

Igor Zablotchi

Distributed Computing Researcher
Based in Boston, Massachusetts
E-mail: igor.zablotchi@gmail.com

Research Interests

Blockchain, microsecond computing, distributed systems, Byzantine fault tolerance, RDMA, persistent memory, concurrent and parallel data structures.

Experience

- 2023–2026 **Mysten Labs**, Remote — Senior Research Scientist
 - Topics: blockchain, Byzantine consensus, distributed/parallel transactions
- 2021–2022 **MIT CSAIL**, Cambridge, MA — Postdoctoral Fellow & Associate
 - Worked with Prof. Nir Shavit and Prof. Julian Shun
 - Topics: parallel-concurrent hybrid systems, neural scaling laws, sparse deep learning
- 2019 **Microsoft Research**, Cambridge, UK — Research Intern;
 - concurrent data structures; advisor: Aleksandar Dragojević
- 2018 **Oracle Labs**, Burlington, MA — Research Intern
 - RDMA consensus and multi-word compare-and-swap; advisor: Virendra Marathe
- 2016 **VMware Research**, Palo Alto, CA — Research Intern
 - cross-ledger transactions; advisors: Dahlia Malkhi and Ittai Abraham
- 2015 **EPFL**, Distributed Programming Laboratory — Research Intern
 - persistent concurrent key-value stores
- 2014–2015 **Brown University** — MSc Thesis Project;
 - concurrent memory reclamation; advisor: Maurice Herlihy
- 2013 **ABB Research Switzerland** — Research Intern

Education

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

Publications

PEER-REVIEWED CONFERENCE PAPERS [AUTHOR NAMES IN ALPHABETICAL ORDER UNLESS NOT]

- 2026 *Finding Nemo-Nemo: CFT DAG-based Consensus in the WAN*. Middleware '26 (to appear).
Rithwik Kerur, Pasindu Tennage, Philipp Jovanovic, Dahlia Malkhi, Alberto Sonnino,
Igor Zablotchi.
- 2026 *Tidehunter: Large-Value Storage With Minimal Data Relocation*. VLDB '26.
Andrey Chursin, Lefteris Kokoris-Kogias, Alex Orlov, Alberto Sonnino, **Igor Zablotchi**.

- 2026 *Remora: Scale-out Deterministic Execution for Smart Contracts*. VLDB '26.
Zhengqing Liu, Alberto Sonnino, **Igor Zablatchi**, Eleftherios Kokoris Kogias, Marios Kogias.
- 2025 *Byzantine Consensus in the Random Asynchronous Model*. DISC '25.
George Danezis, Jovan Komatovic, Lefteris Kokoris-Kogias, Alberto Sonnino, **Igor Zablatchi**
- 2025 *Mahi-Mahi: Low-Latency Asynchronous BFT DAG-Based Consensus*. ICDCS '25.
Philipp Jovanovic, Lefteris Kokoris-Kogias, Bryan Kumara, Alberto Sonnino, Pasindu Tennage, **Igor Zablatchi**
- 2025 *Pilotfish: Distributed Execution for Scalable Blockchains*. FC '25.
Quentin Kniep, Lefteris Kokoris-Kogias, Alberto Sonnino, **Igor Zablatchi**, Nuda Zhang.
- 2025 *Partial Synchrony for Free: New Upper Bounds for Byzantine Agreement*. SODA '25.
Pierre Civit, Muhammad Ayaz Dzulfikar, Seth Gilbert, Rachid Guerraoui, Jovan Komatovic, Manuel Vidigueira, **Igor Zablatchi**.
- 2024 *Efficient Signature-Free Validated Agreement*. DISC '24.
Pierre Civit, Muhammad Ayaz Dzulfikar, Seth Gilbert, Rachid Guerraoui, Jovan Komatovic, Manuel Vidigueira, **Igor Zablatchi**.
- 2024 *SWARM: Replicating Shared Disaggregated-Memory Data in No Time*. SOSR '24.
Antoine Murat, Clément Burgelin, Athanasios Xygkis, **Igor Zablatchi**, Marcos Kawazoe Aguilera, Rachid Guerraoui.
- 2024 *DSig: Breaking the Barrier of Signatures in Data Centers*. OSDI '24. **Distinguished Artifact Award**.
Marcos K. Aguilera, Clément Burgelin, Rachid Guerraoui, Antoine Murat, Athanasios Xygkis, **Igor Zablatchi**.
- 2024 *Parallel k-Core Decomposition with Batched Updates and Asynchronous Reads*. PPoPP '24.
Quanquan C. Liu, Julian Shun, **Igor Zablatchi**.
- 2023 *uBFT: Microsecond-scale BFT using Disaggregated Memory*. ASPLOS '23.
Marcos K. Aguilera, Naama Ben-David, Rachid Guerraoui, Antoine Murat, Athanasios Xygkis and **Igor Zablatchi**.
- 2021 *Frugal Byzantine Computing*. DISC '21.
Marcos K. Aguilera, Naama Ben-David, Rachid Guerraoui, Dalia Papuc, Athanasios Xygkis and **Igor Zablatchi**.
- 2021 *Leaderless Consensus*. ICDCS '21. **Best paper award**.
Karolos Antoniadis, Antoine Desjardins, Vincent Gramoli, Rachid Guerraoui and **Igor Zablatchi**.
- 2020 *Microsecond Consensus for Microsecond Applications*. OSDI '20
Marcos K. Aguilera, Naama Ben-David, Rachid Guerraoui, Virendra J. Marathe, Athanasios Xygkis and **Igor Zablatchi**.
- 2020 *Efficient Multi-word Compare and Swap*. DISC '20.
Rachid Guerraoui, Alex Kogan, Virendra J. Marathe and **Igor Zablatchi**.
- 2019 *The Impact of RDMA on Agreement*. PODC '19.
Marcos K. Aguilera, Naama Ben-David, Rachid Guerraoui, Virendra J. Marathe and **Igor Zablatchi**.
- 2018 *Log-Free Concurrent Data Structures*. USENIX ATC '18.
Tudor David, Aleksandar Dragojević, Rachid Guerraoui and **Igor Zablatchi**.
- 2018 *The Inherent Cost of Remembering Consistently*. SPAA '18.
Nachshon Cohen, Rachid Guerraoui and **Igor Zablatchi**
- 2017 *FloDB: Unlocking Memory in Persistent Key-Value Stores*. EuroSys '17.
Oana Balmau, Rachid Guerraoui, Vasileios Trigonakis and **Igor Zablatchi**.

