

Daniel Câmara

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OBJECTIVE

To work in a high quality institution and conduct innovative research in the fields of computer networks, wireless networks, machine learning, information retrieval and distributed systems.

HIGHLIGHTS OF QUALIFICATIONS

- **Two PhDs, one in Computer Science and another in Telecommunications**
- **Lecturer for undergrad and graduate courses**
- **Software quality consultant**
- **Extensive experience programming in C/C++, Javascript, J2SE, J2EE and J2ME**
- **Experience with Glomosim, Sinalgo, NS2 and NS3**

EDUCATION

- EURECOM**, Sophia Antipolis, France September 2011
 Post doc in telecommunications at EURECOM research institute in Sophia-Antipolis working in the fields of mobile multimedia communication, public safety and mobile nodes positioning.
- ÉCOLE NATIONALE SUPÉRIEURE DES TÉLÉCOMMUNICATIONS, TÉLÉCOM PARIS** April 2010
 PhD. in Telecommunications from Télécom ParisTech, working at EURECOM institute in Sophia-Antipolis, mention summa cum laude (“*Trèsbien*”)
 Thesis title: Techniques to support alert and crisis management in public safety networks
- FEDERAL UNIVERSITY OF MINAS GERAIS**, Minas Gerais, Brazil November 2009
 PhD. in Computer Science working with formal verification of communication protocols for wireless Networks– GPA 4.0/4.0
 Thesis title: Formal Verification of Communication Protocols for Wireless Networks
- FEDERAL UNIVERSITY OF MINAS GERAIS**, Minas Gerais, Brazil March 2000
 M.S. in Computer Science, Concentration in wireless networks – GPA 4.0/4.0
 Thesis title: A new Routing Algorithm for Wireless Ad hoc Networks
- FEDERAL UNIVERSITY OF PARANÁ**, Paraná, Brazil December 1998
 B.S. in Computer Science, Concentration in distributed systems – GPA 3.33 /4.0

RESEARCH EXPERIENCE

- Ad Hoc and Wireless Mesh Networks***, EURECOM, France March 2007 – September 2011
 Research in Wireless ad hoc and mesh networks topology control, artificial intelligence and scheduling algorithms. My research focused on topology management and communication algorithms for mesh and ad hoc networks, focusing on the Public Safety scenario. I also have worked with delay tolerant networks as medium to increase the coverage of wireless networks in case of disaster scenarios.
 Advisors: Prof. Christian Bonnet, Prof. Fethi Filali and Prof. Navid Nikaein
- Ad Hoc and Wireless Sensor Networks***, Federal University of Minas Gerais, Brazil March 2003 – February 2007
 Research in Wireless Sensor networks at the SensorNet project. My research focused mainly on formal verification of routing, QoS and security aspects of wireless ad hoc and sensor networks.

Ad Hoc networks, Federal University of Minas Gerais, Brazil March 2000 – September 2002
 Research in Mobile Ad Hoc networks. In this period I was evolved within various projects related to Ad Hoc Networks. Some of them are: formal verification of Ad Hoc routing algorithms, study of parameters for creating more reliable Ad Hoc routing protocols, test and simulation of existent Ad Hoc routing algorithms and the application of artificial intelligence methods to solve distributed systems problems.
 Advisor: Prof. Antonio Alfredo F. Loureiro

AWARDS AND HONNORS

- **IEEE/TstInternational Workshop on Mobile Ad-Hoc Networks for Public Safety Systems**, Valencia, Spain, October, 2011 - Best Paper Award
- **IARIA/7thICNS**, Venice, Italy, May, 2011 - best papers selection, invitation for extended journal version
- **IEEE/TTTC E.J. McCluskey** - Best Doctoral Thesis Award 2010, second place in the Latin America finals
- **ACM-Sigmobile / HotMobile** - Participation at Hotmobile 2009 doctoral consortium
- **IEEE**, EUA - Student Travel Grant to attend and present a paper at GLOBECOM 2007 Field: Mobile Computing
- **National Univeristy of Trujillo**, Peru -Invited professor at the graduate school, teaching Mobile Computing, January 2005
- **EURECOM**- Fellowship to support graduate studies (Ph.D) Field: Mobile Communication, April 2007 – March 2010
- **FAPEMIG (Minas Gerais State Research Foundation)** - Fellowship to support graduate studies (Ph.D) Field: Distributed Systems, March 2005 – March 2009
- **University of Maryland, College Park**– Two years fellowship to support graduate studies (Ph.D) Field: Distributed Systems, Fall 2002
- **Brazilian Computer Society** - Third place at the XIV Brazilian Computer Society Contest on Master’s Thesis, Field: Mobile Computing, April 2001
- **Brazilian Computer Society**- Co-advisor of the winner of the XX Brazilian Computer Society Contest on Scientific Initiation Works. Field: Mobile Computing and Formal Verification, April 2001
- **UNESCO (United Nations Educational, Scientific and Cultural Organization)** - Third place at the VII CLEI-UNESCO Contest of Masters Thesis, Field: Mobile Computing, September 2000
- **CNPq(National Council for Scientific and Technological Development)** - Fellowship to support graduate studies (M.S.) Field: Mobile Computing, March 1998 – March 2000

