

# Fernando Pedone



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h-index: 20

## A Education

- PhD Computer Science, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland, 1999.  
Thesis title: The Database State Machine and Group Communication Issues.
- MSc Computer Science, Federal University of Rio Grande do Sul (UFRGS), Porto Alegre, Brazil, 1995.
- BSc Mechanical Engineering, University of Rio Grande (FURG), Rio Grande, Brazil, 1992.

## B Employment History

- |                   |  |
|-------------------|--|
| 01/2007 – present | <b>Associate Professor</b><br>University of Lugano (USI), Switzerland                        |
| 10/2004 – 12/2006 | <b>Assistant Professor</b><br>University of Lugano (USI), Switzerland                        |
| 05/2002 – 09/2004 | <b>Senior Researcher and Lecturer</b><br>Computer Networking Laboratory (EPFL), Switzerland  |
| 01/2000 – 08/2003 | <b>Research Scientist</b><br>Hewlett-Packard Laboratories (HP Labs), USA                     |
| 10/1996 – 01/2000 | <b>Research and Teaching Assistant</b><br>Distributed Systems Laboratory (EPFL), Switzerland |
| 10/1995 – 09/1996 | <b>Visiting Researcher</b><br>INRIA, France  |

## C Research and Creative Works

### C.1 Books and Book Chapters

1. B. Charron-Bost, F. Pedone and A. Schiper, eds. *Replication: theory and practice*, Springer, 2009.
2. F. Pedone and A. Schiper. Modular approach to replication for availability. In *Replication: theory and practice*, B. Charron-Bost, F. Pedone and A. Schiper, eds., Spring, 2009.
3. F. Pedone and A. Schiper. From object replication to database replication. In *Replication: theory and practice*, B. Charron-Bost, F. Pedone and A. Schiper, eds., Spring, 2009.
4. M. Allani, B. Garbinato and F. Pedone. Application Layer Multicast. In *Middleware for Network Eccentric and Mobile Applications*, B. Garbinato, H. Miranda and L. Rodrigues, eds., Springer, 2009.
5. F. Pedone. Replication based on Group Communication. In *Encyclopedia of Database Systems*, M. T. Ozsü and L. Liu, eds., Springer, 2009.

### C.2 Articles in Journals (Peer Reviewed)

6. M. Allani, B. Garbinato and F. Pedone. Resource-Aware Multimedia Content Delivery: A Gambling Approach. In the *Computer Journal*, 2010.
7. L. Camargos, R. Schmidt, E. Madeira and F. Pedone. Multicoordinated Agreement for Groups of Agents. In the *Journal of the Brazilian Computer Society*, 2010.
8. F. Pedone and S. Frolund. Pronto: High availability for standard off-the-shelf databases. In the *Journal of Parallel and Distributed Computing*, Vol. 68, No. 2, pp. 150–164, February 2008.
9. S. Frolund and F. Pedone. Dealing Efficiently with Data Center Disasters. In the *Journal of Parallel and Distributed Computing*, Vol. 63, No. 11, pp. 1064–1081, November 2003.
10. B. Kemme, F. Pedone, G. Alonso, A. Schiper and M. Wiesmann. Using Optimistic Atomic Broadcast in Transaction Processing Systems. In *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, Vol. 15, No. 4, pp. 1018–1032, July/August 2003.
11. F. Pedone, A. Schiper and R. Guerraoui. The Database State Machine Approach. In *Distributed and Parallel Databases*, Vol. 14, No. 1, pp. 71–98, July 2003.
12. F. Pedone and A. Schiper. Optimistic Atomic Broadcast: A Pragmatic Viewpoint. In *Theoretical Computer Science*, Vol. 291, pp. 79–101, January 2003.
13. F. Pedone and A. Schiper. Handling Message Semantics with Generic Broadcast Protocols. In *Distributed Computing*, Vol. 15, No. 2, pp. 97–107, April 2002.
14. F. Pedone. Boosting System Performance with Optimistic Distributed Protocols. In *IEEE Computer*, Vol. 34, No. 12, pp. 80–86, December 2001.

