UNIVERSITÉ LAVAL

Complex Fluids Research
Université Laval

PhD & Postdoctoral Research Opportunities

COMPLEX MATERIALS • FLUID MECHANICS • ADVANCED MIXING

The Laboratory of Complex Fluids Research (LCFR) at Université Laval invites applications for three PhD positions and two postdoctoral positions. The projects combine experimental, computational and theoretical approaches to the behaviour and processing of complex materials.

THREE PHD POSITIONS	TWO POSTDOCTORAL POSITIONS
CAD 40,000/year · 4 years	**CAD 70,000/year each · 2 years**

RESEARCH AREAS

PHD 1

Particle Mixing & Homogenization

Particle dynamics, segregation, mixing quality, imaging-based measurements and underlying physical mechanisms.

PHD 2

Rheology of Complex Materials

Concentrated suspensions and pastes, material microstructure, thixotropy, viscoplasticity and constitutive modelling.

PHD 3

Polymers & Material Processing

Polymer behaviour, process-induced structural changes, reaction kinetics and structure–property relationships.

POSTDOCTORAL POSITIONS

Integrated Experiments & Modelling

Experimental diagnostics, numerical methods, quantitative data analysis and validation across related research themes.

TRAINING & CAREER DEVELOPMENT

Build complementary skills in experimental design, advanced imaging, rheology, scientific programming, modelling, data analysis and research communication. These transferable skills support careers in academia, government laboratories and industrial research and development.

RESEARCH ENVIRONMENT

Research facilities include ultra-high-speed imaging (up to 2 million frames per second); particle image velocimetry (PIV), including tomographic PIV; laser-induced fluorescence (LIF) and planar laser-induced fluorescence (PLIF); ultrasound Doppler velocimetry (UDV); optical coherence tomography (OCT); magnetic resonance imaging (MRI); advanced rheometry and tensiometry; and high-performance computing. Access to specific methods depends on the project.

ELIGIBILITY & APPLICATION

WHO SHOULD APPLY

Priority: Canadian citizens and permanent residents. Applicants with training in mechanical or chemical engineering, engineering physics, materials science or related fields, and knowledge of fluid mechanics. PhD applicants: a relevant master's degree or equivalent; postdoctoral applicants: a PhD.

EXPRESS YOUR INTEREST

Email your CV, a brief statement of research interests, and relevant transcripts or publications.
Email subject: ComplexMix – PhD/Postdoc – Full Name
In your email, briefly describe your relevant experience, preferred position (and any alternatives), and earliest available start date.

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