

Juan Manuel Russo

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EDUCATION

M.S. in Electrical and Computing Engineering <i>College of Mines and Engineering, University of Arizona</i> <i>Tucson, AZ</i> Area of Concentration: Holographic Materials, Optical Communications and Networking. <i>Expected Graduation: December 2007.</i>	2005 – Present
B.S. in Electrical and Electronic Engineering <i>Technological University of Panama, Panama, Republic of Panama</i> Area of Concentration: Power, Electronics and Communications.	1999 – 2004

EXPERIENCE

Graduate Research Assistant <i>Department of Electrical and Computing Engineering</i> <i>University of Arizona</i> <i>Tucson, AZ</i> <ul style="list-style-type: none">• Design of filters in phenanthrenequinone-doped poly methylmethacrylate (PQ/PMMA). (1550nm range for WDM and DWDM applications)• Design of cascaded filters in PQ/PMMA. (for OCDMA 2D coding applications)• Design and realization of experiments for optimization of diffraction efficiency of gratings in PQ/PMMA.• Design and realization of experiments to characterize thermal characteristics of PQ/PMMA filters.• Development of models for grating and diffractive optics in MATLAB and RSoft BeamProp and GratingMOD suite.• Development of LabVIEW programs to control equipment and data acquisition in experiments.• Design and development of experiments to dope PQ/PMMA filters with silica nanoparticles.• Design and simulation of conical solar concentrators for solar cells using Zemax.• Design and development of blazed gratings in PQ/PMMA and photoresist.• Miscellaneous testing and experiments involving optical equipment. (Argon Ion Laser, couplers, mirrors and splitters, tunable laser sources, optical spectrum analyzers, etc).• Silver halide holograms construction, development and characterization.	August 2005 - Present
Graduate Teaching Assistant Photonics Systems Laboratory, University of Arizona, Tucson AZ <ul style="list-style-type: none">• Conducting practical experiences to support the Holography and Diffractive Optics ECE/OPTI527 class taught by Dr. Raymond Kostuk. Practical experiences include: construction and reconstruction of transmission and reflection holograms, hologram multiplexing and holographic lens recording in silver halide prepared plates.	August – December 2006
Graduate Teaching Assistant Optical Sciences College, University of Arizona, Tucson AZ <ul style="list-style-type: none">• Conducting practical experiences to support the Fiber Optics Laboratory class ECE/OPTI587 class taught by Dr. Raymond Kostuk. Experiments include: fiber preparation, multi-mode and single-mode fiber operation and coupling, fiber Bragg gratings, arrayed waveguide devices, interferometry, fiber optic sensors and	January 2007 – May 2007

optical communication systems in VPI Photonics simulation software.	
Graduate Teaching Assistant <i>Department of Spanish and Portuguese</i> <i>University of Arizona</i> <i>Tucson, AZ</i> <ul style="list-style-type: none"> Lecturing and grading of Spanish 101/102 course for English speakers. 	August – December 2005
Technical Support Representative <i>Dell Computers, Inc, Howard</i> <i>Panama, Republic of Panama</i> <ul style="list-style-type: none"> Provided multilingual (primarily English) technical support to customers in the United States for Dell portable computer products. 	December 2003 – March 2004

SEMINARS AND COURSES

<ul style="list-style-type: none"> AutoCAD 2002 2D <i>Technological University of Panama</i> 	September 2003
<ul style="list-style-type: none"> Satellite Communications Seminar Technological University of Panama <i>Electrical Engineering Department</i> 	August 2003
<ul style="list-style-type: none"> Programmable Logical Control Level 1 <i>National Institute of Professional Formation</i> 	June 2003
<ul style="list-style-type: none"> Basics of Digital Processing of Data <i>Ibero-American Science & Technology Education Consortium</i> 	November 2002
<ul style="list-style-type: none"> Technical Writing and Grammar in Spanish <i>Technological University of Panama</i> 	March 1999

