

# dr. Tom Lauwaerts

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Dutch Native · English High professional proficiency · French Elementary · Chinese Novice

## Education

**PhD. Computer Science** · 2021 - 2025

Ghent University, TOPL lab

**BSc. and MSc. in Computer Science** · 2016 - 2021

Ghent University, faculty of Sciences

## Work experience

**PhD Researcher: Programming Languages**

*Ghent University* · 2021 - 2025 (4 years)

Research into debugging and testing tools with a strong formal foundation.

**Teaching Assistant**

*Ghent University* · 2021 - 2025 (4 years)

Supervising the tutorials and projects, and assisting oral exams for the courses:

*Fundamenten van programmeertalen*, and *Logisch programmeren*.

Coaching master students, and jury member for master dissertations.



**Embedded Software Developer (Internship)**

*Creative Therapy (startup)* · July - August 2020

Researching WebUSB technology and developing a USB gadget driver in Linux for WebUSB communication between the online platform and the hardware.

## Highlighted research output




**Multiverse debugging on microcontrollers**  

2025-10 | *Conference paper (OOPSLA'25)*


**Event-Based Out-of-Place Debugging**   

2022-09-14 | *Conference paper (MPLR'22)*

## Academic services

 **DEBT workshop co-organizer** · 2025

Co-organizing the DEBT'25 workshop with Burcu Kulahcioglu Ozkan (TU Delft).

 **Programming artifact evaluation committee member** · 2024 - 2026

AEC member for the Programming conference and journal (volumes 9 and 10).

## Volunteer work

**Member of the OCI and delegate to the CKO (UGent)** · 2022 - 2025

Delegated member to the CKO since sept 2024, and currently part of the focus group for the computer science bachelor and master program reforms.

**Science communication and outreach** · 2021 - *present*

Assisting with SID-in, Alumniday UGent, Unimath, and Computer Science Olympiad.

## Honors

 **ISSTA'23 Research competition: 3rd place** · 2023

International ACM Research competition at ECOOP/ISSTA 2023 3rd place medal.

### Multiverse debugging on microcontrollers

2025-10 | **Tom Lauwaerts**, Maarten Steevens, Christophe Scholliers | *Proceedings of the ACM on Programming Languages (PACMPL)*

I will present this work at the main track of OOPSLA 2025 conference.

### Latch: Enabling large-scale automated testing on constrained systems

2024-12 | **Tom Lauwaerts**, Stefan Marr, Christophe Scholliers | *Science of Computer Programming Journal*

I presented this work during a poster session at the ISSTA'23 conference.

### Concolic Multiverse Debugging

2024-09-13 | Maarten Steevens, **Tom Lauwaerts**, Christophe Scholliers | *Short paper (DEBT'24)*

An early version of this work was presented by myself at the final of the ISSTA'23 Research competition.

### WARDuino: An embedded WebAssembly virtual machine

2024-06 | **Tom Lauwaerts**, Robbert Gurdeep Singh, Christophe Scholliers | *Journal of Computer Languages*

Presented at the International Conference on the Art, Science, and Engineering of Programming 2022, during a poster session and a dedicated demonstration.

### Out-of-Place Debugging on Constraint Devices with the EDWARD Debugger (Demo)

2023-07-17 | **Tom Lauwaerts**, Carlos Rojas Castillo, Elisa Gonzalez Boix, Christophe Scholliers | *Short paper (DEBT'23)*

Demo presentation at the first Workshop on Future Debugging Techniques (DEBT'23).

### Demo: Debugging Constraint Devices with EDWARD

2023-06-18 | **Tom Lauwaerts**, Carlos Rojas Castillo, Elisa Gonzalez Boix, Christophe Scholliers | *Short paper (MobiSys'23)*

Demo and poster presentation at the 21st ACM International Conference on Mobile Systems, Applications, and Services (MobiSys'23).

### Event-Based Out-of-Place Debugging

2022-09-14 | **Tom Lauwaerts**, Carlos Rojas Castillo, Robbert Gurdeep Singh, Matteo Marra, Christophe Scholliers, Elisa Gonzalez Boix | *Conference paper (MPLR'22)*

I presented this work at the main track of the 19th International Conference on Managed Programming Languages & Runtimes (MPLR'22).