

Ramona L. V. Perez

School Address

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EDUCATION

<i>Doctor of Philosophy*</i> , Physics	Florida International University	2008 - 04/2015†
<i>Bachelor of Science</i> , Physics	Florida International University	2003 - 2008

†*Availability for employment 05/06 2015, Willing to relocate nationwide or internationally*

EXPERIENCE - RESEARCH/ TEACHING

Plasma Physics*	Research Assistant FIU Physics Department, Werner Beoglin, Princeton Plasma Physics Laboratory (PPPL), Douglass Darrow, Culham Centre for Fusion Energy, Scott Allan, Ken McClements <ul style="list-style-type: none">• Designed, constructed, installed, and operated a new instrument to study fast ion loss and distribution during plasma instabilities in magnetically confined plasmas at the Mega Amp Spherical Tokamak• Currently analyzing data to validate the instrument• Success of initial results have led to support for a larger system to be developed for the National Spherical Torus Experiment at the PPPL• http://phy.fiu.edu/twiki/bin/view/TWiki/FEPP	04/2010 - Present
Teaching	Teaching Assistant FIU Physics Department, 12 Educationally Reformed Lab Sections 2048L (Physics 1) 2049L (Physics 2) <ul style="list-style-type: none">• Taught class size of 30 students and mentored learning assistants	01/2008 - 04/2010 01/2014 - 04/2014
Physics Education	Research Assitant FIU Physics Department, Leanne Wells <ul style="list-style-type: none">• Researched quantitative impact of education reform and teacher preparation on introductory physics labs• Conducted research interviews (Institutional Review Board certified) and administered evaluation instruments	04/2008 - 12/2008
Solid-State Physics	Research Assistant FIU Physics Department, Wenzhi Li <ul style="list-style-type: none">• Synthesized novel ruthenium dioxide nanorods and fabricated carbon nanomaterials and thin film depositions• Designed experimental systems, trained new researchers, and calibrated, operated, and maintained lab equipment	08/2005 - 08/2007
Biology Ecology	Laboratory Technician FIU Biology Department, Jim Fourqurean <ul style="list-style-type: none">• Processed plant and abiotic samples for elemental and spectrophotometric analysis• Surveyed and collected (Scientific SCUBA Certification) samples in Florida Keys National Marine Sanctuary and Gulf of Mexico	02/2004 - 08/2005

EXPERIENCE - SKILLS

Experimental physical scientist with experience in instrument design, development, and validation in a collaborative fast-paced work environment

Electrical Design	<ul style="list-style-type: none">• <i>Example:</i> Experience in data acquisition electronics system design (decreased cost of system cables by a factor of 20, saving \$9K)• <i>Skills:</i> Created cable block diagrams and programs for interfacing to electronics, monitored electrical installation for projects, prepared electrical design reviews
Mechanical Design	<ul style="list-style-type: none">• <i>Example:</i> Successful instrument design (\$8K+ UHV mechanical housing for sensitive electronic instruments)• <i>Skills:</i> Created machine drawings, experience in ultra high vacuum (UHV) and high vacuum design and practices, prepared mechanical design reviews
Programming	<ul style="list-style-type: none">• <i>Operating Systems:</i> Mac, Windows, Linux/Unix• <i>Languages:</i> Python, C, C++, Fortran 95, G (graphical language), shell scripting, IDL• <i>Skills:</i> Monte Carlo simulations, statistical analysis
Project Management	<ul style="list-style-type: none">• <i>Control and Monitoring:</i> Developed troubleshooting techniques, identified risks and planned for contingencies, monitored schedules (including progress of student research activities), reinforced strong organizational skills, reprioritized tasks• <i>Cost Management:</i> Experience in budgeting (\$25K+ equipment and expenses), knowledge of purchase orders and vendor paperwork, managed international freight forwarding (\$40K+ worth of equipment)• <i>Dissemination:</i> Created and currently maintain group website/wiki page, first author and coauthor on peer-reviewed conference proceedings, developed oral presentation (technical and general) skills at: conferences, design reviews, and group meetings• <i>Project Planning and Execution:</i> Created status reports, prioritized tasks and developed schedules for instrument: design, construction, testing, installation, and operation (timescale of 2+ years)• <i>Team Development:</i> Advise student research activities (up to 6 students), create student research projects, run weekly group meetings, work within a large-scale collaboration
Software	LaTeX, Solidworks, Vectorworks, AutoCAD, LabVIEW, GNU Make, Microsoft Office, Virtual Network Computing, Matlab
Web Meetings	H.323 Polycom, ReadyTalk, Skype