RELEVANT GRADUATE LEVEL COURSE WORK

<i>Fundamentals of Computer Networks (ECE578), Optical Communication Systems (ECE/OPT1530), Fiber Optics Communications Lab (ECE/OPT1587), Fundamentals of Optics for Electrical Engineers (ECE/OPT1559), Holography and Diffractive Optics (ECE/OPT1527), Advanced Topics in Computer Networks: Optical Networking (ECE596C), Digital Signal Processing (ECE529), Integrated Telecom Networks (678), Advanced Topics: Electronic and Optical Materials (ECE/MSE/OPT1534), Optical Design and Instrumentation (OPT1502), Spectroscopy of Optical Materials (ECE/MSE/OPT1 504), Optical Design and Instrumentation II (OPT1509), Remote Sensing Instrumentation and Techniques (ECE/ATMO583)</i>	University of Arizona Fall 2004 - Present
Data Communication Networks, Power Electronics.	Technological University of Panama Jan – Jun 2004

PAPERS AND PRESENTATIONS

<ul style="list-style-type: none"> Effect of Silicon Dioxide Nanoparticles on the characteristics of PQ/PMMA Holographic Filters, J. M. Russo, R. K. Kostuk, The Univ. of Arizona. <i>Abstract submitted to Optics and Photonics 2007 Conference to be held in San Diego, CA by the Society of Photo-optical Instrumentation Engineers (SPIE)</i> 	May, 2007
<ul style="list-style-type: none"> Temperature dependence properties of holographic gratings in PQ/PMMA photopolymers, J. M. Russo, R. K. Kostuk, The Univ. of Arizona. <i>Paper submitted to Applied Optics and currently under peer review.</i> 	April 10 th , 2007
<ul style="list-style-type: none"> Temperature dependence and characterization of gratings in PQ/PMMA holographic materials, J. M. Russo, C. Chen, R. K. Kostuk, The Univ. of Arizona. <i>Paper submitted to Optics and Photonics 2006 Conference held in San Diego, CA by the Society of Photo-optical Instrumentation Engineers (SPIE).</i> 	August 13 th , 2006

<ul style="list-style-type: none"> • An Architecture Framework for Intelligent Large-Scale Sensing Systems <i>Coauthor with Research staff</i> 	May 2005
<ul style="list-style-type: none"> • Presentation of An Architecture Framework for Intelligent Large-Scale Sensing Systems <i>University of Arizona, Tucson, Arizona</i> 	May 2005

AWARDS

<ul style="list-style-type: none"> • Graduate Tuition Scholarship <i>University of Arizona Tucson, Arizona</i> 	Fall 2005 – Fall 2006
<ul style="list-style-type: none"> • Exceptional Students International Exchange Program <i>University of Arizona and Technological University of Panama</i> 	2004 - 2005
<ul style="list-style-type: none"> • Academic Excellence Scholarship <i>Technological University of Panama Panama, Republic of Panama</i> 	1999 – 2004
<ul style="list-style-type: none"> • Academic Excellence Scholarship <i>National Institute for the Human Resources Development Panama City, Republic of Panama.</i> 	1999 – 2004

OTHER SKILLS

<ul style="list-style-type: none"> • Expertise in Microsoft Windows family products, Microsoft Office suite, CorelDRAW! suite.
<ul style="list-style-type: none"> • Intermediate knowledge of C++, BASIC, VisualBasic programming languages, MATLAB simulation tools.
<ul style="list-style-type: none"> • Intermediate design in AutoCAD 2D.
<ul style="list-style-type: none"> • Basic knowledge of LabVIEW for DAQ and GPIB interfaces. <ul style="list-style-type: none"> ○ Equipment control ○ Data Acquisition
<ul style="list-style-type: none"> • Basic design in RSoft BeamProp software suite.
<ul style="list-style-type: none"> • Basic design in sequential and non sequential mode in Zemax.
<ul style="list-style-type: none"> • Basic knowledge of Linux operating systems.
<ul style="list-style-type: none"> • Basic design and simulation in VPI Photonics suite.

LANGUAGES

<ul style="list-style-type: none"> • Spanish - native language
<ul style="list-style-type: none"> • English - speak fluently and read/write with high proficiency
<ul style="list-style-type: none"> • Italian - speak, read, and write with basic competence.

WORK AUTHORIZATION

<ul style="list-style-type: none"> • United States – Optional practical training (OPT) for one year starting from date of graduation. After OPT, H1B work visa or similar will be required.
<ul style="list-style-type: none"> • European Union – Italian citizen. Authorized to work and relocate to any of the member states.
<ul style="list-style-type: none"> • Republic of Panama – Panamanian national. Authorized to work as an Electrical and Electronic Engineer approved by the Panamanian Society of Engineers and Architects.