

Igor Zablotchi

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Research Areas

state-machine replication, Byzantine fault tolerance, RDMA, non-volatile memory, concurrent data structures, concurrent memory reclamation

Education

- 2020 PhD in Computer Science, EPFL
Thesis: *Distributed Computing with Modern Shared Memory*
Advisor: Rachid Guerraoui
- 2015 MSc in Computer Science, EPFL
Thesis: *SMR-NoMembar — Eliminating Memory Barriers from Hazard Pointers*
Supervisors: Maurice Herlihy, Rachid Guerraoui
GPA: 5.91/6 — Ranked 2/89 in CS Section
- 2012 BSc in Computer Science, EPFL
Thesis: *Crossing Flocks of Agents Using Virtual Leaders*
Supervisor: Denis Gillet
GPA: 5.83/6 — Ranked 1/77 in CS Section and 3/769 in EPFL overall

Internships & Exchanges

- 2019 Microsoft Research, Cambridge, UK — Research Internship
- Supervised by Aleksandar Dragojević
 - Topic: hardware-software concurrent data structures
 - Programming language: C++
- 2018 Oracle Labs, Burlington, MA — Research Internship
- Supervised by Virendra Marathe
 - Topic: fast RDMA-based consensus protocols, efficient multi-word compare-and-swap
 - Programming language: C++
- 2016 VMware Research, Palo Alto, CA — Research Internship
- Supervised by Dahlia Malkhi and Ittai Abraham
 - Topic: transactions across blockchain ledgers with atomicity, fairness and expressiveness
- 2015 EPFL, Distributed Programming Laboratory — Research Internship
- Supervised by Vasileios Trigonakis and Rachid Guerraoui
 - Topic: fast concurrent persistent key-value store
 - Programming languages: C, C++
- 2014–2015 Brown University — MSc Thesis Project (exchange semester)
- Supervised by Maurice Herlihy
 - Topic: fast and robust concurrent memory reclamation
 - Programming language: C
- 2013 ABB Research Switzerland — Research Internship
- Supervised by Ettore Ferranti and Yvonne-Anne Pignolet
 - Topics: building automation, brain-computer interface, domain-specific languages
 - Languages & tools: Python, Matlab, Xtext, OpenVIBE, Emotiv EPOC

Research Output

PEER-REVIEWED CONFERENCE PAPERS [AUTHOR NAMES IN ALPHABETICAL ORDER]

- 2020 *Efficient Multi-word Compare and Swap*. DISC '20.
Rachid Guerraoui, Alex Kogan, Virendra J. Marathe and **Igor Zablotchi**.
- 2019 *The Impact of RDMA on Agreement*. PODC '19.
Marcos K. Aguilera, Naama Ben-David, Rachid Guerraoui, Virendra J. Marathe and **Igor Zablotchi**.
- 2018 *Log-Free Concurrent Data Structures*. USENIX ATC '18.
Tudor David, Aleksandar Dragojević, Rachid Guerraoui and **Igor Zablotchi**.
- 2018 *The Inherent Cost of Remembering Consistently*. SPAA '18.
Nachshon Cohen, Rachid Guerraoui and **Igor Zablotchi**
- 2017 *FloDB: Unlocking Memory in Persistent Key-Value Stores*. EuroSys '17.
Oana Balmau, Rachid Guerraoui, Vasileios Trigonakis and **Igor Zablotchi**.
- 2017 *The Disclosure Power of Shared Objects*. NETYS '17.
Peva Blanchard, Rachid Guerraoui, Julien Stainer and **Igor Zablotchi**.
- 2016 *Fast and Robust Memory Reclamation for Concurrent Data Structures*. SPAA '16.
Oana Balmau, Rachid Guerraoui, Maurice Herlihy and **Igor Zablotchi**.

CONFERENCE PAPERS UNDER SUBMISSION [AUTHOR NAMES IN ALPHABETICAL ORDER]

- 2020 *Microsecond Consensus for Microsecond Applications*.
Marcos K. Aguilera, Naama Ben-David, Rachid Guerraoui, Virendra J. Marathe, Athanasios Xygkis and **Igor Zablotchi**.
- 2020 *Leaderless Consensus*.
Karolos Antoniadis, Vincent Gramoli, Rachid Guerraoui, Eric Ruppert and **Igor Zablotchi**.

CONFERENCE PRESENTATIONS

- 2018 The Inherent Cost of Remembering Consistently. SPAA '18
- 2017 The Disclosure Power of Shared Objects. NETYS '17.
- 2016 Fast and Robust Memory Reclamation for Concurrent Data Structures. SPAA '16.

CONFERENCE POSTERS

- 2018 Log-Free Concurrent Data Structures. USENIX ATC '18
- 2017 FloDB: Unlocking Memory in Persistent Key-Value Stores. EuroSys '17

Languages

English & French — fluent • Romanian — native language

Honors & Awards

2019	EPFL IC Teaching Assistant Award
2015	EPFL PhD Fellowship
2015	<i>Société Suisse d'Informatique</i> Prize — for achieving 2 nd highest GPA in EPFL CS MSc Program
2012	EPFL MSc Excellence Fellowship
2012	EPFL Prize — for achieving 3 rd highest GPA in 2012 graduating class

Teaching

TEACHING ASSISTANT

2016-2020	Concurrent Algorithms. Graduate class. EPFL
2019	Information Security and Privacy. Graduate class. EPFL
2017	Digital System Design. Undergraduate class. EPFL
2016	Practice of Object-Oriented Programming. Undergraduate class. EPFL

STUDENT ASSISTANT

2014-2015	Natural Language Processing. Graduate class. EPFL
2010-2014	Discrete Mathematics, Calculus, Linear Algebra. Undergraduate classes. EPFL

MENTORING

2020	Kristian Bränn. <i>Byzantine Fault Tolerant State Machine Replication with RDMA</i> . MSc Thesis. EPFL
2019-2020	Loïc Vandenberghe and Manuel Vidigueira. <i>Fast RDMA Consensus</i> . MSc Semester Project. EPFL
2018	Ivi Dimopoulou. <i>Implementation and Evaluation of 1-Fence Concurrent Persistent Data Structures</i> . MSc Semester Project. EPFL

Professional Service

EXTERNAL REVIEWER

2019, 2017	DISC (International Symposium on Distributed Computing)
2017	IPDPS (International Parallel and Distributed Processing Symposium)
2015	SPAA (Symposium on Parallelism in Algorithms and Architectures)