

## Manuel Mazo Jr.

---

CONTACT INFORMATION	<p>Cyber Physical Systems Lab University of California, Los Angeles Department of Electrical Engineering, School of Engineering &amp; Applied Sciences Los Angeles, California United States of America</p>	<p><i>Phone:</i> +1 (0) 310-254-5894 <i>E-mail:</i> mmazo@ee.ucla.edu <i>URL:</i> <a href="http://www.ee.ucla.edu/~mmazo">http://www.ee.ucla.edu/~mmazo</a></p>
CITIZENSHIP	Spain	
LANGUAGES	Spanish (Native), English (Fluent), Swedish (Fluent), Italian (Advanced), Dutch (Intermediate), German (Beginner).	
RESEARCH INTERESTS	Cyber-Physical Systems; Hybrid systems; distributed control; embedded control software synthesis; sensor/actuator networks.	
EDUCATION	<p><b>University of California, Los Angeles (UCLA)</b>, Los Angeles, USA</p> <p>PhD, (March 2007- <i>estimated</i> July 2010) Electrical Engineering.</p> <ul style="list-style-type: none"><li>• Advisor: Prof. Paulo Tabuada</li><li>• Areas of Study:<ul style="list-style-type: none"><li>• Distributed Event-Triggered Control Systems,</li><li>• Symbolic Models for Control.</li></ul></li></ul> <p>M.Sc., (Sept. 2005- March 2007) Electrical Engineering.</p> <ul style="list-style-type: none"><li>• Area of Study: Control Systems.</li></ul> <p><b>Royal Institute of Technology (KTH)</b>, Stockholm, Sweden</p> <p>M.Sc., (Civil Ingenjör) (Sept. 2001- March 2003) Electrical Engineering.</p> <ul style="list-style-type: none"><li>• Thesis Topic: Robust Area Coverage Robotics.</li><li>• Advisor: Prof. Karl H. Johansson</li><li>• Area of Study: Control Systems and Robotics.</li></ul> <p><b>Polytechnic University of Madrid (UPM)</b>, Madrid, Spain</p> <p>B.Sc./M.Sc., (Ingeniero) (Sept. 1997- July 2001) Telecommunications Engineering.</p> <ul style="list-style-type: none"><li>• Area of Study: Communications.</li><li>• Thesis performed at KTH under Double Degree Agreement, see above.</li></ul>	
PROFESSIONAL MEMBERSHIPS	Institute for Electrical and Electronics Engineers (IEEE): Control Systems Society, International Federation of Automatic Control (IFAC), Society for Industrial and Applied Mathematics (SIAM).	
AWARDS	<ul style="list-style-type: none"><li>• (2009) General Chair's Recognition Award for Interactive Papers, Combined 48th IEEE Conference on Decision and Control and 28th Chinese Control Conference.</li><li>• (2007/2008) Henry Samueli Scholarship Winner from the Henry Samueli School of Engineering and Applied Sciences, UCLA.</li><li>• (2005-2009) MECD/UCLA Fellowship for postgraduate studies.</li></ul>	

- (2005) University of Newcastle Research Scholarship, External funding from the CDSC (Centre of Excellence, Complex Dynamical Systems and Control).
- (2002/2003) Stipend given by The Swedish-Spanish Foundation for the Promotion of Education and Studies.
- (2002/2003) Scholarship for abroad studies granted by UPM.
- (2001/2002) Socrates-Erasmus grant promoted by the European Commission for exchange studies at KTH.

MASTERS THESIS “Robust Area Covering using Hybrid Control”, March 2003. KTH, Sweden

JOURNAL  
PUBLICATIONS

1. “Approximate time-optimal control via approximate alternating simulations.”, M. Mazo Jr and P. Tabuada. 2009, In Preparation.
2. “Symbolic models for nonlinear control systems without stability assumptions.”, M. Zamani, G. Pola, M. Mazo Jr and P. Tabuada. 2010, Submitted.
3. “Self-Triggered Control: trading actuation for computation.”, M. Mazo Jr, A. Anta and P. Tabuada. 2009, Under Review.
4. “Superstability and finite time extinction for  $C_0$ -Semigroups.”, D. Creutz, M. Mazo Jr and C. Preda. 2008, Under Review.

