Fixed Points in Computer Science (FICS) 2023
Preface

This special issue of Fundamenta Informaticae contains revised and extended versions of contributions that were presented at the 11th edition of the international workshop Fixed Points in Computer Science (FICS) 2023. The FICS 2023 workshop was held on February 17, 2023 in Warsaw, as a satellite event of the EACSL Annual Conference on Computer Science Logic (CSL) 2023. The programme committee chair was Denis Kuperberg, with nine other programme committee members of which three joined as guest editors of the present special issue.

The programme consisted of twelve contributions, two of which were invited. While the invited talk by Graham Leigh gave rise to a paper in the present issue (see below), the invited talk "Seventy Years Using Fixed Points" by Dana S. Scott only remains in the archives in the form of the video that was played to the audience during the workshop and that is now hosted on the YouTube channel of the Topos Institute, Berkeley (where Dana Scott is one of the senior advisors), the direct link being `https://www.youtube.com/watch?v=jHJE9GoFZCY`. That talk spans seventy years of involvement of its author into our research domain – a remarkable document.

Fixed points play a fundamental role in several areas of computer science. They are used to justify (co-)recursive definitions and associated reasoning techniques. The construction and properties of fixed points have been investigated in many different settings such as: design and implementation of programming languages, logics, verification, databases. The FICS workshop series aims to provide a forum for researchers of the computer science and logic communities who study or apply the theory of fixed points.

The special issue presents three papers. The papers "Relative fixed points of functors" and "Peano Arithmetic and μMALL" are proper journal versions of contributed talks given at the workshop, while "Demystifying μ" grew out of the invited talk by Graham Leigh, now joining forces with two coauthors for a very extensive study.

We thus see the different cultures of category theory on one side and proof theory on the other side at play, with the different flavours of proof theory such as linear logic and the μ-calculus, as means to capture not one but entire classes of fixed points and to prove results about them all.

Editors:

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