PROFESSIONAL EXPERIENCE

- INRIA**, Sophia Antipolis, France October 2011 – Present
 Research engineer, working in the development of the NS3 simulator within the Planete group.
- Development of the new building system for ns-3
 - Adaptation of Contiki, operating system for sensors, to run over ns-3 networks
- EURECOM**, Sophia Antipolis, France April 2010 – September 2011
 Post doc in telecommunications at EURECOM research institute in Sophia-Antipolis working in the fields of mobile multimedia communication, public safety and mobile nodes positioning.
 Supervisor: Christian Bonnet
- Fumsoft and MSA companies**, Belo Horizonte, Minas Gerais, Brazil January 2005 – October 2006
Software Quality Consultant
- Organized the test flow at MSA company helping them to perform better and more useful automated tests, this helped the company to save time and be more agile in detecting recurring errors.
 - Created the specification of a software to track the entire test flow for Fumsoft and help on the software development. The software represents a huge step in terms of axiomatization of the test process representing an economy in terms of time and standardization to the company that uses it.

Pontifical Catholic University of Minas Gerais, Belo Horizonte,
Minas Gerais, Brazil

January 2005 – December 2005

August 2003 – June 2004

March 2001 – December 2001

Lecturer

- Teaching wireless communications, Mathematical fundamentals for Computer Science, Graphs, Algorithms and Programming techniques I and III

Synergia, Belo Horizonte, Minas Gerais, Brazil

December 2003 – March 2005

Software Engineer

- Developed Systems in J2EE for the Synergia Lab located at the department of Computer Science of the Federal University of Minas Gerais.
 - Responsible for the quality of the code at the development team. Helped to solve code problems prior to delivery the code to the test team. This increased the development and test process causing a great economy to the Synergia Lab.

Synergia, Belo Horizonte, Minas Gerais, Brazil

April 2001 – August 2002

Test team leader

- Implanted the test team at the Synergia Lab. The test team represented a huge step on the software quality of the developed systems. The high quality of the Synergia systems helps attracting more clients and help increasing the size of the company.
- Defined goals to the test team, and made them available, this helped other teams to accept and understand the role of the new team at the company. This helped the software test team activities and provided a good relationship with the other teams.

Intelligenesis Corporation, Brazilian Office, Belo Horizonte, Minas Gerais, Brazil February 2000 – April 2001

Software Engineer II

- Developed components in J2SE to be used in high end artificial intelligence systems
- Tested artificial intelligence systems made in J2SE

SKILLS

- Programming and Languages: Java (J2SE, J2EE, J2ME), UML, SQL, ASP, C/C++, Pascal, Bash, Promela
- Software development processes : Unified process, Praxis, TMM, CMM
- Network simulators : NS2, NS3, Glomosim, Sinalgo, NCTUns
- Fluent in Portuguese, French and English
- Good knowledge of Spanish and Italian

BOOK

- Daniel Câmara, Antonio A.F. Loureiro, Formal Verification of Communication Protocols for Wireless Networks, LAP Lambert Academic Publishing, ISBN: 978-3846515600, 2011