CONFERENCE  
PUBLICATIONS

1. “PESSOA: A tool for embedded controller synthesis.”, M. Mazo Jr, A. Davitian and P. Tabuada. Submitted to Computer Aided Verification Conference, 2010.
2. “Approximate time-optimal control via approximate alternating simulations.”, M. Mazo Jr and P. Tabuada. Submitted to American Control Conference 2010.
3. “Input-to-state stability of self-triggered control systems.”, M. Mazo Jr. and P. Tabuada. Proceedings of the 48th Conference on Decision and Control, 2009.
4. “On Self-Triggered Control for Linear Systems: Guarantees and Complexity.”, M. Mazo Jr., A. Anta and P. Tabuada. European Control Conference 2009.
5. “On event-triggered and self-triggered control over sensor/actuator networks.”, M. Mazo Jr. and P. Tabuada. Proceedings of the 47th Conference on Decision and Control, 2008.
6. “Reduction of lateral and longitudinal oscillations of vehicles platooning by means of decentralized overlapping control.”, F. Espinosa, A.M.H. Awawdeh, M. Mazo Jr, J.M. Rodriguez, A. Bocos, M. Manzano. Proceedings of the 46th Conference on Decision and Control, 2007.
7. “Multi-Robot Tracking of a Moving Object Using Directional Sensors.”, M. Mazo Jr, A. Speranzon, K. H. Johansson, X. Hu. Proceedings of the International Conference on Robotics and Automation 2004.

8. “Robust area coverage using hybrid control.”,  
M. Mazo Jr, K. H. Johansson.  
TELEC 2004.
9. “Integrated Development Environment for Underactuated Non-Linear Control Systems.”,  
F. Espinosa, F. J. Castillo, M. Mazo Jr.  
SAAEI/EPF 2004.

SOFTWARE

**PESSOA:** A Matlab toolbox for embedded control software synthesis.  
<http://www.cyphylab.ee.ucla.edu/pessoa/>

PROFESSIONAL  
EXPERIENCE

- **University of California, Los Angeles** (2007-today)  
Electrical Engineering Department (Cyber-Physical Systems Lab)  
Graduate student researcher: “Distributed event-triggered control” and “Symbolic models for control-systems”.
- **The University of Newcastle, Australia** (2005)  
School of Engineering and Computer Science (CDSC)  
Teaching assistant: Digital Signal Processing, Electrical Machines;  
Graduate student researcher: “Hybrid systems identification”.
- **Polytechnic University of Madrid, Spain** (2004-2005)  
Escuela Técnica Superior de Ingenieros Industriales (DISAM)  
Assistant researcher: “Motion Simulator under project PLATEL”.
- **Royal Institute of Technology, Sweden** (2002-2004)  
Electrical Engineering Department (Control Section) and  
Math (Opt-Sys Section) Department  
Teaching assistant: Basic Control Systems Course (Lab Section);  
Assistant researcher: “Cooperative robotics”.
- **CERN, Switzerland** (2001)  
Summer student project: SCADA system for distributed data processing.
- **Logytel, Spain** (1998, 2000, 2004)  
Summer intern: SCADA (IsaGraf), control networks (Lonworks/Echelon) and  
PLC (IEC1131) developer.

SERVICE

- **UCLA, Graduate admissions committee:**  
Electrical Engineering, Signals and Systems section, 2008.

OTHER RESEARCH  
RELATED  
ACTIVITIES

- Fall 2009: Visiting student at the Laboratory for Information and Decision Systems at M.I.T. under the auspices of Prof. Emilio Frazzoli.
- **Journal Reviewer:** Automatica, IEEE Transactions on Automatic Control, IEEE Transactions on Industrial Informatics,
- **Conference Reviewer:** Hybrid Systems: Computation and Control, American Control Conference, IFAC World Congress, European Control Conference and IEEE Conference on Decision and Control.