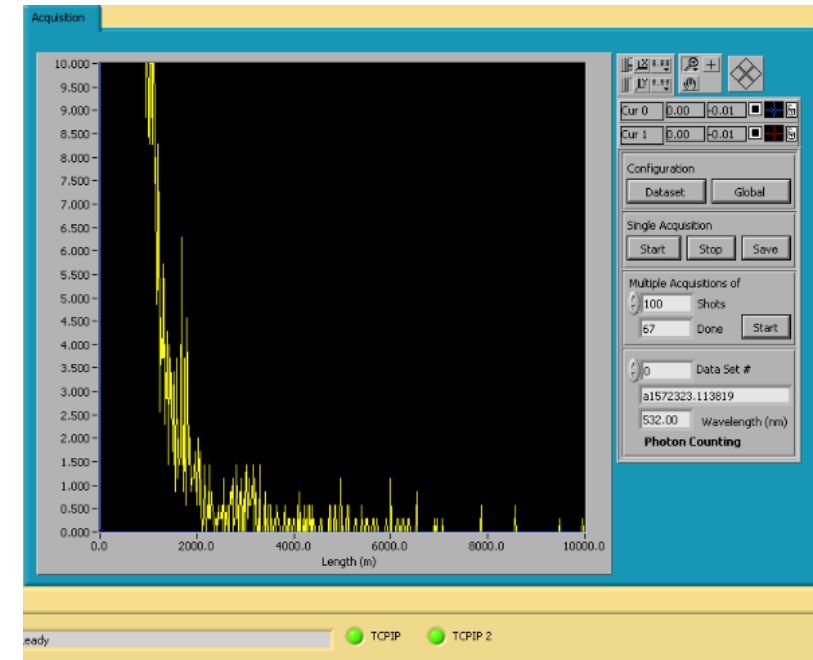
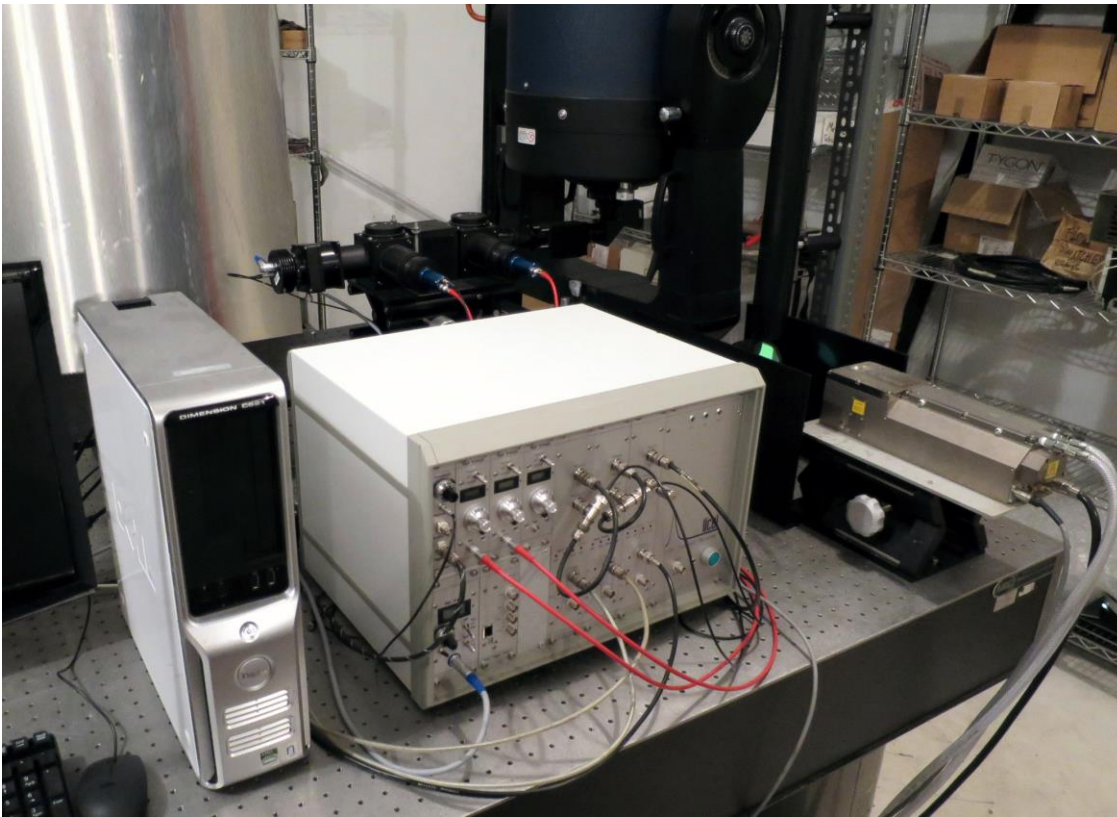


