

Raimundo José de Araújo Macêdo is a Professor of Computer Science in the Computer Science Department at Federal University of Bahia (UFBA) in Brazil. He received a B.Sc, M.Sc., and Ph.D. in Computer Science from UFBA in 1982, University of Campinas (UNICAMP/Brazil) in 1986, and University of Newcastle upon Tyne (England) in 1994, respectively.

He founded the Distributed Systems Laboratory (LaSiD) at UFBA in 1995 and the post-graduation program “Advanced Specialization on Distributed Systems” in 1997. He also coordinated the efforts for the foundation of the Doctorate program in Computer Science in 2006 and co-coordinated the foundation of the post-graduation program on Mechatronics at UFBA in 2002. Currently, he is the head of LaSiD and the coordinator of the Doctorate Program on Computer Science. Previously, he was the coordinator of the post-graduation program on Mechatronics at UFBA (until August/2006). Before joining the academic career, he was a computer programmer and system analyst in the Data Processing Centre of Federal University of Bahia (1980 - 1990), where he headed of the administrative software development team between 1985 and 1986.

He was the president of the special committee of computer networks and distributed systems of SBC (Brazilian Computer Society) from 1999-2001. He was also in the steering committee of such a special committee from 2003 to 2005. In 1999 he was the general chair of the main Brazilian conference on computer networks and distributed systems (SBRC). In 2002 was the president of the program committee of SBRC. He was the general chair and the president of the program committee of the Brazilian Distributed Systems Workshop (WoSiD), in 1996 and 1998, respectively. He was in the steering committee of the first and second Latin-American Symposiums on Dependable Computing – LADC (proceedings published by Springer) in 2003 and 2005. He has been in the program committee of a number of other Brazilian Conferences and workshops (fault tolerance, operating systems, security, among others). He was in the program committee of several international conferences and workshops, including ACM/IFIP/USENIX International Middleware Conference, IEEE/IFIP International Conference on Dependable Systems and Networks – DSN, IEEE International Symposium on Reliable Distributed Systems (SRDS), and IFIP international conference on Distributed Applications and Interoperable Systems (DAIS).

In 2004, he was the general chair of the Annual Congress of the Brazilian Computer Society, the Major Computer Science Conference in Brazil.

He has participated in a number of research projects with different Brazilian and foreign research centers, such as the Brazilian universities UFPE, UFRGS, UFRJ, UFCG, UFAL, UFSC, UFRGS and PUCRS, the University of Rennes in France, and the University of Pisa and CNR in Italy. In particular, he coordinated the Brazilian side of the ARGO Project (Tolérance aux Défaillances dans les Systèmes Répartis Asynchrones), supported by INRIA/France and CNPQ/Brazil (from 2000 to 2002). Currently, he is the coordinator the following research projects:

- 1) Academic Cooperation on Automation and Real-Time Systems (AST). Supported by CAPES, with a group of members of the Post-Graduation Program on Electrical

Engineering at Federal University of Santa Catarina (UFSC) (locally coordinated by Professor Jean-Marie Farines).

- 2) Hybrid and Adaptive Reliable Distributed Systems. Supported by FAPESB (research funding agency from Bahia state) and CNPq/Brazil.
- 3) Dependable and Adaptive Distributed System: An Autonomic Approach. Funded by FAPESB (research funding agency from Bahia state).

Main Publications in the last 5 Years

Perfect Failure Detection in the Partitioned Synchronous Distributed System Model
In Proceedings of the The Fourth International Conference on Availability, Reliability and Security (ARES 2009), IEEE CS Press. Fukuoka, Japan, March 2009.
(with Sérgio Gorender)

A Non-Intrusive Component-Based Approach for Deploying Unanticipated Self-Management Behaviour
In: IEEE ICSE 2009 Workshop Software Engineering for Adaptive and Self-Managing Systems, 2009, Vancouver, Canada (SEAMS 2009)
(with Sandro Andrade)

Personalized Reliable Web service Compositions
Daniela Barreiro Claro, Oriana Licchelli, Patrick Albers, Raimundo José de Araújo Macêdo
In Proceedings of 3rd Workshop on Ontologies and their Applications (WONTO 2008) held in conjunction with 19th Brazilian Symposium on Artificial Intelligence (SBIA2008)
Salvador, Bahia, October 2008. Full paper.
(with Daniela Barreiro Claro, Oriana Licchelli and Patrick Albers)

Um Procedimento para Avaliação de Redes Ethernet Comutada Baseada em uma Métrica de Qualidade de Controle
In XVII Congresso Brasileiro de Automática (CBA)
Juiz de Fora, Minas Gerais, Brasil, September 2008. Full Paper
(with Alípio Sá,, Tito Santos, and Ubirajara Moreno)

Detectores Perfeitos em Sistemas Distribuídos Não Síncronos
In IX Workshop de Teste e Tolerância a Falhas (WTF 2008)
Rio de Janeiro, Brasil, May 2008. Full Paper
(with Sérgio Gorender)

Reconfiguração Dinâmica de Componentes em Sistemas Distribuídos de Controle e Supervisão, com Aplicação a Tolerância a Falhas
In Anais do IX Workshop de Teste e Tolerância a Falhas (WTF 2008)
Rio de Janeiro, Brasil, May 2008. Full Paper
(with Neima Santos, and Luciano Barreto)

