

BRIANNA BRISTOW

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EDUCATION

Master of Science, Neuroscience

Starting Sept 2022

University of British Columbia

- Establishing multiplexed immunohistochemical techniques in mouse brain tissue to investigate synaptic protein organization within novel hippocampal cell types (Dr. Mark Cembrowski)

Bachelor of Science, Biochemistry & Molecular Biology

May 2020

University of British Columbia

- Graduated on Dean's List and completed the Science Cooperative Education Program
 - Thesis: *Comparative Analysis of Primary Cultured & Immortalized Microglia Activation in Response to Lipopolysaccharide Treatment* (Supervisor: Dr. Annie Ciernia)
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WORK EXPERIENCE

Research Technician II – Cembrowski Lab

Oct 2020 – Present

Life Sciences Institute, University of British Columbia

- Research focused on investigating the molecular and cellular aspects of memory by employing histological and circuit-level techniques on mouse and human brain tissue
- Utilized multiplexed *in situ* hybridization with circuit-mapping techniques to examine the spatial heterogeneity of the claustrum, leading to a first-author publication in *eLife* (2021)
- Currently, combining stereotaxic viral injections with immunohistochemical techniques to examine synaptic markers in relation to novel cell types

Research Technician I – Ciernia Lab

Sept 2019 – Sept 2020

Djavada Mowafaghian Centre for Brain Health, University of British Columbia

- Established a reproducible culture protocol for primary microglia isolation from rats to produce a more biologically relevant *in vitro* model system
- Investigated microglial activation in response to LPS exposure resulting in submission of a 56-page thesis including data analysis and image processing using FIJI
- Received UBC SURE Award to continue exploring my thesis project following graduation (2020)

Co-op Research Student – Steidl Lab

Jan 2019 – Aug 2019

Centre for Lymphoid Cancer, BC Cancer Research Centre

- Performed *in vitro* experiments on human cancer cell lines to investigate mutations in the JAK-STAT pathway and their effects on lymphoma pathology
- Contributed quality western blots & bacterial cloning plasmids which assisted in a successful publication in *Nature Medicine* (2020)

Molecular Biology & Genomics Co-op Student

May 2018 – Dec 2018

Canada Centre for Inland Waters, Environment Canada

- Executed PCR/qPCR techniques to determine the concentration levels of harmful toxins released into the water by various species of cyanobacteria in the Great Lakes and maintained results in detailed Excel data inventories
- Efficiently extracted DNA and RNA while simultaneously performing chemical analyses on time sensitive samples, ensuring data collection was accomplished by the deadlines set

Children & Youth Educator
Vancouver Aquarium

June 2015 – Mar 2020

- Communicated science curriculum clearly and efficiently to guests of all ages and origins
- Experience working in a fast-paced environment and adapting to novel situational challenges
- Received a Certificate of Nomination for a Vancouver Tourism Award for excellent hospitality and customer service (2017)

VOLUNTEER EXPERIENCE

Wellness Volunteer – BC Brain Wellness Program
University of British Columbia

July 2021 – Present

- Presently volunteering in three different classes, averaging about 3 hours of volunteer time per week
- Assists in mediating group therapy sessions designed to help individuals living with neurological disorders or aiding their caregivers in coping with their experiences

REX Program Mentor – Undergraduate Research Experience Program
University of British Columbia

Sept 2021 – Apr 2022

- Aided undergraduate students interested in research to design and write their own research proposal and hypothesis, which they presented at MURC 2022 (Mar 2022)

Undergraduate Student Researcher – Saddler Laboratory
Forestry Sciences Centre, University of British Columbia

Sept 2017 – Apr 2018

- Assisted PhD candidate on thesis project investigating enzyme-mediated hydrolysis of cellulose-based materials to be used for conversion into bioproducts

Student Ambassador – AMS Events
University of British Columbia

Sept 2016 – Dec 2019

- Worked collaboratively in a group setting to plan, prepare and execute campus-wide events
- Created a welcoming and inclusive atmosphere during on-campus events to establish a sense of community amongst students