Opportunities at the Space and Atmospheric Science group of the Arecibo Observatory

Director of Science Operations: Christiano Brum
Lidar: Jens Lautenbach, Shikha Raizada
Passive optics: Pedrina Terra
Radar, HF: Mike Sulzer, Nestor Apone, Alessandra Pacini

Arecibo Observatory Lidar Facility

- Aerosol lidar with Nd:YAG laser emitting three wavelengths and three detection channels
- Contact: Dr. Jens Lautenbach, jlautenbach@naic.edu or Dr. Shikha Raizada, shikha@naic.edu

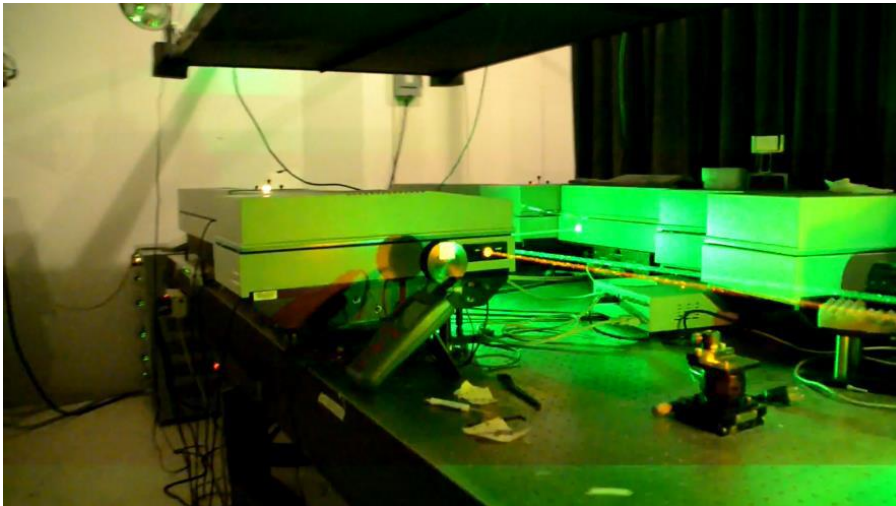


Arecibo Observatory Lidar Facility

- A unique combination of 4 lidars to study Mesospheric metals and temperature from 30 – 120 km altitude
- Contact: Dr. Jens Lautenbach, jlautenbach@naic.edu or Dr. Shikha Raizada, shikha@naic.edu

Potassium resonance lidar:

- Three frequencies to measuring temperature from the doppler broadened resonance signal
- Temperature from 75 to 110 km altitude
- Potassium atom density, 75 to 120 km altitude



Multi-Metal (Na, Fe, Ca⁺) resonance lidar:

