Bruno Gegenhuber

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EDUCATION

Cold Spring Harbor Laboratory, Cold Spring Harbor, NY — 2017 - 2022
School of Biological Sciences, PhD

Pacific University College of Arts and Sciences, Forest Grove, OR — 2012 - 2016
Valedictorian, Bachelor of Science in Biology, Creative Writing minor

RESEARCH POSITIONS

Harvard Medical School — 2022 - present
Postdoctoral Fellow in Neurobiology, NINDS F32 Fellow
Advisor: Dr. Michael E. Greenberg
Project: Glucocorticoid regulation of glial maturation and developmental plasticity

Cold Spring Harbor Laboratory (CSHL) — 2017 - 2022
Neuroscience PhD Candidate, NIMH F31 Fellow
Advisor: Dr. Jessica Tollkuhn
Committee: Dr. Lucas Cheadle, Dr. Z. Josh Huang, Dr. John Inglis, Dr. Holly Ingraham, Dr. Rob Martienssen (chair), Dr. Stephen Shea
Project: Characterizing gene regulatory programs underlying brain sexual differentiation

University Hospital Erlangen, Friedrich-Alexander University of Erlangen-Nuremberg — 2016 - 2017
Fulbright Research Scholar
Advisors: Prof. Dr. med. Johannes Kornhuber, PD Dr. med. Bernd Lenz
Project: Regulation of opioid receptor transcription by gonadal hormones and its role in alcohol dependence

PUBLICATIONS

Research articles:

Gegenhuber, B., Sonoda, T., Traunmüller, L., Davis, C.P., Koren, S.A., Griffith, E.C., Chen, C., and Greenberg, M.E. Astrocyte glucocorticoid receptor signalling restricts neuronal plasticity. *Nature* 2026, 655:1233-1241.

Sun, Q., van de Lisdonk, D., Ferrer, M., **Gegenhuber, B.**, Wu, M., Park, Y., Tuveson, D.A., Tollkuhn, J., Janowitz, T., and Li, B. Area postrema neurons mediate interleukin-6 function in cancer cachexia. *Nat Commun* 2024, 15:4682.

Yan, Y., Moresco, P., **Gegenhuber, B.**, and Fearon, D.T. T cell-mediated development of stromal fibroblasts with an immune-enhancing chemokine profile. *Cancer Immunol Res* 2023, 7:OF1-OF11.

Luo, P.X., Zakharenkov, H.C., Torres, L.Y., Rios, R.A., **Gegenhuber, B.**, Black, A.M., Xu, C.K., Minie, V.A., Tran, A.M., Tollkuhn, J., and Trainor, B. Oxytocin receptor behavioral effects and cell types in the bed nucleus of the stria terminalis. *Hormones and Behavior* 2022, 143:105203.

Gegenhuber, B., Wu, M.V., Bronstein, R., and Tollkuhn, J. Gene regulation by gonadal hormone receptors underlies brain sex differences. *Nature* 2022, 606:153-159.

Krause, W.C., Rodriguez, R., **Gegenhuber, B.**, Matharu, N., Rodriguez, A.N., Padilla, A.M., Herber, C.B., Correa, S.M., Ahituv, N., Tollkuhn, J. and Ingraham, H.A. Oestrogen engages brain MC4R signalling to drive physical activity in female mice. *Nature* 2021, 599:131-135.

Li, S., Kendall, J., Park, S., Wang, Z., Alexander, J., Moffitt, A., Ranade, N., Danyko, C., **Gegenhuber, B.**, Fischer, S., Robinson, B.D., Lepor, H., Tollkuhn, J., Gillis, J., Brouzes, E., Krasnitz, A., Levy, D. and Wigler, M. Copolymerization of single cell nucleic acids into balls of acrylamide gel. *Genome Research* 2020, 30(1):49-61.

Gegenhuber, B., Weinland, C., Kornhuber, J., Mühle, C. and Lenz, B. *OPRM1* A118G and serum β-endorphin interact with sex and digit ratio (2D:4D) to influence risk and course of alcohol dependence. *Eur Neuropsychopharmacol* 2018, 28(12):1418-1428.