Student Volunteer – IC-Kindness Foundation
University of British Columbia

Mar 2016 – May 2016

- Hosted multiple fundraising events on campus promoting interfaith collaboration on social projects within communities in the Lower Mainland

AWARDS & PUBLICATIONS

Publications:

1. Erwin, S.E.*, **Bristow, B.N.***, Kendrick, R.M., Sullivan, K.E., Marriot, B., Wang, L., Clements, J., Lemire, A., Jackson, J., Cembrowski, M.S. Spatially patterned excitatory neuron subtypes and projections of the claustrum. *eLife* 10 (2021).
2. Ennishi, D.*, Healy, S.*, Bashashati, A.*, Saberi, S., Hother, C., Mottok, A., Chan, F.C., Chong, L., Abraham, L., Kridel, R., Boyle, M., Meissner, B., Aoki, T., Takata, K., Woolcock, B.W., Viganò, E., Gold, M., Molday, L.L., Molday, R.S., Telenius, A., Li, M.Y., Wretham, N., Dos Santos, N., Wong, M., Viller, N.N., Uger, R.A., Duns, G., Baticados, A., Madero, A., **Bristow, B.N.**, Farinha, P., Slack, G.W., Ben-Neriah, S., Lai, D., Zhang, A.W., Salehi, S., Shulha, H.P., Chiu, D.S., Mostafavi, S., Gerrie, A.S., Huang, D.W., Rushton, C., Villa, D., Sehn, L.H., Savage, K.J., Mungall, A.J., Weng, A.P., Bally, M.B.,

Morin, R.D., Cohen Freue, G.V., Staudt, L.M., Connors, J.M., Marra, M.A., Shah, S.P., Gascoyne, R.D., Scott, D.W., Steidl, C.S. TMEM30A loss-of-function mutations drive lymphomagenesis and confer therapeutically exploitable vulnerability in B-cell lymphoma. *Nat Med* 26, 577–588 (2020).

3. O’Leary, T.P.*, Kendrick, R.M.*, Sullivan, K.E., **Bristow, B.N.**, Wang, L., Clements, J., Lemire, A., Cembrowski, M.S. Neuronal cell types, projections, and spatial organization of the central amygdala (In Progress).

Awards:

- *CAN Travel Award* (March 2022)
- *UBC SURE Award* (May 2020)
- *Vancouver Tourism Award Nomination* (2017)

TECHNICAL SKILLS & QUALIFICATIONS

Animal Procedures: *Intraperitoneal Injection, Subcutaneous Injection, Stereotaxic Viral Injection, Isoflurane Anaesthesia, Transcardial Perfusion, Brain Fixation & Cryopreservation, Tissue Flash Freezing*

Cell Culture: *Primary Cell Isolation & Culture Maintenance, Mammalian Tissue Culture Maintenance, (Co)Transfection, Cell Viability Assay, Enzyme Activity Assays, SEAP Assay, Phagocytosis Assay*

Molecular Biology: *Fluorescent in situ Hybridization, Visium Spatial Transcriptomics, Cryosectioning, Confocal Imaging, Immunohistochemistry, Western Blot, Protein Purification, (Co)Immunoprecipitation, Immunocytochemistry, Gibson Assembly, RNA/DNA Extraction, Digital PCR/qPCR, PCR, Plasmid Miniprep, Bacteria Transformation, CRISPR Knockout Screen, Flow Cytometry*

Software: *Proficient in Microsoft Office Suite, Image Processing via FIJI/illastik, Experience with Adobe Illustrator, Learning Data Analysis via R Studio*

ACTIVITIES & INTERESTS

Conference Abstracts:

- *CAN-ACN 2022 Conference:* Spatially patterned excitatory neuron subtypes and projections within the claustrum
- *CAN-ACN 2021 Virtual Conference, SBME Annual Symposium 2021:* Spatially patterned excitatory neuronal subtypes and circuits within the claustrum

Professional Memberships:

- *Canadian Association of Neuroscience* (Since 2021)
- *World Women in Neuroscience Committee* (Since 2020)
- *Women’s Health Research Cluster* (Since 2020)

Personal Interests:

- Music
- Reading
- Solving puzzles & brain teasers