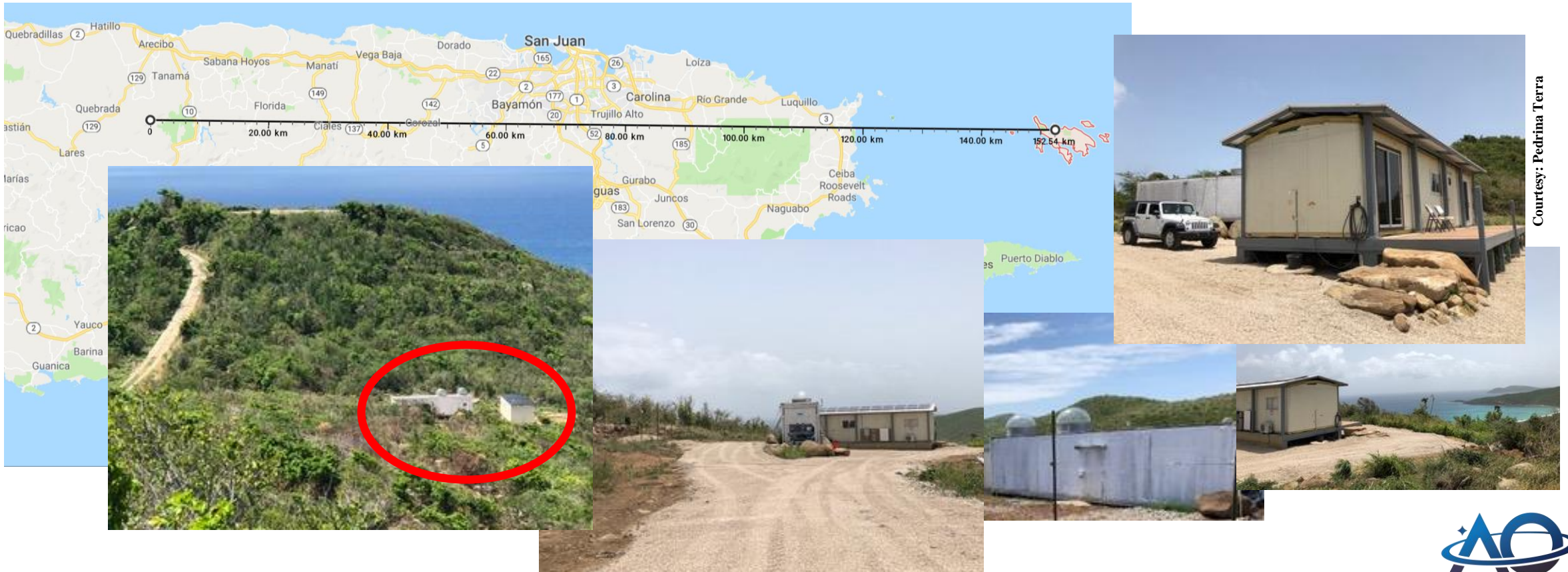
- Single frequency (depending on metal)
- Sodium / Iron atom and Calcium Ion density, 75 to 120 km altitude

Rayleigh lidar:

- Single frequency (532 nm, green)
- Temperature derived from ideal gas law, 30 to 80 km altitude

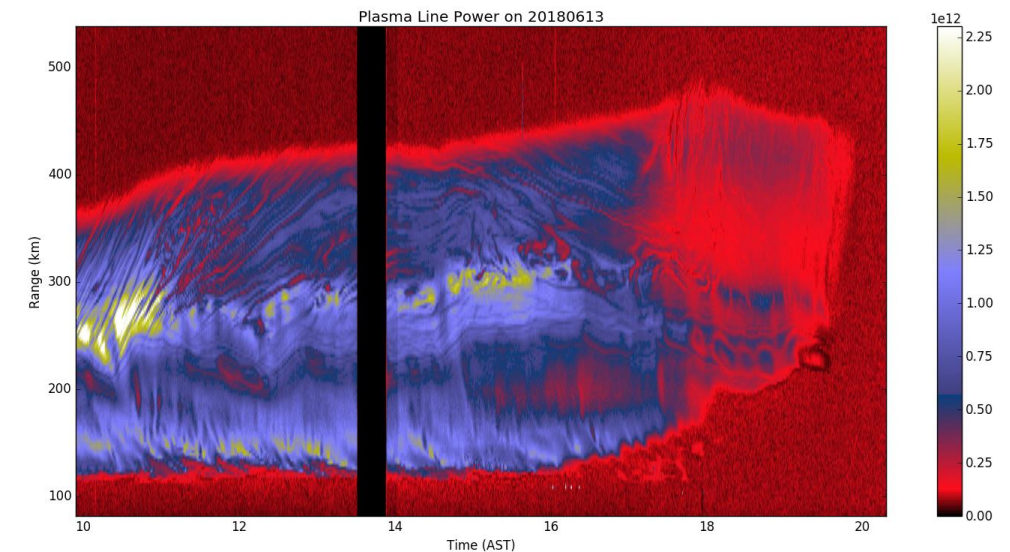
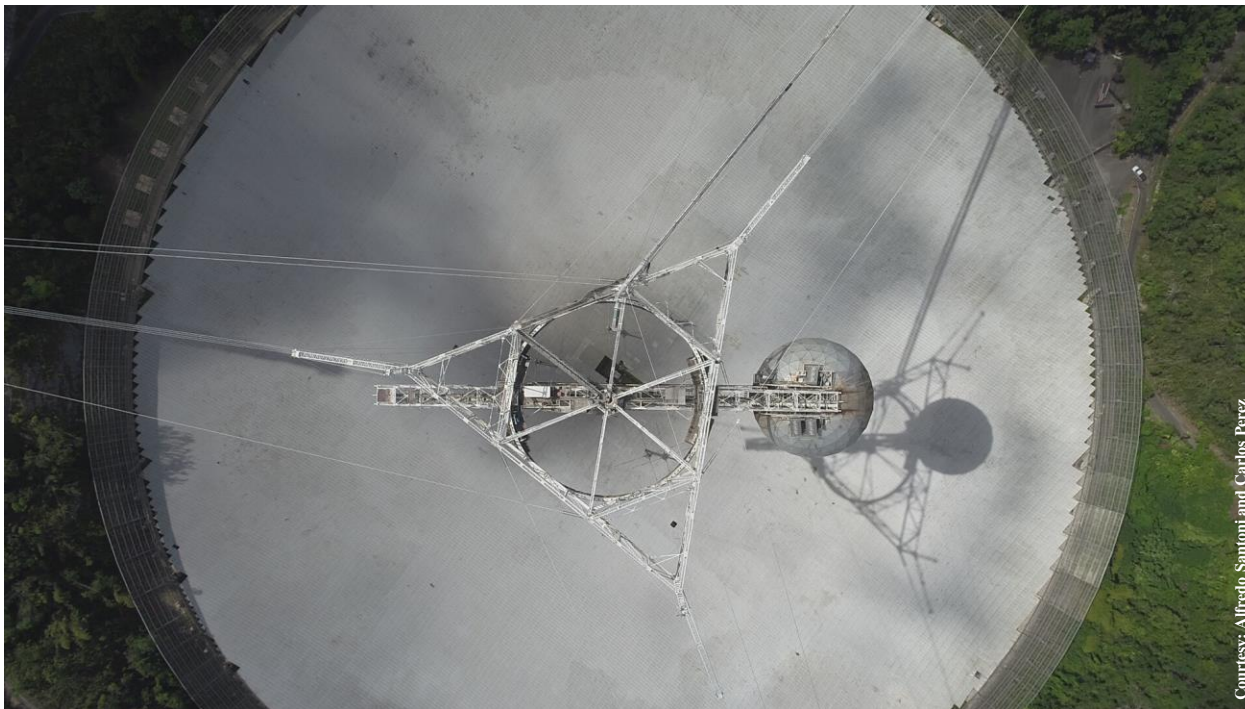
Culebra Remote Optical Facility (ROF)

