic and transcriptional networks that regulate self-renewal of Trophoblast Stem Cells” **Nat Commun.** 2015 Jul 24;6:7776, ^{*}co-corresponding author
DOI: [10.1038/ncomms8776](https://doi.org/10.1038/ncomms8776)

Latos P.A., Sienerth A., Murray A., Senner C.E., Masanaga M., Oxley D., Ikawa M., Cox B., Hemberger M.H. “Elf5-centered transcription factor hub controls trophoblast stem cell self-renewal and differentiation through stoichiometry-sensitive shifts in target gene networks” **Genes Dev.** 2015 Dec 1;29(23):2435-48
DOI: [10.1101/gad.268821.115](https://doi.org/10.1101/gad.268821.115)

Haider S., Meinhardt G., Saleh L., Kunihs V., Gamperl M., Kaindl U., Ellinger A., Burkard T.R., Fiala C., Pollheimer J., Mendjan S., **Latos P.A.**^{*}, Knöfler M.^{*}, “Self-renewing Trophoblast Organoids Recapitulate the Developmental Program of the Early Human Placenta” **Stem Cell Reports.** 2018 Aug 14; 11(2):537-551. ^{*}co-corresponding author
DOI: [10.1016/j.stemcr.2018.07.004](https://doi.org/10.1016/j.stemcr.2018.07.004)

Papuchova H., **Latos P.A.**, “Transcription factor networks in trophoblast development” **Cell Mol Life Sci.** 2022 Jun 3;79(6):337
DOI: [10.1007/s00018-022-04363-6](https://doi.org/10.1007/s00018-022-04363-6)

Latos P.A., Hemberger M.H. “From the stem of the placental tree: trophoblast stem cells and their progeny” **Development.** 2016 Oct 15;143(20): 3650-60