The Seminars on "Information Technology Outlook" – PhD Program in Computer Science and Mathematics

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From Automating Software Development to Empowering Software Developers

Machines today can write software, compose music, create art, predict events, and listen and learn from humans. Notably, automation also plays an essential role in high performing software development teams by automating tasks and improving developer productivity. But automation can't (yet) replace human imagination and the intelligence that arises when multiple great minds work together to solve the complex problems that are inherent in software and systems design. In this talk, we will review how automation in modern software development has evolved and the many benefits it has brought. We will then explore how a deeper understanding of the developer experience points to untapped possibilities for innovating automation for software engineering, focusing on how they can: support developers to manage the cognitive complexity of today's systems, ease and enhance collaboration by speeding up feedback loops, and help developers to get in and stay in a state of flow when developing.

We will conclude by discussing how we can measure the impact of new innovations on the developer experience, and how doing so will drive actionable change and empower developers to do their best work joyfully.

Dr. Margaret-Anne Storey is a Professor of Computer Science. She holds a Canada Research Chair in Human and Social Aspects of Software Engineering and is a member of the Royal Society of Canada's College of New Scholars, Artists and Scientists. Together with her students and collaborators, she seeks to understand how software tools, communication media, data visualizations, and social theories can be leveraged to improve how software engineers and knowledge workers explore, understand, analyze and share complex information and knowledge. She has published widely on these topics and collaborates extensively with high-tech companies and non-profit organizations to ensure real-world applicability of her research contributions and tools. Dr. Storey currently consults with Microsoft and getDX to understand and improve developer productivity and developer experience.