An Academia-Industry Networking Event

Concordia University
Wednesday
May 17th, 2017

Hosted by Université Concordia University, SERC and the NSERC CRSNG

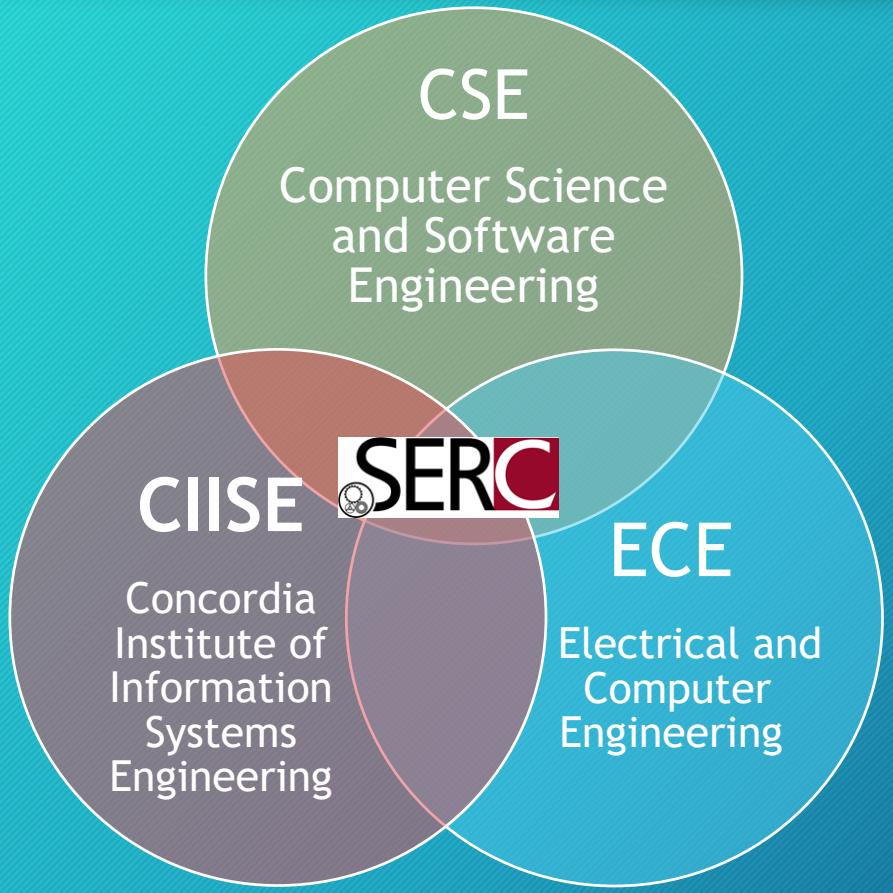
Software Engineering Research Center SERC

Université Concordia University | Faculty of Engineering & Computer Science

“Software publishing in Québec generates annual revenues of over $1.7- billion. Québec's software-publishing industry is dominated by cutting-edge Québec-based SMEs targeting often specific niches. “