CONFERENCES

20 TH Topical Conference on High-Temperature Plasma Diagnostics	Atlanta, Georgia	06/2014
2014 FLAVS /FSM Joint Symposium	Orlando, Florida	03/2014
55 TH APS Division of Plasma Physics Meeting	Denver, Colorado	11/2013

HONORS

APS FGSA Travel Award for Excellence in Graduate Research	2014
FIU Graduate & Professional Student Committee Research Travel Grant	2013

Ronald E. McNair Baccalaureate Program Fellow	2006 - 2015
Cristina Menendez Fellowship for Everglades Research	2004
FIU Salutatorian Scholarship	2003 - 2005

MEMBERSHIPS/ SERVICE

Young Leaders Session FL AVS/FSM Joint Symposium, Co-Chair	2014
FIU Physics Graduate Program Review, Committee Member	2009 - 2010
FIU Public Astronomy Colloquia Series, Volunteer	2008-2010
FIU Society of Physics Students, President	2006 - 2008

PRESENTATIONS

R.V. Perez, W.U. Boeglin, D.S. Darrow, M. Cecconello, I. Klimek, S.Y. Allan, R.J. Akers, D.L. Keeling, K.G. McClements, R. Scannell, M. Turnyanskiy, A. Angulo, P. Avila, O. Leon, C. Lopez, O.M. Jones, N.J. Conway, and C.A. Michael. Investigating Fusion Plasma Instabilities in the Mega Amp Spherical Tokamak Using MeV Proton Emissions, *Invited Talk*, The 20TH Topical Conference on High Temperature Plasma Diagnostics. Atlanta, Georgia 06/2014

Perez, R. V., S. Allen, W. U. Boeglin, M. Cecconello, K. G. McClements, D. S. Darrow, and the MAST team. First Results from a Charged Fusion Products Diagnostic at MAST, Poster session, APS DPP 55TH Annual Meeting. Denver, Colorado 11/2013

Perez, R. V. Initial Results from the Proton Detector, Friday Physics Seminar. Culham Centre for Fusion Energy, Culham Science Centre, Abingdon, Oxfordshire, England 09/2013

PUBLICATIONS

R.V. Perez, W.U. Boeglin, D.S. Darrow, M. Cecconello, I. Klimek, S.Y. Allan, R.J. Akers, D.L. Keeling, K.G. McClements, R. Scannell, M. Turnyanskiy, A. Angulo, P. Avila, O. Leon, C. Lopez, O.M. Jones, N.J. Conway, and C.A. Michael. Investigating Fusion Plasma Instabilities in the Mega Amp Spherical Tokamak Using MeV Proton Emissions, Submitted *Invited Manuscript*, The 20TH Topical Conference on High Temperature Plasma Diagnostics. Atlanta, Georgia 06/2014

S. Neupane, G. Kaganas, *R. Valenzuela*, L. Kumari, X. W. Wang, W. Z. Li, Synthesis and characterization of ruthenium dioxide nanostructures, Journal of Materials Science, July 2011, Volume 46, Number 14, 4803-4811 07/2011

Boeglin WU, *Valenzuela Perez R*, Darrow DS. Concept of a charged fusion product diagnostic for NSTX. Rev. Sci. Instrum. 2010 Oct; 81(10):10D301, <http://dx.doi.org/10.1063/1.3464262> 10/2010

FURTHER INFORMATION

For more information please request my full Curriculum Vitae (CV) or visit <http://phy.fiu.edu/twiki/bin/view/TWiki/Resume>