

Marko Doko

February 2022

Research Interests

Programming languages and verification, formal methods in computer science, weak memory concurrency

Education & Work experience

- 2021– **Assistant Professor**, *Heriot-Watt University*, Edinburgh, UK.
- 2013–2021 **PhD student**, *Max Planck Institute for Software Systems (MPI-SWS)*, Kaiserslautern, Germany, Thesis title: Program Logic for Weak Memory Concurrency.
- 2006–2013 **Teaching assistant**, *Department of Mathematics, University of Zagreb*, Croatia.
Responsible for the following courses: Programming in C, Data Structures and Algorithms, Software in Mathematics, Computer Networks, Databases, Software Engineering, Computability Theory, Set Theory.
Enrolled in a doctoral program in mathematics.
- 2001–2006 **Dipl. Ing. (MS equivalent) in Mathematics (profile: Computer Science)**, *Department of Mathematics, University of Zagreb*, Croatia.

Peer Reviewed Publications (Conference and Journal Papers)

- POPL 2019** Azalea Raad, Marko Doko, Lovro Rožić, Ori Lahav, Viktor Vafeiadis
On library correctness under weak memory consistency
- Rad HAZU Vol. 23, 2019** Vedran Čačić, Marko Doko, Marko Horvat
Rearranging absolutely convergent well-ordered series in Banach spaces
- ESOP 2018** Kasper Svendsen, Jean Pichon-Pharabod, Marko Doko, Ori Lahav, Viktor Vafeiadis
A separation logic for a promising semantics
- ESOP 2017** Marko Doko, Viktor Vafeiadis
Tackling Real-Life Relaxed Concurrency with FSL++
- VMCAI 2016** Marko Doko, Viktor Vafeiadis
A Program Logic for C11 Memory Fences

Workshops, Contributed Talks, and Poster Presentations

- POPL 2015** Marko Doko, Viktor Vafeiadis
FSL: A Logic for Reasoning about Memory Fences
(Student poster session 3rd prize winner)
- FMCAD 2014** Marko Doko, Viktor Vafeiadis
Reasoning about Fences in C11 Relaxed Memory Model
- REORDER 2014** Marko Doko
Reasoning about Fences in C11 Weak Memory Model
- Sustavi dokazivanja 2012** Marko Doko
Computing Generalized Trace for the Closed Fragment of Interpretability Logic
(in Croatian)
- Logic Colloquium 2009** Vedran Čačić, Marko Doko, Marko Horvat, Domagoj Vrgoč
Changing the Order of Summation for Series beyond ω

Scientific Talks

- 2019 On library correctness under weak memory consistency
New York University
- 2019 On library correctness under weak memory consistency
Yale University
- 2018 A Separation Logic for Promising Semantics
Yale University
- 2017 Verifying the ARC Algorithm
Department of Mathematics, University of Zagreb
- 2016 Verifying Atomic Reference Counter
Kent Concurrency Workshop, Canterbury
- 2016 How To Reason About Multithreading in the Weak Memory Context
IEEE Computer Croatia Chapter
- 2016 Weak Memory Models From a Logician's Perspective
Department of Mathematics, University of Zagreb
- 2016 FSL: A Program Logic for C11 Memory Fences
New York University
- 2016 FSL: A Program Logic for C11 Memory Fences
Yale University
- 2015 FSL: A Program Logic for C11 Memory Fences
Northern Concurrency Meeting, Newcastle

Service

- Subreviewer VMCAI 2014, NETYS 2016, CPP 2017, ESOP 2017, FSTTCS 2017, CPP 2018, CAV 2018, CONCUR 2021, CSL 2022
- Artifact evaluation committee CAV 2017

Supervisory Roles

- 2017 Supervised an undergraduate research intern at MPI-SWS through the Research Internship in Science and Engineering (RISE) project of the German Academic Exchange Service (DAAD).

Teaching

At Heriot-Watt University

- summer sem. 2022 Data Structures and Algorithms
- winter sem. 2006 Set Theory
- summer sem. 2007 Programming in C, Software in Mathematics
- winter sem. 2007 Programming in C, Computer Networks, Set Theory
- summer sem. 2008 Programming in C, Software Engineering, Computability Theory
- winter sem. 2008 Programming in C, Computer Networks, Set Theory

summer sem. Programming in C, Software Engineering, Computability Theory
2009

winter sem. Programming in C, Computer Networks, Set Theory
2009

summer sem. Programming in C, Computability Theory
2010

winter sem. Programming in C, Computer Networks, Set Theory
2010

summer sem. Programming in C, Computability Theory, Databases
2011

winter sem. Programming in C, Data Structures and Algorithms, Computer Networks, Set Theory
2011

summer sem. Programming in C, Computability Theory, Databases
2012

winter sem. Programming in C, Data Structures and Algorithms, Computer Networks, Set Theory
2012

summer sem. Programming in C, Databases
2013

Public Outreach

2017 Mathematical Modeling of Behaviors of Multi-core Processors
Presentation for high-schoolers in Makarska, Croatia