Patricio E. Valenzuela

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Personal Details

Full name	Patricio Esteban Valenzuela Pacheco
Date of birth	16th April, 1986
Place of birth	Santiago, Chile
Marital status	Married
Citizenship	Chilean
Professional Degree	Ingeniero Civil Electrónico (B.Sc. in Electronic Engineering)

Education

2012–	**Ph.D. student in Electrical Engineering**, *Department of Automatic Control, School of Electrical Engineering*, KTH Royal Institute of Technology, Stockholm, Sweden.
2012–2014	**Licentiate in Electrical Engineering**, *Department of Automatic Control, School of Electrical Engineering*, KTH Royal Institute of Technology, Stockholm, Sweden.
2009–2011	**M.Sc. in Electronic Engineering**, *Department of Electronic Engineering*, Universidad Técnica Federico Santa María (UTFSM), Valparaíso, Chile.
2006–2011	**Electronic Engineering Degree**, *Department of Electronic Engineering*, Universidad Técnica Federico Santa María (UTFSM), Valparaíso, Chile.
2002–2004	**Electronic Technician**, Instituto Don Bosco, Punta Arenas, Chile.

Licentiate thesis

Title	*Optimal input design for nonlinear dynamical systems: a graph-theory approach*
Supervisors	Associate Prof. Cristian R. Rojas and Prof. Håkan Hjalmarsson
Institution	KTH Royal Institute of Technology, Stockholm, Sweden

Master thesis

Title	*Performance bounds on control of multivariable systems with additional and imperfect channels*
Supervisors	Prof. Mario E. Salgado and Dr. Eduardo I. Silva
Institution	Universidad Técnica Federico Santa María (UTFSM), Valparaíso, Chile

Supervision Experience

2016   **Johan Jansson, 'Decision tree classification of products using C5.0 and prediction of workload using time series analysis'**, *Department of Automatic Control, School of Electrical Engineering*, KTH Royal Institute of Technology, Stockholm, Sweden.

2015   **Johan Bjurgert, 'System identification by adaptive boosting'**, *Department of Automatic Control, School of Electrical Engineering*, KTH Royal Institute of Technology, Stockholm, Sweden.

2014   **Emil Lundkvist, 'Decision tree clasification and forecasting of pricing time series data'**, *Department of Automatic Control, School of Electrical Engineering*, KTH Royal Institute of Technology, Stockholm, Sweden.

Teaching Experience

2nd Semester 2012 - 2nd Semester 2015   **Teaching Assistant**, *Department of Automatic Control, School of Electrical Engineering*, KTH Royal Institute of Technology, Stockholm, Sweden.
Position Description: University Tutor for the undergraduate courses EL1000 'Automatic Control, general course', EL2421 'Automatic Control, project course', and for the master course EL1820 'Modelling of dynamical systems'.

2nd Semester 2010   **Teaching Assistant**, *Department of Electronic Engineering*, Universidad Técnica Federico Santa María (UTFSM), Valparaíso, Chile.
Position Description: University Tutor for the undergraduate course ELO-270 'Automatic Control I'.

2nd Semester 2009   **Teaching Assistant**, *Department of Electronic Engineering*, Universidad Técnica Federico Santa María (UTFSM), Valparaíso, Chile.
Position Description: University Tutor for the undergraduate course ELO-103 'Electrical Network Theory II'.

1st Semester 2007 - 1st Semester 2008   **Teaching Assistant**, *Department of Physics*, Universidad Técnica Federico Santa María (UTFSM), Valparaíso, Chile.
Position Description: University Tutor for the undergraduate courses FIS-100 'Introduction to Physics', FIS-110 'General Physics I', and FIS-120 'General Physics II'.

Honors and Awards

2015   **Recipient of the Knut and Alice Wallenbergs Foundation Scholarship**, *Scholarship to support the trip to attend the 17th IFAC Symposium on System Identification*, KTH Royal Institute of Technology, Sweden.

2013   **Recipient of the 'Esfuerzo es progreso' Award**, *Award given to the best student of Electronic Engineering graduated in 2011-2012*, Universidad Técnica Federico Santa María, Chile.

