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## **Mr. Matthew Bannerman Cooke**

Correspondence language: English

Sex: Male

Date of Birth: 9/15

Canadian Residency Status: Canadian Citizen

Country of Citizenship: Canada

## **Contact Information**

The primary information is denoted by (\*)

### **Address**

Home (\*)

2112 139A Street  
Surrey British Columbia V4A 9V4  
Canada

### **Telephone**

Mobile (\*)                      1-514-3581472

### **Email**

Personal                      matthew@matthewcooke.ca  
Work (\*)                      matthew.cooke@ubc.ca

### **Website**

Personal                      matthewcooke.ca

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## Mr. Matthew Cooke

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### Language Skills

Language	Read	Write	Speak	Understand	Peer Review
English	Yes	Yes	Yes	Yes	Yes
French	Yes	Yes	Yes	Yes	No

### Degrees

- 2019/1 (2021/1) Master's Thesis, Master of Science, Neuroscience  
Degree Status: In Progress  
Supervisors: Jason Snyder, 2019/1 -
- 2013/9 - 2018/11 Bachelor's, Bachelor of Science, Computer Science, McGill University  
Degree Status: Completed

### User Profile

Fields of Application: Biomedical Aspects of Human Health, Foundations and Knowledge Acquisition, Pathogenesis and Treatment of Diseases

Areas of Research: Learning and Memory, Neurogenesis and Gliogenesis, Computer Science and Statistics

Research Specialization Keywords: Neuroscience, Computer Science, Psychology

Research Disciplines: Neurosciences, Computer Science, Psychology

### Employment

- 2019/1 Teaching Assistant  
University of British Columbia  
Full-time  
Performed activities in the role of Teaching Assistant, including guest lectures, marking, office hours, and others.
- 2018/9 - 2019/9 Teaching Assistant  
Psychology, Vancouver, University of British Columbia
- 2018/9 - 2018/12 Work Learn Student  
Psychology, Vancouver, University of British Columbia
- 2018/5 - 2018/9 Research Assistant  
Psychology, Vancouver, University of British Columbia  
Full-time  
Tenure Status: Non Tenure Track  
Developed a software package used to analyze behaviour data for rodents in the Morris Water Maze.

- 2015/6 - 2018/4 Undergraduate Research Assistant  
Psychology, Vancouver, University of British Columbia  
Part-time  
Tenure Status: Non Tenure Track  
Developed software tools to analyze Morris Water Maze data. Helped with general lab duties and animal work.
- 2013/9 - 2014/5 Technical Consultant  
Decor Experts Expo  
Provided part time technical consultation for web services as well as software support.

## Courses Taught

- 2018/09/04 Guest Lecture - Teaching Assistant, Psychology, University of British Columbia  
Course Title: Brain Dysfunction and Behaviour (PSYC 301A)  
Course Level: Undergraduate  
Number of Students: 175  
Guest Lecture?: Yes
- 2019/11/14 - 2019/11/14 Guest Lecture, Psychology, University of British Columbia  
Course Title: Research Methods  
Course Code: PSYC 277  
Course Topic: Research Methods  
Course Level: College  
Academic Session: Fall  
Lecture Hours Per Week: 1  
Guest Lecture?: Yes
- 2019/11/12 - 2019/11/12 Guest Lecture - Teaching Assistant, Psychology, University of British Columbia  
Course Title: Guest lecture - Sensory Systems  
Course Code: PSYC 304  
Course Topic: Brain and Behaviour  
Course Level: College  
Academic Session: Fall  
Number of Students: 170  
Number of Credits: 6  
Lecture Hours Per Week: 2  
Guest Lecture?: Yes
- 2019/06/14 - 2019/06/14 Guest Lecture - Teaching Assistant, University of British Columbia  
Course Title: Frontal Lobe Dysfunction  
Course Code: PSYC 301  
Course Topic: Brain Dysfunction and Recovery  
Course Level: Undergraduate  
Number of Students: 100  
Number of Credits: 3  
Guest Lecture?: Yes  
Co-instructors: Hynes, Tristan

## Mentoring Activities

- 2019/6                      Research Mentor, University of British Columbia  
 Number of Mentorees: 2  
 Mentorees: Ricky Ma & Brie Dugate  
 Supervising a COGS student and a Computer Science student in the lab.
- 2018/9 - 2019/1            Research Mentor, University of British Columbia  
 Number of Mentorees: 1  
 Mentorees: Phelan Harris  
 Recruited and mentored a computer engineering student in the lab. Helping teach biological computing and the role computer science plays in the field of Neuroscience

## Community and Volunteer Activities

- 2017/7                      Data Acquisition and Analysis, ALS BC  
 Working with ALSBC and UBC, to create data acquisition and analysis tools for participant responses to multiple questionnaires and surveys. I also developed an iPad app for researchers to randomly assign participants to multiple groups.
- 2016/3 - 2016/9            Volunteer, University of British Columbia  
 Volunteer in Dr. Cashman and Dr. Plotkin's laboratories at UBC. Using computational tools to find protein predictors of ALS.

