

Joan Melià-Seguí, PhD

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*Postdoctoral lecturer and researcher
with interests in Internet of Things,
Pervasive Computing (RFID Systems),
Human Activity Recognition, and Privacy.*

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- 2008 – 2011 PhD in Networking Technologies, IN3-UOC, Barcelona, Spain.
- 2005 – 2007 MS in Information and Knowledge Society. UOC, Barcelona, Spain.
- 2003 – 2005 MS in Telecommunication Engineering. UPC, Barcelona, Spain.
- 2005 (Feb.- Jul.) MS Thesis at Mobile Communications Dept., Aalborg University, Denmark.
- 1999 – 2003 BS in Telecommunication Systems Engineering. UPC, Barcelona, Spain.

Experience

Universitat Oberta de Catalunya, Barcelona, Spain

- 2014 – present Lecturer in the Telecommunications Technologies Degree and Master, Computer Science, Multimedia and Telecommunications Department (EIMT), Barcelona, Spain.

Palo Alto Research Center (PARC, a Xerox Company), California, USA

- 2012 (Mar.- Sep.) Visiting Researcher at Palo Alto Research Center (PARC, a Xerox Company), California, USA. Research at the Contextual Intelligence Area and Security & Privacy Area, within the Computer Science Laboratory (CSL).

Universitat Pompeu Fabra, Barcelona, Spain

- 2011 – 2014 Postdoctoral Researcher at Department of Information and Communication Technologies (DTIC). Research on Internet of Things, RFID, Ubiquitous Computing, and Human Activity Recognition. Lecturer at the Computer Science, Telematics and Audiovisual Systems degree.

Internet Interdisciplinary Institute (IN3-UOC), Barcelona, Spain

- 2008 – 2011 Ph.D. student at KISON Research Group. Thesis: “*Lightweight PRNG for Low-Cost Passive RFID Security Improvement*”. Advisors: Dr. Jordi Herrera-Joancomarti and Dr. Joaquín García-Alfaro.

AIDA Centre RFID Solutions S.L., Badalona, Spain

- 2005 – 2007 RFID Project engineer in the QoS Spanish Postal Project. Research at BRIDGE and CE-RFID European projects FP6 (RFID in retail).

Universitat Politècnica de Catalunya, Castelldefels, Spain

- 2004 – 2005 Research assistant in the Communications and Signal Theory Department. Research on motes and TinyOS.

Selected Research Dissemination

A complete list of publications can be obtained from <http://joan.melia.cat>

- 2015 R. Parada, J. Melià-Seguí, M. Morenza-Cinos, A. Carreras, R. Pous, Using RFID to Detect Interactions in Ambient Assisted Living Environments. *Intelligent Systems*. ISSN: 1541-1672, IEEE, Volume 30, Number 4, Pages 16-22, July 2015. DOI: 10.1109/MIS.2015.43
- Z. Rashid, J. Melià-Seguí, R. Pous and E. Peig, Bridging Offline and Online World through Augmentable Smart Glass Interfaces, *The 2nd International Conference on Augmented and Virtual Reality (AVR 2015)*. Lecce (Italy), 2015.
- R. Parada, J. Melià-Seguí, M. Morenza-Cinos, A. Carreras, R. Pous, Measuring User-object Interactions in IoT Spaces. *The 6th IEEE International Conference on RFID Technology and Applications (RFID-TA 2015)*, Tokyo (Japan), 2015.
- 2014 E. De Cristofaro, J. Melià-Seguí, R. Zhang, O. Brdiczka and E. Uzun, *Method and Apparatus for Performing Distributed Privacy-preserving Computations on User Locations*, U.S. Patent 8,954,737, 2014.
- J. Melià-Seguí, J. Garcia-Alfaro, J. Herrera-Joancomarti. *On the Similarity of Commercial EPC Gen2 Pseudorandom Number Generators*. *Transactions on Emerging Telecommunications Technologies*. ISSN: 2161-3915, Wiley-Blackwell, Volume 25, Number 2, Pages 151-154, 2014. DOI: 10.1002/ett.2600.
- J. Melià-Seguí and R. Pous. *Human-object Interaction Reasoning using RFID-enabled Smart Shelf*, 4th International Conference on the Internet of Things (IoT 2014), Massachusetts (USA), 2014.
- 2013 J. Melià-Seguí, J. Garcia-Alfaro, J. Herrera-Joancomarti. *J3Gen: A PRNG for Low-Cost Passive RFID*. *Sensors*. ISSN: 1424-8220, MDPI, Volume 13, Number 3, Pages 3816 - 3830, March 2013. DOI: 10.3390/s130303816.
- 2012 J. Melià-Seguí, R. Zhang, E. Bart, B. Price and O. Brdiczka. *Activity Duration Analysis for Context-aware Services Using Foursquare Check-ins*. *International Conference on Autonomic Computing (ICAC) 2012 Workshops*, ACM, California (USA), September 2012.
- 2011 J. Melià-Seguí, J. Garcia-Alfaro, J. Herrera-Joancomarti. *A Practical Implementation Attack on Weak Pseudorandom Number Generator Designs for EPC Gen2 Tags*. *Journal of Wireless Personal Communications*, April 2011. DOI: 10.1007/s11277-010-0187-1
- 2010 J. Melià-Seguí, J. Garcia-Alfaro, J. Herrera-Joancomarti. *Analysis and Improvement of a Pseudorandom Number Generator for EPC Gen2 Tags*, *Financial Cryptography Workshops, LNCS - Springer, Tenerife (Spain)*, 2010.