### C.3 Articles in Conferences and Workshops (Peer Reviewed)

15. P. J. Marandi, M. Primi and F. Pedone. High Performance State-Machine Replication In *Proc. of the 41th International Conference on Dependable Systems and Networks (DSN 2011)*. Hong Kong, China, June 2011.
16. F. Pedone, N. Schiper and J. E. Armendariz-Inigo Byzantine Fault-Tolerant Deferred Update Replication In *Proc. of the 5th Latin-American Symposium on Dependable Computing (LADC 2011)*. Sao Jose dos Campos, Brazil, April 2011.
17. L. Camargos, F. Pedone, A. Pilchin and M. Wieloch. On-Demand Recovery in Middleware Storage Systems. In *Proc. of the 29th International Symposium on Reliable Distributed Systems (SRDS 2010)*. New Delhi, India, October 2010.
18. N. Schiper, P. Sutra and F. Pedone. P-Store: Genuine Partial Replication in Wide Area Networks. In *Proc. of the 29th International Symposium on Reliable Distributed Systems (SRDS 2010)*. New Delhi, India, October 2010.
19. P. J. Marandi, M. Primi, N. Schiper and F. Pedone. Ring-Paxos: A High Throughput Atomic Broadcast Protocol. In *Proc. of the 40th International Conference on Dependable Systems and Networks (DSN 2010)*. Chicago, USA, June 2010.
20. N. Schiper and F. Pedone. Fast, Flexible, and Highly Resilient Genuine Fifo and Causal Multicast Algorithms. In *Proc. of the 25th Symposium on Applied Computing (SAC 2010)*. Sierre, Switzerland, March 2010.
21. M. Allani, B. Garbinato, A. Malekpour and F. Pedone. Reliable Communication Infrastructure for Adaptive Data Replication. In *Proc. of the 11th International Symposium on Distributed Objects, Middleware, and Applications (DOA 2009)*. Vilamoura, Portugal, November 2009.
22. N. Schiper, P. Sutra and F. Pedone. Genuine versus Non-Genuine Atomic Multicast Protocols for Wide Area Networks: An Empirical Study. In *Proc. of the 28th International Symposium on Reliable Distributed Systems (SRDS 2009)*. New York, USA, September 2009.
23. A. Malekpour, F. Pedone, M. Allani and B. Garbinato. Streamline: An Architecture for Overlay Multicast. In *Proc. of the 8th IEEE International Symposium on Network Computing and Applications (NCA 2009)*. Cambridge, USA, July 2009.
24. M. Allani, B. Garbinato, A. Malekpour and F. Pedone. QuoCast: A Resource-Aware Algorithm for Reliable Peer-to-Peer Multicast. In *Proc. of the 8th IEEE International Symposium on Network Computing and Applications (NCA 2009)*. Cambridge, USA, July 2009.
25. N. Schiper and F. Pedone. Solving Atomic Multicast when Groups Crash. In *Proc. of the 12th International Conference on Principles of Distributed Systems (OPODIS 2008)*. Luxor, Egypt, December 2008.
26. V. Zuikevičiūtė and F. Pedone. Correctness Criteria for Database Replication: Theoretical and Practical Aspects. In *Proc. of the 10th International Symposium on Distributed Objects, Middleware, and Applications (DOA 2008)*. Monterrey, Mexico, November 2008.
27. J. M. Bernabé-Gisbert, F. D. Muñoz-Escóí, V. Zuikevičiūtė and F. Pedone. A Probabilistic Analysis of Snapshot Isolation with Partial Replication. In *Proc. of the 27th International Symposium on Reliable Distributed Systems (SRDS 2008)*. Napoli, Italy, October 2008. *Acceptance Rate: 25%*.
28. L. Camargos, F. Pedone and M. Wieloch. A Highly Available Log Service for Transaction Termination. In *Proc. of the 7th International Symposium on Parallel and Distributed Computing (ISPDC 2008)*. Krakow, Poland, July 2008. *Acceptance Rate: 62%*.

