



Formal methods for the development and evaluation of sustainable systems - 001-ABEL-CM-2013

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UCM Group

- David de Frutos Escrig (Coordinator).
- Ignacio Fábregas Alfaro (up to March 2015).
- Carlos Gregorio Rodríguez.
- María Martos Salgado.
- Yolanda Ortega Mallén.
- David Romero Hernández.
- Fernando Rosa Velardo.

With a total of 23,5 months visiting RU, Reykjavik, Iceland.



Highlighted Publications

- Luca Aceto, Dario Della Monica, Ignacio Fábregas and Anna Ingólfssdóttir: *When are prime formula characteristic?*. MFCS 2015, LNCS 9234 - Springer 2015.
- David Romero-Hernández, David de Frutos-Escríg and Dario Della Monica: *Proving Continuity of Coinductive Global Bisimulation Distances: A Neverending Story*. PROLE 2015, EPTCS 200, 2015.
- Adrian Francalanza, Luca Aceto and Anna Ingólfssdóttir: *On Verifying Hennessy-Milner Logic with Recursion*. RV 2015, LNCS 9333 - Springer 2015.
- Luca Aceto, Andrea Morichetta and Francesco Tiezzi: *Decision Support for Mobile Cloud Computing Applications via Model Checking*. MobileCloud 2015, IEEE.
- David de Frutos-Escríg, Jeroen J.A. Keiren and Tim A.C. Willemse: *Branching Bisimulation Games*. FORTE 2016, LNCS 9688 - Springer 2016.



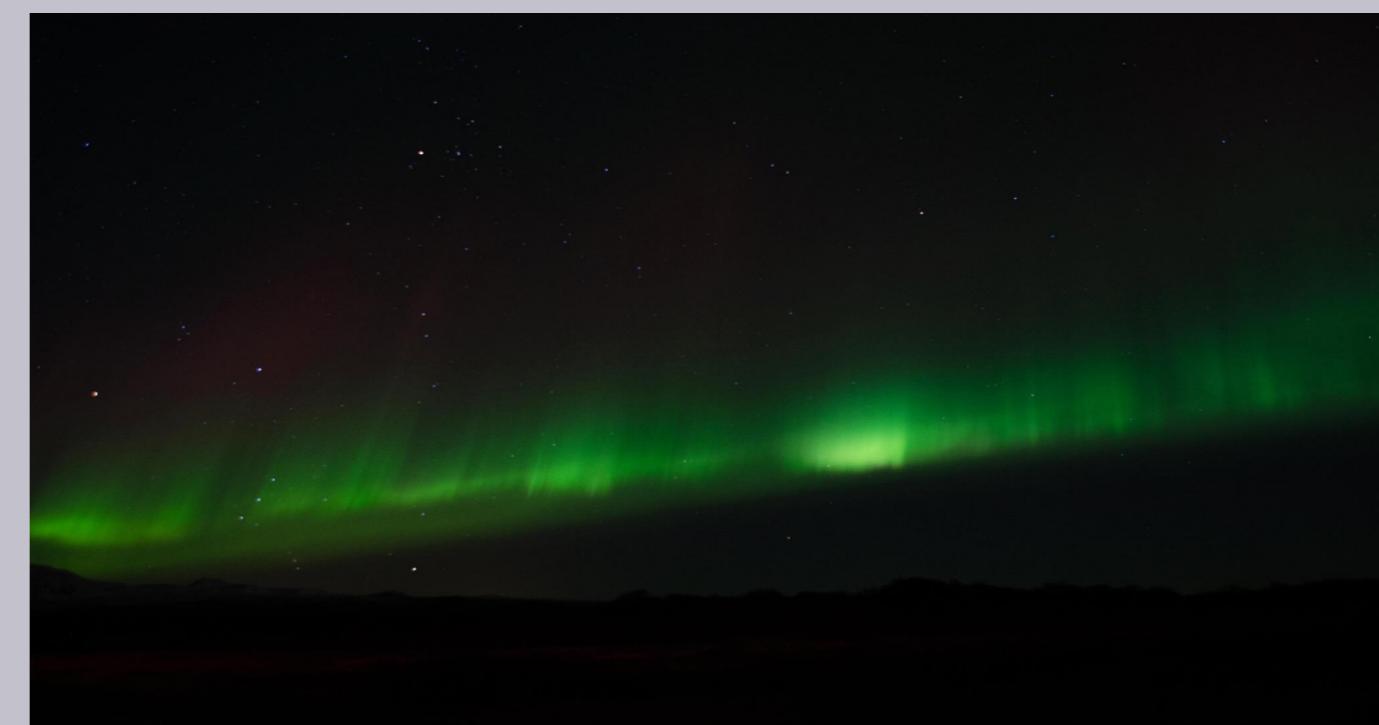
RU Group

- Luca Aceto (Coordinator).
- Dario Della Monica.
- Ignacio Fábregas Alfaro.
- Anna Ingólfssdóttir.