Estimating Execution Time Probability Distributions in Component-based Real-Time Systems

In Proceedings of the 10th Brazilian Workshop on Real-time and Embedded Systems
Rio de Janeiro, Brasil, May 2008. Full Paper
(with Ricardo Perrone, George Lima and Verônica Lima)

Dependable Web Service Compositions using a Semantic Replication Scheme
In Anais do XXVI Simpósio Brasileiro de Redes de Computadores e Sistemas Distribuídos (SBRC 2008)
Rio de Janeiro, RJ, Brasil, May 2008. Full Paper
(with Daniela Barreiro Claro)

An Adaptive Programming Model for Fault-Tolerant Distributed Computing. In *IEEE Transactions on Dependable and Secure Computing*. Vol. 4, no. 1, pp. 18-31, Jan-Mar, 2007. (with Sérgio Gorender and Michel Raynal)

An Integrated Group Communication Infrastructure for Hybrid Real-Time Distributed Systems. In *9th Workshop on Real-Time Systems (WTR 2007)* Belém, Brazil, May 28th, 2007.

Um Framework para Prototipagem e Simulação de Detectores de Defeitos na Construção de Sistemas de Tempo Real. In *Proceedings of VIII Workshop de Teste e Tolerância a Falhas (WTF 2007), Porto Alegre, v. 1. p. 1-12* Belém, Brazil, May 28th, 2007 (with Alírio Sá).

Engineering Components for Flexible and Interoperable Real-Time Distributed Supervision and Control Systems (with Sandro Andrade). In *12th IEEE Conference on Emerging Technologies and Factory Automation* September 25-28, 2007 - Patras -Greece (to appear).

Evaluating the Impact of Failure Detectors in the Stability of Real-Time Control Systems over Conventional Local Area Networks. Brazilian Workshop on Testes and Fault Tolerance. May/2006 -12 pages in Portuguese. (with Alírio Sá).

Using Real-Time Components to Construct Supervision and Control Applications. In: 8TH BRAZILIAN WORKSHOP ON REAL-TIME SYSTEMS, 2006, Curitiba. Proceedings of the WTR 2006. Curitiba: SBC, May/2006. (with Sandro Andrade)

Computação Distribuída. Raimundo José de Araújo Macêdo. In W. Giozza, H. Hastenreiter, A. Furtado, P. Magalhães Jr. (Org.), *Relatório de Tendências em Tecnologia da Informação e Comunicação. Secretaria de Ciência, Tecnologia e Inovação - Bahia, v. 1, p. 157-169, 2006.*

Adapting Failure Detectors to Communication Network Load Fluctuations Using SNMP and Artificial Neural Nets. SECOND LATIN-AMERICAN SYMPOSIUM ON DEPENDABLE COMPUTING (LADC2005). Lecture Notes in Computer Science, Volume 3747, Oct 2005, Pages 191 – 205. (with Fábio Lima).

The Mobile Groups Approach for the Coordination of Mobile Agents. *Journal of Parallel and Distributed Computing (JPDC)*, Volume 65, Issue 3, March 2005, Pages 275-288. Elsevier. (with Flávio Assis Silva).

A Component-Based Real-Time Architecture for Distributed Supervision and Control Applications. ETFA2005 - 10TH IEEE INTERNATIONAL CONFERENCE ON EMERGING TECHNOLOGIES AND FACTORY AUTOMATION, 2005, Catania, Italy. Proceedings of the ETFA 2005. New York: IEEE Computer Society Press, p. 15-22. (with Sandro Andrade)

An Adaptive Failure Detection Approach for Real-time Distributed Control Systems Over Shared Ethernet. INTERNATIONAL CONGRESS ON MECHANICAL ENGINEERING - MECHATRONICS SYMPOSIUM, 2005, Ouro Preto/Brazil. (with Alírio Sá).

The Implementation of a Distributed System Model for Fault Tolerance with QoS. In: SBRC 2005, Brazilian Symposium on Computer Networks. May/2005. Fortaleza/Brazil. p. 827-840 (with Sérgio Gorender and Paulo Cunha).

A Hybrid and Adaptive Model for Fault-Tolerant Distributed Computing. DNS05 - IEEE/IFIP Int. Conference on Computer Systems and Networks Yokohama, Japan, June/2005. p. 412-42. (with Sérgio Gorender and Michel Raynal).

Improving the Quality of Service of Failure Detectors with SNMP and Artificial Neural Networks. Brazilian Symposium on Computer Networks , pp.583-586, ISBN: 85-88442-81-7. May/2004. (with Fábio Lima).

Handling the Previsibility in Distributed Real-time Systems: Specification, Languages, Middleware and Basic Mechanisms. Chapter II of the Book of *Minicourses of the 22nd Brazilian Symposium on Computer Networks*, SBRC2004. Gramado, RS, Brazil. May, 2004 (in Portuguese) pp. 105-163, ISBN: 85-88442-82-5 (with G.M. Lima, L.P. Barreto, A.M.S. Andrade, F.J.R. Barboza, A. Sá, and R. Albuquerque, S. Andrade).