

Biographical Sketch

Manuel A. Jiménez-Cedeño

Ph.: (787)832-4040 Ext. 3780

Fax: (787)831-7564

E-mail: mjimenez@ece.uprm.edu

Web: <http://www.ece.uprm.edu/~mjimenez>

Electrical & Computer Engineering Department

S-222B Stefani Building

University of Puerto Rico at Mayagüez

P.O. Box 5976

Mayagüez, PR 00681-5976

Education

Ph.D. in Electrical Engineering, Michigan State University, 1999

M.S. in Electrical Engineering, University of Puerto Rico at Mayagüez, 1992

B.S. in Electro-mechanical Engineering, Universidad Autónoma de Santo Domingo, 1986

Professional Experience

- *July 2002 to present*

Associate Professor, Electrical and Computer Engineering Department, University of Puerto Rico, Mayagüez, PR
Courses: Digital Electronics (INEL-4207), VLSI Systems Design (INEL-6080) Master's Thesis (INEL-6046),
Undergraduate Research (INEL-4998), Electrical Engineering Practice (INEL-4048),

- *July 1999 to present*

Assistant Professor, Electrical and Computer Engineering Department, University of Puerto Rico, Mayagüez, PR
Courses: Electrical Systems Analysis II (INEL-4102), Digital Electronics (INEL-4207), Integrated Circuits (INEL-4218), Advanced IC Design Techniques (INEL-6079), VLSI Systems Design (INEL-6080)

- *Summer 2000*

Visiting Professor, Wireless CAPCOM Division, Texas Instruments, Inc., Dallas, TX

- *Summer 1999*

Visiting Professor, Power Management Products Division, Texas Instruments Inc., Dallas, TX

- *August 1994 to June 1999*

Teaching Assistant, Microprocessors Laboratory, Michigan State University, East Lansing, MI

- *Summer 1996*

Instructor, Circuit Analysis, Michigan State University, East Lansing, MI

- *August 1992 to July 1994*

Instructor, Electronics and Microprocessor Interfacing, University of Puerto Rico, Mayagüez, PR

Recent Publications

- [1] M. Jiménez with R. Palomera, and M. Toledo, "Undergraduate Research and Co-op Education: A Winning Combination", *Frontiers In Education, FIE-2002*, Boston, MA, Nov. 2002
- [2] M. Jiménez with J. Navarro, J. Borges, and N. Rodríguez, "Electronic Academic Counseling System", *Frontiers In Education, FIE-2002*, Boston, MA, Nov. 2002
- [3] M. Jiménez with F. Fernandez, "Behavioral Modeling of Dynamic Capacitive Loads on Sigma-Delta Modulators" In *Proceedings of the "Seminario Anual de Automática Electrónica Industrial e Instrumentación (SAAEI 2002)"*, Alcalá de Henares, Spain, Sep. 2002.
- [4] M. Jiménez with M. Aguirre, C. Heredia, H. Torres, and R. Palomera, "Design of a CMOS 1.8V Low-voltage Differential Signaling Receiver" In *Proceedings of the 45th IEEE Midwest Symposium on Circuits and Systems (MWSCAS 2002)*, IEEE Circuits and Systems Society, Tulsa, OK, Aug. 2002.
- [5] M. Jiménez with M. Shanblatt, "Integrating a Low-Power Objective into the Placement of Macro Block-based Layouts" In *Proceedings of the IEEE. Midwest Symposium on Circuits and Systems*, pp. 62-65, Aug. 2001.
- [6] M. Jiménez with D. Rodríguez and N. Santiago, "Scalable Floating Point FPGA Cores for Digital Signal Processing", In *Proceedings of Seminario Anual de Automática Electrónica Industrial e Instrumentación (SAAEI 2001)*, September 2001.
- [7] M. Jiménez with R. Rivera, J.J. Rodríguez, J. Betancourt, and M. Vélez-Reyes. "Multi-level Modeling and Simulation of Power Electronic Systems." In *Proceedings of the 2001 CPES Seminar*, February 2001.

- [8] M. Jiménez with M. Shanblatt, “A Low-power Approach to the Placement of Macro Block-based VLSI Layouts” In Proceedings of Seminario Anual de Automática Electrónica Industrial e Instrumentación (SAAEI 2001), September 2001.
- [9] M. Jiménez with M. Shanblatt, “Median-biased Heuristics for the Rectilinear Steiner Tree Problem”, In Proceedings of the 42nd. Midwest Symposium on Circuits and Systems, Aug. 1998
- [10] M. Jiménez with A. Diaz E. Strangas, and M. Shanblatt, “An Integer Pair Representation of Binary Terms and Equations” In Proceedings of the 42nd. Midwest Symposium on Circuits and Systems, Aug. 1998

Recent R&D Projects

“*Software Power Reduction in MSP430-based Embedded Applications*”

Manuel Jiménez (PI), Submitted to Texas Instruments, Sept. 2002

“*Information Infrastructure for Industry-Academia Research Collaboration*”

Manuel Toledo (PI), **Manuel Jiménez (Co-PI)**, Rogelio Palomera (Co-PI), Submitted to Texas Instruments, Sept. 2002

“*Continuation of the TI Analog, Digital, and Mixed-signal Electronics Program at the UPRM*”

Rogelio Palomera (PI), **Manuel Jiménez (Co-PI)**, Manuel Toledo (Co-PI), Texas Instruments, Aug. 2002 – Jul. 2003

“*Development of a Cost Model for Integrated Power Electronic Modules*”

Agustín Rullán (PI) and **Manuel Jiménez (Co-PI)**, CPES-NSF, Jul. 2001 – Jun. 2002

“*Extension of the Integrated Circuits Design Laboratory to Include Testing Facilities*”

Manuel Jiménez (PI) and Rogelio Palomera (Co-PI), Texas Instruments, Jan. 2001– Jun. 2002

“*Development of a Rapid Systems Prototyping Laboratory*”

Manuel Jiménez (PI), Domingo Rodriguez (Co-PI), and Ramón Vásquez (Co-PI), PRECISE-NSF/Xilinx Corp./Texas Instruments, Aug. 2000 – Jun. 2002

“*System-level Simulation of IPEM-Based Electric Drives*”

Miguel Vélez-Reyes (PI), K. Venkatesan (Co-PI), and **Manuel Jiménez (Co-PI)**, CPES-NSF, August 2000 – May 2001

“*Establishment of an Analog Integrated Circuit Design Emphasis Area in the UPRM*”

Manuel Jiménez (PI) and Rogelio Palomera (Co-PI), Texas Instruments, Aug. 1999 – Jun. 2002

Memberships

Member of the IEEE, ASEE, and Tau Beta Pi

Academic Interests

Dr. Jimenez current teaching and research interests are centered on the area of design, modeling, optimization, and rapid prototyping of digital and mixed-signal VLSI circuits as well as hardware structures for scalable and reconfigurable systems. His research experience includes the fields of power estimation, optimization, and automatic layout techniques for VLSI circuits. He also has extensive teaching experience in electronics, digital systems design, circuit analysis, and embedded systems.