CV: nivretta thatra

M.Sc. Bioinformatics | nivretta@gmail.com | [**thatniv.com**](https://thatniv.com/)

**EDUCATION**

University of British Columbia, Philosophy courses 2022 – 2024

Eight 3-credit courses (A- to A+ in seven for credit courses, one audit)

University of British Columbia, **Master of Science in Bioinformatics** 2016 – 2019

Thesis: Comparative genome analysis in rodent models of Parkinson’s disease and spinocerebellar ataxia type 3

with Dr. Joerg Gsponer2 and Dr. Paul Pavlidis3

University of Washington, **Bachelor of Science in Neurobiology** 2010 – 2014

Minors: Quantitative sciences (statistics in biology), and Global Health

Thesis: Turnover of adult born neurons in the avian song control system during breeding and nonbreeding conditions

**WORK EXPERIENCE**

**UBC Institute for Resources, Environment and Sustainability1** August 2020 – present

Communications Manager:

Managing all external communication of IRES research from 15 core faculty and 100+ students, postdocs and RAs

Op-ed drafting and placement in media, for example:

[The UN just recognized access to a healthy environment is a universal human right. It’s time for Canada to take action](https://www.theglobeandmail.com/opinion/article-the-un-just-recognized-access-to-a-healthy-environment-is-a-universal/), 2022, *The Globe and Mail*

[New stormwater infrastructure is needed for Canadian cities to handle increased urban flooding](https://theconversation.com/new-stormwater-infrastructure-is-needed-for-canadian-cities-to-handle-increased-urban-flooding-233046), 2024, *The Conversation CA*

Visuals for departmental events, infographics based on academic papers, and logos

[Click ‘visuals’ on my website](https://thatniv.com/) to see my digital portfolio

Daily posting on social media

Overseeing one work learn student: newsletter, website updates, internal seminars

Faculty retreat facilitator and discussion leader

External review: writing, image creation, alumni interviews, and data collection

Workshops for grad students on how to write a lay abstract

**UBC Clean Energy Research Center** Sept 2020 – Jan 2021

Interviews with eight faculty on their research focusing on decarbonization

600-800 word write ups on featured projects

**Freelance Science Communication**  2019 – 2020

MintCopy:Digital content creation for a range of websites (IT Security, COVID19 posts)

Sankofa Consulting: Copy-editing grants on agriculture, livelihoods, and conservation

UHUBOR: Curriculum generation and online tutoring for grade 10 science

**UBC Bioinformatics Graduate Program2,3**

Graduate RA: Comparative analysis in transgenic models of PD and SCA3 2016 – April 2019

Differential expression analysis of RNAseq data

Implemented shell scripts of bioinformatics pipeline in R

Functional, cell types, and overlaps analyses of differentially expressed genes

**The *Ubyssey*4**

Editor & writer: Science section editor for university student newspaper 2016 – 2018

Edited and/or wrote at least three articles per week covering UBC research

Pitched and wrote *On the Origins of Scientists* bi-weekly column

**Allen Institute for Brain Science5**

Research Associate: In vitro single cell characterization; 2015 – 2016

Digital reconstruction of 70+ mouse V1 neurons

Collaborative work with UW’s Mozak team for citizen science

Quality control of ISH images for IVY glioblastoma project

Contrast-to-noise image analysis for IVSCC project

Annotation of injection sites for connectivity studies

Co-op Intern: Annotation of EM dataset to reconstruct <1mm3 of visual cortex 2014

Ultra-microtome sectioning for pilot EM datasets

**The University of Washington6**

Undergraduate RA: Computational modeling of adult avian neural birth and apoptosis 2009 – 2014

Breeding conditions’ effect on neuronal replacement in songbirds

**LITERARY PUBLICATIONS**

Fiction: [The Guillotine](https://www.savantgarde.ca/the-guillotine), *Savante-Garde Magazine*  March 2020

[The Perfect Interview](https://www.shrapnelmagazine.com/fiction/the-perfect-interview), *Shrapnel Magazine*  Nov 2019

Poems in: [*The Ekphrastic Review*](https://www.ekphrastic.net/the-ekphrastic-review/soothsayer-in-red-by-nivretta-thatra)*,* [*Cypress Press*](https://lyndonslog.wordpress.com/2020/03/19/nivretta-thatra/), [*CATCH*](https://soundcloud.com/bttrfingers/sets/catch) audio poetry series, 2020 – 2022

[*DREGINALD*](https://www.dreginald.com/index.php/issues/issue-twenty/nivretta-thatra), [*Massy Arts Society*](https://www.instagram.com/p/CcqNNrchFRC/)

**SCIENTIFIC PUBLICATIONS**

Gouwens, N. W., et al. Classification of morphological and electrophysiological types in mouse visual cortex. *Nature Neuroscience* 22, pages 1182–1195 (2019)