BOOK CHAPTERS

- Daniel Câmara, Nikolaos Frangiadakis, Christian Bonnet, Fethi Filali, *Vehicular Delay Tolerant Networks*, Handbook of Research on Mobility and Computing: Evolving Technologies and Ubiquitous Impacts, IGI Global, chapter 23, 356-367 pp, 2011
- Giuliana Iapichino, Daniel Câmara, Christian Bonnet, Fethi Filali, *Public Safety Networks*, Handbook of Research on Mobility and Computing: Evolving Technologies and Ubiquitous Impacts, IGI Global, chapter 17, 267-284 pp, 2011
- Ikbal Chammakhi Msadaa, Daniel Câmara, and Fethi Filali, *Mobility Management in WiMAX Network, WiMAX Security and Quality of Service: Providing an End to End Explanation*, Book chapter in "WiMAX security and quality of service : An end-to-end perspective", Wiley, July 2010, ISBN: 978-0-470-72197-1. Seok-Yee Tang and Peter Muller and Hamid Sharif Ed.
- Daniel Câmara, Antonio A.F. Loureiro, and Fethi Filali, *Formal Verification of Routing Protocols for Wireless Ad Hoc Networks*, Guide to Wireless Ad Hoc Networks, Chapter 8, Springer, January, 2009
- Daniel Câmara and Fethi Filali, *Scheduling and Call Admission Control A WiMax Mesh Networks View*, Guide to Wireless Mesh Networks, Chapter 17, Springer, January, 2009
- AzzedineBoukerche, Daniel Câmara, Carlos M.S. Figueiredo, and Antonio A.F. Loureiro, *Algorithms for Mobile Ad Hoc Networks, Algorithms and Protocols for Wireless and Mobile Ad Hoc Networks*, Chapter 1, edited by AzzedineBoukerche, John Wiley and Sons, ISBN: 0470383585, October, 2008

- Ruiz, L. B., Correia, L. H. A., Vieira, L. F. M., Macedo, D. F., Nakamura, E. F., Figueiredo, C. M. S., Vieira, M. A. M., Maia, E. H. B., Câmara, D., Loureiro, A. A. F., Nogueira, J. M. S., da Silva Jr., D. C., and Fernandes, A. O. *Architectures for wireless sensor networks* (in portuguese), In Proceedings of the 22nd Brazilian Symposium on Computer Networks (SBRC'04), Gramado, RS, Brazil, 2004

CONFERENCE TUTORIALS

- Daniel Camara, CCNx Emulation using ns-3, Rescom2013, Porquerolles, 13-17 Mai 2013
- Daniel Camara, Hajime Tazaki, Frederic Urbani, Direct Code Execution over ns-3, tutorial on ns-3 Consortium Annual Meeting, Mars, 2013
- Daniel Câmara, Christian Bonnet and Navid Nikaein, *Wireless Public Safety Networks Techniques and Challenges*, Tutorial, IEEE LATINCOM 2010, Bogotá D.C., Colombia, September 14-17, 2010
- Daniel Câmara, Antonio Alfredo, et all, *Architectures for Wireless Sensor Networks* (original work in Portuguese), Tutorial presented at the XXII Brazilian Symposium on Computer Networks, Gramado, RS, Brazil, May, 2004
- Daniel Câmara, Antonio Alfredo, et all, *Geographic Routing in Mobile Computing Networks* (original work in Portuguese), Tutorial at the IXX Brazilian Telecommunication Symposium, Fortaleza, Ceará, Brazil, Sep., 2001
- Daniel Câmara, Antonio Alfredo, et all, *Protocols for wireless Internet* (original work in Portuguese), Tutorial presented at the IXX Brazilian Telecommunication Symposium, Fortaleza, Ceará, Brazil, Sep., 2001
- Daniel Câmara, Antonio Alfredo Ferreira Loureiro, *Ad hoc Mobile Computer Networks* (original work in Portuguese), Tutorial presented at the XIV Congress of the Brazilian Computer Society, Rio de Janeiro, Brazil, July, 1999
- Mário L. Moura Jr., Daniel Câmara, Daniel B. Faria and Antonio A. F. Loureiro. *Network Management in the Internet: The Evolution of the SNMP Protocol* (original work in Portuguese). Tutorial presented at the XVII Brazilian Symposium on Computer Networks (SBRC'99). Salvador, Bahia, Brazil, May, 1999