29. L. Camargos, R. Schmidt and F. Pedone. Multicoordinated Agreement Protocols for Higher Availability. In *Proc. of the 7th IEEE International Symposium on Network Computing and Applications (NCA 2008)*. Cambridge, USA, July 2008. *Acceptance Rate: 35%*.
30. V. Zuikevičiūtė and F. Pedone. Conflict-Aware Load-Balancing Techniques for Database Replication. In *Proc. of the 23rd ACM Symposium on Applied Computing (ACM SAC 2008)*. Fortaleza, Brazil, March 2008. *Acceptance Rate: 28%*.
31. N. Schiper and F. Pedone. Optimal Atomic Broadcast and Multicast Algorithms for Wide Area Networks. In *Proc. of the 9th International Conference on Distributed Computing and Networking (ICDCN'2008)*. Kolkata, India, January 2008. *Acceptance Rate: 16%*.
32. R. Schmidt and F. Pedone. A Formal Analysis of the Deferred Update Technique. In *Proc. of the 11th International Conference On Principles Of Distributed Systems (OPODIS'2007)*. Guadeloupe, French West Indies, December 2007.
33. M. Allani, B. Garbinato, F. Pedone and M. Stamenkovic. A Gambling Approach to Scalable Resource-Aware Streaming. In *Proc. of the 26th International Symposium on Reliable Distributed Systems (SRDS'2007)*. Beijing, China, October 2007. *Acceptance Rate: 15%*.
34. R. Schmidt and F. Pedone. A Formal Analysis of the Deferred Update Technique, Brief announcement. In *Proc. of the 21st International Symposium on Distributed Computing (DISC'2007)*. Lemesos, Cyprus, September 2007.
35. N. Schiper and F. Pedone. Optimal Atomic Broadcast and Multicast Algorithms for Wide Area Networks, Brief announcement. In *Proc. of the 26th Symposium on Principles of Distributed Computing (PODC'2007)*. Portland, USA, August 2007.
36. L. Camargos, R. Schmidt and F. Pedone. Multicoordinated Paxos, Brief Announcement. In *Proc. of the 26th Symposium on Principles of Distributed Computing (PODC'2007)*. Portland, USA, August 2007.
37. L. Camargos, F. Pedone, and M. Wieloch. High-Performance Transaction Processing in Sprint. In *Proc. of the 2nd European Conference on Systems (EuroSys'2007)*. Lisbon Portugal, March 2007. *Acceptance Rate: 21%*.
38. N. Schiper, R. Schmidt, and F. Pedone. Optimistic Algorithms for Partial Database Replication. In *Proc. of the 10th International Conference On Principles Of Distributed Systems (OPODIS'2006)*. Saint-Emilion, France, December 2006. *Acceptance Rate: 13%*
39. J. Grov, L. Soares, J. Pereira, R. Oliveira, and F. Pedone. A Pragmatic Protocol for Database Replication in Interconnected Clusters. In *Proc. of the 12th IEEE International Symposium Pacific Rim Dependable Computing (PRDC'06)*. Riverside, USA, 8 pages, December 2006. *Acceptance Rate: 35%*.
40. N. Schiper, R. Schmidt, and F. Pedone. Optimistic Algorithms for Partial Database Replication, Brief announcement. In *Proc. of the 20th International Symposium on Distributed Computing (DISC'2006)*. Stockholm, Sweden, pp. 557–559, September 2006. *Acceptance Rate: 50%*.
41. L. Camargos, E. Madeira, and F. Pedone. Optimal and Practical WAB-Based Consensus Algorithms. In *Proc. of the European Conference on Parallel Computing (EuroPar'2006)*, Dresden, Germany, pp. 353–544, August 2006. *Acceptance Rate: 38%*.
42. L. Camargos, F. Pedone, and R. Schmidt. A Low-Overhead Primary-Backup Protocol for In-Memory Database Replication. In *Proc. of the 5th IEEE International Symposium on Network Computing and Applications (NCA'2006)*, Cambridge, USA, 8 pages, July 2006. *Acceptance Rate: 35%*.