Larson, T.A., **Thatra, N.M.**, Hou, D., Hu, R. A. & Brenowitz, E. A. Seasonal changes in neuronal turnover in forebrain nucleus in adult songbirds. *Journal of Comparative Neurology* 527, 767-779 (2019)

Miller, J. et al. Neuropathological and transcriptomic characteristics of the aged brain.*eLife*, 6. (9 Nov 2017)

Larson TA, Lent KL, Bammler TK, MacDonald JW, Wood WE, Caras ML, **Thatra NM**, Budzillo A, Perkel DJ, Brenowitz EA. Network analysis of microRNA and mRNA seasonal dynamics in a highly plastic sensorimotor neural circuit. *BMC Genomics* (6 November 2015)

Larson TA, **Thatra NM**, Lee B, Brenowitz EA. Reactive neurogenesis in response to naturally occurring apoptosis in an adult brain. *The Journal of Neuroscience*. 34(39): 13066–13076 (24 September 2014)

Larson TA, Wang TW, Gale SD, Miller KE, **Thatra NM**, Caras ML, Perkel DJ, Brenowitz EA. Postsynaptic neural activity regulates neuronal addition in the adult avian song control system. *Proceedings of the National Academy of Sciences.* USA. 110(41) (8 October 2013)

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**RELEVANT SKILLS**

**Technology**

WordPress, HTML, Adobe Illustrator, Canva Pro, Hootsuite & Pallyy, MailChimp, R, Unix shell scripting, ImageJ, CATMAID (electron microscopy imaging), Vaa3d (reconstruction of neurons using brightfield images of biocytin labeled z–stack)

**Communication**

Story writing starting from pitching, to conducting interviews, to writing, to creating related infographics, to post-hoc dissemination; Coordinating a team of faculty writers, editing articles; Teaching comms workshops for grad students; Facilitating faculty meetings; Society for neuroscience poster presentations in 2017 and 2013

**Wet lab**

Behavioral analysis (birdsong spectral properties), sacrificing and fresh-freezing avian brains, *in vivo* electrophysiological recordings in non-mammalian species, cryo–, microtome, & ultra–microtome sectioning, immunohistochemistry (single to triple labeling and cell death assays, immunofluorescence imaging, DAB imaging, nuclei volume measurements, cell counts, ELISAs)

**Symposia Presentations**

Society for Neuroscience Poster Presentation 11/2017

“Expression analysis in mouse models of neurodegenerative diseases”

Allen Institute for Brain Science Showcase Symposium Poster Presentation 09/2015

“3D Reconstruction of Neurons in Vaa3D for the Mouse in vitro Single Cell Characterization Project”

Allen Institute for Brain Science Showcase Symposium Poster Presentation 09/2014

“Resconstructing neurons in serially sectioned electron microscopy images”

UW Undergraduate Research Symposium Oral Presentation 05/2014

“Turnover of Adult Born Neurons”

Society for Neuroscience Poster Presentation 11/2013

“Turnover of adult born neurons in the avian song control system”

Computational Neuroscience Connection Oral Presentation 09/2013

“Quantitative modeling of neural addition and apoptosis in an avian species”

UW Undergraduate Research Symposium Oral Presentation 05/2013

“Seasonally induced neuronal death, reactive neurogenesis, and the effects on behavior”

UW Undergraduate Research Symposium Poster Presentation 05/2012

“Seasonal Plasticity in an Avian Song Control System: An Examination of Neuronal Recruitment and Apoptosis During Transition from Breeding to Nonbreeding Seasons”

Howard Hughes Medical Institution Undergrad. Symposium Poster Presentation 10/2011

“Efferent Neural Activity Regulates Adult Neuronal Recruitment in the Avian Song Control System”

**FUNDING totaling $50,500**

UBC Affiliated Fellowship: Cordula and Gunter Paetzold 2017 – 2018

NSERC – CREATE 2016 – 2017

Mary Gates Research Scholarship 2014

UW Dept. of Biology Sargent Award 11/2013

Computational Neuroscience Travel Scholarship 09/2013

Computational Neuroscience Training Program6 2013 – 2014

Mary Gates Research Scholarship 2012

**REFERENCES & association to applicant**

1. Gillian Harris, Administrative Manager 604-822-7725 gharris@ires.ubc.ca
2. Dr. Joerg Gsponer, Co-Master’s thesis supervisor 604 827 4731 gsponer@msl.ubc.ca
3. Dr. Paul Pavlidis, Co-Master’s thesis supervisor 604 827 4157 paul@msl.ubc.ca
4. Jack Hauen, Coordinating editor 647 216 6071 jackhauen@gmail.com
5. Dr. Staci Sorensen, Senior manager 206 548 7096 stacis@alleninstitute.org
6. Dr. Tracy Larson, Bachelor’s thesis supervisor 206 437 0740 tal8d@virginia.edu