PUBLICATIONS

- Alina Quereilhac, Daniel Camara, Thierry Turletti, Walid Dabbous, Experimentation with large scale ICN multimedia services on the Internet made easy, IEEE COMSOC MMTC E-Letter 8, 4 (2013) 10-12, 2013
- Michelle Wetterwald, Christian Bonnet, Daniel Camara, Sebastien Grazzini, Jérôme Fenwick, Xavier Ladjointe, and Jean-Louis Fondere, Integrating Future Communication Technologies for the Downstream Component of Public Warning Systems, International Journal On Advances in Networks and Services, volume 5, numbers 3 and 4, 2012
- Daniel Câmara, Frederic Urbani, Mathieu Lacage, Thierry Turletti, Walid Dabbous, Content Centric Networks Validation Platform, CCNxCon2012, CCNx Community Meeting, CCNx Workshop, Sophia Antipolis, France, September, 2012
- Daniel Câmara, Fethi Filali, Christian Bonnet, Topology Management for Mission Critical Networks, Applying Supply and Demand to Manage Public Safety Networks, 13th IEEE/IFIP Network Operations and Management Symposium (NOMS 2012), Dissertation Digest, Maui, Hawaii, USA, April 2012
- Daniel Câmara, Mathieu Lacage, Thierry Turletti, Walid Dabbous, Bake an Open Source Integration Tool for the ns-3 Project, Poster at the Workshop on ns-3 (Wns3), Desenzano, Italy March, 23, 2012
- Ikbal Chammakhi Msadaa, Fethi Filali, Daniel Câmara, *mCoSS: a multi-Constraints Scheduling Strategy for WiMAX Networks*, 7th ACM Symposium on QoS and Security for Wireless Mobile Networks, Q2SWinet 2011, Miami Beach, USA, November 2011
- Daniel Câmara, Christian Bonnet, Michelle Wetterwald, Navid Nikaein, *Multicast and Virtual Road Side Units for Multi Technology Alert Messages Dissemination*, First International Workshop on Mobile Ad-Hoc Networks for Public Safety Systems, IEEE, Valencia, Spain, October 21, 2011
- Christian Bonnet, Daniel Câmara, Riadh Ghaddab, Lorenzo Iacobelli, Florian Kaltenberger, Raymond Knopp, Bertrand Mercier, Navid Nikaein, Dominique Nussbaum, Erhan Yilmaz, Bassem Zayen, *Sensor network aided agile spectrum access through low-latency multi-band communications*, DCOSS'11, 7th IEEE International Conference on Distributed Computing in Sensor Systems, Barcelona, Spain, 27-29 June, 2011
- Michelle Wetterwald, Christian Bonnet, Daniel Camara, Sebastien Grazzini, Jérôme Fenwick, Xavier Ladjointe, Jean-Louis Fondere, *Future architectures for Public Warning Systems*, The Seventh International Conference on Networking and Services, ICNS 2011, Venice/Mestre, Italy, May 22-27, 2011
- Christian Bonnet, Daniel Câmara, Riadh Ghaddab, Aawatif Hayar, Lorenzo Iacobelli, Florian Kaltenberger, Raymond Knopp, Bertrand Mercier, Navid Nikaein, Dominique Nussbaum, Erhan Yilmaz, Bassem Zayen, *OpenAirInterface.org and Agile Spectrum Access*, Dyspan 2011, 7th IEEE Symposium on Dynamic Spectrum Access Networks, Aachen, Germany, May 3-6, 2011

