

RUBEN A. PROANO, Ph.D.

Department of Industrial and Systems Engineering
Rochester Institute of Technology
81 Lomb Memorial Drive
Rochester, NY 14623-5603

Academic Rank: Assistant Professor

EDUCATION

Ph.D. in Industrial Engineering, University of Illinois at Urbana-Champaign, 2008
Dissertation Title: *Strengthening the Sustainability of the Pediatric Vaccine Supply Using Operations Research Methods*
Dissertation Advisor: Dr. Sheldon H. Jacobson

M.S. in Industrial Engineering, University of Illinois at Urbana-Champaign, 2001
Thesis Title: *Models and Algorithms for Schedule Optimization of Marketing Trade Promotions*
Thesis Advisor: Dr. Udatta Palekar

B.S. in Industrial Engineering, Summa Cum Laude, Universidad San Francisco de Quito, Quito, Ecuador, 1998

International Baccalaureate, Lester B. Pearson United World College of the Pacific, Victoria, B.C., Canada, 1994

ACADEMIC AND TEACHING EXPERIENCE

Assistant Professor, Rochester Institute of Technology, August 2008-now
courses assigned:

- Linear Programming (Q1 2008), Integer and Nonlinear Programming (Q2 2008), Logistics (Q3 2008)

Graduate Teaching Assistant, University of Illinois at Urbana-Champaign, 2004-2007
courses assigned:

- Simulation (IE 413), Fall 2004, Spring 2006, Spring 2007
- Facilities Planning (IE 360), Spring 2005
- Introduction to Operations Research (IE 310), Fall 2005

Industrial Engineering University Instructor, Universidad San Francisco de Quito, 2003-2004
courses assigned:

- Statistics (MAT 262), Fall 2003, Spring 2004
- Design of Experiments (MAT 362), Fall 2003, Spring 2004
- Facilities Planning (IIN425), Spring 2004
- Engineering Economics (IIN542), Fall 2003

RESEARCH EXPERIENCE

Research Assistant, Simulation and Optimization Laboratory, Department of Computer Science, University of Illinois at Urbana-Champaign, 2004-2008

- Designed, modeled and solved optimization problems on pediatric and emergency response vaccines.

Research Assistant, Logistics and Planning Laboratory, Department of Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign, 2000-2002

- Modeled and solved large trade promotional optimization problems for a cereal manufacturer company.

INDUSTRIAL EXPERIENCE

Product Manager, Citigroup, Quito, Ecuador, 2002-2004

- Designed, implemented and commercialized financial and technological cash management solutions for the collections and payments of Citigroup's multinational corporate customers operating in Ecuador .
- Administered the local and international Cash Management portfolio of financial products in Ecuador. Managed market analysis, pricing, quality control, and process design.

Quality Officer, Citigroup, Quito, Ecuador, 1998-2000

- Coordinated the implementation of Citigroup's quality improvement strategy for the local branch.
- Led several cross functional process improvement projects:
 - reducing cycle time of payment products,
 - expedite the cycle time for fund collection from customer's providers,
 - improve and expedite the funds transfer process flow
- Consultant of several Citigroup's regional quality improvement efforts
- Assisted in the execution of Six Sigma quality improvement projects

Intern, SEMAICA, Quito, Ecuador, 1997

- Designed the reconstruction steps of hotel Hilton Colon so that during the reconstruction process half of the building facilities were always functional.

JOURNAL PUBLICATIONS

- Jacobson S.H., Sewell E.C., Proano R.A. Analysis of the Pediatric Vaccine Supply Shortage Problem, *Health Care Management Science* (2006) 9: 371-389.
- Jacobson S.H., Sewell E.C., Proano R.A., Jokela J., Stockpile levels for Pediatric Vaccines: How much is enough?, *Vaccine* (2006) 24: 3530-3537.

RESEARCH WORK IN PROGRESS

- Proano R.A., Jacobson S.H., Sewell E.C., Setting Pediatric Vaccines Stockpiles : A Multi-Attribute Approach.

- Proano R.A., Jacobson S.H., Shanbhag U.V. , Sewell E.C., Antigen Bundling Pricing Problem.
- Proano R.A., Capturing Demand Dynamics for Emergency Response Vaccines.

CONFERENCE PRESENTATIONS

- Antigen Bundling Pricing, INFORMS Annual Meeting, October 2008, Washington D.C.
- Antigen Bundling Pricing, RIT ISE Graduate Seminar, September 2008, Rochester, NY.
- Setting Pediatric Vaccine Stockpiles using Decision Analysis, INFORMS MSOM, June 2008, (presented by Sheldon H. Jacobson), University of Maryland, Maryland.
- Speaker, Frontiers International Health Panel, University of Illinois at Urbana-Champaign, April 2008, Urbana, Illinois.
- Analysis of the Pediatric Vaccine Supply Shortage Problem, INFORMS Annual Meeting, November 2007, Seattle, Washington.
- Defining Pediatric Vaccine Stockpiles: a multi-attribute approach, Harvey Mudd College, Conference on Public Sector Operations Research, September 2007, Claremont, California.
- Análisis del problema del desabastecimiento de vacunas pediátricas en los E.E.U.U., Congreso Latinoamericano de Estudiantes de Ingeniería Industrial (CLEIN), November 2006 , Quito, Ecuador (invited plenary talk).
- An Analysis of the Pediatric Vaccine Supply Shortage Problem, INFORMS MSOM, June 2006, (presented by Sheldon H. Jacobson), Georgia Tech, Atlanta, Georgia.
- Optimization of Large Trade Promotional Schedules, Universidad San Francisco de Quito, May 2002, Quito, Ecuador.

PROFESSIONAL MEETINGS AND WORKSHOPS

- Doctoral Consortium Meeting on International Operations Management, Purdue University, CIBER, October 2007, West Lafayette, IN.
- Operations Research in Healthcare, ORC, MIT, May 2007, Boston, MA.
- Congreso Latinoamericano de Estudiantes de Ingeniería Industrial y Afines, CLEIN, November 2006, Quito, Ecuador.
- Research Agenda for Healthcare Systems Engineering, NSF, June 2006, Washington D.C.

HONORS AND AWARDS

- Bonder Scholarship 2006, honorable mention.
- Listed as excellent teacher based on student evaluations at University of Illinois at Urbana-Champaign in two consecutive semesters; for IE 360 Facilities Planning, Spring 2005; and, IE 310 Introduction to Operations Research, Fall 2005.
- Best Graduate of Class 1998, Summa Cum Laude, Universidad San Francisco de Quito, Ecuador.
- Canadian International Development Agency Scholarship, Lester B. Pearson College, Victoria, Canada, 1992.

PROFESSIONAL MEMBERSHIPS

- INFORMS, Institute for Operations Research and Management Science.
- ASEE, American Society of Engineering Education.
- IIE, Institute of Industrial Engineering.
- Tech21, Technical Network for Strengthening Immunization Services.
- ALEIIAF, Asociación Latinoamericana de Estudiantes de Ingeniería Industrial y Afines.

SERVICE ACTIVITIES

- ISE, RIT search committee, 2008.
- UIUC Ecuadorian Student Association, “Proyecto Pro-Niño” fund raising committee, 2004-2007.
- United World Colleges (UWC) Ecuadorian Student Association, 1994-2000.

RESEARCH INTERESTS

- Application of Operations Research to public policy and health care.
- Optimal vaccine pricing.
- Emergency response vaccines.
- Redesign of health care medical system.
- Political and electoral combinatorial problems.