

# Fernando Luís Dotti

August 2018

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## Current Positions

- Associate Professor
- Member of the Graduate Program in Computer Sciences

## Education

**1997:** PhD in Computer Science. Technical University of Berlin (TU Berlin), Germany

**1992:** MSc Computer Science. Federal University of Rio Grande do Sul (UFRGS), Brazil

**1988:** Bachelor Degree in Computer Science. Federal University of Rio Grande do Sul (UFRGS), Brazil

## Professional Experience

**1998-Present:** Professor at PUCRS, Member of Graduate Program in Computer Science.

**1999, 2001-2002:** Member of the Computer Science Graduate Program Committee - Academic decisions for the Program.

**2002-2004:** Committee Member (Mathematics, Statistics and Computer Science) at Rio Grande do Sul Research Agency (FAPERGS) - Evaluation of research projects to be funded by FAPERGS.

**2006-2007:** Head of the Graduate Program in Computer Science. In this period conducted definition and implementation of PhD course strategies and phases, as well as an inter-institutional MsC program.

**2006-2007:** Vice-leader (2006) and leader (2007) of the Brazilian Computer Society (SBC) Working Group 7 - Forum for Computer Science Graduate Program Heads - Discussion of the area in Brazil, interfacing with government agencies.

**ago.2008-jul.2009:** Research visitor at York University and Newcastle University - UK.

**2010-2011:** Head of the Graduate Program in Computer Science. In this period, conducted several hiring processes for the Graduate Program in Computer Science.

**2012-2017:** Dean of the Computer Science Department - the department runs 4 undergrad courses with 1000 students, MsC and PhD degrees with 160 students. The CAPES evaluation raised from 4 to 6 (in a rank from 1 to 7) during this period.

**2012-2014:** Member of University Chamber for Research and Graduate Studies.

**2015-2017:** Member of University Chamber for Undergraduate and Graduate Studies.

**2012-2017:** Member of internal committee for annual evaluation of Graduate Programs at PUCRS.

## Technical Activities

### Comittees:

**SBRC** Brazilian Symposium on Computer Networks and Distributed Systems - PC member from 2007-present

**SBRC-CTD** Brazilian Symposium on Computer Networks and Distributed Systems - Best Thesis Award - Evaluation member in 2017

**WTF** Brazilian Workshop on Fault Tolerance - PC member from 2007-present

**WSCAD** Brazilian Workshop on High Performance Computational Systems - PC Member 2003-2007

**EU-BR** European Union/Brazil call on collaborative projects - Evaluation committee member 2015

**ISSRE** International Symposium on Software Reliability Engineering - PC Member 2015

**OPODIS** International Conference on Principles of Distributed Systems - PC Member 2016

**DSN** International Conference on Dependable Systems and Networks - PC Member 2019

**LADC** Latin-American Dependable Computing Symposium - Publication Co-Chair - 2007

### Courses taught:

**Undergraduate** Introduction to Concurrency with Communicating Sequential Processes; Operating Systems; Distributed Systems

**Graduate** Distributed Systems; Model Checking applied to Distributed Algorithms

### Supervised PhDs:

Rasha Hasan. Hybrid Synchrony Virtual Networks. 2016.

Odorico Machado Mendizabal. Fast Recovery in Parallel State Machine Replication. 2016. Co-supervision with Prof. Fernando Pedone (USI).

Cristina Moreira Nunes. Roteamento utilizando Potencial de Entrega em Redes Tolerantes a Atrasos. 2010.

## Selected Publications

Among below mentioned, current research interests - although not restricted to - is represented by [1, 2, 3, 4, 5, 6, 7, 8, 9].

## References

- [1] E. Alchieri, F. Dotti, O. M. Mendizabal, and F. Pedone, "Reconfiguring parallel state machine replication," in *SRDS*, 2017.
- [2] E. Alchieri, F. Dotti, and F. Pedone, "Early Scheduling in Parallel State Machine Replication," *ArXiv e-prints: 1805.05152*, 2018.
- [3] O. M. Mendizabal, R. T. S. Moura, F. L. Dotti, and F. Pedone, "Efficient and deterministic scheduling for parallel state machine replication," in *IPDPS*, 2017.

- [4] O. Mendizabal, P. J. Marandi, F. Dotti, and F. Pedone, “Recovery in parallel state-machine replication,” in *OPODIS*, 2014.
- [5] O. M. Mendizabal, F. L. Dotti, and F. Pedone, “High performance recovery for parallel state machine replication,” in *ICDCS*, 2017.
- [6] P. Coelho, T. C. Jr., A. Bessani, F. Dotti, and F. Pedone, “Byzantine fault-tolerant atomic multicast,” in *48th Annual IEEE/IFIP International Conference on Dependable Systems and Networks, DSN 2018, Luxemburg, June 26-29, 2018*, pp. 39–50, 2018.
- [7] O. M. Mendizabal, F. L. Dotti, and F. Pedone, “Analysis of checkpointing overhead in parallel state machine replication,” in *Proceedings of the 31st Annual ACM Symposium on Applied Computing, SAC ’16*, (New York, NY, USA), pp. 534–537, ACM, 2016.
- [8] O. Mendizabal and F. L. Dotti, “Model checking the deferred update replication protocol,” in *SBRC – Simpósio Brasileiro de Redes de Computadores*, pp. 995–1008, 2013.
- [9] A. Corradini, L. Ribeiro, F. L. Dotti, and O. M. Mendizabal, “A formal model for the deferred update replication technique,” in *Trustworthy Global Computing - 8th International Symposium, TGC 2013, Buenos Aires, Argentina, August 30-31, 2013, Revised Selected Papers*, pp. 235–253, 2013.
- [10] L. Ribeiro, O. M. dos Santos, F. L. Dotti, and L. Foss, “Correct transformation: From object-based graph grammars to promela,” *Sci. Comput. Program.*, vol. 77, no. 3, pp. 214–246, 2012.
- [11] F. L. Dotti and L. Ribeiro, “Specification of mobile code systems using graph grammars,” in *4th International Conference on Formal Methods for Open Object-Based Distributed Systems*, vol. 177 of *IFIP Conference Proceedings*, (USA), pp. 45–63, Kluwer, 2000.
- [12] F. L. Dotti, L. Foss, L. Ribeiro, and O. M. Santos, “Especificação e verificação formal de sistemas distribuídos,” in *17º Simpósio Brasileiro de Engenharia de Software*, (Brasil), pp. 225–240, 2003. (In portuguese).
- [13] L. Ribeiro, F. L. Dotti, and R. Bardohl, “A formal framework for the development of concurrent object-based systems,” in *Formal Methods in Software and Systems Modeling*, vol. 3393 of *Lecture Notes in Computer Science (LNCS)*, pp. 385–401, Springer, 2005.
- [14] O. M. Santos, F. L. Dotti, and L. Ribeiro, “Verifying object-based graph grammars,” *Electronic Notes in Theoretical Computer Science*, vol. 109, pp. 125–136, 2004.
- [15] F. Dotti, L. Ribeiro, O. dos Santos, and F. Pasini, “Verifying object-based graph grammars: An assume-guarantee approach,” *Software and Systems Modeling*, vol. 5, pp. 289–311, September 2006.
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