

# INVITED SPEAKER SEMINAR

## IN ELECTRICAL AND COMPUTER ENGINEERING

CO-SPONSORED BY:

The Department of Electrical and Computer Engineering, Concordia University, IEEE Montreal Section,

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6:00 p.m. – 8:00 p.m.

Room EV002.184

## “Software Architecture for Big Data Systems”



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### ABSTRACT

The wide variety and different characteristics of NoSQL databases creates a complex technology acquisition and design landscape for organizations looking to build scalable, high performance data management systems. In addition, scalable ‘big data’ systems are significant long-term investments that must scale to handle ever-increasing data volumes, and therefore represent high risk applications in which the software and data architectures are fundamental components of ensuring success. This talk describes how we are developing LEAP4BD, a software and data architecture evaluation approach specifically targeted at big data systems and NoSQL technology adoptions. We’ll also describe how we are mining and organizing software architecture knowledge specifically for highly scalable, big data systems. We are encoding this fundamental architecture knowledge in a semantically tagged online repository, which facilitates complex searching, dynamic knowledge presentation and ease of extension to capture evolving design knowledge.

### BIOGRAPHY

Ian Gorton is a Senior Member of the Technical Staff at the Carnegie Mellon University Software Engineering Institute, where he works on software architectures for big data systems. Before joining the SEI in 2013, he was a Laboratory Fellow in the Computational Sciences and Mathematics Division at the Pacific Northwest National Laboratory (PNNL). At PNNL, he led projects in various scientific domains that are building tools to process and manage complex, massive, distributed data collections for modeling and simulation. Gorton has published three books and 140+ conference and journal papers, mostly in the areas of software architectures and component technologies. He is Senior Member of the IEEE Computer Society and Fellow of the Australian Computer Society.

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