IQ invessement Quebec www.investquebec.com/

Center Overview

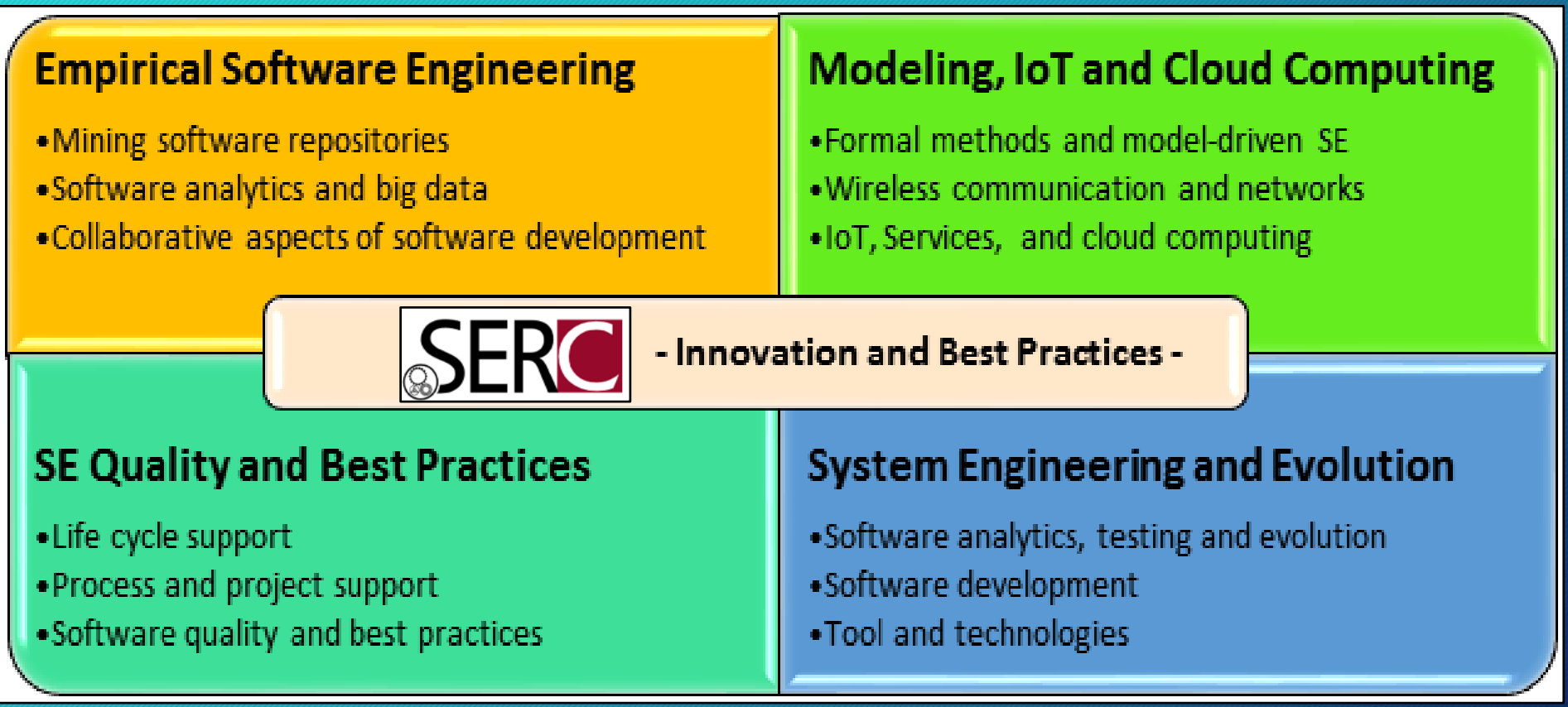


SERC facts:

- Founded in 2015
- Currently 3 departments involved
- 13+ members
- Approx.100 research students
- Expertise in core SE areas

