INSTITUT
DE RECHERCHE
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FONDAMENTALE

Distinguished Talks Series

Simon Peyton Jones

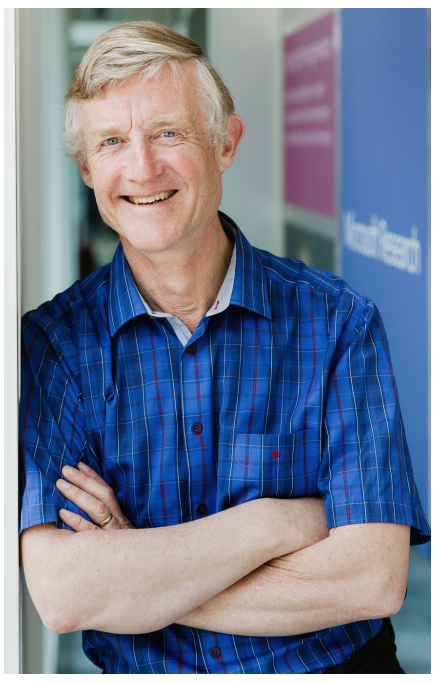
Beyond functional programming: the Verse programming language

Since joining **Epic Games** in late 2021, I have been involved in the **design and development of Verse**, a new, declarative programming language that Epic plans to use as the **language of the metaverse**.

Verse is extremely ambitious: we want it to allow millions of programmers who have never met to write code that inter-operates to build a shared virtual 3D simulation in which billions of users can interact. My current focus is on formally specifying the technical heart of Verse. At its core, Verse is a **functional logic language**, up to now rather a niche subject. In the talk I will give you a sense of what a functional logic language is; I will describe the challenges with giving it a formal definition; and I will sketch our progress in addressing this challenge using denotational semantics, rewrite rules, and a reference interpreter.

Amphi Turing, Université Paris Cité
Bâtiment Sophie Germain,
8 Place Aurélie Nemours
Paris, 750013

Mercredi 8 Novembre 2023
De 11h à 12h30
(suivi d'un buffet)



Biography

Simon is a Fellow of the Royal Society. He graduated from Trinity College Cambridge in 1980. After two years in industry, he spent seven years as a lecturer at University College London, and nine years as a professor at Glasgow University, before joining Microsoft Research (Cambridge) in 1998. In 2022, he joined Epic Games as an Engineering Expert.

Simon's main research interest is in **functional programming languages**, their implementation, and their application. He was a key contributor to the design of the now-standard functional language Haskell, and is the lead designer of the widely-used Glasgow Haskell Compiler (GHC). He has written two textbooks about the implementation of functional languages. He is particularly motivated by direct application of principled theory to practical language design and implementation — that is one reason he loves functional programming so much.

Simon is **chair of Computing at School**, the grass-roots organisation that was at the epicentre of the 2014 reform of the English computing curriculum.

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