

Curriculum Vitae

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1 Curriculum vitae

Education

- Ph.D in Computer Sciences, University of Rennes 1, 2007.
- M. Sc. in Computer Sciences, University of Rennes 1, 2004.
- Engineer Diploma, ENSEIRB (École Nationale Supérieure d'Électronique, Informatique, Télécommunications de Bordeaux), 2002.

Academic appointments

September 2010 - present: Maître de conférences (Associate professor), Bordeaux INP

Oct. 2009 - Aug. 2010: Postdoctoral researcher, UPMC/LIP6, Paris

Oct. 2008 - Sep. 2009: Postdoctoral researcher, Technion, Israel

Jan. 2008 - Sep. 2008: Postdoctoral researcher, Universidad Politecnica de Madrid, Spain

Oct. 2004 - Dec. 2007: Research Assistant, University of Rennes 1

Oct. 2004 - Dec. 2007: Teaching Assistant, University of Rennes 1

Professional activities

Program committee member of international conferences

39th ACM Symposium on Principles of Distributed Computing (PODC 2020)
37th International Symposium on Theoretical Aspects of Computer Science (STACS 2020)
21st International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2019)
22nd International Conference on Principles of Distributed Systems (OPODIS 2018)
36th International Conference on Distributed Computing Systems (ICDCS 2016)
21th International Colloquium on Structural Information and Communication Complexity (SIROCCO 2014)
20th International Conference on Parallel Computing (Euro-Par 2014)
27th International Symposium on Distributed Computing (DISC 2013)
33rd International Conference on Distributed Computing Systems (ICDCS 2013)
28th International Conference on Distributed Computing Systems (ICDCS 2008)

Program committee member of workshop and national conferences

French symposium on Algorithmic Aspects of Telecommunication (Algotel 2013, Algotel 2014)
Third International Workshop on Reliability, Availability, and Security (WRAS 2010)

Schools and workshops organization

Co-organizer of the 2017 Spring School in Theoretical Computer Science on Distributed Computing (<http://epit2017.labri.fr/>)

Co-organizer of the Bertinoro Workshop on Distributed Verification (www.labri.fr/perso/travers/DRV2016/)

Tutorial and Workshops co-chair for the conference DISC 2014 (<http://www.disc-conference.org/wp/disc2014/>)

Local responsibilities

Coordinator for the 2nd year of the Computer Science Engineering Diploma of ENSEIRB-MATMECA (Since 2019)

Co-Coordinator of international student exchanges for the computer engineering department of ENSEIRB-MATMECA (2013 - 2019)

Member of the “commission consultative” (2013 - 2017) whose role is to propose hiring committees and ranks teaching assistant candidates (ATER)

Organizer of the Distributed Computing weekly seminar at LaBRI (2015 - 2018)

Member of an hiring committee (“comité de sélection”) for an associate professor position (“poste de maître de conférence”), ENSEIRB-MATMECA, 2012

Awards and Fellowships

Best paper award, SSS 2019 [c22]

Best paper award, ICDCN 2011 [c33]

Best paper award, DISC 2011 [c35]

Ali Kaufman post-doc fellowship, 2008/2009, for studies at the Technion

Juan de la Cierva post-doc fellowship, Madrid 2009, declined to go to the Technion

Students supervision

1. Adnane Khattabi, Ph.D. Student, Started in December 2019, “Shared objects with limited persistency”. Co-advised with Alessia Milani. Preliminaries results appear in [c18]
2. Tobias Castanet, Ph.D. Student, Started in 2018, “proximity maintenance in dynamic environments” . Co-advised with Nicolas Hanusse and Olivier Beaumont. Preliminaries results appear in [c20].
3. Ahad Mirza Baig, MS.Sc. student, “ Efficient Shared Memory Data Structure on Average” [c21, c19]
4. Dr. Zohir Bouzid, post-doc, “Anonymous Distributed Computing”, 2016 (LaBEX CPU fellowship) [c24].
5. David Bonnin, Ph.D. student, “Partition-Tolerant Distributed Computing”, started in October 2012, Graduated on November 2015. Part of his work appears in [c26, c29, fr63, fr64].
6. Claire Capdevielle, MS.Sc. student, “ Efficient, but Specialized Constructions”

Research Grants

Project member: ANR DUCAT (Task coordinator) 2021-2024, ANR Fredda (Site coordinator) 2017-2020, ANR Descartes (Task Coordinator) 2016-2019, ANR DISPLEXITY (Task coordinator) 2012-2015, ECOS Nord Grant Distributed Checkers (Mexican-French joint project, coordinator for the french side) 2012-2016, COST action IC1001 on Foundations of Transactional memories (2011-2015).