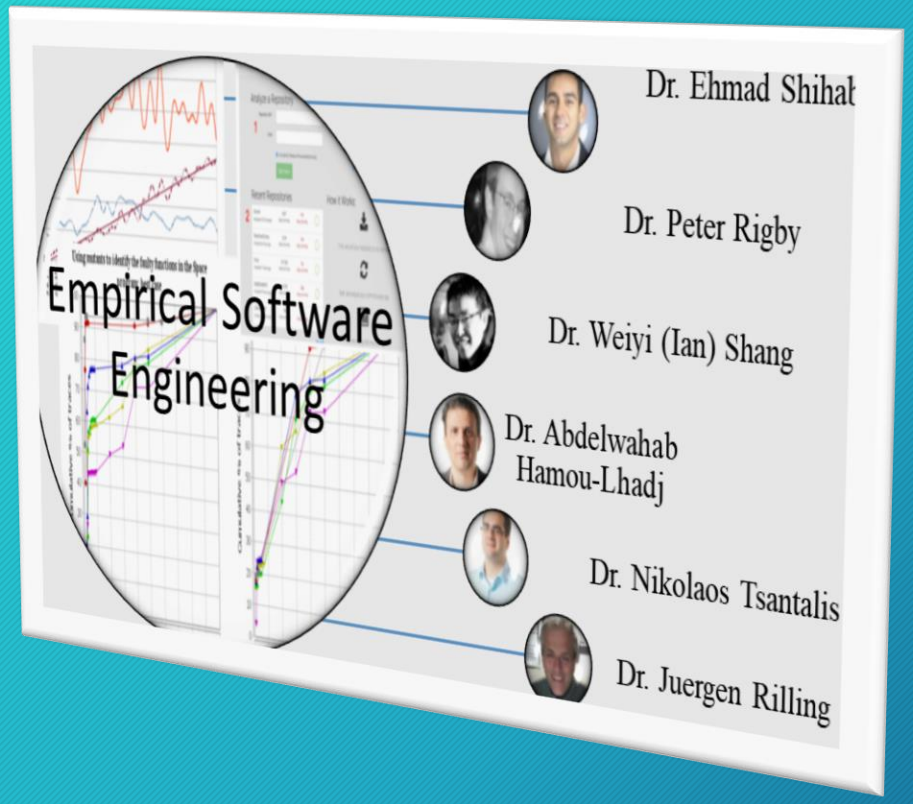
Overview

Core Areas of Expertise



Expertise

Empirical Software Engineering



Applied software engineering research

- Studies involving collection of data and experience.

Empirical results

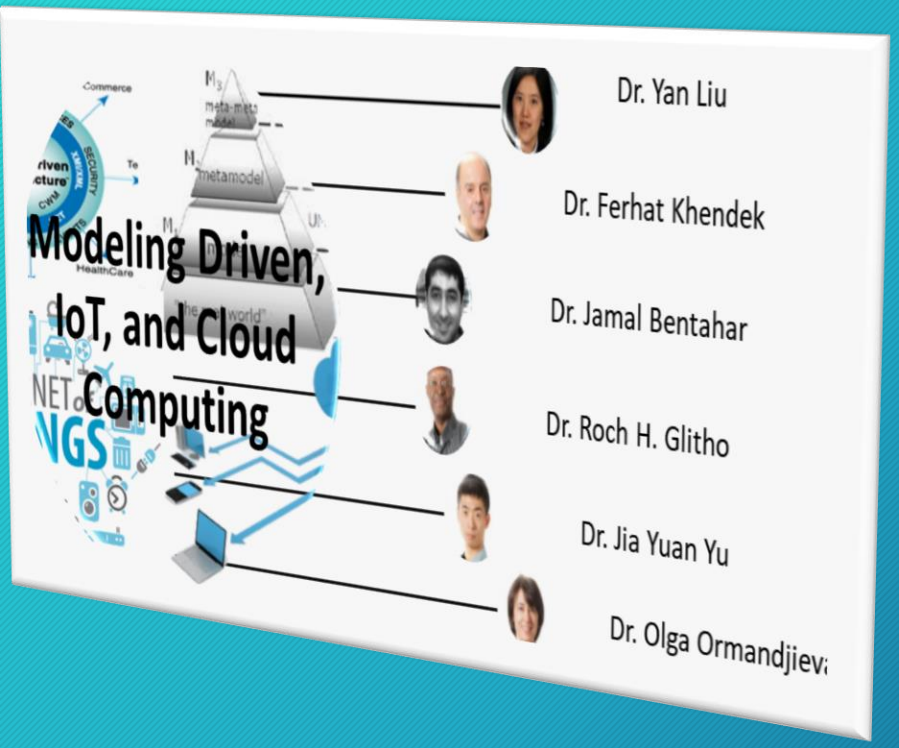
- Create a body knowledge.
- Leading to knew accepted, well formed theories.

Mining Software Repositories

- Make historical data actionable through data analytics.
- Validate novel ideas and techniques.

Expertise

Modeling, IoT and Cloud Computing



Model Driven Development

- Compatibility between systems via standardized models.
- Integrated part of cyber-physical and other emerging systems.

IoT and Cloud Computing

- Big data and automation of processes.
- Resource distribution and improved ubiquitous computing environments.

Wireless communication

- Enhancing and developing new wireless infrastructure technologies.

Expertise

SE Quality and Best Practices

Software Quality and Measures

- Quality frameworks and assessment
- System compliance to functional and non-functional requirements.

