Stefania Damato

Curriculum Vitæ

School of Computer Science
University of Nottingham
Nottingham, United Kingdom
✉ *stefania.damato@nottingham.ac.uk*
stefaniatadama.com

Education

2021 – **Ph.D. Computer Science**, *University of Nottingham*.
Under the supervision of Prof. Thorsten Altenkirch.

My PhD is about investigating the semantics of inductive types in homotopy type theory (HoTT), through the lens of category theory and containers.

2019 – 2020 **M.Sc. Computer Science**, *University of Nottingham*.
Awarded the Best Overall MSc Academic Achievement for obtaining the highest final average mark in my master's course.

Thesis Title: Constructing Simple and Mutual Inductive Types
Supervisor: Prof. Thorsten Altenkirch
We investigate the central notion of an inductive type within Martin-Löf's dependent type theory, by exploring the construction of a reduction in Agda from simple and mutual inductive types to W-types, the type of well-founded trees.

2015 – 2019 **B.Sc. (Hons) Mathematics & Computer Science**, *University of Malta*.
Mathematics Dissertation Title: The Cantor–Bernstein Theorem
Supervisor: Prof. David Buhagiar
We explore various proofs of the Cantor–Bernstein theorem, which states that if there exist injections $f: A \to B$ and $g: B \to A$, then there exists a bijection $h: A \to B$. We also give proofs for the equivalents of the axiom of choice.

Computer Science Project Title: Algorithmic Translations from Parallel to Regular Monitors
Supervisor: Prof. Adrian Francalanza
In Adventures in Monitorability, the authors show that a parallel monitor can be transformed to a verdict-equivalent regular monitor. In this project, a partial solution is devised to carry out this transformation.

Professional Experience

2020 – 2021 **Software Developer**, *Simply VC*, Malta.
My role was focused on developing the ixo blockchain, built using the Cosmos SDK.

2019 **Research Intern**, *University of Malta*, Faculty of ICT, Malta.
Three month summer internship. Worked on the implementation of controllability of monitors under the supervision of Prof. Adrian Francalanza.

2018 **Junior Software Developer**, *Ascent Software*, Malta.
Three month summer internship. Wrote software in C++ to test low-level drivers for control units used in cars. Created Bash scripts to automate the running of these tests.

2017 **Junior Software Developer**, *Atlas Insurance*, IT Department, Malta.
Three month summer internship. Developed software in C# and wrote documentation for the AtlasSMS mobile phone messaging service, which had a Microsoft SQL Server database backend. Used SQL to connect, query and update this database.

2016 **IT Support Officer**, *Office of the Prime Minister*, Energy and Projects, Malta.
Three month summer internship in a governmental institution. Set up basic IT tasks for inventory in an office setting.

Invited Talks

Sep 2023 **A Container Model of Type Theory**, *Yorkshire and Midlands Category Theory Seminar (YaMCATS 32)*, Cambridge, UK.

Contributed Talks

Jun 2023 **Revisiting Containers in Cubical Agda**, *International Conference on Types for Proofs and Programs (TYPES 2023)*, Valencia, Spain.

May 2023 **Specifying QIITs using Containers**, *International Conference on Homotopy Type Theory (HoTT 2023)*, Pittsburgh, Pennsylvania.

Apr 2023 **Specifying QIITs using Containers**, *Workshop on Homotopy Type Theory and Univalent Foundations (HoTT/UF 2023)*, Vienna, Austria.

Oct 2020 **Constructing Simple and Mutual Inductive Types**, *14^{th} London Hopper Colloquium*, Online.
Finalist in Research Spotlight Competition

Oct 2020 **Constructing Simple and Mutual Inductive Types in Agda**, *Agda Implementors' Meeting XXXIII*, Online.

Teaching

2021 – 2024 **Teaching Assistant**, *University of Nottingham.*

Spring 2022 – Spring 2024	Programming Paradigms Functional programming in Haskell.
Autumn 2021 – Autumn 2022	Algorithms Correctness and Efficiency Formal logic in Lean 3.
Autumn 2023	Introduction to Formal Reasoning Formal logic in Lean 3.

My role as a teaching assistant involves planning and running tutorials, helping out students in lab sessions, and marking courseworks and exams.