What is a Compiler? We thought we knew...

Department of Computer Science, Aarhus University presents: Distinguished talk by Mads Torgersen, Microsoft

Mads Torgersen is a Program Manager at Microsoft, where he oversees the evolution of the C# language. He has also contributed to the design of Visual Basic, TypeScript and LINQ and was involved in the Roslyn project since its beginning. Before joining Microsoft in 2005, Mads was a Research Associate Professor at Department of Computer Science, Aarhus University, where he also dabbled in program languages.

The Roslyn project is an unusual take on industrial-grade compilers. Written in C# for C# (and Visual Basic for Visual Basic), Roslyn is an open-source, full-fidelity syntactic and semantic API for code that works efficiently in both batch and interactive scenarios. Roslyn shipped last year, replacing Microsoft’s old compilers and is empowering a groundswell of coding and analysis tools across the community.

In this talk we’ll use Roslyn to live-code a simple but functional code analysis and dig into the (sometimes surprising) architectural choices and nifty underlying data structures that make Roslyn approachable, resilient, scalable and efficient. Hint: it’s not how we learned to do it in school! We’ll also talk about the many challenges that come from trying to be everything to everyone - and doing it well. Roslyn is open source, and I hope to encourage you all to play with it!