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## Sonja Nowotschin, PhD

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Senior Research Scientist

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Sonja Nowotschin

## Education & Training

2014-present: Senior Research Scientist, Developmental Biology Program, Sloan Kettering Institute (lab of Kat Hadjantonakis)

2011–2014: Research Associate, Developmental Biology Program, Sloan Kettering Institute (lab of Kat Hadjantonakis)

2006–2011: Postdoctoral Fellow, Developmental Biology Program, Sloan Kettering Institute (lab of Kat Hadjantonakis)

2005–2006: Postdoctoral Fellow, Albert Einstein College of Medicine (lab of Bernice Morrow)

2002–2005: Graduate studies, University of Karlsruhe, Germany and Albert Einstein College of Medicine, New York (lab of Bernice Morrow)

## Research Interests

My research interests are centered on investigating mechanisms of tissue morphogenesis and cell lineage patterning at the time of gastrulation. I use the mouse embryo, embryo-derived and pluripotent stem cells as mammalian model systems. The goal of my work is to formulate a blueprint for understanding analogous events in human development.

My studies specifically focus on the mechanisms driving cell fate decisions towards mesoderm and/or endoderm, the transitions between epithelial and mesenchymal (EMT & MET) states, and how these events are coordinated during embryonic development at gastrulation.

Optical imaging, single-cell transcriptomics, mouse genetics and embryology, and stem cell methods are central approaches that I use.

## Publications

### Recent and Selected Publications

Nowotschin S, Hadjantonakis AK\*, Campbell K\*. (2019) [The endoderm: a divergent cell lineage with many commonalities](#). Development 146(11). pii: dev150920. doi: 10.1242/dev.150920. PMID: 31160415 PMCID: PMC6589075

Nowotschin S\*, Setty M\*, Kuo YY, Liu V, Garg V, Sharma R, Simon CS, Saiz N, Gardner R, Boutet SC, Church DM, Hoodless PA, Hadjantonakis AK\*, Pe'er D\*. (2019) [The emergent landscape of the mouse gut endoderm at single-cell resolution](#). Nature, 1. Apr 8. doi: 10.1038/s41586-019-1127-1. PMID: 30959515 PMCID: PMC6724221

Nowotschin S, Garg V, Piliszek A, Hadjantonakis AK. (2019) [Ex utero culture and imaging of mouse embryos](#). Vertebrate Embryogenesis: Methods & Protocols 2nd edition. Methods in Molecular Biology, Pellegri, F. Ed. PMID: 30737692 PMCID: PMC3298811

Nowotschin S, Hadjantonakis AK. (2018) [Lights, Camera, Action! Visualizing the Cellular Choreography of Mouse Gastrulation](#). Developmental Cell 47(6):684-685. doi: 10.1016/j.devcel.2018.11.049. PMID: 30562508

Simon CS, Zhang L, Wu T, Saiz N, Nowotschin S, Cai C, Hadjantonakis AK. (2018) [A Gata4 nuclear GFP transcriptional reporter to study endoderm and cardiac development in mouse](#). Biology Open 2018 Dec 10;7(12). pii: bio036517. doi:10.1242/bio.036517. PMID: 30530745 PMCID: PMC6310872

Freyer L, Hsu CW, Nowotschin S, Pauli A, Ishida J, Kuba K, Fukamizu A, Schier AF, Hoodless P, Dickinson ME, Hadjantonakis AK. (2017) [Loss of Apela peptide in mice causes low penetrance embryonic lethality and defects in early mesodermal derivatives](#). Cell Reports 20(9):2116-2130. doi: 10.1016/j.celrep.2017.08.014. PMID: 28854362 PMCID: PMC5580402

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