

Damián Serrano

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Research interests: Decentralized computing, Blockchain, cloud computing, Quality-of-Service, Big Data, autonomic computing, self-elastic services, data replication, distributed protocols and algorithms, fault tolerance, high available and high performance large-scale systems, dependability.

Education

Technical University of Madrid, Madrid, Spain

2004-2010 **Ph.D. in Computer Science** (Cum Laude)

Thesis: *High Performance and High Available Database Replication*

Advisor: Marta Patiño-Martínez

Funded by: Microsoft Research European PhD Scholarship.

1999-2004 **BEng/MSc in Computer Science** (rank: **19th out of 145** graduated students. Percentile: **top 13%**)

Master Thesis: *On-line Recovery in Replicated Databases*

Advisor: Marta Patiño-Martínez

Awards

2005-2008 Microsoft Research European PhD Scholarship. Funding Agency: MS Research Cambridge

2003 Introductory research grant. Funding Agency: Spanish Ministry of Education and Science

Working experience

MYRIADS group <<https://team.inria.fr/myriads>> *University Rennes 1 - Institut de Recherche en Informatique et Systèmes Aléatoires*

Jan15-Sept15 **Post-doctoral researcher**

- Resource provisioning for Cloud Computing

DRIM group <<http://liris.cnrs.fr/drim>> *Institut National des Sciences Appliquées de Lyon (INSA) - Lyon, France*

Sep14-present **Post-doctoral researcher**

- SLA and Quality of Service for Systems-of-Systems.

ERODS group <<http://erods.liglab.fr>> *University of Grenoble UJF - Laboratoire d'Informatique de Grenoble*

Dec12-Ago14 **Post-doctoral researcher**

- Design, implementation and evaluation of SLA Aware and self-elastic cloud services.

SARDES group <<http://sardes.inrialpes.fr>> *INRIA - Grenoble Rhône-Alpes*

Dec10-Dec12 **Post-doctoral researcher**

- Design, implementation and evaluation of SLA Aware solutions for cloud providers.

DISTRIBUTED SYSTEMS LAB <<http://lsd.ls.fi.upm.es>>, *Technical University of Madrid*

Oct04-Dec10 **Research Assistant**

- Design, implementation and evaluation of autonomic large-scale database replication protocols.

ERICSSON R&D, Madrid, Spain

Oct08-Dic08 **External Research Consultant**

- **Technology transfer:** Design and implementation of recovery protocol for Ericsson's internal database

DISTRIBUTED SYSTEMS LAB <<http://lsd.ls.fi.upm.es>>, *Technical University of Madrid*

Jul03-Oct04 **Undergraduate Research Assistant**

- Implementation and evaluation of an online recovery protocol in a database replication middleware

Teaching experience

University of Rennes 1 - Rennes, France

Sep15-Dec15 **Teaching assistant**

- Lab classes on *Operating systems*

University of Grenoble UJF - Grenoble, France

Sep14-Dec14 **Teaching assistant**

- Courses and lab classes “Computer networks, Internet and Security”

Institut National des Sciences Appliquées de Lyon (INSA) - Lyon, France

Sep14 **Teaching assistant. 1st Year AMER-INSA.**

- Classes on binary algebra

University of Grenoble UJF - Grenoble, France

Feb14-Jun14 and Feb13-Jun13 **Teaching assistant**

- Lab classes and project advisor on the subject “Introduction to Java programming: objects, events and concurrency” in 3rd year of Grade of Computer Science

- Lab classes on the subject “Introduction to Middleware and Database Systems” in the Master of Computer Science

University of Grenoble UJF - Grenoble, France

Sep14-Dec14 **Teaching assistant**

- Courses and lab classes “Computer networks, Internet and Security”

Grenoble Institute of Technology (Grenoble INP) - Grenoble, France

Feb12 **Teaching assistant**

- Lab classes on the subject “Introduction to Distributed Systems” in the Master of Science in Informatics at Grenoble (MoSIG)

Selected Publications

Journal articles

[j3] **D. Serrano**, S. Bouchenak, Y. Kouki, F. Alvares, T. Ledoux, J. Lejeune, J. Sopena, L. Arantes, P. Sens. *SLA guarantees for cloud services*. *Future Generation Computer Systems*, vol. 54, pp. 233-246. Jan 2016.

[j2] M. Berekmeri, **D. Serrano**, S. Bouchenak, N. Marchand, B. Robu. *Feedback autonomic provisioning for guaranteeing performance in mapreduce systems*. *IEEE Transactions on Cloud Computing*, vol. 6, no. 4, pp. 1004-1016, 1 Oct.-Dec. 2016.

[j1] A. Sangroya, **D. Serrano**, S. Bouchenak. Experience with benchmarking dependability and performance of MapReduce systems. *Performance Evaluation*, vol. 101, issue C, pp 1-19. July 2016.

Conference papers

[c5] M. Berekmeri, **D. Serrano**, S. Bouchenak, N. Marchand, B. Robu. *A Control Approach for Performance of Big Data Systems*. In Proc. of 19th World Congress of the International Federation of Automatic Control (IFAC 2014). Aug 2014. Accepted for publication.