2012   **Recipient of the 'Marcos Orrego Puelma' Award**, *Award given to the best Engineering student graduated in 2011*, Institute of Engineers of Chile.

2012   **Recipient of the Electrical Engineering Program of Excellence Award**, *Award given to the best students entering the Ph.D. program at the School of Electrical Engineering to support the doctoral studies*, KTH Royal Institute of Technology, Sweden.

2011	**Recipient of the Distinción Académica 'Federico Santa María' Award**, *Award given to the best student of Electronic Engineering graduated in 2011*, Universidad Técnica Federico Santa María, Chile.
2010-2011	**Recipient of the CONICYT Scholarship**, *Scholarship to support my postgraduate studies*, Universidad Técnica Federico Santa María (UTFSM), Chile.
2007-2010	**Recipient of the Academic Merit Scholarship**, *Scholarship given to the top student of each generation to support undergraduate studies*, Universidad Técnica Federico Santa María (UTFSM), Chile.
2007-2011	**Member of the Honor List**, *Award given to the top students in the UTFSM. Between the years 2008 and 2010 I was ranked as the best student in the university*, Universidad Técnica Federico Santa María (UTFSM), Chile.
2007-2011	**Recipient of the Academic Excellence Award**, *Award given to the top students within the Electronic Engineering Department*, Universidad Técnica Federico Santa María (UTFSM), Chile.
2004	**Recipient of the Arturo Irarrázaval Correa Award**, *Award given to the best student of the Instituto Don Bosco graduated in 2004*, Instituto Don Bosco, Chile.

Publications

Patricio E. Valenzuela, Cristian R. Rojas, and Håkan Hjalmarsson, *Uncertainty in system identification: learning from the theory of risk*, in the 17th IFAC Symposium on System Identification, October 19-21 2015, Beijing, China.

Cristian R. Rojas, Patricio E. Valenzuela, and Ricardo A. Rojas, *A critical view on benchmarks based on randomly generated systems*, in the 17th IFAC Symposium on System Identification, October 19-21 2015, Beijing, China.

Patricio E. Valenzuela, Cristian R. Rojas, and Håkan Hjalmarsson, *A graph theoretical approach to input design for identification of nonlinear dynamical models*, Automatica, Volume 51, January 2015, pp. 233−242.

Afrooz Ebadat, Patricio E. Valenzuela, Cristian R. Rojas, Håkan Hjalmarsson, and Bo Wahlberg, *Applications oriented input design for closed-loop system identification: a graph theory approach*, in the 53rd Conference on Decision and Control, December 15-17 2014, Los Angeles, United States.

Patricio E. Valenzuela, Johan Dahlin, Cristian R. Rojas, and Thomas B. Schön, *A graph/particle-based method for experiment design in nonlinear systems*, in the 19th World Congress of the International Federation of Automatic Control, August 24-29 2014, Cape Town, South Africa.

Boris I. Godoy, Patricio E. Valenzuela, Cristian R. Rojas, Juan C. Agüero, and Brett Ninness, *A novel input design approach for systems with quantized output data*, in the 13th European Control Conference, June 24-27 2014, Strasbourg, France.

Patricio E. Valenzuela, Cristian R. Rojas, and Håkan Hjalmarsson, *Optimal input design for non-linear dynamic systems: a graph theory approach*, in the 52nd Conference on Decision and Control, December 10-13 2013, Florence, Italy.

Patricio E. Valenzuela, Mario E. Salgado, and Eduardo I. Silva, *Optimal Tracking Performance for Unstable Tall Plant Models*, in the 20th Mediterranean Conference on Control and Automation, July 3-6 2012, Barcelona, Spain.

Patricio E. Valenzuela, Mario E. Salgado, and Eduardo I. Silva, *Performance Bounds for SIMO and Squared-up Plant Models*, in the 19th Mediterranean Conference on Control and Automation, June 20-23 2011, Corfu, Greece.

Mario E. Salgado and Patricio E. Valenzuela, *Electrical Network Theory II*, Workbook.

Computer skills

Extensive experience	C and Matlab	General Knowledge	Maple

Languages

Spanish	*Native*
English	*Fluent*
Swedish	*Basic*