

# Curriculum Vitae

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## Research Interests

- Formal semantics for distributed and concurrent programming languages, with practical applications.
- Verification of concurrent systems using model checking, including the development of model checking tools.
- The use of property-based testing (a particular type of model-based testing) to permit systematic analysis of complex software and hardware systems.

## Professional Leadership

- Site leader for three European STREP projects, managing numerous academic/industrial cooperative projects.
- Managing the government funded project which finances the SpaRCIM consortium, which comprises six Spanish universities, and which was the formal Spanish partner in the ERCIM organisation.
- Serving as representative of research laboratory in the SICS management meetings (several years).

## Education

- Ph.D. in Computer Science, 2001, Royal Institute of Technology (KTH), Stockholm, Sweden. *A Framework for Reasoning about Erlang code*. Supervisor: Joachim Parrow, Uppsala University.
- Ph.Lic. in Computer Science, 1994, Uppsala University, Sweden. *The Timing and Probability Workbench: A tool for analysing timed processes*.
- M.Sc. in Computer Science, 1991, Uppsala University, Sweden.

## Experience

- 2009-01-20: employed by the Facultad de Informática, Universidad Politécnica de Madrid, as a “profesor contratado doctor” I3 (associate professor).
- 2005-12-01 – 2009-01-19: employed on a 5 year Ramón y Cajal grant from the Spanish Ministry of Education and Science (MEC).
- 2005-01-01 – 2005-11-30: visiting researcher at the Facultad de Informática, Universidad Politécnica de Madrid (UPM), on an ERCIM postdoctoral grant (2005-01-01 – 2005-09-01), and a one-year Spanish postdoctoral grant from the Spanish Ministry of Education and Science (MEC) 2005-01-01–2006-01-01.
- 2001-10-01 – 2004-12-31: senior researcher at the Swedish Institute of Computer Science (SICS).
- 1990-01-01 – 2001-09-30: full-time researcher at the Swedish Institute of Computer Science.

## Awards, Honors and Recognition

- Awarded a Ramón y Cajal Fellowship (2005-12-01–2009-11-30), arguably the most prestigious fellowship in the Spanish scientific system. The fully funded five year fellowship is awarded to promising researchers, and provides a career path for researchers with PhD’s from outside Spain to enter the Spanish academic system.
- Successful evaluation for the Profesor Contratado Doctor position by the Spanish Governmental evaluation agency ANECA in 2010 (this is a requirement to continue with employment provided by the I3 programme), which requires a sufficient number of articles published in prestigious journals and conferences.
- Awarded three “Sexenios” as recognized by the Spanish governmental organization “Comisión Nacional Evaluadora de la Actividad Investigadora” (CNEAI). A “Sexenio” is awarded if the candidate can show sufficient quality scientific output during a six year period (hence the name “Sexenio”).

## Selected Recent Projects

- UPM site leader for the EU FP7 collaborative STREP project PROWESS Ref. 317820, 2013-09-01 – 2015-10-31, total funding 3.4 million Euros (UPM 262905 euros).
- UPM site leader for the EU FP7 collaborative STREP project PROWESS Ref. 215868, 2008-05-01 – 2011-04-31, total funding 2.5 million Euros (UPM 282819 euros). The project received the assessment “excellent” in the final technical review, with the explanation “the project has fully achieved its objectives and technical goals for the period and has even exceeded expectations.”

### **Recent Collaboration and Research Visits**

- Extensive academic collaborations nationally (Spain and Sweden), and internationally, with joint publications with e.g., Chalmers, MDH (Sweden); A Coruña University (Spain); Kent University, Sheffield University (UK).
- Extensive industrial collaborations nationally (Spain and Sweden), and internationally, with concrete technology transfer activities with e.g., Quviq (Sweden); Interoud (Spain); Erlang Solutions (UK).
- 5 longer research stays; 5 organised research visits.

### **Recent Supervision**

- Ph.D.: Álvaro Fernández Díaz: defense expected in December 2015. Meets formal requirements at the Universidad Politécnica de Madrid to defend thesis, e.g., has at least one published journal article in a journal listed by the Journal Citation Reports (JCR), and several conference/workshop publications.
- Master thesis: supervision of three master students at UPM in an international master's programme (EMSE – European Master in Software Engineering, and EMCL – European Master in Computational Logic).

### **Recent Teaching Activities**

- Component-based software: master course in the European master programmes EMSE (European Master in Software Engineering) and EMCL (European Master Course in Computational Logic). Responsible professor 2009–2012.
- Algorithms and Data Structures. Undergraduate course at the Universidad Politécnica de Madrid, enrolling over 200 students per year. Teacher 2008–present.
- Concurrent Programming. Undergraduate course at the Universidad Politécnica de Madrid, enrolling over 200 students per year. Teacher 2014–2015.
- Analysis of Concurrent Systems. A master and doctoral course at UPM developed and taught jointly by me and Clara Benac Earle. 2013–present.
- Develops tools and methodologies for semi-automatic grading of student programming exercises, and to improve feedback to students.

### **Recent Professional Activities**

- Programme and co-chair for: PROLE 2013 (Spanish Conference on Programming and Computer Languages); NASSE (Novel Approaches to Service-based Systems of Systems Engineering; co-located with ServiceWave 2008); 2007 ACM SIGPLAN Erlang Workshop.
- Steering committees: ACM SIGPLAN Erlang Workshop and the Spanish Conference on Programming and Computer Languages (PROLE).
- Program committees: ACM SIGPLAN Erlang workshop 2007, 2013, 2014; Spanish Conference on Programming and Computer Languages (PROLE): 2010, 2013, 2014, 2015, 2016; XP 2001; SEAA 2013 (embedded software engineering track); FSEN 2013; AAMAS 2015; TFP 2015.
- Regularly reviews articles for conferences and journals, including Formal Aspects of Computing, Science of Computer Programming, Software – Practise and Experience, Acta Informatica, Theoretical Computer Science, CAV, CONCUR, FORTE, SAS, POPL, ESOP, RTSS, SIGCOMM, etc.
- Project application reviewer for the Dutch council of Physical Sciences of the Netherlands Organization for Scientific Research (NWO), the Swedish Research Council (Vetenskapsrådet), and the Swedish SSF organisation (Stiftelsen for Strategisk Forskning).
- Open source tool developer, including, McErlang (Erlang model checker), jsongen (testing JSON based RESTful web services), javaerlang (a Java interface library for Erlang, useful for testing).
- Tutorials and presentations at industrial events, including the Erlang User Conference (2011,2015), Erlang User Factory (London 2010, San Francisco 2009).

### **Publications**

- Author of more than 50 peer-reviewed journal and conference publications.
- h-index 15, over 1000 citations (Google Scholar, August, 2015).