- The ROF ([18°19'47"N 65°18'25"W](#)) is at the shore of Culebra island and around 152 km east of the Arecibo Observatory. It is a user orientated facility with a container for instrumentation, space for outside installations and separate housing for scientists.
- Contact: Dr. Pedrina Terra dos Santos, pterra@naic.edu



Radar and HF Facility

- The Arecibo 430 MHz Incoherent Scatter Radar uses incoherent scatter to determine the characteristics of the ionosphere from around 80 to 1000 km altitude. The 430 radar is extremely powerful and sensitive; it is capable of making very accurate measurements of many ionospheric parameters. Together with the HF (ionosphere modification) system it is one of the essential tools for the diagnostics of the ionosphere over Arecibo.
- Contact: Dr. Michael Sulzer, msulzer@naic.edu



Example of a high resolution (temporal: 10 seconds, spatial: 1 kilometer) plasma line measurement.

Funding opportunities

- **In short: The University of Central Florida can fund half of your postdoctoral fellow position to work at the Arecibo Observatory*.**
- Through an Exceptional Funding Request, the College of Graduate Studies has been allocated funding to augment the number of postdoctoral scholars at UCF. According to NIH, NSF and the National Postdoctoral Association (NPA), a postdoctoral scholar is an individual who has received a doctoral degree (or equivalent) and is engaged in a temporary and defined period of mentored advanced training to enhance professional skills and gain research independence needed to pursue her or his chosen career path. Advancing UCF's research, teaching and service missions, P3 provides two levels of support for first-time UCF postdoctoral scholars contracts. For externally funded postdoctoral scholars, P3 will provide 50% of salary + benefits for two years. For scholars who are being funded off start-up or internal funds, P3 will provide 25% of salary + benefits for two years.
- The Arecibo Observatory is managed by The University of Central Florida under a cooperative agreement with the National Science Foundation (AST-1744119), and in alliance with Yang Enterprises and Ana G. Méndez - Universidad Metropolitana.



Please get in contact with us!

Arecibo lidar facility
Jens Lautenbach, PhD