



## Faculty of Engineering and Applied Science

Department of Electrical and Computer Engineering  
St. John's, NL Canada A1B 3X5  
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<https://www.mun.ca/engineering/ece>

## Postdoctoral research position

### Software transformation and reasoning

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URL	<a href="http://www.mun.ca/postdoc/tc-postdoc-2016.pdf">http://www.mun.ca/postdoc/tc-postdoc-2016.pdf</a>
Term	1–2 years, possibly renewable
Start date	negotiable
Application deadline	31 Mar 2016
Citizenship	any

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### Description

A position is available for a postdoctoral researcher to work at the intersection of operating system security, compilers, dynamic tracing and automata theory in the Department of Electrical and Computer Engineering at Memorial University. The successful candidate will work closely with colleagues from BAE Systems and the University of Cambridge to develop techniques for software behaviour analysis and create tools that transform software, expose program events and reason about temporal and causal relationships. The work will build on previous research exploiting temporal automata and the LLVM Intermediate Representation (IR), as well as system tracing tools such as DTrace. This project is part of the DARPA *Transparent Computing* program, an initiative to detect and defend against advanced, persistent adversaries.

The position is located in the historic city of St. John's, Newfoundland, known for its unique culture, stunning scenery and friendly inhabitants. Memorial University is Atlantic Canada's largest University, with 18,500 students studying on four campuses. The Faculty of Engineering and Applied Sciences is increasing in enrolment and research intensity as part of a plan to double its students — graduate and undergraduate — by 2020.

### Qualifications

Applicants should hold — or be close to completing — a PhD in Computer Engineering, Computer Science or a related discipline. Expertise in at least one of operating systems, computer security, compiler construction or static analysis is required. C/C++ proficiency would be an asset, as would experience with Clang and LLVM. The successful applicant will join an international collaborative effort among Memorial, BAE Systems and the University of Cambridge; the position will require travel to the US and the UK.

Memorial University is an equal opportunity employer and is committed to increasing the diversity of its workforce. It welcomes applications from women, members of minority groups and others who would bring additional dimensions to the university's research and teaching.

### Application process

Candidates should submit a cover letter, a CV, a list of references and up to three sample publications to Jonathan Anderson ([jonathan.anderson@mun.ca](mailto:jonathan.anderson@mun.ca)) by 31 March 2016.