

# Musard Balliu

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## CONTACT

### INFORMATION

School of Electrical Engineering and Computer Science  
KTH Royal Institute of Technology

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## RESEARCH INTERESTS

Information-flow security, language-based security, machine code and bytecode security, web and mobile security, location privacy, privacy in social networks, semantics, program verification, programming languages, epistemic logics, abstract interpretation

## CURRENT POSITION

### **Assistant Professor**

School of Electrical Engineering and Computer Science  
KTH Royal Institute of Technology

## EDUCATION

### **Chalmers University of Technology, SWEDEN**

Postdoctoral Researcher, November 2014 - December 2017

- Host: Andrei Sabelfeld
- Area of Study: Security and Privacy

### **KTH Royal Institute of Technology, SWEDEN**

PhD in Computer Science, October 2014

- PhD Thesis: *Logics for Information Flow Security: From Specification to Verification*
- Advisor: Mads Dam
- Area of Study: Security and Formal Methods

### **University of Verona, ITALY**

M.Sc., Computer Science, December 2008

- *110/110 cum Laude*
- Thesis Topic: *Security Techniques for Confidentiality and Integrity in Information Systems*
- Advisor: Isabella Mastroeni
- Area of Study: Security and Formal Methods

B.Sc., Computer Science, September 2006

- *110/110 cum Laude*
- Thesis Topic: *Towards a Theory of Computer Viruses*
- Advisor: Roberto Giacobazzi
- Area of Study: Foundations of Computer Science

## REFEREED JOURNAL PUBLICATIONS

Musard Balliu and Isabella Mastroeni. A weakest precondition approach to robustness. *LNCS Transactions on Computational Science X*, 2010.

Raul Pardo and Musard Balliu and Gerardo Schneider. Formalising Privacy Policies in Social Networks. *Journal of Logical and Algebraic Methods in Programming*, March 2017.

CONFERENCE  
PUBLICATIONS

Musard Balliu and Daniel Schoepe and Andrei Sabelfeld. We are Family: Relating Information-Flow Trackers *In Proceedings of the European Symposium on Research in Computer Security (ESORICS'17)*, Oslo, Norway, September 2017.

Daniel Schoepe and Musard Balliu and Frank Piessens and Andrei Sabelfeld. Let's Face It: Faceted Values for Taint Tracking. *In Proceedings of the European Symposium on Research in Computer Security (ESORICS'16)*, Heraklion, Crete, Greece, September 2016.

Daniel Schoepe and Musard Balliu and Benjamin C. Pierce and Andrei Sabelfeld. Explicit Secrecy: A Policy for Taint Tracking. In: *Proceedings of the IEEE European Symposium on Security and Privacy (EuroS&P'16)*. Saarbrcken, Germany, March 2016.

Musard Balliu and Benjamin Liebe and Daniel Schoepe and Andrei Sabelfeld. JSLINQ: Building Secure Applications across Tiers. In: *Proceedings of the ACM Conference on Data and Applications Security and Privacy (CODASPY 2016)*. New Orleans, LA, USA, March 2016.

Musard Balliu and Mads Dam and Roberto Guanciale. Automating Information Flow Analysis of Low Level Code. In: *In Proceedings of the 21st ACM Conference on Computer and Communication Security (CCS 2014)*. Scottsdale, Arizona, USA, November 2014.

Musard Balliu. Logics for Information Flow Security: From Specification to Verification. *PhD Thesis*. Stockholm, Sweden, October 2014.

Musard Balliu. A Logic for Information Flow Analysis of Distributed Programs. In: *In Proceedings of the 18th Nordic Conference on Secure IT Systems (NordSec 2013)*. Ilulissat, Greenland, October 18-21, 2013.

Musard Balliu and Mads Dam and Gurvan Le Guernic. ENCOVER: Symbolic Exploration for Information Flow Security. In: *In Proceedings of the IEEE Computer Security Foundations Symposium (CSF '12)*. Harvard University, Cambridge MA. June 25-27, 2012.

Musard Balliu and Mads Dam and Gurvan Le Guernic. Epistemic Logic for Information Flow Security. In: *In the Proc.of ACM SIGPLAN Programming Languages and Analysis for Security (PLAS '11)*. San Jose, CA, USA, June 05, 2011.

Musard Balliu and Isabella Mastroeni. A weakest precondition approach to active attacks analysis. *In the Proc.of ACM SIGPLAN Programming Languages and Analysis for Security (PLAS '09)*. Dublin, Ireland, June 15, 2009.

PEDAGOGICAL  
PAPERS

Musard Balliu. Developing a Programming Course for Constructive Alignment. (Pedagogical paper)

TEACHING  
EXPERIENCE

**Chalmers University of Technology**, Sweden

*Teacher*

**Academic years 2017-2018**

- DIT042: Object-Oriented Programming

*Teacher*

**Academic years 2016-2017**

- Course leader for DIT948: Programming 2016

*Teacher*

**Academic years 2015-2016**

- Course leader for DIT948: Programming 2015

**KTH Royal Institute Of Technology**, Stockholm, Sweden

*Teaching Assistant*

- Assistant for DD2460: Software Safety and Security (2012)
- Assistant for DD1350: Logic for Computer Science (2012-2013)
- Assistant for DD2354: Algorithms and Complexity (2009-2014)
- Assistant for DD2395: Computer Security (2011)
- Assistant for DD2325: Applied Programming and Computer Science (2009-2014)
- Assistant for DD1335: Basic Internet Programming (2010)

**University of Verona**, Italy

*Tutor Assistant*

**Academic years 2007-2009**

- Lab tutor in different Courses: Algorithms and Data Structures, Software Architectures, Databases and Web, Java Programming, Computer Architectures and Operating Systems.

SUPERVISION

Co-supervisor for Daniel Schoepe: Phd student working on flexible and practical information-flow control

Co-supervisor for Raul Pardo: Phd thesis: Privacy Policies for Social Networks — A Formal Approach (November 2017)

Supervisor for Benjamin Liebe: Master thesis: Practical Cross-Tier Information Flow Control for Web Applications (October 2015)

Supervisor for Anders Nordin and Hannes Sandahl: Master thesis: Filtering Security Mechanism for Digital Communication (May 2015).

PROFESSIONAL  
ACTIVITIES

- **POST 2019, IFIPTM 2017** (co-chair of Graduate Symposium), **FCS 2017** (PC member), **Nordsec 2017** (PC member)
- **Chalmers Security Seminar**, (the organizer of the Chalmers security seminar across the department's divisions)

AWARDS

- Award for Best M.Sc. Theses 2009
- *Annual Scholarship financed by Regione Veneto*, 2003–2008
- *Honorable Mention for Excellent results from Rector of Verona University* 2006

LANGUAGE SKILLS

English (fluent), Italian (fluent), Swedish (good), French (limited), Albanian (mother tongue)