Software Processes

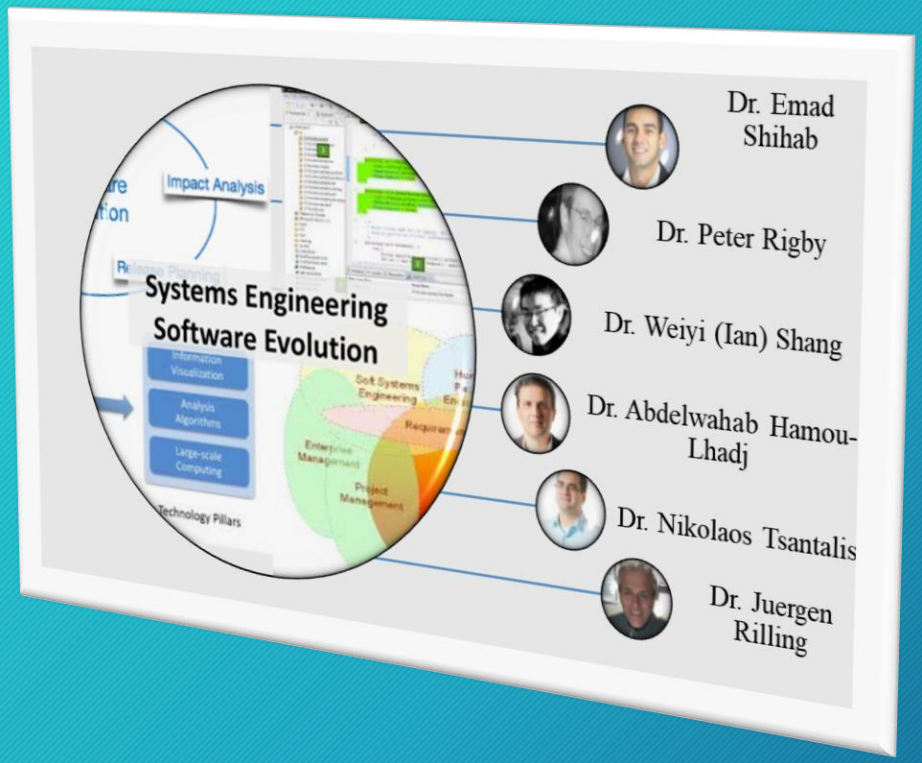
- Assessment and understanding of development processes and their optimization.

Collaborative Software Engineering

- Shared understanding of software artifacts within larger development processes.
- Artifact-neutral coordination technologies and toolkits.

Expertise

System Engineering and Evolution



System Engineering

- Understanding of stakeholder needs.
- Software Lifecycle support.
- Tool development and analysis of software artifacts.

Software Evolution

- Software traceability.
- System comprehension.
- Recovery and reverse engineering of information.

Tool development and best practices

- Tool support for software analytics.
- Capturing and modeling of best practices.

Why SERC - Our Value proposition

Expertise

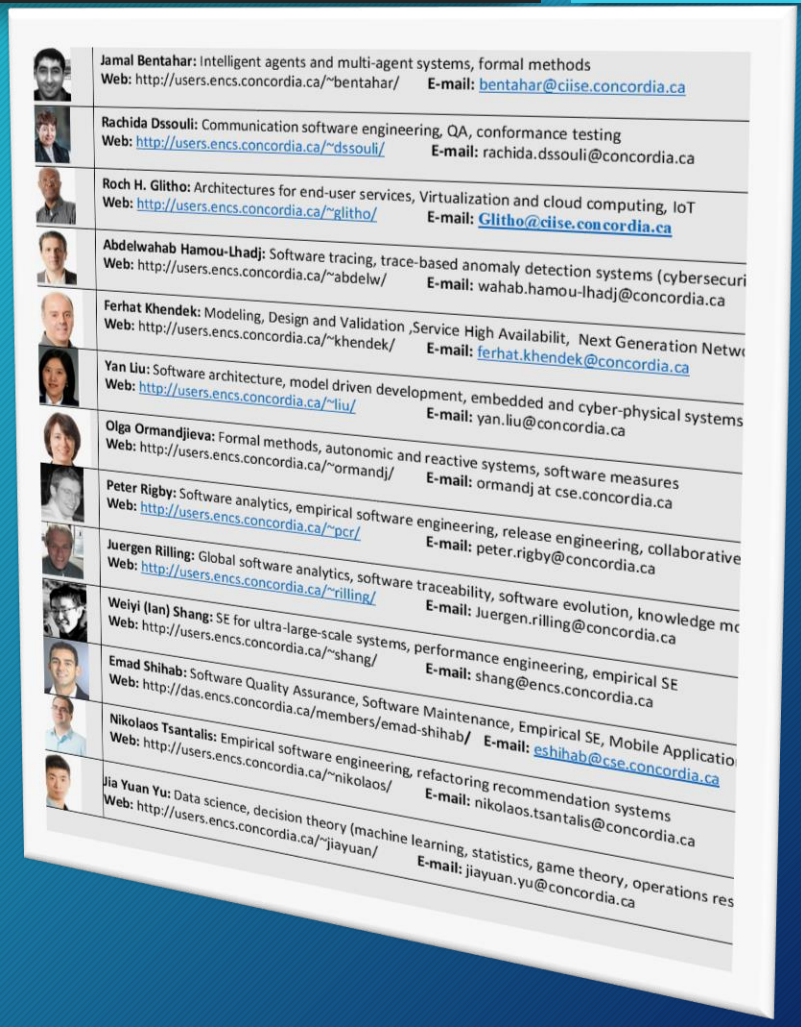
- Access to experts in various areas of software engineering research.

