

## CURRICULUM VITAE

### Simon Hippenmeyer

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### Current Position and Research Interests

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07/2012- **Assistant Professor**; Developmental Neurobiology; Institute of Science and Technology Austria.

*The human cerebral cortex, the seat of our cognitive abilities, is composed of an enormous number and diversity of neurons and glia cells. How the cortex arises from neural stem cells is an unsolved but fundamental question in neuroscience. In the pursuit to obtain mechanistic insights, we genetically dissect corticogenesis at unprecedented single cell resolution using the unique MADM (Mosaic Analysis with Double Markers) technology. In a broader context, the group's research has the ultimate goal to advance the general understanding of brain function and why human brain development is so sensitive to disruption of particular signaling pathways in pathological neurodevelopmental diseases and psychiatric disorders.*

### Education and Research Experience

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2006-2012 **Postdoctoral Fellow** (EMBO, HFSP, SNF); Dept. Biology, Stanford University, USA. (Mentor: Prof. Liqun Luo).  
2004-2006 **Postdoctoral Associate**; Biozentrum, Dept. Cell Biology, University of Basel and FMI, Basel, Switzerland. (Mentor: Prof. Silvia Arber).  
2000-2004 **PhD in Neurobiology** (*summa cum laude*); Biozentrum, Dept. Cell Biology, University of Basel and FMI, Basel, Switzerland. '*Molecular Mechanisms of Neuronal Circuit Assembly in the Vertebrate Spinal Cord*' (Supervision: Prof. Silvia Arber).  
1995-2000 **Diploma** (Molecular Biology; Major: Biochemistry); Biozentrum, Dept. Biochemistry, University of Basel, Switzerland. (Supervision: Prof. Howard Riezman).

### Selected Honors, Prizes and Awards

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2016 ERC Consolidator Grant (EU Horizon 2020)  
2014 Golden Chalk Award for best lecturer and teaching excellence, IST Austria  
2014 HFSP Program Grant  
2013 Marie Curie Career Integration Grant (EU FP7)  
2009-2011 SNSF Fellowship for Advanced Researchers  
2007-2009 HFSP Long-Term Fellowship  
2006-2007 EMBO Long-Term Fellowship  
2005 Faculty of Natural Sciences Prize for best PhD thesis, University of Basel.  
2005 Edmond H. Fischer Prize, Friedrich Miescher Institute, Basel, Switzerland

**Major External Third Party Funding**

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2017-2022	<b>ERC Consolidator Grant</b> , Horizon 2020; EUR 2'000'000
2015-2018	<b>NÖ Forschung &amp; Bildung n[f+b]</b> , Life Science Call 2013; EUR 245'000
2014-2017	<b>Human Frontiers Science Program (HFSP)</b> Program Grant; USD 380'000
2013-2017	<b>Marie Curie Career Integration Grant (CIG)</b> , FP7; EUR 100'000

**Teaching Activities at IST Austria Graduate School**

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2017/8	<b>Developmental Neuroscience and Brain Diseases</b> , 6 ECTS
2016/7	<b>Developmental Neuroscience and Brain Diseases</b> , 6 ECTS
2015/6	<b>Developmental Neuroscience and Brain Diseases</b> , 6 ECTS <b>NeuroCore Module 'Principles of Neuronal Circuit Assembly'</b> , 6 ECTS <b>IST Scientists Career Development Program</b>
2014/5	<b>Developmental Neuroscience and Brain Diseases</b> , 6 ECTS <b>Shapes and Patterns Core Course</b> , guest lecture, 6 ECTS
2013/4	<b>Principles of Neuronal Circuit Assembly</b> , 3 ECTS, recognized by <i>Golden Chalk Award</i> <b>Introduction to Neuroscience I</b> , 3 ECTS <b>Graduate Course on Interneurons</b> , guest lecture, at Karolinska Institutet, Stockholm <b>CUSO Staromics PhD-Program Workshop</b> , guest lecture, at University of Fribourg
2012/3	<b>Introduction to Neuroscience I</b> , 3 ECTS

**Major Institutional Responsibilities and Internal Service at IST Austria**

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Since 2014	Head of Scientific Service Unit <i>PCF (Preclinical Facility)</i>
Since 2014	Member, Postdoc Mentoring Program
Since 2012	Member, Graduate Student Selection Committee
Since 2012	Member, Faculty Search Committee