With a total of 8,5 months visiting UCM, Madrid, Spain.

Nordic Workshop

- Proceedings of the 27th Nordic Workshop on Programming Theory (NWPT 2015). Luca Aceto, Ignacio Fábregas, Álvaro García-Pérez, Anna Ingólfssdóttir (eds.) TR RUTR-SCS16001, 2016.
- Luca Aceto, Ignacio Fábregas, Carlos Gregorio-Rodríguez and Anna Ingólfssdóttir: *A logical characterisation for input output conformance simulation iocos*.
- Dario Della Monica and Adrian Francalanza: *Towards A Hybrid Approach to Software Verification*.



Madrid Meet

- Proceedings of the 26th Int. Conference on Concurrency Theory - CONCUR 2015 Luca Aceto and David de Frutos-Escríg (eds) LIPIcs 42, Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik 2015.
- Quantitative Evaluation of Systems - 12th Int. Conf. QEST 2015 Javier Campos, Boudewijn R. Haverkort (eds.) LNCS 9259 Springer 2015.
- Formal Modeling and Analysis of Timed Systems - 13th Int. Conf. FORMATS 2015 Sriram Sankaranarayanan, Enrico Vicario (eds.) LNCS 9268 Springer 2015.
- Computer Performance Engineering - 12th European Workshop, EPEW 2015 Marta Beltrán, William Knottenbelt, Jeremy Bradley (eds.) LNCS 9272 Springer 2015.
- Hybrid Systems Biology - 4th Int. Workshop HSB 2015 Alessandro Abate and David Safranek (eds.) LNBI 9271 Springer 2015.
- Web Services, Formal Methods, and Behavioral Types - 11th and 12th Int. Workshop WS-FM 14 & 15 Thomas T. Hildebrandt, António Ravara, Jan Martijn van der Werf, Matthias Weidlich (eds.) LNCS 9421 Springer 2016.
- Combined 22th Int. Workshop on Expressiveness in Concurrency and 12th Workshop on Structural Operational Semantics – EXPRESS/SOS 2015 Silvia Crafa and Daniel E. Gebler (eds.) EPTCS 190 2015.
- Trustworthy Global Computing - 10th Int. Symp. TGC 2015 Pierre Ganty, Michele Loreti (eds.) LNCS ???? (to appear) Springer 2016.

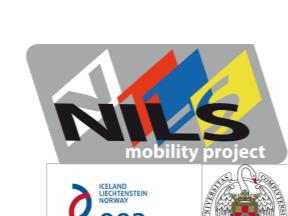


Interesting Milestones

- Luca Aceto and David de Frutos where the PC Chairs of the 26th Int. Conference on Concurrency Theory - CONCUR 2015.
- Ignacio Fábregas got a 1 year contract in RU, thus extending our collaboration for this time.
- David Romero and María Martos took advantage of their stays for the International special recognition of their PhD Thesis:
 - D. Romero, Revisiting Logical Semantics for Processes and their Distances (Mas sobre Equivalencias Lógicas y Distancias entre Procesos). Supervisor David de Frutos-Escríg, UCM, 2016.
 - M. Martos, Verificación y Extensiones de Redes de Petri con Precios, Tiempo y Múltiples Instancias. Supervisor Fernando Rosa Velardo, UCM, 2016.
- Dario Della Monica enjoyed two three-month stays at UCM.
- Plenty of talks at our seminars during our stays.

Details of the Project

- **Project promoter:** Universidad Complutense de Madrid.
- **Funding:** 100.050€
- **Duration:** from March 2014 until November 2015.



Topics & Main Results

- Distances between systems.
- Modal Transition Systems: distinguishing from requests and offers when defining the semantics of processes.
- Probabilistic Transition Systems: quantifying the behaviour of systems.
- New Modal Logics to cover all the aspects above.
- Rule formats for SOS and Nominal systems.

EATCS - Luca Aceto



- Luca Aceto is the current President of the EATCS (from August 2012).
- EATCS has 1067 senior members and 575 junior members. Even if mainly European based, it has members from the whole world (e.g. about 80 from US).
- EATCS organizes or sponsors most of the more prestigious conferences on TCS, such as ICALP, MFCS, ESA, DISC, ETAPS...