43. S. Elnikety, S. Dropsho, and F. Pedone. Tashkent: Uniting Durability with Transaction Ordering for High-Performance Scalable Database Replication. In *Proc. of the 1st European Conference on Systems (EuroSys'2006)*, Leuven, Belgium, pp. 117–130. April 2006. *Acceptance Rate: 21%*.
44. S. Elnikety, F. Pedone, and W. Zwaenepoel. Database Replication Using Generalized Snapshot Isolation. In *24th IEEE Symposium on Reliable Distributed Systems (SRDS'2005)*, Orlando, USA, pp. 73–84, October 2005. *Acceptance Rate: 29%*.
45. R. Schmidt and F. Pedone. Consistent Main-Memory Database Federations under Deferred Disk Writes. In *24th IEEE Symposium on Reliable Distributed Systems (SRDS'2005)*, Orlando, USA, pp. 85–94, October 2005. *Acceptance Rate: 29%*.
46. V. Zuikeviciute and F. Pedone. Revisiting the Database State Machine Approach. In *VLDB Workshop on Design, Implementation, and Deployment of Database Replication*, Trondheim, Norway, pp. 1–8, August 2005. *Acceptance Rate: 71%*.
47. R. Schmidt, I. C. Garcia, F. Pedone, and L. E. Buzato. Optimal Asynchronous Garbage Collection for Checkpointing Protocols with Rollback-Dependency Trackability. In *International Conference on Distributed Computing Systems (ICDCS'05)*, Columbus, USA, pp. 167–176, June 2005. *Acceptance Rate: 13.9%*.
48. B. Garbinato, F. Pedone, and R. Schmidt. Adaptive Algorithms for Efficient Message Diffusion in Unreliable Environments. In *International Conference on Dependable Systems and Networks (DSN'2004)*, Florence, Italy, pp. 507–516, June 2004. *Acceptance Rate: 22.8%*.
49. R. Schmidt, I. C. Garcia, F. Pedone, and L. E. Buzato. Optimal Asynchronous Garbage Collection for Checkpointing Protocols with Rollback-Dependency Trackability (Brief Announcement). In *Symposium on Principles of Distributed Computing (PODC 2004)*, St. John's, Canada, pp. 392, July 2004. *Acceptance Rate: 24%*.
50. F. Pedone and A. Schiper. Lower Bounds on Generic Broadcast Algorithms (Brief Announcement). In *Symposium on Principles of Distributed Computing (PODC 2004)*, St. John's, Canada, pp. 402, July 2004. *Acceptance Rate: 24%*.
51. T. Damas, N. Duarte, M. Goulart, I. Jansch-Porto, and F. Pedone. Performance Aspects of a Probabilistic Resource Location Algorithm. In *Brazilian Symposium on Computer Networks (SBRC 2004)*, Gramado, Brazil, 13 pages, May 2004. *Acceptance Rate: not available*.
52. S. Frølund, V. Kalogeraki, F. Pedone and J. Pruyne Scalable State Replication with Weak Consistency. In *International Workshop on Challenges of Large Applications in Distributed Environments (CLADE)*, Seattle, pp. 96–105, June 2003. *Acceptance Rate: not available*.
53. S. Frølund and F. Pedone. Ruminations on Domain-Based Reliable Broadcast. In *Proc. of 16th International Symposium on Distributed Computing (DISC'2002)*, Toulouse, France, pp. 148–162, October 2002. *Acceptance Rate: 32%*.
54. P. Felber and F. Pedone. Probabilistic Atomic Broadcast. In *Proc. of the 21th IEEE Symposium on Reliable Distributed Systems (SRDS'2002)*, Suita, Japan, pp. 170–179, October 2002. *Acceptance Rate: not available*.
55. F. Pedone, N. Duarte and M. Goulart. Probabilistic Queries in Large-Scale Networks. In *Proc. of the 4th European Dependable Computing Conference (EDCC-4)*, Toulouse, France, pp. 209–226, October 2002. *Acceptance Rate: 31%*.
56. F. Pedone, A. Schiper, P. Urban and D. Cavin. Solving Agreement Problems with Weak Ordering Oracles. In *Proc. of the 4th European Dependable Computing Conference (EDCC-4)*, Toulouse, France, pp. 44–61, October 2002. *Acceptance Rate: 31%*.

