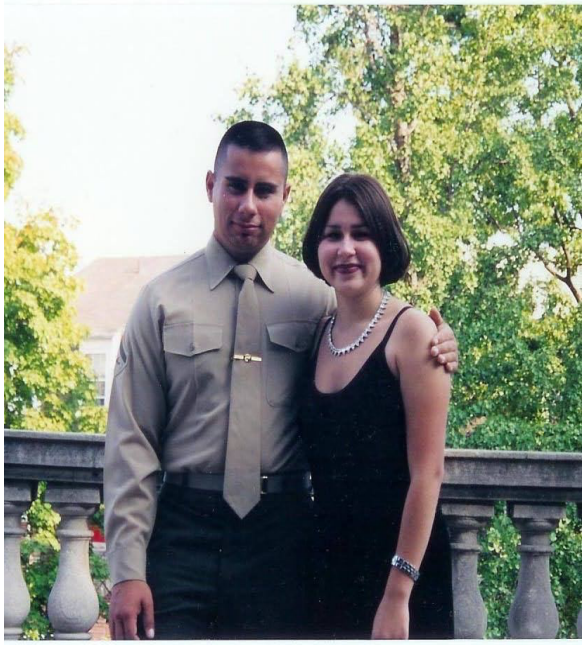
Name:

Rodrigo Ibacache



Code:

662, X-ray Astrophysics Laboratory

Home Institution:

University of Maryland, College Park

Name of Task:

Atomic Spectroscopy Database

What do you do for CRESST:

- Bibliographic Monitoring & Archiving
- Ensuring the NASA Atomic Spectra database stays current with global research. Systematically monitoring hundreds of new scientific papers published annually.
- Archiving & Scanning: Many foundational papers are decades old. Digitizing these documents is critical to preserving the primary source material that justifies the values in the database.
- Maintaining a bibliographic database where every transition and energy level is linked to its original publication to ensure traceability.
- Ensuring high-precision data generation
- Atomic Tables: Compiling tables for specific ions. This involves listing the principal configuration, term, J- value (total angular momentum), and the leading percentages of the level.

Background:

I was born in Jersey City, New Jersey, but grew up in Gaithersburg, Maryland. After High School, I enlisted in the Marine Corps and served in the 5th Battalion, 11 Marines, where I eventually became a Section chief and led my own artillery unit. I served overseas, mainly in the Middle East. I have been married to my wife, Aimee, for 27 years, and we have three kids: one at Virginia Tech studying Mechanical Engineering, one at the University of Delaware studying Kinesiology, and one at McDaniel College studying Education. I have a Bachelor's in Computer Information Systems and a Master's in Information Systems. After the Marine Corps, I worked for the National Oceanic and Atmospheric Administration, where I served as an Information Technology Specialist for the National Weather Service. After that, I worked for the National

Institute of Standards and Technology, where I served as an information specialist in the Atomic Spectroscopy group. I am currently in the CRESST program, working as a Research Scientist for NASA via the University of Maryland, where I am a Visiting Senior Faculty Specialist in the Department of Astronomy.

Favorite part of being a CRESST Scientist:

My favorite part of being a CRESST scientist is the synergy of working with top-tier experts at NASA, which motivates me to maintain the highest standards of accuracy and to continually evolve my technical capabilities in response to new scientific challenges."

Highlight of research as a CRESST Scientist:

It has allowed me to integrate into a world-leading research environment where I manage high-stakes projects, from the physical relocation of sensitive equipment to the detailed atomic data.

Publications:

(1) NIST's Bibliographic Databases on Atomic Spectra J.R. Fuhr, A.E. Kramida, J. Reader, W.C. Martin, E.B. Saloman, K. Olsen, S. Kotochigova, and R. Ibacache

(2) NIST Atomic Spectra Database, Ralchenko, Yu., Kramida, A., Reader, J., and NIST ASD Team (2011). http://physics.nist.gov/asd

List of Awards Won:

- NIST CFC Campaign Manager, President's Award 2020
- CFC Captain PML Most Valuable Fundraiser Award, NIST Combined Federal Campaign, 2009
- Armed Forces Expeditionary Medal, USMC
- Good Conduct Medal, USMC
- Sea Service Deployment Ribbon, USMC
- Meritorious Unit Commendation, USMC
- Meritorious Mast, USMC
- Certificate of Appreciation, USMC

Three fun facts:

(1) I like to play Tennis and Bowling

(2) I enjoy Video Games and watching sci-fi movies

(3) I recently traveled to Barcelona and went to the iconic Sagrada Família, Antoni Gaudí's famous unfinished basilica