Reviews and book chapters:

Gegenhuber, B. and Tollkuhn, J. Estrogen receptor chromatin profiling by CUT&RUN. *Methods Mol Biol* 2024, 2846:133-150.

Gegenhuber, B. and Tollkuhn, J. Epigenetic mechanisms of brain sexual differentiation. *Cold Spring Harb Perspect Biol* 2022, a039099.

Gegenhuber, B. and Tollkuhn, J. Signatures of sex: sex differences in gene expression in the vertebrate brain. *WIREs Interdiscip Rev Dev Biol* 2020, 9(1):e348.

Gegenhuber, B. and Tollkuhn, J. Sex differences in the epigenome: a cause or consequence of sexual differentiation of the brain? *Genes* 2019, 10(6):432.

INVITED LECTURES & MEETING PRESENTATIONS

Cold Spring Harbor Laboratory Brain Body Physiology Meeting *Poster*	2026
EMBO Workshop on Gene Regulatory Mechanisms in Neural Fate Decisions *Poster*	2023
Fragile Nucleosome Seminar Series *Invited lecture*	2022
Cold Spring Harbor Laboratory Single Cell Analysis Course *Invited lecture*	2022
Washington University in St. Louis INSPIRE seminar series *Invited lecture*	2021
Steroids and Nervous System Virtual Meeting *Poster*	2021
Cold Spring Harbor Laboratory Epigenetics and Chromatin Virtual Meeting *Poster*	2020
Fusion Conference on Neuroepigenetics & Neuroepitranscriptomics; Nassau, Bahamas *Poster*	2020
Keystone Symposium on Epigenetics and Human Disease; Banff, Canada *Poster*	2019
International Congress of Neuroendocrinology; Toronto, Canada 2018 *Poster*	

HONORS & AWARDS

Harvard William Randolph Hearst Award	2026	Internal award to study effects of early-life stress on brain plasticity
Harvard Brain Science Postdoctoral Pioneers Award	2026	Internal award to study effects of early-life stress on brain plasticity
Nancy Lurie Marcks Family Foundation Award	2025 - 2027	Postdoctoral fellowship to study astrocyte glucocorticoid receptor signaling

NINDS F32 National Research Service Award	2023 - 2026	Postdoctoral fellowship to study genomic mechanisms of BDNF signaling
Life Sciences Research Foundation Fellowship	2023	Finalist for LSRF postdoctoral fellowship award
HMS Louis Perry Jones Postdoctoral Fellowship Award	2022 - 2023	Postdoctoral fellowship to study neuronal mechanisms regulating brain aging and organismal lifespan
International Birnstiel Award for Doctoral Research in Molecular Life Sciences	2022	Received honorable mention for international PhD award in molecular biology
NIMH F31 National Research Service Award	2020 - 2022	Predoctoral fellowship to study gene regulation underlying brain sexual differentiation
Fulbright U.S. Student Award	2016 - 2017	Post-baccalaureate fellowship to study neuronal regulation of opioid receptor transcription by gonadal hormones
DAAD Research Grant for Doctoral Candidates and Young Academics and Scientists	2016 - 2017	Post-baccalaureate fellowship to study neuronal regulation of opioid receptor transcription by gonadal hormones
Pacific University Biology Department Award	2016	Received university award for academic excellence in the biology department
Barry M. Goldwater Scholarship	2014, 2015	Received honorable mention twice for scientific research proposals

TEACHING & PROFESSIONAL ACTIVITIES

Journal reviewer	2021 - present	Conducted peer review for *Nature*, *Neuroendocrinology*, *Scientific Reports*
CSHL School of Biological Sciences Executive Committee	2020 - 2021	Member of graduate program executive committee
CSHL Advanced Techniques in Molecular Neuroscience Instructor	2019 - present	Instructor for genomics module in CSHL course
CSHL Partners for the Future Program	2018 - 2021	Research mentor for two Long Island high school students
Dolan DNA Learning Center Instructor	2018 - 2020	Molecular biology instructor for middle and high school students and volunteer at outreach events
CSHL Women in Science and Engineering	2017 - 2022	Member of organization dedicated to promoting gender equality in science
Pacific University Biology Teaching Assistant	2015 - 2016	Teaching assistant for General Biology lab courses at Pacific University