[c4] **D. Serrano**, S. Bouchenak, Y. Kouki, T. Ledoux, J. Lejeune, J. Sopena, L. Arantes, P. Sens. *Towards QoS-Oriented SLA Guarantees for Online Cloud Services*. In Proc. of IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid). May 2013.

[c3] A. Sangroya, **D. Serrano**, S. Bouchenak: *Benchmarking Dependability of MapReduce Systems*. In Proc. of IEEE Int. Symp. on Reliable Distributed Systems (SRDS). Oct 2012.

[c2] **D. Serrano**, M. Patiño-Martinez, R. Jimenez-Peris, B. Kemme. *An Autonomic Approach for Replication of Internet-based Services*. In Proc. of IEEE Int. Symp. on Reliable Distributed Systems (SRDS) Oct 2008.

[c1] **D. Serrano**, M. Patiño-Martinez, R. Jimenez-Peris, B. Kemme. *Boosting Database Replication Scalability through Partial Replication and 1-Copy-Snapshot-Isolation*. In Procs. of IEEE Pacific Rim Dependable Computing Conf (PRDC), Dec 2007.

Program Committee Member

- International Workshop on P2P, Parallel, Grid, Cloud and Internet Computing (3PGCIC 2013)
- International Workshop on Assurance in Distributed Systems and Networks (ADSN 2013)
- 1er Comité de labellisation de la Reproductibilité Expérimentale pour l'informatique en parallélisme, architecture et système (REALIS 2013) Track on the Conférence en Parallélisme Architecture et Système (CompAS 2013)
- International Conference on High Performance Computing & Simulation (HPCS 2012)
- International Conference on Data Technologies and Applications (DATA 2012, 2013, 2014)
- International Conference on Advanced Communications and Computation (INFOCOMP 2012, 2013, 2014)
- Adaptive and Reconfigurable Service-oriented and component-based Applications and Architectures (AROSA 2011, 2012, 2013, 2014) track on the IEEE Int. Conf. on Collaboration Technologies and Infrastructures (WETICE 2011, 2012, 2013, 2014)

Conference Reviewer

- Int. Conf. on very Large Databases (VLDB), 2012
- IEEE Int. Symp. on Reliable Distributed Systems (SRDS) 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014
- IEEE Int. Conf. on Distributed Computing Systems (ICDCS) 2007, 2009
- IEEE Int Conference on Cloud Engineering (IC2E) 2013
- USENIX Int Conference on Autonomic Computing (ICAC) 2013
- Int. Conf. on Parallel and Distributed Computing (Euro-Par) 2007, 2011
- ACM Symp. on Applied Computing (SAC) 2008, 2009, 2013
- Int. Workshop on Data Management in Peer-to-peer systems (DAMAP) 2009
- IEEE/IFIP Dependable Computing and Communications Symp. at the Int. Conf. on Dependable Systems and Networks (DSN-DCCS) 2009, 2010
- Latin-American Symp. on Dependable Computing (LADC) 2010 2013
- Int. Conf. on Computer Safety, Reliability and Security (SAFECOM) 2011
- Int. Workshop on Assurance in Distributed Systems and Networks (ADSN) 2012

Journal Reviewer

- IEEE Transactions on Cloud Computing
- International Journal of Critical Computer-Based Systems

Participation in Research Projects

- HARNESS: Hardware- and Network-Enhanced Software Systems for Cloud Computing (2015, International).
 - Funded by: European Union Seventh Framework Programme (FP7/2007-2013) under grant agreement number 318521.
- AMADEOS: Architecture for Multi-criticality Agile Dependable Evolutionary Open System-of-Systems. (2013-2016, International)
 - Funding: European Commission (FP7-ICT-2013-610535).
- MyCloud: SLA and quality of service for Cloud Computing (2010-2013, National - French)
 - Funding: French National Agency for Research (ANR)
- NEXOF-RA: NESSI Open Framework - Reference Architecture (FP7-216446). European Commission. (2008-2010 International)
 - Funding: 7th European Programme Framework. European Commission.
- High Performance Database Replication exploiting Storage Area Networks (2005-2008, International)
 - Funding: Microsoft Research Cambridge (EuroPhD programme 2005).
- AUTONOMIC: Autonomic, Dependable and High Performance Distributed Systems (2006-2009, Regional)
 - Funding: Regional Networks of Excellence (area of information and communication technologies TIC). Madrid Research Council CAM
- Highly Scalable Platform for the Construction of Dependable and Ubiquitous Services (2007-2010, National - Spanish)
 - Funding: National Programme on Information Technologies. Ministry of Education and Science (MEC)
- Middleware Technologies for Adaptive and Composable Distributed Components ([ADAPT](#)). (2002-2005 International)
 - Funding: European Programme Framework (IST-2001-37126). European Commission.
- Middleware for scalable, distributed, ubiquitous and highly available e-services (2004-2007, National - Spanish). Funding: National Programme on Information Technologies. Ministry of Education and Science (MEC)

Languages

Spanish (Mother tongue), *English* (Fluent), *French* (Fluent), *Japanese* (JLPT3)

References

Sara Bouchenak

Director of SIBIL-Lab

INSA Lyon – LIRIS

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Ricardo Jiménez-Peris

Associate Professor

Technical University of Madrid

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