Selected Participation in Research Projects

- 2015 - 2017 SmartGlacis, Ministerio de Ciencia e Innovación, TIN2014-57364-C2-R.
- 2012 - 2013 ITO Smart Loyalty Platform (Recommender systems), Xerox Inc.
- 2012 - 2014 RecerCaixa: Technology-Enabled Independent Shopping for the Visually or Mobility Impaired (2011ACUP 00196), Obra Social "la Caixa".
- 2008 - 2011 Electronic AEGIS for conciliating consumer privacy and transaction security in the Information Society (TSI2007-65406-C03-03).
- 2008 - 2012 Advanced Research on Information Security and Privacy (CONSOLIDER CSD2007-00004 ARES), <http://crises-deim.urv.cat/ares/>
- 2006 - 2007 BRIDGE (European Project, Call 6), RFID in retail, WP 7.
CE-RFID (European Project, Call 6), RFID development in Europe, WP 4.

Grants and Accreditations

- 2013 “Professor Lector”, Agència de Qualitat Universitària, Generalitat de Catalunya.
2008 PhD grant from Fundació de la Universitat Oberta de Catalunya (3 years).
2005 EU Erasmus Scholarship, MS Thesis at Aalborg University (Denmark).

Thesis Supervision

- PhD: Raúl Parada, Universitat Pompeu Fabra, RFID Analytics and Systems in Smart Spaces, 2016 (expected). Co-supervised with Rafael Pous.
- MSc: Albert Càmara Viñals, Universitat Oberta de Catalunya, Localització en interiors mitjançant Bluetooth Smart per assistir a invidents o persones amb dificultats visuals, 2015.
- Juan José Fernández Solé, Universitat Oberta de Catalunya, Estudi de tècniques d'identificació i posicionament mitjançant RFID passiu en la banda UHF, 2015.
- Degree: Ubiquitous Computing Applications Laboratory: Rachid Bouajaja (2015), Aleix Claramunt Molet (2015), John Fisher (2014), Diego García Navarro (2014), Juan Carlos Horno (2014), Carles Xavier Vilàs Berdié (2014), Alejo Riera Llambias (2014), Darío Lozano Villegas (2014), Jordi Pérez Lleberia (2014), David Cortés Suarez (2013).

Skills

- Certificates: Statistical Learning, Stanford University, OpenEdEX 2014.
Computing for Data Analysis, Johns Hopkins University, Coursera, 2014.
Machine Learning, Stanford University, Coursera, 2012.
Hands-on Programming of Batteryless, RFID-Scale Computers with Sensors, University of Massachusetts, Amherst, 2011.
- Programming: C, Matlab/Octave, R, Python.

Other activities

- Reviewer and committees: Reviewer in 8 peer-reviewed workshop, conferences and journals. Program Committee in 7 peer-reviewed workshop, conferences and journals. Detailed list available upon request.
- Volunteering and social activities: In 2003 I co-founded the Non-Governmental Organization (NGO) “*Telecos Sense Fronteres*” (telecomms without borders), with other students and professors from the Universitat Politècnica de Catalunya. The goal of the NGO is to improve the health and education systems of non-developed countries by means of communication technology. The main developed projects have been a computer classroom for online learning in the Peruvian Amazon (2003 – 2005), and a communications system between a rural medical center and the main Hospital in the Atlantic region of Nicaragua, assisting more than 15.000 inhabitants (2006 – 2012).