57. F. Pedone. Optimistic Validation of Electronic Tickets. In *Proc. of the 20th IEEE Symposium on Reliable Distributed Systems (SRDS'2001)*, New Orleans, USA, pp. 46–55, October 2001. *Acceptance Rate: 32%*.
58. S. Frølund and F. Pedone. Continental Pronto. In *Proc. of the 20th IEEE Symposium on Reliable Distributed Systems (SRDS'2001)*, New Orleans, USA, pp. 110–119, October 2001. *Acceptance Rate: 32%*.
59. A. Sousa, F. Pedone, R. Oliveira, and F. Moura. Partial Replication in the Database State Machine. In *Proc. of the 1st IEEE International Symposium on Network Computing and Applications (NCA'2001)*, Cambridge, USA, pp. 298–309, October 2001. *Acceptance Rate: not available*.
60. S. Frølund, F. Pedone, and J. Pruyne. Web e-Transactions. In *Proc. of the 2nd International Conference on Internet Computing (IC'2001)*, Las Vegas, USA, 9 pages, June 2001. *Acceptance Rate: not available*.
61. F. Pedone and S. Frølund. Pronto: a fast failover protocol for off-the-shelf commercial databases. In *Proc. of the 19th IEEE Symposium on Reliable Distributed Systems (SRDS'2000)*, Nurnberg, Germany, pp. 176–185, October 2000. *Acceptance Rate: 28%*.
62. M. Wiesmann, F. Pedone, A. Schiper, B. Kemme, and G. Alonso. Database replication techniques: a three parameter classification. In *Proc. of the 19th IEEE Symposium on Reliable Distributed Systems (SRDS'2000)*, Nurnberg, Germany, pp. 206–215, October 2000. *Acceptance Rate: 28%*.
63. F. Pedone, A. Schiper, and A. van Moorsel. Bridging the Gap between Application Semantics and Group Communication Protocols. In *Proc. of the International SRDS Workshop on Dependable System Middleware and Group Communication (DSMGC'2000)*, Nurnberg, Germany, 6 pages, October 2000. *Acceptance Rate: not available*.
64. S. Frølund, F. Pedone, J. Pruyne, and A. van Moorsel. Building Dependable Internet Services with E-speak. In *Proc. of the Workshop on Dependability of IP Applications, Platforms, and Networks, held in conjunction with the 30th Int. Conference on Dependable Systems and Networks (FTCS-30)*, New York, USA, 6 pages, June 2000. *Acceptance Rate: not available*.
65. M. Wiesmann, F. Pedone, A. Schiper, B. Kemme, and G. Alonso. Understanding replication in databases and distributed systems. In *Proc. of the 20th IEEE International Conference on Distributed Computing Systems (ICDCS'2000)*, Taipei, Taiwan, pp. 464–474, April 2000. *Acceptance Rate: 40%*.
66. F. Pedone and A. Schiper. Generic Broadcast. In *Proc. of 13th International Symposium on Distributed Computing (DISC'99) (formerly WDAG)*, Bratislava, Slovak Republic, pp. 94–108, September 1999. *Acceptance Rate: 38%*.
67. B. Kemme, F. Pedone, G. Alonso, and A. Schiper. Processing Transactions over Optimistic Atomic Broadcast Protocols. In *Proc. of the 19th IEEE International Conference on Distributed Computing Systems (ICDCS'99)*, Austin, USA, pp. 424–431, May 1999. *Acceptance Rate: not available*.
68. M. Wiesmann, F. Pedone, and A. Schiper. A Systematic Classification of Replicated Database Protocols based on Atomic Broadcast. In *Proc. of the 3rd European Research Seminar on Advances in Distributed Systems (ERSADS'99)*, Madeira, Portugal, 8 pages, April 1999. *Acceptance Rate: not available*.
69. F. Pedone and A. Schiper. Optimistic Atomic Broadcast. In *Proc. of 12th International Symposium on Distributed Computing (DISC'98) (formerly WDAG)*, Andros, Greece, pp. 318–332, September 1998. *Acceptance Rate: 32%*.
70. F. Pedone, R. Guerraoui, and A. Schiper. Exploiting Atomic Broadcast in Replicated Databases. In *Proc. of EuroPar (EuroPar'98)*, Southampton, England, pp. 513–520, September 1998. *Acceptance Rate: 54%*.

71. F. Pedone and R. Guerraoui. On Transaction Liveness in Replicated Databases. In *Proc. of IEEE Pacific Rim International Symposium on Fault-Tolerant Systems (PRFTS'97)*, Taipei, Taiwan, pp. 104–109, December 1997. *Acceptance Rate: 56%*.
72. F. Pedone, R. Guerraoui, and A. Schiper. Transaction Reordering in Replicated Databases. In *Proc. of 16th IEEE Symposium on Reliable Distributed Systems (SRDS'97)*, Durham, USA, pp. 175–182, October 1997. *Acceptance Rate: not available*.
73. F. Pedone. A Closer Look at Optimistic Replica Control. In *Proc. of the 2nd European Research Seminar on Advances in Distributed Systems (ERSADS'97)*, Zinal, Switzerland, pp. 273–278, March 1997. *Acceptance Rate: 80%*.
74. F. Pedone, M. Barcellos, and C. Geyer. A Multiversion Replicated File System. In *Proc. of Latin American CLEI Conference (CLEI'94)*, Mexico City, Mexico, 11 pages, September 1994. (Paper in Portuguese.) *Acceptance Rate: not available*.

