

Research Scholarship

Required	Content
Name	PhD Scholarship in <i>Experimental investigation of developing an Efficient Pipeline Transport of Highly Concentrated Wastewater Sludges</i>
Description	<i>For Australian permanent resident/or citizens or International students whom located in Australia and are interested in pursuing a Ph.D. at non-Newtonian fluid dynamics and wish to make a real impact on the wastewater industry by optimizing the energy efficiency of their pumps, then this is the project for you.</i>
Value and duration	<p>A stipend of \$30,500 per annum (tax free) is available for 3 years to an outstanding and highly motivated graduate with 1st class Honours in Chemical or Mechanical Engineering, Physics or Mathematics.</p> <p>Higher degree by research candidates in the School of Engineering at RMIT University receive a laptop for their sole use while they are enrolled, access to well-appointed research rooms and world-class laboratories, generous funding for research consumables and travel during their candidature and access to research seminars and professional development opportunities.</p>
Number of scholarships available	One position
Eligibility	<p><i>We seek a highly motivated and quantitatively talented candidate to pursue a PhD project with the following (demonstrable) skills and interests and holding an Australian permanent residence visa or citizenship. RMIT eligibility criteria are available here.</i></p> <ul style="list-style-type: none"> • A strong academic background in fluid mechanics and/or rheology • Advanced skills in Excel, desirable skills include proficiency in Matlab or Mathematica • Demonstrable initiative, ability to work independently and solve problems • Demonstrable skill to use scientific theory to develop hypothesis and to carry out experiments appropriately • Excellent English skills, both oral and written, are required. For candidates applying from countries where English is not the single official language, proof of English proficiency is needed • A valid driver licences
How to apply	<p><i>Please send the following documents to A/Prof Nicky Eshtiaghi on nicky.eshtiaghi@rmit.edu.au.</i></p> <ul style="list-style-type: none"> • Cover letter specifically addressing how the candidate complies with the required qualifications for the position • CV including your qualification certificates • Academic transcripts • Name and email addresses of three referees <p><i>As the scholarship selection process is very rigorous, candidates that only satisfy the selection criteria above at a moderate level are encouraged not to apply.</i></p> <p>Following confirmation of eligibility and suitable, applicants will need to apply directly to RMIT through the standard HDR application process</p>
Open date	9 th Nov. 2020
Close date	30 th Nov. 2020
Terms and conditions	This scholarship will be governed by RMIT's University Research Scholarship Terms and Conditions .

<p>Further information</p>	<p>We seek a highly motivated and quantitatively talented candidate to pursue a PhD project that will develop new and fundamental understanding of how sludge with different rheological properties flow under laminar, transitional and turbulent conditions. This position is part of the “Efficient Pipeline Transport of Highly Concentrated Wastewater Sludges” Linkage Project funded by the Australian Research Council, which aims to investigate the rheology and fluid mechanics of highly concentrated wastewater sludges (HCWS) and develop predictive tools for design and optimization of pipeline transport systems.</p> <p>The project expects to generate new knowledge about the complex flow of concentrated wastewater sludge which will enable predictive models to support the design and optimization of sludge pipeline transport systems. Expected outcomes of the project contributes toward developing a new toolkit that will enable wastewater treatment plants to design and optimize both existing and future pipeline systems. This will support the Australian wastewater industry to plan for future growth, increase throughput and efficiency, reduce environmental pollutants, and capital and operating costs. This project involves close collaboration with a research team with extensive experience in sludge rheology and fluid mechanic as well as Melbourne Water research team.</p> <p><i>This project duties are:</i></p> <ul style="list-style-type: none"> • To fully characterize the rheology of HCWS samples in the RMIT Materials Characterisation Lab • To conduct a series of field-based experiments on the flow of HCWS at Eastern Treatment Plant (Carrum Downs, VIC 3201) using a pilot-scale pipe loop rig • To develop and validate pipe flow theory for prediction of the laminar-turbulent transition and friction loss for straight pipe sections and conventional pipe fittings <p>Location Melbourne CBD and RMIT site at Eastern Treatment Plant</p>
<p>Contact</p>	<p><i>A/Prof Nicky Eshtiaghi on nicky.eshtiaghi@rmit.edu.au.</i></p>