Manuel Schottdorf, PhD

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A. Education

2/2018	**Ph. D.** in physics. Summa cum laude. Göttingen University, Germany.
	2/2016 Summer school in Biophysics. ICTP-SAIFR, São Paulo, Brazil.
	6/2014 Summer school in Computational Neuroscience. OIST, Okinawa, Japan.
2/2013	**M. Sc.** with honors. FOKUS Physik. University of Würzburg, Germany.
10/2011	**M. Sc.** Physics. Rutgers, The State University of New Jersey, U.S.A.
7/2010	**B. Sc.** Physics (minor Philosophy). University of Würzburg, Germany.

B. Appointments

2018 — present	**Postdoc** at Princeton University. Advised by David W. Tank & Carlos D. Brody.
2013 — 2018	**Graduate student** at the Max Planck Institute (MPI) for Experimental Medicine (now MPI for Interdisciplinary Science) and the MPI for Dynamics and Self-Organization. Advisors: Walter Stühmer & Fred Wolf.
2011 — 2013	**Graduate student** in theoretical physics. MPI for Dynamics and Self-Organization. Advisor: Fred Wolf.
2010 — 2011	**Graduate student** in experimental condensed matter physics. Rutgers. Advisor: Eva Andrei.
2010	**Undergraduate researcher** in experimental biophysics at Jülich Research Center. Advisor: Bernhard Wolfrum.

C. Fellowships and Awards

ongoing	**Burroughs Wellcome CASI Award** ("to foster the career development of researchers who are transitioning from the physical into the biological sciences" — $500k funding for 2 years of postdoc + 3 years of beginning faculty.)
ongoing	**C.V. Starr Fellow** (to "recruit exceptional individuals" — awarded to ~1 postdoc / year at the Princeton Neuroscience Institute).
2018	**Otto Hahn Medal** of the Max Planck Society (awarded annually to ~30 out of ~5000 PhD students across all Institutes for "outstanding scientific achievements during the PhD").
2013 — 2015	**Boehringer Ingelheim Fonds PhD Fellowship** (one of the most prestigious and competitive scholarships in the life sciences).
2010 — 2012	Fellow of **FOKUS Physik** (A competitive and accelerated graduate program for "excellent and highly motivated students"; top ~5% of students).
2010	Invited to the **60th Lindau Nobel Laureate Meeting.**
2009 — 2013	**Max Weber Scholarship** by the German National Academic Foundation for "exceptionally gifted students" (~0.5% of students).

D. Scientific contributions

A. Scientific publications

1. J. LaChance*, **M. Schottdorf***, T. Zajdel, J. Saunders, S. Dvali, C. Marshall, L. Seirup, I. Sammour, R. Chatburn, D. Notterman, D. Cohen: "*PVP1—The People's Ventilator Project: A fully open, low-cost, pressure-controlled ventilator research platform compatible with adult and pediatric uses*", PLoS ONE 17(5): e0266810 (2022).

2. D. Suo, U. Ghai, E. Minasyan, P. Gradu, X. Chen, N. Agarwal, C. Zhang, K. Singh, J. LaChance, T. Zajdel, **M. Schottdorf**, D. Cohen & E. Hazan: "*Machine Learning for Medical Ventilator Control*", <u>Machine Learning for Health</u> (ML4H), available on arXiv: 2102.06779 (2022).

3. **M. Schottdorf** & B.B. Lee: "*A quantitative description of macaque ganglion cell responses to natural scenes: the interplay of time and space*", <u>Journal of Physiology</u> 599(12): 3169-3193 (2021).

4. E. Nieh*, **M. Schottdorf***, N. Freeman, R. Low, S. Lewallen, S.-A. Koay, L. Pinto, J. Gauthier, C. Brody & D. Tank: "*Geometry of abstract learned knowledge in the hippocampus*", <u>Nature</u> 595: 80–84 (2021).

5. C.L.A. Ho, R. Zimmermann, J.D.F. Weidinger, M. Prsa, **M. Schottdorf**, S. Merlin, T. Okamoto, K. Ikezoe, F. Pieri, F. Aujard, A. Angelucci, F. Wolf & D. Huber: "*Orientation Preference Maps in Microcebus murinus Reveal Size-Invariant Design Principles in Primate Visual Cortex*", <u>Current Biology</u> 31: 1-9 (2021).

6. D. B. Nestvogel, R. M. Merino, C. L. Pinzon, **M. Schottdorf**, C. Lee, C. Imig, N. Brose & J.-S. Rhee: "*The Synaptic Vesicle Priming Protein CAPS-1 Shapes the Adaptation of Sensory Evoked Responses in Mouse Visual Cortex*", <u>Cell Reports</u> 30: 3261-3269 (2020).

7. **M. Schottdorf**: "*The reconstitution of visual cortical feature selectivity in vitro*", <u>PhD Thesis</u>. Göttingen University. Available on: https://ediss.uni-goettingen.de/handle/11858/00-1735-0000-002E-E348-B (2018)

8. M. Helmer, **M. Schottdorf,** A. Neef & D. Battaglia: "*Gender bias in peer-review*", <u>eLife</u> 6: e21718 (2017).

9. R. Samhaber*, **M. Schottdorf***, A. El Hady*, K. Bröking, A. Daus, C. Thielemann, W. Stühmer & F. Wolf: "*Growing neuronal islands on multi-electrode arrays using an Accurate Positioning-µCP device*", <u>J. Neurosc. Methods</u> 257(1): 194-203 (2016).

10. **M. Schottdorf**, W. Keil, D. Coppola, L. White & F. Wolf: "*Random wiring, ganglion cell mosaics, and the functional architecture of the visual cortex*", <u>PLoS Comp. Bio.</u> 11(11): e1004602 (2015).

11. **M. Schottdorf**, S. Eglen, F. Wolf & W. Keil: "*Can Retinal Ganglion Cell Dipoles Seed Iso-Orientation Domains in the Visual Cortex?*", <u>PLoS ONE</u> 9(1): e86139 (2014).

12. **M. Schottdorf**, B. Hofmann, E. Kätelhön, A. Offenhäusser & B. Wolfrum: "*Frequency-dependent signal transfer at the interface between electrogenic cells and nanocavity electrodes*", <u>Phys. Rev. E</u> 85: 031917 (2012).

13. B. Hofmann, E. Kätelhön, **M. Schottdorf**, A. Offenhäusser & B. Wolfrum: "*Nanocavity electrode array for recording from electrogenic cells*", <u>Lab on a Chip</u> 11: 1054-1058 (2011).

(* Equally contributing first author.)

B. Data publications

1. **M. Schottdorf**, J. Saunders et al. "*PVP1: Code and Documentation (v1.0).*" Zenodo. https://doi.org/10.5281/zenodo.5933282 (2022).

2. **M. Schottdorf** & B. Lee: "*Macaque retinal ganglion cell responses to natural movies in vivo*", https://doi.gin.g-node.org/10.12751/g-node.xage77 (2021).

3. R. Samhaber*, **M. Schottdorf***, A. El Hady*, K. Bröking, A. Daus, C. Thielemann, W. Stühmer & F. Wolf: "*Construction and use of an accurate positioning-µCP device*", https://doi.org/10.12751/g-node.1e7756 (2019).

4. **M. Schottdorf**, W. Keil, D. Coppola, L. White, F. Wolf: "*A dataset of 151 visual cortical orientation preference maps from four species*", https://doi.org/10.12751/g-node.b4820c (2019).