Highly Qualified Personnel

- Access to highly trained and motivated students.
- Opportunity to take advantage of co-op initiatives.

Technology and Knowledge Transfer

- Access to state-the-art of technologies.
- Win-win situation for both industry and academia by working on real world problems.
- Cost sharing between industry and government agencies.



Jamal Bentahar: Intelligent agents and multi-agent systems, formal methods
Web: http://users.encs.concordia.ca/~bentahar/ **E-mail:** bentahar@ciise.concordia.ca

Rachida Dssouli: Communication software engineering, QA, conformance testing
Web: http://users.encs.concordia.ca/~dssouli/ **E-mail:** rachida.dssouli@concordia.ca

Roch H. Glitho: Architectures for end-user services, Virtualization and cloud computing, IoT
Web: http://users.encs.concordia.ca/~glitho/ **E-mail:** Glitho@ciise.concordia.ca

Abdelwahab Hamou-Lhadj: Software tracing, trace-based anomaly detection systems (cybersecuri
Web: http://users.encs.concordia.ca/~abdelw/ **E-mail:** wahab.hamou-lhadj@concordia.ca

Ferhat Khendek: Modeling, Design and Validation ,Service High Availabilit, Next Generation Netw
Web: http://users.encs.concordia.ca/~khendek/ **E-mail:** ferhat.khendek@concordia.ca

Yan Liu: Software architecture, model driven development, embedded and cyber-physical systems
Web: http://users.encs.concordia.ca/~liu/ **E-mail:** yan.liu@concordia.ca

Olga Ormandjieva: Formal methods, autonomic and reactive systems, software measures
Web: http://users.encs.concordia.ca/~ormandj/ **E-mail:** ormandj at cse.concordia.ca

Peter Rigby: Software analytics, empirical software engineering, release engineering, collaborative
Web: http://users.encs.concordia.ca/~pcr/ **E-mail:** peter.rigby@concordia.ca

Juergen Rilling: Global software analytics, software traceability, software evolution, knowledge mo
Web: http://users.encs.concordia.ca/~rilling/ **E-mail:** Juergen.rilling@concordia.ca

Weiyi (Ian) Shang: SE for ultra-large-scale systems, performance engineering, empirical SE
Web: http://users.encs.concordia.ca/~shang/ **E-mail:** shang@encs.concordia.ca

Emad Shihab: Software Quality Assurance, Software Maintenance, Empirical SE, Mobile Applicatio
Web: http://das.encs.concordia.ca/members/emad-shihab/ **E-mail:** eshihab@cse.concordia.ca

Nikolaos Tsantalis: Empirical software engineering, refactoring recommendation systems
Web: http://users.encs.concordia.ca/~nikolaos/ **E-mail:** nikolaos.tsantalis@concordia.ca

Jia Yuan Yu: Data science, decision theory (machine learning, statistics, game theory, operations res
Web: http://users.encs.concordia.ca/~jiayuan/ **E-mail:** jiayuan.yu@concordia.ca

Thank you !

For more details:
serc.encs.concordia.ca