

Connor Brennan

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Education **Neuroscience Graduate Group** Philadelphia, PA, 2016 – present
University of Pennsylvania
Ph.D. in Neuroscience, degree expected December 2021
M.S. in Neuroscience, 2018

University of Washington Seattle, WA, 2014 - 2016
B.S. in Physics
Minor in Mathematics

HAL Tokyo College of Technology and Design Tokyo, Japan, 2009 - 2010
Courses: Information Technology, Design

Edmonds Community College Edmonds, WA, 2008 - 2009
Courses: Information Technology, Electrical Engineering

Kudan Institute of Japanese Language and Culture Tokyo, Japan, 2006 - 2008
Courses: Intensive Japanese Language

University of Washington Seattle, WA, 2005 - 2006
Courses: Japanese Language and Physics

North Seattle Community College Seattle, WA, 2004 - 2005
Courses: Japanese Language, Mathematics, Physics, Economics and Logic

Publications Stylianidou, S., **Brennan, C.**, Nissen, S.B., Kuwada, N.J. and Wiggins, P.A., 2016. SuperSegger: robust image segmentation, analysis and lineage tracking of bacterial cells. *Molecular microbiology*, 102(4), pp.690-700. <https://doi.org/10.1111/mmi.13486> Impact factor: 3.82

Brennan, C. and Proekt, A., 2017. Universality of macroscopic neuronal dynamics in *Caenorhabditis elegans*. arXiv preprint [arXiv:1711.08533](https://arxiv.org/abs/1711.08533).

Brennan, C. and Proekt, A., 2019. A quantitative model of conserved macroscopic dynamics predicts future motor commands. *eLife*, 8. <https://doi.org/10.7554/eLife.46814> Impact factor: 7.62

Aggarwal, A., **Brennan, C.**, Shortal, B., Contreras, D., Kelz, M. and Proekt, A., 2019. Coherence of visual-evoked gamma oscillations is disrupted by propofol but preserved under equipotent doses of isoflurane. *Frontiers in systems neuroscience*, 13, p.19. <https://doi.org/10.3389/fnsys.2019.00019> Impact factor: 3.57

Shortal, B.P., Hickman, L.B., Mak-McCully, R.A., Wang, W., **Brennan, C.**, Ung, H., Litt, B., Tarnal, V., Janke, E., Picton, P. and Blain-Moraes, S., 2019. Duration of EEG suppression does not predict recovery time or degree of cognitive impairment after general anaesthesia in human volunteers. British journal of anaesthesia. <https://doi.org/10.1016/j.bja.2019.03.046> Impact factor: 6.2

Experience

Proekt Lab

Research fellow for Dr. Alex Proekt Philadelphia, PA, 2016 – Present

- Developing methods for predicting future timing of behavior switches based on calcium imaging in *C. elegans*
- Developing methods to model dynamics of biological and artificial networks
- Assisting with electrophysiological recordings in mouse
- Building machine learning algorithms for decoding neuronal data

iD Tech

Instructor Villanova, PA, Summer 2016

- Worked with high school children teaching C++, Arduino and game design

Wiggin's Biophysics Lab

Laboratory Technician Seattle, WA, 2015 - 2016

- In charge of computer and network maintenance, laboratory upkeep, ordering and maintaining laboratory supplies and equipment

Wiggin's Biophysics Lab

Undergraduate Research Assistant Seattle, WA, 2015 - 2016

- Wrote a massively parallel graphics processing unit based Escherichia coli simulator for modeling the MinE/MinD interaction
- Worked my own project detailing the dynamics of F-Plasmid conjugation in *E. coli*
- Assisted in a project on *E. coli* cytoplasmic dynamics
- Several in-lab presentations on my work

Fractal Entertainment

Project Leader/Owner Edmonds, WA, 2012 - 2015

- Team leader, business manager and lead programmer on [SideQuest](#)
- Worked with a team of full time employees and contract workers
- Dealt with all aspects of business: financials, product design, workflow, marketing and team communication

Polygon Magic

Software Engineer Tokyo, Japan, 2011 - 2012

- Helped build and maintain a multi-million dollar game Sengoku Kingdom
- Entrusted with several key game systems to implement and maintain with autonomy
- Heavy use of PHP, MySQL and HTML
- Worked and communicated entirely in Japanese

Conference Presentations **Topologically invariant manifolds of *C. elegans* pan-neuronal activity.** Connor Brennan, Alex Proekt, 2017, Society for Neuroscience, Washington, D.C

Teaching **Graduate Teaching Assistant**
University of Pennsylvania *Philadelphia, PA, 2019*
Spring 2019 PHYS 585/ BE 530 Theoretical and Computational Neuroscience
 ▪ Ran office hours, advised students and wrote a machine learning based homework assignment

Undergraduate Teaching Assistant
Edmonds Community College *Edmonds, WA, 2008 - 2009*
English as a Second Language class
 ▪ Worked with a class of Japanese students studying english

Awards NGG, University of Pennsylvania, Research Fellowship
 Philadelphia, PA, 2016 – Present

Skills English: native, Japanese: fluent
 Computer programming (Matlab, C, C++, C#, PHP, Java, Python)
 Computer networking (Linux servers, security)

References **Alex Proekt, M.D., Ph.D.**
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 Anesthesiology and Critical Care
 University of Pennsylvania
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 Philadelphia, PA 19104
 Lab: 215 746 2370
 Email: proekta@uphs.upenn.edu