Complexity of Transactional Memories U. of Bordeaux starting grant, 2011 (with A. Milani).

Teaching

Since I was appointed Maître de conférences at ENSEIRB-MATMECA, I teach approximately 200h/year essentially in the computer science department of the engineering school ENSEIRB-MATMECA. Table 1 summarizes the courses I have been involved with.

2 Lists of Publications

Refereed Journals

- [j1] Armando Castañeda, Pierre Fraigniaud, Ami Paz, Sergio Rajsbaum, Matthieu Roy, and Corentin Travers. A topological perspective on distributed network algorithms. *Theor. Comput. Sci.*, 849:121–137, 2021.
- [j2] Pierre Fraigniaud, Sergio Rajsbaum, and Corentin Travers. A lower bound on the number of opinions needed for fault-tolerant decentralized run-time monitoring. *J. Appl. Comput. Topol.*, 4(1):141–179, 2020.

Course	type	HeqTD	Year	Level
Networking	Lab	16	2010-2011	M1
System programming	IC	30	2010-2011	M1
Numerical algorithms	IC	27	2010-2014	L3
Cryptography	Lec./TD	42	2010...	M1
C programming	Lab	20	2010-2016	M1
Computability & Complexity	Lec.(since 2015)/TD	20	2010...	M1
Concurrent Algorithms	IC	25	2015...	M1
Probability and statistics	TD	16	2012-2014	L3
Algorithm and data structure	Lec./TD	30	2013-2018	L3
Graph algorithms	IC	30	2016...	L3
Project supervision		≈ 15	2010...	M1

Table 1: Summary of teaching activities (Lab = laboratory class, Lec. = lecture, IC = integrated courses mixing lectures, lab and guided exercises in small groups, TD = “travaux dirigés”, guided exercises classes in small groups)

- [j3] Pierre Fraigniaud, Sergio Rajsbaum, Corentin Travers, Petr Kuznetsov, and Thibault Rieutord. Perfect failure detection with very few bits. *Inf. Comput.*, 275:104604, 2020.
- [j4] Faith Ellen, Panagiota Fatourou, Eleftherios Kosmas, Alessia Milani, and Corentin Travers. Universal constructions that ensure disjoint-access parallelism and wait-freedom. *Distributed Computing*, 4(29):251–277, 2016.
- [j5] Pierre Fraigniaud, Sergio Rajsbaum, and Corentin Travers. Locality and checkability in wait-free computing. *Distributed Computing*, 26(4):223–242, 2013.
- [j6] Dan Alistarh, Seth Gilbert, Rachid Guerraoui, and Corentin Travers. Generating fast indulgent algorithms. *Theory Comput. Syst.*, 51(4):404–424, 2012.
- [j7] Dan Alistarh, Seth Gilbert, Rachid Guerraoui, and Corentin Travers. Of choices, failures and asynchrony: The many faces of set agreement. *Algorithmica*, 62(1-2):595–629, 2012.
- [j8] Yehuda Afek, Eli Gafni, Sergio Rajsbaum, Michel Raynal, and Corentin Travers. The k -simultaneous consensus problem. *Distributed Computing*, 22(3):185–195, 2010.
- [j9] Achour Mostéfaoui, Michel Raynal, and Corentin Travers. Narrowing power vs efficiency in synchronous set agreement: Relationship, algorithms and lower bound. *Theor. Comput. Sci.*, 411(1):58–69, 2010.
- [j10] Philippe Raipin Parvédy, Michel Raynal, and Corentin Travers. Strongly terminating early-stopping k -set agreement in synchronous systems with general omission failures. *Theory Comput. Syst.*, 47(1):259–287, 2010.
- [j11] Eli Gafni, Achour Mostéfaoui, Michel Raynal, and Corentin Travers. From adaptive renaming to set agreement. *Theor. Comput. Sci.*, 410(14):1328–1335, 2009.
- [j12] Achour Mostéfaoui, Sergio Rajsbaum, Michel Raynal, and Corentin Travers. The combined power of conditions and information on failures to solve asynchronous set agreement. *SIAM J. Comput.*, 38(4):1574–1601, 2008.
- [j13] Achour Mostéfaoui, Sergio Rajsbaum, Michel Raynal, and Corentin Travers. On the computability power and the robustness of set agreement-oriented failure detector classes. *Distributed Computing*, 21(3):201–222, 2008.