**Selected Professional Service to the International Scientific Community**

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**Conference and symposia organization**

2019	<b>Co-organizer</b> , <i>Circuits Development and Regeneration (AXON2019)</i> in Alicante, Spain; with A. Chedotal, E. Herrera, R. Hindges, R. Klein, and G. Lopez-Bendito – <a href="http://www.axon2019.com">www.axon2019.com</a>
2018	<b>Session chair</b> at 20 <sup>th</sup> International Neuroscience Winter Conference, Sölden, Austria
2017	<b>Host and co-organizer</b> , <i>Molecular Mechanisms of Neural Circuit Assembly (AXON2017)</i> at IST Austria with A. Chedotal, U. Drescher, L. Erskine, S. Guthrie, R. Hindges, R. Klein, and Rob Meijers – <a href="http://www.ist.ac.at/AXON2017">www.ist.ac.at/AXON2017</a>
2016	<b>Session chair</b> at 18 <sup>th</sup> International Neuroscience Winter Conference, Sölden, Austria
2015	<b>Host and co-organizer</b> , <i>Axon Guidance, Circuit Development and Regeneration (AXON2015)</i> at IST Austria with A. Chedotal, U. Drescher, L. Erskine, S. Guthrie, R. Hindges, and R. Klein – <a href="http://www.ist.ac.at/AXON2015">www.ist.ac.at/AXON2015</a>
2013	<b>Host and co-organizer</b> , <i>Neuroscience Vienna Network Meeting</i> at IST Austria (with G. Tkacik)

## Intellectual Property and Technology Transfer

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**US Patent 9932607** (14/539'909) - *Site-specific Integration of Transgenes into Human Cells* (2018)

**US Patent 9125385** (13/293'890) - *Site-directed Integration of Transgenes in Mammals* (2015)

## Selected Invited Research Seminars & International Conference Presentations

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- 2018 **CSHL Meeting** – *'Molecular Mechanisms of Neuronal Connectivity'*, CSH, USA  
**BSCDB Meeting** – *'Neural Stem Cells and Cortex Development'*, Liege, Belgium  
**ISDN Annual Meeting**, Nara, Japan
- 2017 **3<sup>rd</sup> National Congress on Regenerative Medicine**, Moscow, Russia  
**IV International Symposium – Frontiers in Neuroscience**, Rio de Janeiro, Brazil  
**NeuroFrance 2017 Symposium**, Bordeaux, France  
**19<sup>th</sup> International Neuroscience Winter Conference**, Sölden, Austria  
**SFB-655 Closing Symposium – 'Cells into Tissues'**, Dresden, Germany  
**KU Leuven**, VIB Center for Brain & Disease Research, Leuven, Belgium  
**College de France**, Center for Interdisciplinary Research in Biology, Paris, France
- 2016 **University of Zürich**, Brain Research Institute, Zürich, Switzerland  
**Stanford University**, Department of Genetics, Palo Alto, USA  
**University of California Los Angeles**, Brain Research Institute, Los Angeles, USA  
**Summer School, Neural Circuit Development and Plasticity'**, Utrecht, Netherlands  
**Gordon Research Conference – Neural Development**, Newport, USA  
**CSHL Meeting – Glia in Health & Disease**, Cold Spring Harbor, USA  
**10<sup>th</sup> FENS Forum of Neuroscience Workshop**, Copenhagen, Denmark  
**Gordon Research Conference, Neurobiology**, Hongkong, China  
**EMBO Workshop – Mechanisms of Neuronal Remodelling**, Seeon, Germany
- 2015 **University of California San Diego**, Department of Neurobiology, San Diego, USA  
**BSCDB Meeting – Neural Stem Cells and Cortex Development**, Liege, Belgium  
**EMBO Workshop – Cortical Development in Health and Disease**, Rehovot, Israel  
**Gordon Research Conference – Glial Biology**, Ventura, USA
- 2014 **7<sup>th</sup> Guangzhou International Conference – Stem Cells and Regenerative Medicine**, Guangzhou, China  
**Innsbruck Medical University, SPIN Seminar**, Innsbruck, Austria  
**Chinese Academy of Sciences (CAS)**, Beijing, China  
**Gordon Research Conference – Neural Development**, Newport, USA  
**CSHL Meeting – Glia in Health & Disease**, Cold Spring Harbor, USA  
**Gordon Research Conference, Neurobiology**, Hongkong, China  
**EMBO Workshop – Mechanisms of Neuronal Remodelling**, Ein Gedi, Israel  
**University of Vienna**, Dept. of Cognitive Biology, *COSB Colloquium*, Vienna, Austria
- 2013 **University of California Los Angeles**, Eli and Edythe Broad Center of Regenerative Medicine and Stem Cell Research, Los Angeles, USA  
**BSCDB Annual Meeting – Experimental Models of Human Disease**, Liege, Belgium  
**Max Planck Institute (CBG)**, Dresden, Germany  
**CeMM (Center for Molecular Medicine)**, Vienna, Austria  
**Keystone Symposia – Neurogenesis (J7)**, Santa Fe, USA  
**Memorial Sloan-Kettering Cancer Center (MSKCC)**, New York, NY, USA
- 2012 **University of Bordeaux, Bordeaux Neurosciences Seminar**, Bordeaux, France  
**8<sup>th</sup> FENS Forum of Neuroscience Symposium**, Barcelona, Spain  
**CSH Asia Conference – Epigenetics, Chromatin & Transcription**, Suzhou, China

