CURRICULUM VITAE **Annika L. A. Nichols, PhD**

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RESEARCH INTERESTS Neuronal basis of behaviour, especially comparative neuroscience of sleep and thermosensation across species.

RESEARCH SKILLS Behavioural assays, functional calcium imaging, microscopy, data analysis using Python, R, and MATLAB, molecular biology and genetics, transgenesis, nematode and cichlid fish husbandry.

LANGUAGES **English** native, **Swedish** fluent, **German** intermediate

EDUCATION

2018 **University of Vienna,** Austria
PhD in Molecular Biology

2008 – 2011 **University of Queensland (UQ)**, St John's College, Australia
BSc in Genetics, Honours I in Neuroscience
Three Dean's commendations, GPA: 6

2010 **Uppsala University,** Study abroad semester
UQ Abroad Travel Grant (AUD $1000)

RESEARCH EXPERIENCE

2018-current **Postdoctoral Fellow**, Harvard University, USA (2018-2019), The Biozentrum of the University of Basel, Switzerland (2019-current)
Prof. Alex F. Schier
Characterising activity-rest patterns and genetics across hyperdiverse African cichlids and the functional evolution of thermosensation in nematode worms

2013 – 2018 **PhD Candidate**, Institute of Molecular Pathology/University of Vienna, Austria
Prof. Manuel Zimmer
Elucidating the circuit mechanisms and neuroendocrine control of a sleep brain state in C. elegans.

2011 – 2013 **Honours student (2011) and Research Assistant (2012-2013)**, Queensland Brain Institute, UQ, Australia
Prof. Massimo A. Hilliard
Investigating the axonal degeneration pathway in C. elegans.

2009 **Advanced Study Program in Science Research Project (ASPinS),** UQ,
Prof. Sureshkumar Balasubramanian
Characterising a triplet repeat expansion phenotype in Arabidopsis thaliana

AWARDS AND FUNDING

2025 SNSF Starting Grant (PI, 5 years, 1,793,719CHF)

2023 SNSF Spark Grant (PI, 1 year, 100,000CHF)
The functional and molecular evolution of thermosensation in nematode worms

2020 SNSF Spark Grant co-author with Dr. Maxwell Shafer (1 year, 100,000CHF)
Exploring sleep ecology and genetics across hyperdiverse African cichlids

2019 HFSP Postdoctoral Fellowship

2018 EMBO Long-Term Postdoctoral Fellowship
Weintraub Graduate Student Award
Kirsten Peter Rabitsch Award for most promising PhD student
Award of Excellence, Among the top 40 PhD dissertations in Austria
Vienna Biocenter PhD Award

2011 Michael F. Hickey Memorial Honours prize for top mark in Neuroscience

PEER REVIEWED PUBLICATIONS

2025 **Nichols, ALA***, Shafer, MER*, Indermaur, A, Rüegg, A, Gonzalez-Dominguez, R, Malinsky, M, Sommer-Trembo, C, Fritschi, L, Mesich, A, Abdalla-Wyse, A, Salzburger, W, and Schier AF. *co-contribution. *Nature Ecology & Evolution* (BioRxiv 2024).
Widespread temporal niche partitioning in an adaptive radiation of cichlid fishes.
News and Views

2023 Burguera, D, Dionigi, F, Kverková, K, Winkler, S, Brown, T, Pippel M, Zhang, Y, Shafer, MER, **Nichols, ALA**, Myers, E, Němec, P, Musilova, Z.
Expanded olfactory system in ray-finned fishes capable of terrestrial exploration.
BMC Biology (*BioRxiv* 2022)

2018 Kaplan HS, **Nichols ALA**, and Zimmer M.
Review: Sensorimotor integration in *C. elegans*: a reappraisal towards dynamic and distributed computations.
Philosophical Transactions of the Royal Society B. 373(1758)

2017 **Nichols ALA**, Eichler T, Latham R, and Zimmer M.
A global brain state underlies *C. elegans* sleep behavior.
Science, 356(6344)

2016 **Nichols ALA***, Meelkop E*, Linton C, Giordano-Santini R, Sullivan RK, Donato A, Nolan C, Hall, Xue D, Neumann B, and Hilliard MA.
The Apoptotic Engulfment Machinery Regulates Axonal Degeneration in *C. elegans* Neurons.
Cell Reports 14, 1673–1683. *co-contribution

BioRxiv MANUSCRIPTS

2023 Shafer, MER, **Nichols, ALA**, Schier, AF, Salzburger, W.
Frequent transitions from night-to-day activity after mass extinctions.