- 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**.

• JOURNAL ARTICLES [AUTHOR NAMES IN ALPHABETICAL ORDER UNLESS NOT]

- 2024 *Honeycomb: Ordered Key-Value Store Acceleration on an FPGA-Based SmartNIC*. IEEE Transactions on Computers 73(3).
Junyi Liu, Aleksandar Dragojevic, Shane T. Fleming, Antonios Katsarakis, Dario Korolija, **Igor Zablotchi**, Ho-Cheung Ng, Anuj Kalia, Miguel Castro.
- 2023 *Leaderless Consensus*. JPDC 176.
Karlo Antoniadis, Julien Benhaim, Antoine Desjardins, Poroma Elias, Vincent Gramoli, Rachid Guerraoui, Gauthier Voron and **Igor Zablotchi**.

Honors & Awards

- 2024 OSDI Distinguished Artifact Award — DSig
- 2022 EuroSys Roger Needham PhD Award — Honorable Mention
- 2021 EPFL Doctoral Program Thesis Distinction
- 2019 EPFL IC Teaching Assistant Award
- 2015 EPFL PhD Fellowship
- 2015 Brown University Presidential Fellowship for Incoming Graduate Students
- 2015 *Société Suisse d'Informatique* Prize — for achieving 2nd highest GPA in EPFL CS MSc Program
- 2012 EPFL MSc Excellence Fellowship
- 2012 EPFL Prize — for achieving 3rd highest GPA in 2012 graduating class

Mentoring & Teaching

• MENTORING

- 2024 Zhengqing (Scofield) Liu. *Deterministic Execution of the Sui Blockchain*. Research Internship (co-advisor). Mysten Labs
- 2020-2021 Dalia Papuc. *Fast Byzantine Broadcast with RDMA*. Research Internship. EPFL
- 2020 Kristian Bränn. *Byzantine Fault Tolerant State Machine Replication with RDMA*. MSc Thesis. EPFL
- 2019-2020 Loïc Vandenberghe and Manuel Vidigueira. *Fast RDMA Consensus*. MSc Semester Project. EPFL
- 2018 Ivi Dimopoulou. *Implementation and Evaluation of 1-Fence Concurrent Persistent Data Structures*. MSc Semester Project. EPFL

• 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

Professional Service

- PROGRAM COMMITTEE

2026 ICDE (IEEE International Conference on Data Engineering)
2026 VLDB (International Conference on Very Large Data Bases) — PVLDB Vol. 19 Review Board
2026 PODC (ACM International Symposium on Principles of Distributed Computing)
2025 ApPLIED Workshop (ACM Advanced tools, programming languages, and PLaatforms for Implementing and Evaluating algorithms for Distributed systems)
2024 PODC (ACM International Symposium on Principles of Distributed Computing)
2021 SRDS (International Symposium on Reliable Distributed Systems)

- SESSION CHAIR

2024 PODC — Concurrency and Consistency; Security and Cryptography

- JOURNAL REVIEWER

2025 Distributed Computing, Journal of Parallel and Distributed Computing, Blockchain: Research and Applications
2022 Transactions on Parallel Computing
2021–2022 Distributed Computing
2021 Algorithmica

- EXTERNAL REVIEWER

2022 PODC (Symposium on Principles of Distributed Computing)
2019–2021 DISC (International Symposium on Distributed Computing)
2017 IPDPS (International Parallel and Distributed Processing Symposium)
2015 SPAA (Symposium on Parallelism in Algorithms and Architectures)

Languages

English & French — fluent
German — beginner
Romanian — native language