## Selected Original Research Articles

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Beattie, R., Postiglione, MP., Burnett, LE., Laukotter, S., Streicher, C., Pauler, FM., Xiao, G., Klezovitch, O., Vasioukhin, V. Ghashghaei HT & **Hippenmeyer, S.** (2017). Mosaic Analysis with Double Markers Reveals Distinct Sequential Functions of *Lgl1* in Neural Stem Cells. **Neuron**, 94(3):517-533.e3.

*Highlighted in two previews: Akhtar et al., 2017 Neuron 94(3):417-420; and Sokol, 2017 Dev Cell 41(5):453-454.*

Mayer, C., Jaglin, XH., Cobbs, LV., Bandler, RC., Streicher, C., Cepko, CL., **Hippenmeyer, S.** & Fishell, G. (2015). Clonally Related Forebrain Interneurons Disperse Broadly Across Both Functional Areas and Structural Boundaries. **Neuron**, 87(5):989-998.

Gao, P.\*, Postiglione, MP.\*, Krieger, TG., Hernandez, L., Wang, C., Han, Z., Streicher, C., Papusheva, E., Insolera, R., Chugh, K., Kodish, O., Huang, K., Simons, BD., Luo, L., **Hippenmeyer, S.**<sup>#</sup> & Shi, SH.<sup>#</sup> (2014). Deterministic Progenitor Behavior and Unitary Production of Neurons in the Neocortex. (\*<sup>+</sup>equal contribution, <sup>#</sup>corresponding author). **Cell**, 159(4):775-788.

Joo, W., **Hippenmeyer, S.** & Luo, L. (2014). Dendrite Morphogenesis Depends on Relative Levels of NT-3/TrkC Signaling. **Science**, 346(6209):626-629.

Zhu, F., Gamboa, M., Farruggio, AP., **Hippenmeyer, S.**, Tasic, B., Schüle, B., Chen-Tsai, Y. & Calos, M. (2014). DICE, an Efficient System for Iterative Genomic Editing in Human Pluripotent Stem Cells. **Nucleic Acids Research**, 42(5):e34.

**Hippenmeyer, S.**, Johnson, RL. & Luo, L. (2013). Mosaic Analysis with Double Markers Reveals Cell Type Specific Paternal Dominance. **Cell Reports**, 3: 960-967.

*Featured video abstract on YouTube (<http://www.youtube.com/watch?v=jLxjnQ05mbY>).*

Liu, C., Sage, JC.\*, Miller, MR.\*, Verhaak, RGW.\*, **Hippenmeyer, S.**, Vogel, H., Foreman, O., Bronson, RT., Nishiyama, A., Luo, L. & Zong, H. (2011). Mosaic Analysis with Double Markers Reveals Tumor Cell of Origin in Glioma. (\*equal contribution). **Cell**, 146 (2): 209-21.

**Hippenmeyer, S.**, Youn, YH., Moon, HM., Miyamichi, K., Zong, H., Wynshaw-Boris, A. & Luo, L. (2010). Genetic Mosaic Dissection of *Lis1* and *Ndel1* in Neuronal Migration. **Neuron** 68 (4): 695-709.