2019 Linderman S, **Nichols ALA**, Blei D, Zimmer M, and Paninski L.
Hierarchical recurrent state space models reveal discrete and continuous dynamics of neural activity in *C. elegans.*

PRESENTATIONS OF RESEARCH (TRAVEL AWARDS):

2025 *Poster:* Göttingen Neuroscience Meeting, Germany
Poster: Swiss Society for Neuroscience Meeting, University of Lausanne*,* Switzerland

2024 ***Invited Talk*****:** Centre for Integrative Genomics, University of Lausanne*,* Switzerland
Invited Talk**:** Department of Neuroscience and Developmental Biology, University of Vienna, Austria
Poster: Neuroethology, Berlin
Invited Talk**:** Lise Meitner Symposium, MPI for Brain Research, Frankfurt, Germany

2023 *Attendee*: *Pristionchus* meeting Tübingen
Invited Talk**:** Department of Neuroscience and Developmental Biology, University of Vienna, Austria
Invited Talk**:** Sommer Lab, Department for Integrative Evolutionary Biology, Max Planck Institute for Biology Tübingen, Germany

2022 ***Talk*****:** 21th HFSP Awardees Meeting, France
Poster: Neuroethology, Portugal

2021 ***Talk*****:** Cichlid Science, Online
Poster: International Conference on Chronobiology, Online
Poster: 20th HFSP Awardees Meeting, Online

2019 *Attendee*: Cichlid Science, Spain

2018 ***Talk*****:** Kirsten Peter Rabitsch Award Lecture, IMP, Austria
Talk**:** Weintraub Symposium, The Fred Hutchinson Cancer Research Center, USA

2017 ***Talk*****:** Modulation of Neural Circuits and Behavior, Gordon Research Conference, USA

***Talk*:** 21st International *C. elegans* Meeting, USA
2016 ***Talk*:** CeNeuro, Japan (USD $250)
***Talk*:** The European Worm Meeting, Germany
2015 ***Talk*:** Joint Lab Retreat with Grunwald, Portugues and Louis Labs, Germany
Poster: Brain Conference on the Neurobiology of Sleep and Circadian Rhythms, Denmark, (FENS IBRO stipend of 1000€)
2014 ***Invited Talk*:** The QBI Neuroscience Seminar, Australia
***Talk*:** The 4th Neuroscience Vienna Network Meeting, Austria
Poster: CeNeuro 2014, USA
Poster: Sleep Regulation and Function GRC, USA (Merit Award USD$450)
2012 *Poster*: Molecular Mechanisms of Axonal Degeneration conference at Janelia Farm, USA (fully funded by HHMI)
2011 *Poster*: 18th International *C. elegans* Meeting, USA (UQ Advantage Grant and School of Biomedical Sciences travel grant, total AUD$1250)

TEACHING EXPERIENCE

2026 Lecturer BENEFRI Neuroscience Workshop, University of Fribourg
2024 Lecturer, Zoology & Evolutionary Biology Blockcourse, University of Basel
Lectured on the function of nervous systems and sleep across phylogeny
2022-2025 Tutor, Developmental Biology and Neuroscience Blockcourse, Basel
Assisted tutorials on single-cell RNAseq analysis
2009 Tutor of Peer Assisted Study Sessions, Semester 1 and 2, University of Queensland
Led tutorials for first year course BIOL1020 "Genes, Cells & Evolution"

STUDENT SUPERVISION

2022 *Laura Fritschi* (University of Basel), 1st year Co-supervisor, Master's thesis
2016 *Andrea Terceros* (McGill BSc Student), VBC Summer School, 2 months
2012 *Cara Nolan* (University of Queensland BSc Student), ASPinS Project, 3 months

COURSES ATTENDED

2024 Thinking about research, Iain Patten
2023 Biodiversity bioinformatics: from large-scale phylogenomics to gene families and functions, SIB
2022 Best practices in Programming, SIB
2021 Thinking your way into leading a research group, Iain Patten
Neurokit Experimental Neuroscience Bootcamp, Cajal course
EMBO Project management course
Storytelling Workshop for Researchers, Sam Lagier
2018 Zebrafish Genetics and Development Course, MBL. Award of Support (USD$3325).
Laying the foundation for effective writing, Iain Patten

LEADERSHIP AND PROFESSIONAL SERVICE

2022 Reviewer Bio-protocols
2019 – 2022 Biozentrum Postdoc Society Committee Member
2019 Volunteer for high school science outreach with Project Teach, Harvard
2015 IMP PhD Student Representative
2014 Organiser for the VBC PhD symposium