- Daniel Câmara, Christan Bonnet, *Supply and Demand, a Dynamic Topology Control Method for Mesh Networks*, Workshop on Mobile Computing and Networking Technologies 2010, WMCNT-2010, Moscow, Russia, 18-20 October 2010
- Daniel Câmara, Christan Bonnet and Navid Nikaein, *Topology Management for Group Oriented Networks*, 21st Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC 2010), Istanbul, Turkey, 26-29 September 2010
- Daniel Câmara, Christian Bonnet, Fethi Filali, *Propagation of Public Safety Warning Messages*, IEEE Wireless Communications & Networking Conference (WCNC) 2010, Sydney, Australia, 18-21 April 2010
- Ikbal Chammakhi Msadaa, Daniel Câmara, and Fethi Filali, *Scheduling and CAC in IEEE 802.16 Fixed BWNs: A Comprehensive Survey and Taxonomy*, IEEE Communications Surveys & Tutorials, N°4, 2010
- Erlon R. Cruz, Daniel Câmara, Hélio C. Guardia, *Providing Billing Support in WiMAX Mesh Networks*, The 5th IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob 2009), IEEE, Marrakech, Morocco, 13-14 October 2009
- Daniel Câmara, Christian Bonnet, Fethi Filali, *Implementation and Dynamic Topology Maintenance for the CHORIST Network*, The 20th Personal, Indoor and Mobile Radio Communications Symposium 2009, PIMRC'09, IEEE, Tokyo, Japan, September 13-16, 2009
- Daniel Câmara, Christian Bonnet, *Topology Management for Public Safety Networks*, International Workshop on Advanced Topics in Mobile Computing for Emergency Management: Communication and Computing Platforms (MCEM 2009), ACM, Leipzig, Germany, June 21-24, 2009
- Daniel Câmara, Nikolaos Frangiadakis, F. Filali, A. A. F. Loureiro, Nick Roussopoulos, *Virtual Access Points for Disaster Scenarios*, IEEE Wireless Communications & Networking Conference (WCNC) 2009, IEEE, Budapest, Hungary, April 5-8, 2009
- Daniel Câmara, Christian Bonnet, Fethi Filali, *Dynamic Topology and Communication Control for Highly Dynamic Wireless Mesh Networks, A Public Safety Network Point of View*, Tenth Workshop on Mobile Computing Systems and Applications (HotMobile 09), Doctoral Consortium, ACM Sigmobility, Santa Cruz, CA, February 23-24, 2009
- Daniel Câmara, Nikolaos Frangiadakis, F. Filali, A. A. F. Loureiro, Nick Roussopoulos, *Virtual Access Points for Stream Based Traffic Dissemination*, 2008 IEEE Asia-Pacific Services Computing Conference, IEEE, Yilan, Taiwan, December 9-12, 2008
- Hicham Anouar, Cristian Bonnet, Daniel Câmara, Fethi Fillali, Raymond Knopp, *OpenAirInterface Simulation Platform, International Conference on Measurement and Modeling of Computer Systems*, SIGMETRICS 2008, ACM, June 2-6, 2008, Annapolis, Maryland, USA
- Nikolaos Frangiadakis, Daniel Câmara, Fethi Filali, Antonio Alfredo F. Loureiro, Nick Roussopoulos, *Virtual access points for vehicular networks*, Mobilware 2008, 1st International Conference on MOBILE Wireless MiddleWARE, Operating Systems, and Applications, ACM, February 12th-15th, 2008, Innsbruck, Austria
- Daniel Câmara, Antonio Alfredo F. Loureiro, Fethi Filali, *Methodology for formal verification of routing protocols for ad hoc wireless networks* GLOBECOM 2007, 50th IEEE Global Communications Conference, IEEE, November 26-30, 2007, Washington, USA
- Leonardo Oliveira, Eduardo Habib, Daniel Câmara, Wong Chi, Antonio Alfredo Ferreira Loureiro, Ricardo Dahab, *SecOverlay – Overlay Networks Over Wireless Sensor Networks for Reliable Data Transmission*, 5th Brazilian Symposium on Information and Computer System Security, Florianópolis, Brazil, September 2005 (Portuguese)
- Eduardo Habib B. Maia, Antonio Alfredo F. Loureiro, Daniel Câmara, *ICA: Inter Cluster Routing Algorithm for Wireless Sensor Networks*, Brazilian Symposium on Computer Networks, Gramado, RS, Brazil, May, 2004
- Eduardo Habib B. Maia, Antonio Alfredo F. Loureiro, Daniel Câmara, *CHDOS: A New Routing proposal for Wireless Sensor Networks*, Workshop of Wireless Communications (WCSF'03), São Lourenço, MG, Brazil, Outubro, 2003
- Daniel Câmara, Antonio Alfredo F. Loureiro, *A Novel Routing Algorithm for Hoc Networks*, Baltzer Journal of Telecommunications Systems, 18:1-3, 85-100, Kluwer Academic Publishers, 2001
- Claudemberg F. Santos, Daniel Câmara and Antonio Alfredo F. Loureiro, *A Methodology for Formal Verification of Routing Protocols for Mobile Ad Hoc Networks* (original work in Portuguese), Brazilian Symposium on Computer Networks (SBRC'01), Florianópolis, SC, Brazil, Mai, 2001
- Daniel Câmara, Antonio Alfredo F. Loureiro, *A GPS/Ant-Like Routing Algorithm for Ad Hoc Networks*, IEEE Wireless Communications and Networking Conference (WCNC'00), Chicago, IL, USA, September 2000
- Daniel Câmara, Mário F. M. Campos, *A Methodology for 3D Registration of Range Images For Object Visualization*, XII Brazilian Symposium on Computer Graphics and Image Processing (SIBGRAPI'99), IEEE Computer Society Press, Campinas, São Paulo, Brazil, October, 1999

- César A. Rodrigues, Mário L. Moura Júnior, Daniel B. Faria, Daniel Câmara and Antonio A. F. Loureiro. *Adapting SNMPv3 for Mobile Computing*. IEEE Wireless Communications and Networking Conference (WCNC'99). New Orleans, LA, USA. September, 1999
- Daniel Câmara, André L. PiresGuedes, *Parallel Ring Model of Ray Tracing* (original work in Portuguese, earlier version in XX CNMAC), IX Symposium on Computer Architecture and High Performance Computing (SBAC-PAD'97), Campos do Jordão, São Paulo, Brazil, October 1997
- Daniel Câmara, Roberto A. Hexsel, *Parallel Numerical Solution of the Gauss Equation* (original work in Portuguese), III Regional Mathematical and Computational Meeting, Curitiba, Paraná, Brazil, September 1996