## C.4 Patents

1. *Fast failover database tier in a multi-tier transaction processing system*, with S. Frolund.  
US Patent Number 6,772,363.
2. *Method to invoke wide-area objects in distributed computer systems*, with S. Frolund.  
US Patent Number 6,859,887.
3. *Distributed data center system protocol for continuity of service in the event of disaster failures*, with S. Frolund.  
US Patent Number 6,928,580.
4. *Distributed system with an efficient atomic broadcast mechanism*, with A. Schiper and P. Urban.  
US Patent Number 7,039,719.
5. *Method and system for performing fault-tolerant online validation of service requests*.  
US Patent Number 7,051,065.
6. *E-ticket validation protocol*.  
US Patent Number 7,231,368.

## D Research Grants

1. Principal investigator for *Swift-WAN2: Performance and Dependability for data center applications*, Swiss National Science Foundation (2011–2012, \$102.812 CHF).
2. Co-investigator for *The Datacenter Observatory*, Swiss National Science Foundation (2010, \$300.000 CHF), with W. Zwaenepoel et al.
3. Principal investigator for *Streamline: An Architecture for Application-Level Data Streaming*, Swiss National Science Foundation (2009–2012, \$299.940 CHF), with B. Garbinato.
4. Principal investigator for *Swift-WAN: System support for distributed dynamic content Web services*, Swiss National Science Foundation (2009–2011, \$95.770 CHF), with W. Zwaenepoel.
5. Principal investigator for *Swift-WAN: System support for distributed dynamic content Web services*, Hasler Foundation, Switzerland (2009–2012, \$295.740 CHF), with W. Zwaenepoel.
6. Co-investigator for *Colloc 2: Local Replication Strategies for Global Content Management in Large-Scale Distributed Systems*, Swiss National Science Foundation (2008–2009, \$107.786 CHF), with B. Garbinato.
7. Principal investigator for *Automatic Reconfiguration of High Performance Data Management Systems*, Hasler Foundation, Switzerland (2007, \$100.000 CHF).
8. Principal investigator for *Automatic Reconfiguration of High Performance Data Management Systems*, Swiss National Science Foundation (2007–2008, \$81.050 CHF).
9. Co-investigator for *Database Systems: Concepts, Design and Architecture*, Swiss Virtual Campus (2006–2007, \$15.000 CHF).
10. Co-investigator for *System support for Distributed Dynamic-Content Web Servers*, Swiss National Science Foundation (2005–2008, \$254.848 CHF), with W. Zwaenepoel.
11. Co-investigator for *Colloc: A Replication Engine for Peer-to-Peer Content Management in Large-Scale Distributed Systems*, Swiss National Science Foundation (2005–2008, \$129.062 CHF), with B. Garbinato.
12. Principal investigator for *Data Dissemination in Mobile Ad Hoc Sensor Environments*, Swiss National Science Foundation, NCCR MICS (2005–2009, \$310.475 CHF), with A. Murphy.
13. Principal investigator for *Adaptive Data Management for Large Database Clusters*, Swiss National Science Foundation (2004–2006, \$81.000 CHF).
14. Co-investigator for *Toward Reliable and Efficient Internet Large-Scale Systems: Design, implementation, and verification*, Swiss National Science Foundation (2004, \$30.400 CHF), with T. Katayama.
15. Principal investigator for *Adaptive Data Management for Large Database Clusters*, Hasler Foundation, Switzerland (2004–2007, \$99.298 CHF).
16. Co-investigator for *GORDA—Open Replication of Databases*, European Union STREP project (2004–2007, \$295.000 CHF, from a total budget of 1.848.000 CHF), with University of Minho (Portugal), University of Lisbon (Portugal), INRIA (France), Emic Networks (Finland) and MySQL (Sweden).
17. Principal investigator for *Mac OS X Lab, high-performance computing, Apple* (2005–2006, \$40.000 CHF).

