

Victorino Sanz Prat

CONTACT INFORMATION

Dpto. de Informática y Automática
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EDUCATION

E.T.S.I. Informática, UNED

Ph.D. in Computer Science (with european mention), May 2010.

- Dissertation title: *Hybrid System Modeling using the Parallel DEVS Formalism and the Modelica Language.*
- Presented at: Dpto. de Informática y Automática, UNED
- Defense committee: Prof. Dr. Cesar de Prada, Prof. Dr. Alberto Leva, Prof. Dr. Jose Luís Fernandez-Marr'on, Prof. Dr. Miguel Ángel Piera, Prof. Dr. Carla Martín-Villaba.

Facultad de Informática, Universidad Politécnica de Madrid

Computer Science Engineer, September 2004

- Equivalent to a M.Sc. in Computer Science.

RESEARCH

Currently working on the development of several Modelica libraries for discrete-event system and hybrid system modeling and simulation. These libraries are:

- DEVSLib: contains an implementation in Modelica of the Parallel DEVS formalism.
- SIMANLib: reproduces in Modelica some functionalities of the SIMAN simulation language.
- ARENALib: based on SIMANLib, emulates the functionalities fo the Arena simulation environment.
- RandomLib: a Modelica library for random numbers and random variates generation.
- CellularPDEVS: an implementation of cellular automata in Modelica, based in Parallel DEVS.

Main research interests:

- Modeling and simulation in general.
- Hybrid and Discrete-event system modeling and simulation.
- Simulation environments and languages.
- Modeling of biological evolution.

BOOKS

Victorino Sanz. *Hybrid System Modeling*, Lap Lambert Academic, Saarbrücken, 2011.

JOURNAL ARTICLES

Victorino Sanz, Alfonso Urquia, François E. Cellier, Sebastian Dormido. Hybrid System Modeling using the SIMANLib and ARENALib Modelica Libraries. *Simulation Modeling Practice and Theory*, (under review).

Victorino Sanz, Alfonso Urquia, François E. Cellier, Sebastian Dormido. Modeling of Hybrid Control Systems using the DEVSLib Modelica Library. *Control Engineering Practice*, 20(1), 2011, pp. 24–34.

Victorino Sanz, Alfonso Urquia, François E. Cellier, Sebastian Dormido. System Modeling using the Parallel DEVS Formalism and the Modelica Language. *Simulation Modeling Practice and Theory*, 18(7), 2010, pp. 998–1018.

Victorino Sanz, Alfonso Urquia, Sebastian Dormido. Introducing Messages in Modelica for Facilitating Discrete-Event System Modeling. *Simulation News Europe*, 18(2), 2008, pp 42–43.

CONFERENCE
PUBLICATIONS

Victorino Sanz, Alfonso Urquia. An Approach to Cellular Automata Modeling in Modelica. In Proceedings of the 5th International Workshop on Equation-Based Object-Oriented Languages and Tools, Nottingham, UK, 2013, (under review).

Victorino Sanz, Alfonso Urquia, Sebastian Dormido. Integrating Parallel DEVS and Equation-Based Object-Oriented Modeling. In Proc. of the DEVS Symposium, Spring Simulation Multiconference, Orlando, FL, USA, 2010.

Victorino Sanz, Alfonso Urquia, Sebastian Dormido. Parallel DEVS and Process-Oriented Modeling in Modelica. In Proceedings of the 7th International Modelica Conference, Como, Italy, 2009.

François E. Cellier, **Victorino Sanz**. Mixed Quantitative and Qualitative Simulation in Modelica. In Proceedings of the 7th International Modelica Conference, Como, Italy, 2009.

Victorino Sanz, François E. Cellier, Alfonso Urquia, Sebastian Dormido. Modeling of the ARGESIM "Crane and Embedded Controller" System using the DEVSLib Modelica library. In Proceedings of the ADHS'09: 3rd IFAC Conference on Analysis and Design of Hybrid Systems, Zaragoza, Spain, 2009. (accepted for publication)

Victorino Sanz, Shafagh Jafer, Gabriel Wainer, Gabriela Nicolescu, Alfonso Urquia, Sebastian Dormido. Hybrid Modeling of Opto-Electrical Interfaces Using DEVS and Modelica. In Proceedings of the DEVS Integrative M&S Symposium, Spring Simulation Multiconference, San Diego, CA, USA, 2009.

Victorino Sanz, Alfonso Urquia, Sebastian Dormido. Introducing Messages in Modelica for Facilitating Discrete-Event System Modeling. In Proceedings of 2nd International Workshop on Equation-Based Object-Oriented Languages and Tools, Paphos, Cyprus, 2008, pp. 83-93.

Victorino Sanz, Alfonso Urquia, Sebastian Dormido. DEVS Specification and Implementation of SIMAN Blocks Using Modelica Language. In Proceedings of the Winter Simulation Conference 2007, Washington, D.C., USA, 2007.

