

Job Title: Laboratory Research Assistant - Neuroscience/Biochem

Position Classification: Project Assistant (Lab)

Job Description and Qualifications

POSITION SUMMARY: Our lab at the University of British Columbia in Vancouver Canada is looking for a research assistant to join our laboratory group studying gene regulation in brain development and autism spectrum disorders. The undergraduate student will work closely with the faculty member and graduate students to contribute to an on-going project examining gene expression regulation in the mouse brain.

DESCRIPTION OF DUTIES: Performing laboratory experiments under the guidance of more senior staff including PCR, qPCR, gel electrophoresis, RNA/DNA isolations, primary cell culture, cell line culture, cell transfection, DNA cloning, western blots, and other molecular biology techniques

- Keeping detailed records and observations
- Attending and presenting at weekly lab meetings
- Performing basic data analysis including training in Prism and R

SUPERVISION: These duties and responsibilities will be performed under the direct supervision of the principal investigator and senior lab staff. The student will attend lab meetings to ensure effective communication. In addition, the student will engage in regular meetings with graduate students to receive feedback about their work and ensure optimal performance is being achieved.

COMPLEXITY of TASKS: The student will be encouraged to ask questions and suggest ways in which their learning experience could be improved. The tasks will require a strong commitment in time and effort as well as extensive practice in varying settings. The tasks also require the student to apply previously learned knowledge in different contexts. This role will provide plenty of opportunities for the student to work closely with researchers, interact with people from different backgrounds, build connections, and develop professional, social, and communication skills. The job will also help the student cultivate a sense of responsibility, self-knowledge, and self-confidence, and strengthen his/her sense of connection to the university.

ORGANIZATIONAL GOALS: The goal of my lab is to understand how gene regulation controls brain development. The work of the students will directly contribute to our ongoing research efforts in this area.

Qualifications:

- An undergraduate student enrolled in a UBC life science program
- Must be able to work up to 8-10hr/week during the school year
- Previous experience in molecular biology research required
- Previous experience in a research laboratory required
- Excellent interpersonal skills.
- Ability to deal with a diversity of people in a calm, courteous, and effective manner
- Excellent oral and written communication skills
- Excellent organization and time management skills
- High level of accuracy and attention to detail

- Knowledge of Microsoft Office
- Completion of the Tri-Council Policy Statement (TCPS 2) on-line tutorial

Contribution to the University Community**Impact/contribution of the student's work to the goals of the unit or program**

One of the major goals of the Biochemistry department and the Centre for Brain Health is to foster undergraduate research training towards independent work in the lab. This is a key skill for undergraduate students in our program as many will go on to work in laboratories as directed studies students, co-ops and eventually in the broader job market. Acquiring basic laboratory skills, in a safe and supportive environment as provided for our work-learn students, allows the students to gain both the research skills and confidence to be competitive for these future positions. The students also directly contribute to the lab research program by assisting with data collection, analysis and interpretation.

Safe, supportive and inclusive workplace:

Students in our lab are supported throughout their work-learn experience through direct mentorship by graduate students and the lead investigator. Students attend weekly meetings with their direct mentor and monthly meetings with the investigator to discuss their work, areas they are doing well in, and areas for improvement. All students also attend weekly lab meetings where they are given the opportunity to present their work and are exposed to the work of other students in the lab. The lab strives to maintain an open and inclusive environment, including regular discussion of EDI related issues at our monthly journal club. The supervisor is also the Chair of the Biochemistry EDI committee and encourages her students to participate in EDI related activities and outreach opportunities. For example, the lab regularly hosts a high school tour in the spring that includes the work-learn students showcasing their research projects.

Student Learning Components**Orientation & Training:**

- An orientation to the lab and an overview of gene expression in the brain research
- introductions to the principal investigator, graduate students, and research assistants at the Centre for Brain Health
- Provided a lab manual with tasks/duties detailed
- Review of lab policies, protocols and procedures
- Job specific orientation and training as required for the project. Introductions to past and on-going research projects in the lab
- In-person training from the principal investigator, graduate students, and lab manager

Feedback, Ongoing Support & Reflection:

- The supervisor and other staff are always available to offer assistance and answer questions
- Continuous positive feedback and transparent, open communication
- Specific feedback provided after completing daily tasks and at weekly one-on-one meetings
- Ongoing support given to gain the skills required to work in a positive team environment
- Frequent opportunity for reflection through positive feedback and open communication

Work Learn Program

Mentorship, Encouragement, Support, and Networking Opportunities:

- One-on-one mentorship offered by the principal investigator, graduate students, and lab manager
- The student will be supported by lab managers and peer research assistants
- Opportunity to present research findings at local undergraduate conferences
- Opportunity to connect and chat with other undergraduate and graduate students working at the Centre for Brain Health

Personal, Professional & Academic Development:

- The student will be encouraged to provide new ideas and introduce efficiencies to research paradigms and procedures. In this process, the student will gain insight into experiment design and research implementation.
- The student will present preliminary research findings at weekly lab meetings. In this process, the student will develop strong communication, organization, and time management skills.
- The student will keep daily notes in an Electronic Lab Notebook system. In this process, the student will develop strong organization and time management skills
- In the lab, the student will conduct various molecular biology techniques to assess gene expression. In this process, the student will learn to troubleshoot protocols, develop critical thinking skills and implement new procedures.
- After the data collection, the student will be responsible for data entry, and will assist with data analysis. In this process, the student will gain a lot of hands-on experience with research tools such as R and Prism.
- The student will also be responsible for training new research assistants. In this process, the student will develop leadership, management, and networking skills.