**Hippenmeyer, S.**\*, Huber, RM.\*, Ladle, DR., Murphy, K. & Arber S. (2007). ETS Transcription Factor *Erm* Controls Subsynaptic Gene Expression in Skeletal Muscles. (\*equal contribution). **Neuron** 55(5): 726-40.

**Hippenmeyer, S.**, Vrieseling, V., Sigrist, M., Portmann, T., Laengle, C., Ladle, DR. & Arber, S. (2005). A Developmental Switch in the Response of DRG Neurons to ETS Transcription Factor Signaling. **PLoS Biology** 3(5): e159.

**Hippenmeyer, S.**, Shneider, NA., Birchmeier, C., Burden, SJ., Jessell, TM. & Arber, S. (2002). A Role for *Neuregulin1* Signaling in Muscle Spindle Differentiation. **Neuron** 36(6): 1035-49.

## Selected Review Articles

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Amberg, N.\*, Laukoter, S.\* & **Hippenmeyer, S.** (2018). Epigenetic Cues Modulating the Generation of Cell-Type Diversity in Cerebral Cortex. (\*equal contribution). **Journal of Neurochemistry** (Epub ahead of print).

Beattie, R. & **Hippenmeyer, S.** (2017). Mechanisms of Radial Glia Progenitor Cell Lineage Progression. **FEBS Letters**, 591(24):3993-4008.

Hansen, AH.\*, Düllberg, C.\*, Mieck, C.\*, Loose, M. & **Hippenmeyer, S.** (2017). Cell Polarity in Cerebral Cortex Development – Cellular Architecture Shaped by Biochemical Networks. (\*equal contribution). **Frontiers in Cellular Neuroscience**, 11(176):1-16.

Dwyer, ND., Chen, B., Chou, SJ., **Hippenmeyer, S.**, Nguyen, L. & Ghashghaei, HT. (2016) Neural Stem Cells to Cerebral Cortex: Emerging Mechanisms Regulating Progenitor Behavior and Productivity. **Journal of Neuroscience**, 36(45):11394-11401. *Invited SfN Annual Meeting minireview accompanying minisymposium.*

Postiglione, MP. & **Hippenmeyer, S.** (2014). Monitoring Neurogenesis in Cerebral Cortex – an Update. **Future Neurology**, 9(3):323-340.

**Hippenmeyer, S.** (2013). Dissection of Gene Function at Clonal Level using Mosaic Analysis with Double Markers. **Frontiers in Biology**, 8(6): 557-568. *Featured cover story (<http://link.springer.com/journal/11515/8/6/page/1>).*

## Books and Editorships

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Nguyen, L. & **Hippenmeyer, S.** (Eds.) (2014). Cellular and Molecular Control of Neuronal Migration. **Advances in Experimental Medicine and Biology**, Vol. 800; ISBN 978-94-007-7686-9. Springer Science+Business Media.

## Selected Media Coverage Featuring Our Science

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<b>Die Presse</b> , May 6, 2017	<i>‘Dirigent und Solist in der Gehirnentwicklung’</i>
<b>NOe ORF</b> , May 5, 2017	<i>‘Wie Fehlbildungen im Gehirn entstehen’</i>
<b>Der Standard</b> , May 4, 2017	<i>‘Gen Lgl1 spielt entscheidende Rolle bei Entwicklung von Gehirnzellen’</i>
<b>Science Daily</b> , May 3, 2017	<i>‘How neurons and glia are created in the developing brain’</i>
<b>Stem Cells Daily</b> , May 3, 2017	<i>‘Exactly how neurons and glia cells are created in the developing mind’</i>
<b>Wiener Zeitung</b> , May 3, 2017	<i>‘Dirigent und Solist bei der Entwicklung von Gehirnzellen’</i>
<b>Der Standard</b> , Jan. 18, 2015	<i>‘Das Denken ist noch eine Black Box’</i>
<b>Der Standard</b> , Nov. 6, 2014	<i>‘Forscher beobachten Entwicklungsprozess von Gehirnzellen’</i>
<b>Die Presse</b> , Oct. 30, 2014	<i>‘Gehirnzellen erkennen, wie es den Nachbarn geht’</i>