

Kolloquiumsvortrag

Donnerstag, 14. Februar 2019, 16:00 Uhr, Raum WE5/04.004

Backwards and Forwards in Separation Logic

Prof. Dr. Peter Höfner (CSIRO & The University of New South Wales Sydney, Australia)

The use of Hoare logic in combination with weakest pre- and strongest post-conditions is a standard tool for program verification, known as backward and forward reasoning. In this talk I extend these techniques to allow backward and forward reasoning for separation logic. While the former is derived directly from the standard operators of separation logic, the latter uses a new one. We implement our framework in the interactive proof assistant Isabelle/HOL, and enable automation with several interactive proof tactics.

About the Speaker

Peter Höfner is principal research scientist at Data61, CSIRO, Australia's leading data innovation group, and also conjoint Associate Professor at the University of New South Wales, Australia. His research focuses on applications of formal methods in informatics, including protocol verification, software engineering and hybrid system analysis. Main focus lies on algebraic calculi for these topics. He (co-)authored over 60 refereed papers in international journals and conferences. For his PhD thesis he received an award for young researchers of the Universität Bayern e.V. He is editor of the Journal of Logic and Algebraic Methods in Computer Science, and member of the IFIP Working Group 2.1 (Algorithmic Languages and Calculi).