## E Teaching Experience

- Distributed Systems, graduate course, University of Lugano, 2009, 2010.
- Computer Systems, graduate course, University of Lugano, 2006, 2008, 2009.
- Distributed Algorithms, graduate course, University of Lugano, 2005–2006, 2008, 2009, 2010, 2011.
- Discrete Structures, undergraduate course, University of Lugano, 2004–2007.
- Algorithms and Data Structures, undergraduate course, University of Lugano, 2005.
- Computer Networks, undergraduate course, EPFL, 2003–2004.

## F Advising Experience

### F.1 Graduated PhD Students

- N. Schiper, *On Multicast Primitives in Large Networks and Partial Replication Protocols*, University of Lugano, 2009. Currently at Google, Switzerland.
- V. Narvaez, *On Non-Intrusive Workload-Aware Database Replication*, University of Lugano, 2009. Currently at Payap University, Thailand.
- L. Camargos, *Multicoordinated Agreement Protocols and the Log Service*, University of Lugano, 2008. Co-supervision with E. Madeira (Unicamp). Currently at Microsoft, USA.
- R. Schmidt, *Deferred-Update Database Replication: Theory and Algorithms*, EPFL, 2008. Co-supervision with W. Zwaenepoel (EPFL). Currently at Facebook, USA.

### F.2 Graduated Master Students

- P. Raykov, *Byzantine Generic Broadcast*, University of Lugano, 2010.
- D. Sciascia, *dsmDB: Clustering in-memory Database Management Systems*, University of Lugano, 2009.
- M. Primi, *Paxos made code: Implementing a high throughput Atomic Broadcast*, University of Lugano, 2009.
- F. Nicod, *Beta-Phex: content-based routing for Gnutella networks*, EPFL, 2003.
- O. Goryaeva, *Optimistic Atomic Broadcast*, EPFL, 1999.

## G Scientific Community Activities

### G.1 Program committee chairmanships

- Co-chair of the “IEEE Symposium on Reliable Distributed Systems SRDS 2011,” Madrid, Spain, October 2011.
- Co-chair of the “30 Years of Replication,” Monte Verita Symposium, Ascona, Switzerland, November 2007.
- Co-chair of the “International Workshop on Large-Scale Group Communication,” held in conjunction with the IEEE Symposium on Reliable Distributed Systems SRDS 2003, Florence, Italy, October 2003.
- Co-chair of the “International Workshop on Self-Healing and Self-Managing Distributed Systems,” held in conjunction with the IEEE Symposium on Reliable Distributed Systems SRDS 2002, Suita, Japan, October 2002.
- Co-chair of the “IEEE Workshop on Resource Sharing in Massively Distributed Systems,” held in conjunction with the IEEE International Conference on Distributed Computing Systems ICDCS 2002, Vienna, Austria, July 2002.

### G.2 Program committee memberships

Program committee member of the following selected conferences.

- European Conference on Systems Research (EuroSys 2010, 2009)
- IEEE International Symposium on Reliable Distributed Systems (SRDS 2010)
- IEEE International Conference on Dependable Systems and Networks (DSN 2011, 2010, 2009)
- International Symposium on Distributed Objects, Middleware, and Applications (DOA 2009–2007)
- Latin-American Symposium on Dependable Computing (LADC 2009, 2007, 2005)
- USENIX Symposium on Operating Systems Design and Implementation (OSDI 2008)
- International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2008, 2006)
- European Dependable Computing Conference (EDCC 2008)
- IEEE International Conference on Distributed Computing Systems (ICDCS 2012, 2006, 2005)
- IEEE International Conference on Parallel and Distributed Systems (ICPADS 2005)
- IEEE International Symposium on Network Computing and Applications (NCA 2005)
- Dependable and Adaptive Distributed Systems, ACM Symposium on Applied Computing (DADS 2010–2006)
- IEEE International Conference on Advanced Information Networking and Applications (AINA 2011, 2006)

Reviewer for the following selected journals: ACM TOCS, JPDC, IEEE TPDS, IEEE TDSC, IEEE TMC, IEEE Computer, Computer Journal, and IPL.