

Research Associate – Department of Mathematics (Deadline: December 20, 2017)

The Department of Mathematics, UBC-Vancouver Campus seeks a Research Associate to develop advanced methods and experimental set ups for the design of novel bio-films produced from source materials as, e.g., nanoscale celluloses, through reactive multi-layering fluid flow in a pipeline or a Hele-Shaw cell, with applications to artificial arteries, green packaging or novel building materials. The research associate will be co-affiliated with the Department of Chemical and Biological Engineering (CHBE) for the experimental part. She/he will be responsible to perform the experiments, improve the experimental set up if required and analyze the acquired data to enhance the mathematical modelling of these flows. The objective is to better control the stability of the flow in order to upscale the lab process to an industrial process. Her/his work will be conducted in collaboration with Prof. Anthony Wachs from the Department of Mathematics and Prof. Mark Martinez from the CHBE Department.

Responsibilities include:

- * Design, improve and maintain the experimental set up
- * Train and supervise graduate students to operate the set up independently
- * Conduct various experimental campaigns and measure flow properties
- * Analyze results and propose a tractable mathematical framework to model these flows
- * Interact with other UBC researchers with diverse background (Mathematics, CHBE, Material Science, Medicine and Mechanical Engineering)
- * Present results at national and international meetings
- * Prepare manuscripts for publication in high quality peer reviewed journals

Qualifications required

Candidates must have a Ph.D. in Chemical, Mechanical or Applied Mathematics with an emphasis on Fluid Mechanics, at least 2 years of postdoctoral research experience in the fields of complex Fluid Mechanics, as well as an expertise in experimental studies. Candidates should have a good knowledge of mathematical models of complex and non Newtonian materials. A first experience in conducting experiments with biomaterials is considered as a strong asset. Other requirements for successful applicants include excellent oral communication skills, the ability to work in a dynamic research team, and the ability to work on a project with defined milestones and timelines.

The appointment will initially be for one year, starting January 1, 2018, with options for renewal for an additional year subject to funding sources. Please direct inquiries, and applications consisting of cover letter, current CV and contact information of three references prior to 20th December 2017 to:

<http://www.hr.ubc.ca/careers/faculty-careers/>

Equity and diversity are essential to academic excellence. An open and diverse community fosters the inclusion of voices that have been underrepresented or discouraged. We encourage applications from members of groups that have been marginalized on any grounds enumerated under the B.C. Human Rights Code, including sex, sexual orientation, gender identity or expression, racialization, disability, political belief, religion, marital or family status, age, and/or status as a First Nation, Metis, Inuit, or Indigenous person.

All qualified candidates are encouraged to apply; however Canadians and permanent residents will be given priority.