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Information Science

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Separation Logic: a rich framework for reasoning about programs

Speaker and Title

Emanuele D'Osualdo (University of Konstanz)
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Time and Room

June 19th (Wednesday)
1:30pm - 3:00pm
R 611

Abstract

In this talk I will outline the main conceptual breakthroughs provided by Separation Logic, a successful framework to reason about programs with rigorous logics. Starting from a simple observation about the shortcomings of Hoare logic to reason about heap-manipulating programs, the concept of “separation” provided a new tool for thought that proved to be extremely useful beyond the initial application.
After a brief overview of Separation Logic, I will present the main ideas behind my Bluebell project, which proposes a new Separation Logic that can reason about probabilistic behaviour.

Speaker's Bio

Emanuele D'Osualdo is a **Tenure-Track Professor** of Formal Methods for Software Engineering at the University of Konstanz.
Until April 2024, he was a Postdoctoral Researcher at Max Planck Institute for Software Systems (MPI-SWS) in Saarbrücken, working on verification of concurrent software with Derek Dreyer.
Until September 2020 he was a **Marie Curie Fellow** at Imperial College London, working on verification of concurrent software with Prof. P. Gardner.
From 2015 to 2017 he was a PostDoc in the Concurrency Theory Group at the University of Kaiserslautern, working with Prof. Roland Meyer.
In 2015 he received a PhD (DPhil) in Computer Science from the University of Oxford. His supervisor was Prof. C.-H. Luke Ong. His dissertation won the 2016 CPHC/BCS Distinguished Dissertation award.
Previously, he did his undergraduate and master's studies at the University of Udine, Italy, graduating with honors. His studies were supported by the Scuola Superiore scholarship.