- [j14] Sergio Rajsbaum, Michel Raynal, and Corentin Travers. An impossibility about failure detectors in the iterated immediate snapshot model. *Inf. Process. Lett.*, 108(3):160–164, 2008.
- [j15] Achour Mostéfaoui, Sergio Rajsbaum, Michel Raynal, and Corentin Travers. From omega to omega: A simple bounded quiescent reliable broadcast-based transformation. *J. Parallel Distrib. Comput.*, 67(1):125–129, 2007.
- [j16] Achour Mostéfaoui, Eric Mourgaya, Michel Raynal, and Corentin Travers. A time-free assumption to implement eventual leadership. *Parallel Processing Letters*, 16(2):189–208, 2006.
- [j17] Achour Mostéfaoui, Michel Raynal, and Corentin Travers. Time-free and timer-based assumptions can be combined to obtain eventual leadership. *IEEE Trans. Parallel Distrib. Syst.*, 17(7):656–666, 2006.

Refereed International Conferences with Proceedings

- [c18] Danny Hendler, Adnane Khattabi, Alessia Milani, and Corentin Travers. Upper and lower bounds for deterministic approximate objects. In *Proceedings of the IEEE 41st International Conference on Distributed Computing Systems (ICDCS)*. IEEE Computer Society, 2021. To appear.
- [c19] Mirza Ahad Baig, Danny Hendler, Alessia Milani, and Corentin Travers. Long-lived snapshots with polylogarithmic amortized step complexity. In *PODC '20: ACM Symposium on Principles of Distributed Computing, Virtual Event, Italy, August 3-7, 2020*, pages 31–40. ACM, 2020.
- [c20] Olivier Beaumont, Tobias Castanet, Nicolas Hanesse, and Corentin Travers. Approximation algorithm for estimating distances in distributed virtual environments. In *26th International Conference on Parallel and Distributed Computing Euro-Par*, volume 12247 of *Lecture Notes in Computer Science*, pages 359–375. Springer, 2020.
- [c21] Mirza Ahad Baig, Danny Hendler, Alessia Milani, and Corentin Travers. Long-lived counters with polylogarithmic amortized step complexity. In *DISC*, volume 146 of *LIPICs*, pages 3:1–3:16. Schloss Dagstuhl - Leibniz-Zentrum für Informatik, 2019.
- [c22] Armando Castañeda, Pierre Fraigniaud, Ami Paz, Sergio Rajsbaum, Matthieu Roy, and Corentin Travers. Synchronous t -resilient consensus in arbitrary graphs. In *SSS*, volume 11914 of *Lecture Notes in Computer Science*, pages 53–68. Springer, 2019. **Best paper award.**
- [c23] Armando Castañeda, Pierre Fraigniaud, Ami Paz, Sergio Rajsbaum, Matthieu Roy, and Corentin Travers. A topological perspective on distributed network algorithms. In *SIROCCO*, volume 11639 of *Lecture Notes in Computer Science*, pages 3–18. Springer, 2019.
- [c24] Zohir Bouzid and Corentin Travers. Anonymity-preserving failure detectors. In *30th International Symposium on Distributed Computing (DISC)*, volume 9888 of *Lecture Notes in Computer Science*, pages 173–186. Springer, 2016.
- [c25] Pierre Fraigniaud, Sergio Rajsbaum, and Corentin Travers. Non-deterministic fault-tolerant distributed decision. In *Proceedings of the 12th Latin American Symposium on Theoretical Informatics (LATIN)*, volume 9644 of *Lecture Notes in Computer Science*, pages 497–508. Springer, 2016.
- [c26] David Bonnin and Corentin Travers. Splitting and renaming with a majority of faulty processes. In *Proceedings of the 16th International Conference on Distributed Computing and Networking, (ICDCN)*, pages 26:1–26:10. ACM, 2015.
- [c27] Pierre Fraigniaud, Sergio Rajsbaum, Matthieu Roy, and Corentin Travers. The opinion number of set-agreement. In *Proceedings of the 18th International Conference on Principles of Distributed Systems (OPODIS)*, volume 8878 of *Lecture Notes in Computer Science*, pages 155–170. Springer, 2014.