Victorino Sanz, Alfonso Urquia, Sebastian Dormido. ARENALib: A Modelica Library for Discrete-Event System Simulation. In Proceedings of the 5th International Modelica Conference, Viena, Austria, 2006.

RESEARCH
PROJECTS

Modelado, simulación y control basado en eventoss

- Funded by: CICYT (DPI2007-61068)
- Main researcher: Prof. Dr. Sebastian Dormido Bencomo
- Duration: From October 2007 until September 2012

Control de sistemas complejos en la logística y producción de bienes y servicios. Acronym: COSICOLOGI-CM

- Funded by: IV PRICIT 2005–2008, Plan Regional de Ciencia y Tecnología de la Comunidad de Madrid (Ref. S-0505/DPI/0391)

- Main researcher: Prof. Dr. Sebastian Dormido Bencomo
- Duration: From January 2005 until December 2008

Herramientas Interactivas para el modelado, visualización, simulación y control de sistemas dinámicos

- Funded by: CICYT (DPI2004-01804)
- Main researcher: Prof. Dr. Sebastian Dormido Bencomo
- Duration: From January 2004 until December 2006

RESEARCH STAYS

TU Delft

- Local supervisor: Prof. Dr. Mamadou Seck
- Department: Systems Engineering Section, FAculy of Technology, Policy and Management
- Duration: 3 months (September to November 2009)
- Location: Delft, The Netherlands

ETH Zurich

- Local supervisor: Prof. Dr. François E. Cellier
- Department: Modeling and Simulation Research Group, Institute for Computational Science, Dept. of Computer Science
- Duration: 3 months (September to November 2008)
- Location: Zurich, Switzerland

Carleton University

- Local supervisor: Prof. Dr. Gabriel A. Wainer
- Department: Dept. of Systems and Computer Engineering
- Duration: 2 weeks (July 2008)
- Location: Ottawa, Ontario, Canada

TEACHING

Undergraduate courses, E.T.S.I. Informática, UNED

<i>Arquitectura e Ingeniería de Computadores</i>	years 2006/07, 2007/08 & 2008/09
<i>Ingeniería de Computadores II</i>	years 2011/12 & 2012/13
<i>Procesamiento Paralelo</i>	year 2012/13

Graduate courses, E.T.S.I. Informática, UNED

<i>Comunicaciones y Redes Industriales</i>	years 2010/11, 2011/12 & 2012/13
<i>Simulación de Sistemas</i>	years 2010/11, 2011/12 & 2012/13
<i>Modelado de Sistemas Dinámicos</i>	years 2010/11, 2011/12 & 2012/13
<i>Practicum II</i>	years 2010/11, 2011/12 & 2012/13
<i>Sistemas Operativos y Redes</i>	years 2011/12 & 2012/13
<i>Trabajo Fin de Máster</i>	years 2011/12 & 2012/13

Graduate courses, Madrid Associated Centre, UNED

<i>Sistemas Operativos I</i>	years 2006/07, 2007/08 & 2008/09
<i>Sistemas Operativos II</i>	years 2006/07, 2007/08 & 2008/09
<i>Teoría de Autómatas I</i>	year 2007/08

Kaliform S.A.

Introduction to wireless networks

taught in 2006

SUPERVISED THESIS

Roberto Antón Marqués. Desarrollo de una herramienta para la resolución de problemas de optimización discreta con algoritmos genéticos. Master Thesis, Dpto. de Informática y Automática, E.T.S.I. Informática, UNED, 2013.

PROFESSIONAL EXPERIENCE

UNED

Assistant Professor

From November 2009 to today

- At the Dpto. de Informática y Automática, E.T.S.I. Informática.

Research Assistant

From August 2005 to November 2009

- Associated to the project DPI2004-01804.
- Working at the Dpto. de Informática y Automática, E.T.S.I. Informática.

SUN Microsystems

Technical Support Engineer

From June 2004 to August 2005

- Support engineer for hardware and software products in Mission Critical systems at the Spanish Solution Center.

GRANTS

SUN Microsystems

Solution Center Grant

From December 2003 to June 2004

- Software licenses generation.
- Management and administration of the Solution Center test laboratory.
- Configuration and integration of the Solution Center laboratory into the European shared-laboratories group.

Facultad de Informática, Universidad Politécnica de Madrid

ERASMUS

From October 2002 to July 2003

- At Aalborg University Esbjerg, Esbjerg (Denmark).
- Study the last year of the degree and make the Master's Thesis.
- Master's Thesis: Information Searching - Extraction of Term Associations with Probabilist-Fuzzy Strategies
- Supervisor: Prof. Henrik L. Larsen

OTHER INFORMATION

Languages

- Spanish: mother tongue.
- English: fluid spoken and written.
- Italian: basic spoken and written.

Reviewer for the following journals:

- Simulation Modeling Practice and Theory.
- Revista Iberoamericana de Automática e Informática Industrial.