2017 Ambassadors: Talk with the GWU Student Chapter

Friday, April 21th 2017, 2:00 pm - 3:00 pm
Science & Engineering Hall, Room 2000, 800 22nd Street, NW

Dr. Alessandro Restelli
Electrical Engineer at Join Quantum Institute

Biography

Since 2013 Alessandro Restelli is the Resident Electrical Engineer at the Join Quantum Institute (JQI), pursuing the mission of enabling advanced custom electronic designs for cutting edge physics experiments. Dr. Restelli has over 15 years of experience in electronic design, optoelectronics, photodetectors, lasers and optics. In 2016 he earned a PhD in Electronics at Politecnico di Milano with a specialization in single photon detection technologies working in the internationally established group of Prof. Sergio Cova. He then moved to the United States working at the National Institute of Standards and Technology (NIST) where he designed high-speed electronics for quantum cryptographic systems. His research interest then became focused on the development of high-count-rate single photon detectors based on periodic gating of single photon avalanche diodes (SPADs). In particular Dr. Restelli is a co-inventor of a gating technique that was successfully patented by NIST and is specifically suited for PADs based on indium gallium arsenide, greatly increasing their allowable maximum count rates and detection efficiency with possible revolutionary applications in atmospheric sensing and quantum cryptography. More recently at JQI Dr. Restelli has guided the design of innovative instrumentation for atomic and molecular physics experiments, particularly ultra-low-noise controllers for laser frequency stabilization and radio frequency amplitude stabilization for ion traps. Dr. Restelli is particularly committed in accelerating the design and manufacturing cycle of electronic and opto-electronic instrumentation at JQI by teaching circuitual simulation, diagnostics and troubleshooting techniques, facilitating reusable and modular electronic design, introducing in-house additive and subtractive manufacturing technologies as well as robotic circuit-board assembly. All these resources are made accessible by Dr. Restelli to JQI researchers, post-docs and students.

Dr. Arlene Smith
Product Engineer at Avo Photonics

Biography

Arlene Smith is a Product Engineer at Avo Photonics, Inc. in Horsham, Pennsylvania, USA. After receiving a BSc in Physics and Astronomy at the National University of Ireland, Galway, she started to specialize in Optics by earning an MSc in Photonics and Optoelectronic Devices from the University of St Andrews. After returning to Galway to research partially coherent light, she graduated with a PhD in 2011. More recently, Arlene worked as a Postdoctoral Fellow in Biomedical Imaging at the University of Michigan at Ann Arbor before moving to Avo Photonics in 2015.

Arlene joined OSA in 2007 as a student member. She established the OSA Student Chapter at the National University of Ireland, Galway and was involved as an organizer for the IONS-7 Conference held there in 2010. After completing her doctorate in 2011, she joined the OSA Young Professionals Program. As a member of the program, she has participated as a volunteer on the program committee for OSA’s Applied Industrial Optics Topical Meeting in 2013, progressing to a role as committee member and Program Chair 2014-2016. She has also reviewed grant applications for both the OSA Foundation and OSA Student Chapters program and assisted with OSA Student Chapter activities as a member of the 2012 and 2013 OSA Student Leadership Conference Planning Committee.

Arlene is currently a member of OSA’s Membership and Education Services Council and serves on the Editorial Advisory Committee for Optics and Photonics News. She is active in the Traveling Lecturer Program and is a General Chair for the Applied Industrial Optics Meeting in 2017.