## Other Memberships

- 2018/10                     Student Member, Molecular and Cellular Cognition Society
- 2018/6                      Student Member, Society for Neuroscience
- 2018/5                      Student Member, Canadian Association for Neuroscience

## Most Significant Contributions

- 2019/8                      Pathfinder: open source software for analyzing spatial navigation search strategies  
 Developed the software to analyze data in the Morris Water Maze. Conducted analysis of data. Wrote manuscript.

## Publications

### Journal Articles

1. Ru Qi Yu, Matthew Cooke, Jiaying Zhao, Jason S. Snyder. (2019). Adult neurogenesis promotes efficient, nonspecific search strategies in a spatial alternation water maze task. Behavioural Brain Research. <http://dx.doi.org/https://doi.org/10.1101/637462>  
Co-Author  
Published,  
Number of Contributors: 4  
Contribution Percentage: 11-20  
Description / Contribution Value: Created tools and conducted analysis of data with regards to search strategies, and provided guidance in the same regard.  
Funding Sources: Canadian Institutes of Health Research (CIHR); Michael Smith Foundation for Health Research; Natural Sciences and Engineering Research Council of Canada (NSERC)
2. John Darby Cole, Delane Espinueva, Désirée R. Seib, Matthew B. Cooke, Shaina P. Cahill, Timothy O'Leary, Sharon S. Kwan, Jason S. Snyder. (2019). Adult-born hippocampal neurons undergo extended development and are morphologically distinct from neonatally-born neurons. Journal of Neuroscience. <http://dx.doi.org/https://doi.org/10.1101/702746>  
Co-Author  
Submitted,  
Number of Contributors: 8  
Contribution Percentage: 0-10  
Description / Contribution Value: I built predictive models of dendritic growth over the lifespan of animals. I also developed software to align neurons that were distorted during tissue sectioning.  
Funding Sources: Canadian Institutes of Health Research (CIHR); Natural Sciences and Engineering Research Council of Canada (NSERC); Michael Smith Foundation for Health Research
3. Matthew B. Cooke, Timothy P. O'Leary, Phelan Harris, Richard E. Brown, Jason S. Snyder. (2019). Pathfinder: open source software for analyzing spatial navigation search strategies. F1000Research. <http://dx.doi.org/https://doi.org/10.12688/f1000research.20352.1>  
First Listed Author  
Published, , Open Access?: Yes  
Number of Contributors: 5  
Contribution Percentage: 81-90  
Description / Contribution Value: Developed the software for analysis of water maze data. Conducted analysis of results. Contributed to manuscript.  
Funding Sources: Natural Sciences and Engineering Research Council of Canada (NSERC)

### Conference Publications

1. Pathfinder: A Software package to analyze Morris Water Maze data. Society for Neuroscience, Chicago, United States,  
Conference Date: 2019/10  
Poster  
Description / Contribution Value: Presented a poster at the Society for Neuroscience meeting in 2019.  
Funding Sources: Natural Sciences and Engineering Research Council of Canada (NSERC)

2. Pathfinder: A Software package to analyze Morris Water Maze data. NeuroFutures, Portland, United States, Conference Date: 2019/7  
Poster  
First Listed Author  
Number of Contributors: 5  
Contribution Percentage: 81-90  
Description / Contribution Value: Presented a poster at NeuroFutures in Portland.  
Funding Sources: Natural Sciences and Engineering Research Council of Canada (NSERC)
3. Matthew B. Cooke, Timothy P. O'Leary, Jason S. Snyder. (2018). A software package to analyse Morris Water Maze data. MCCS Conference. Molecular and Cellular Cognition Society, San Diego, United States, Conference Date: 2018/11  
Poster  
First Listed Author  
Published  
Refereed?: No, Invited?: No  
Funding Sources: Canadian Institutes of Health Research (CIHR)
4. Matthew B. Cooke, Timothy P. O'Leary, Jason S. Snyder. (2018). A software package to analyse Morris Water Maze data. Neurofutures Conference. Neurofutures, Seattle, United States, Conference Date: 2018/6  
Poster  
First Listed Author  
Published  
Refereed?: No, Invited?: No  
Funding Sources: Canadian Institutes of Health Research (CIHR)

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