- [c28] Pierre Fraigniaud, Sergio Rajsbaum, and Corentin Travers. On the number of opinions needed for fault-tolerant run-time monitoring in distributed systems. In *Proceedings on the 5th International Conference on Runtime Verification (RV)*, volume 8734 of *Lecture Notes in Computer Science*, pages 92–107. Springer, 2014.
- [c29] David Bonnin and Corentin Travers. α -register. In *Proceedings of the 17th International Conference on Principles of Distributed Systems (OPODIS)*, volume 8304 of *Lecture Notes in Computer Science*, pages 53–67. Springer, 2013.
- [c30] Zohir Bouzid and Corentin Travers. Parallel consensus is harder than set agreement in message passing. In *Proceedings of the IEEE 33rd International Conference on Distributed Computing Systems (ICDCS)*, pages 611–620. IEEE Computer Society, 2013.
- [c31] Dan Alistarh, Hagit Attiya, Rachid Guerraoui, and Corentin Travers. Early deciding synchronous renaming in $O(\log f)$ rounds or less. In *Proceedings of the 19th International Colloquium Structural Information and Communication Complexity (SIROCCO)*, volume 7355 of *Lecture Notes in Computer Science*, pages 195–206. Springer, 2012.
- [c32] Faith Ellen, Panagioti Fatourou, Eleftherios Kosmas, Alessia Milani, and Corentin Travers. Universal constructions that ensure disjoint-access parallelism and wait-freedom. In *ACM Symposium on Principles of Distributed Computing (PODC)*, pages 115–124. ACM, 2012.
- [c33] Dan Alistarh, Seth Gilbert, Rachid Guerraoui, and Corentin Travers. Generating fast indulgent algorithms. In *Proceedings of the 12th International Conference Distributed Computing and Networking (ICDCN)*, volume 6522 of *Lecture Notes in Computer Science*, pages 41–52. Springer, 2011. **Best paper award.**
- [c34] Zohir Bouzid, Pierre Sutra, and Corentin Travers. Anonymous agreement: The janus algorithm. In *Proceedings of the 15th International Conference on Principles of Distributed Systems (OPODIS)*, volume 7109 of *Lecture Notes in Computer Science*, pages 175–190. Springer, 2011.
- [c35] Pierre Fraigniaud, Sergio Rajsbaum, and Corentin Travers. Locality and checkability in wait-free computing. In *Proceedings of the 25th International Symposium on Distributed Computing (DISC)*, volume 6950 of *Lecture Notes in Computer Science*, pages 333–347. Springer, 2011. **Best paper award.**
- [c36] Zohir Bouzid and Corentin Travers. $(\text{anti-}\Omega^x \times \Sigma_z)$ -based k -set agreement algorithms. In *Proceedings of the 14th International Conference on Principles of Distributed Systems (OPODIS)*, volume 6490 of *Lecture Notes in Computer Science*, pages 189–204. Springer, 2010.
- [c37] Dan Alistarh, Seth Gilbert, Rachid Guerraoui, and Corentin Travers. Of choices, failures and asynchrony: The many faces of set agreement. In *Proceedings of the 20th International Symposium on Algorithms and Computation (ISAAC)*, volume 5878 of *Lecture Notes in Computer Science*, pages 943–953. Springer, 2009.
- [c38] Dan Alistarh, Seth Gilbert, Rachid Guerraoui, and Corentin Travers. How to solve consensus in the smallest window of synchrony. In *Proceedings of the 22nd International Symposium on Distributed Computing (DISC)*, volume 5218 of *Lecture Notes in Computer Science*, pages 32–46. Springer, 2008.
- [c39] Achour Mostéfaoui, Michel Raynal, and Corentin Travers. Narrowing power vs. efficiency in synchronous set agreement. In *Proceedings of the 9th International Conference on Distributed Computing and Networking (ICDCN)*, volume 4904 of *Lecture Notes in Computer Science*, pages 99–111. Springer, 2008.
- [c40] Sergio Rajsbaum, Michel Raynal, and Corentin Travers. The iterated restricted immediate snapshot model. In *14th Annual International Conference on Computing and Combinatorics (COCOON)*, volume 5092 of *Lecture Notes in Computer Science*, pages 487–497. Springer, 2008.

