

Research Fellow (High Performance Microchannel Liquid  
Cold Plates  
National University of Singapore

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Posted Nov. 22, 2017, expired Mar. 23, 2018

<b>Job Title</b>	Research Fellow (High Performance Microchannel Liquid Cold Plates)
<b>Department</b>	Mechanical Engineering Department <a href="http://me.nus.edu.sg">http://me.nus.edu.sg</a>
<b>Institution</b>	National University of Singapore Singapore, , Singapore
<b>Date Posted</b>	Nov. 22, 2017
<b>Application Deadline</b>	Open until filled
<b>Position Start Date</b>	Available Immediately
<b>Job Categories</b>	Post-Doc
<b>Academic Field(s)</b>	Mechanical Engineering
<b>Job Website</b>	<a href="http://me.nus.edu.sg">http://me.nus.edu.sg</a>
<b>Apply By Email</b>	<a href="mailto:mpelps@nus.edu.sg">mpelps@nus.edu.sg</a>

**Job Description**

This project is on the Research, Development & Demonstration (RD&D) of A Highly Efficient Hybrid Cooling System for High Ambient Temperature Data Centre that is smart, integrative and cost effective. The proposed RD&D programme will yield useful insights, new technologies and a fully functional hybrid cooling system prototype which will be test-bedded at a data centre operating in Singapore's hot and humid climatic conditions thus paving the way for widespread adoption in Singapore and the Tropics. The Research Fellow will develop a novel high performance CPU liquid cold plate for hot spots mitigation. Hot spots can result in poor server reliability, performance, or even server damage. This part of the project will develop a high performance microchannel cooling system that is 2-3 orders of magnitude greater than air cooling. The proposed microchannel liquid and two-phase cooling technologies would be able to manage the heat from high heat flux dissipating components and mitigate hot spots issue while maintaining a low temperature. The focus of research would be on novel fin arrays (for single phase and two-phase cooling) and novel multilayer manifold

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designs for flow zoning exploiting the design freedom offered by various advanced manufacturing technologies including additive manufacturing, liquid forging and powder injection moulding. Applicants should possess a PhD degree in Mechanical Engineering specializing in heat transfer from a reputable university, with a strong background in CFD, have strong experimental skills and good written and verbal communication skills. Personal qualities such as the ability to take initiative and to work independently, having a positive attitude and strong interpersonal skills and commitment to deliver results would be much valued.

### Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

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