

## **Research Assistant Opportunity**

### ***Benefiting from Active In-class Approaches***

The Simon Fraser University Institute for the Study of Teaching and Learning in the Disciplines and the Faculty of Science invites applications for a short-term research assistant position.

We recently undertook a large-scale, curriculum-wide study "in the wild" --relating the time spent on observed classroom practices to learning gains, in each of 31 individual class sections (Weir et al, PLoS 2019). Further to this work, we are now interested in digging into the data at an individual student level, and investigating relationships between demographics, student learning (diagnostic test scores matched pre/post), and classroom time (COPUS observations) for the ~3600 students in our dataset. With the addition of these student-level variables, we hope to ask the question: who benefits most from different active in-class approaches? This project may be best suited to data analysis such as SEM/mediation (e.g. Peugh & Feldon, CBE-LSE 2020) or HLM (e.g. Theobald et al, Phys Rev Phys Educ Res 2019). This project may also have an extension for a second short "how-to" paper on adapting this type of data for time-series analysis (as in Erdmann and Stains, CBE-LSE 2019).

#### **Timeline and expectations of applicant experience:**

We are intending this to be a short-term contract, with reasonably intense data analysis/writing work focussed towards submitting your first-author manuscripts by end-of-December 2020 (ideally). All data has been collected, and we are excited to build a team this semester to analyze, interpret, and publish the findings. Thus, we are looking for self-directed applicants experienced with data science / statistical analysis and academic writing in the Discipline-Based Education Research (DBER) or Learning Analytics (LA) fields. This may be through a formal program (e.g., graduate training, postdoctoral fellowship, etc.) or it may be through other equivalent experiences.

#### **Required qualifications and skills:**

- **Data science:** Ability to select and implement meaningful analyses, including appropriate statistical treatment, and effectively communicate the work to a DBER or LA audience (who are not necessarily data scientists themselves).
- **Writing & publishing:** Academic research and manuscript- writing skills, as demonstrated by prior publication(s). (In other words, have published at least one science education paper in DBER, learning analytics, or similar field.)
- **Communication:** Excellent interpersonal skills, including reliable and effective communication with the team and project lead.
- **Initiative and experience:** Self-directed, independent project completion skills, in consultation with the project lead and research team. Note that the project lead has reasonable DBER, education, and academic writing experience, but is not a data scientist.
- An **interest** in evidence-based teaching and learning, and science education. Personal experience with undergraduate science courses is an asset, but not required.

#### **Research assistant responsibilities:**

- Analysis of large- or moderate-scale datasets (selecting & implementing analysis approach; documenting workflow, drawing conclusions, data visualization);
- Writing a full draft of a (first-author) paper for publication in the DBER or LA field. including short literature review for the introduction and context.
- Meeting remotely each week with project team, during PDT daytime hours, from contract start until papers are submitted (ideally end of December 2020).
- Available intermittently in 2021 to discuss and handle journal revision requests.
- Optional: Presentation at a conference. (e.g. at SABER or LAK or similar); conference registration costs may be eligible to be covered, depending on cost.

## **Research Assistant Opportunity**

### ***Benefiting from Active In-class Approaches***

**Rate of pay:** \$25-30/hr (Canadian dollar; incl. vacation and statutory holiday pay, no medical or dental benefits) - based on experience & qualifications. Minimum 120 hours with the possibility of additional hours.

**To Apply:** Applicants must be eligible to work in Canada (with a valid Canadian SIN and bank account). Applicants should submit: (1) a 1-page cover letter structured to address the interest, skills, and role responsibilities as listed above; and (2) a 1-2 page resumé that highlights relevant qualifications, experience, and dissemination of prior projects. These two items should be organized as one PDF attachment addressed to Megan Barker, and emailed to [megan.barker@sfu.ca](mailto:megan.barker@sfu.ca), with the subject line: “*RA position: Benefits of Active In-class Approaches*”. Short-listed applicants will be provided with a mock, small-scale dataset, and then invited to interview (via Zoom).

**Application deadline:** Friday, October 23, 2020, 4:30 p.m. We appreciate all replies to this posting, however, we will only contact short-listed applicants.