- [c41] Jiannong Cao, Michel Raynal, Corentin Travers, and Weigang Wu. The eventual leadership in dynamic mobile networking environments. In *Proceedings of the 13th IEEE Pacific Rim International Symposium on Dependable Computing (PRDC)*, pages 123–130. IEEE Computer Society, 2007.
- [c42] Eli Gafni, Michel Raynal, and Corentin Travers. Test & set, adaptive renaming and set agreement: a guided visit to asynchronous computability. In *Proceedings of the 26th IEEE Symposium on Reliable Distributed Systems (SRDS)*, pages 93–102. IEEE Computer Society, 2007.
- [c43] Achour Mostéfaoui, Michel Raynal, and Corentin Travers. From renaming to set agreement. In *Proceedings of the 14th International Colloquium on Structural Information and Communication Complexity (SIROCCO)*, volume 4474 of *Lecture Notes in Computer Science*, pages 66–80. Springer, 2007.
- [c44] Yehuda Afek, Eli Gafni, Sergio Rajsbaum, Michel Raynal, and Corentin Travers. Simultaneous consensus tasks: A tighter characterization of set-consensus. In *Proceedings of the 8th International Conference on Distributed Computing and Networking (ICDCN)*, volume 4308 of *Lecture Notes in Computer Science*, pages 331–341. Springer, 2006.
- [c45] Roy Friedman, Michel Raynal, and Corentin Travers. Two abstractions for implementing atomic objects in dynamic systems. In *Proceedings of the 9th International Conference Principles of Distributed Systems (OPODIS)*, volume 3974 of *Lecture Notes in Computer Science*, pages 73–87. Springer, 2006.
- [c46] Eli Gafni, Sergio Rajsbaum, Michel Raynal, and Corentin Travers. The committee decision problem. In *Proceedings of the 7th Latin American Symposium on Theoretical Informatics (LATIN)*, volume 3887 of *Lecture Notes in Computer Science*, pages 502–514. Springer, 2006.
- [c47] Achour Mostéfaoui, Sergio Rajsbaum, Michel Raynal, and Corentin Travers. Irreducibility and additivity of set agreement-oriented failure detector classes. In *Proceedings of the Twenty-Fifth Annual ACM Symposium on Principles of Distributed Computing (PODC)*, pages 153–162. ACM, 2006.
- [c48] Achour Mostéfaoui, Michel Raynal, and Corentin Travers. Exploring gafni’s reduction land: From Ω^k to wait-free adaptive $(2p - \lceil p/k \rceil)$ -renaming via k -set agreement. In *Proceedings of the 20th International Symposium on Distributed Computing (DISC)*, volume 4167 of *Lecture Notes in Computer Science*, pages 1–15. Springer, 2006.
- [c49] Achour Mostéfaoui, Michel Raynal, Corentin Travers, and Sergio Rajsbaum. From failure detectors with limited scope accuracy to system-wide leadership. In *Proceedings of the 20th International Conference on Advanced Information Networking and Applications (AINA)*, pages 81–86. IEEE Computer Society, 2006.
- [c50] Philippe Raipin Parvédy, Michel Raynal, and Corentin Travers. Strongly terminating early-stopping k -set agreement in synchronous systems with general omission failures. In *Proceedings of 13th International Colloquium on the Structural Information and Communication Complexity (SIROCCO)*, volume 4056 of *Lecture Notes in Computer Science*, pages 182–196. Springer, 2006.
- [c51] Michel Raynal and Corentin Travers. In search of the holy grail: Looking for the weakest failure detector for wait-free set agreement (invited paper). In *Proceedings of the 10th International Conference on Principles of Distributed Systems (OPODIS)*, volume 4305 of *Lecture Notes in Computer Science*, pages 3–19. Springer, 2006.
- [c52] Michel Raynal and Corentin Travers. Synchronous set agreement: a concise guided tour (including a new algorithm and a list of open problems). In *Proceedings of the 12th IEEE Pacific Rim International Symposium on Dependable Computing (PRDC)*, pages 267–274. IEEE Computer Society, 2006.

- [c53] Jin Yang, Jiannong Cao, Weigang Wu, and Corentin Travers. The notification based approach to implementing failure detectors in distributed systems. In *Proceedings of the 1st International Conference on Scalable Information Systems (Infoscale)*, volume 152 of *ACM International Conference Proceeding Series*, page 14. ACM, 2006.
- [c54] Achour Mostéfaoui, Michel Raynal, Corentin Travers, Stacy Patterson, Divyakant Agrawal, and Amr El Abbadi. From static distributed systems to dynamic systems. In *Proceedings of the 24th IEEE Symposium on Reliable Distributed Systems (SRDS)*, pages 109–118. IEEE Computer Society, 2005.
- [c55] Philippe Raipin Parvédy, Michel Raynal, and Corentin Travers. Decision optimal early-stopping k -set agreement in synchronous systems prone to send omission failures. In *Proceedings of the 11th IEEE Pacific Rim International Symposium on Dependable Computing (PRDC)*, pages 23–30. IEEE Computer Society, 2005.
- [c56] Philippe Raipin Parvédy, Michel Raynal, and Corentin Travers. Early-stopping k -set agreement in synchronous systems prone to any number of process crashes. In *Proceedings of the 8th International Conference Parallel Computing Technologies (PaCT)*, volume 3606 of *Lecture Notes in Computer Science*, pages 49–58. Springer, 2005.
- [c57] Achour Mostéfaoui, Michel Raynal, and Corentin Travers. Crash-resilient time-free eventual leadership. In *Proceedings of the 23rd International Symposium on Reliable Distributed Systems (SRDS)*, pages 208–217. IEEE Computer Society, 2004.

Short Communications in Refereed International Conferences

- [ba58] Zohir Bouzid and Corentin Travers. Brief announcement: Anonymity, failures, detectors and consensus. In *Proceedings of the 26th International Symposium on Distributed Computing (DISC)*, volume 7611 of *Lecture Notes in Computer Science*, pages 427–428. Springer, 2012.
- [ba59] Dan Alistarh, Seth Gilbert, Rachid Guerraoui, and Corentin Travers. Brief announcement: New bounds for partially synchronous set agreement. In *Proceedings of the 24th International Symposium Distributed Computing (DISC)*, volume 6343 of *Lecture Notes in Computer Science*, pages 404–405. Springer, 2010.
- [ba60] Antonio Fernández Anta, Sergio Rajsbaum, and Corentin Travers. Brief announcement: weakest failure detectors via an egg-laying simulation. In *Proceedings of the 28th Annual ACM Symposium on Principles of Distributed Computing, (PODC)*, pages 290–291. ACM, 2009.
- [ba61] Alejandro Cornejo, Sergio Rajsbaum, Michel Raynal, and Corentin Travers. Failure detectors are schedulers. In *Proceedings of the Twenty-Sixth Annual ACM Symposium on Principles of Distributed Computing (PODC)*, pages 308–309. ACM, 2007.
- [ba62] Roy Friedman, Michel Raynal, and Corentin Travers. Brief announcement: abstractions for implementing atomic objects in dynamic systems. In *Proceedings of the Twenty-Fourth Annual ACM Symposium on Principles of Distributed Computing (PODC)*, page 354. ACM, 2005.

Refereed National Conferences

- [fr63] David Bonnin and Corentin Travers. Renommage et Splitters en présence d’une Majorité de Pannes. In *ALGOTEL - 17èmes Rencontres sur les Aspects Algorithmiques des Télécommunications*, 2015.
- [fr64] David Bonnin and Corentin Travers. α -registres. In *ALGOTEL - 16èmes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications*, pages 1–4, 2014.