

## BIOGRAPHICAL SKETCH

**Juan F. Arratia, Ph.D.**

### A. Professional Preparation Education

Institution	Field	Degree/Year
Universidad Técnica del Estado, Chile	Electrical Engineering	B.S. 1973
Louisiana Tech University, Ruston	Electrical Engineering	M.S. 1979
Washington University, St. Louis	Electrical Engineering	Ph.D. 1985

### B. Appointments

Institution	Position	Date
Student Research Development Center	Executive Director	2008-2018
UNICA-Puerto Rico Alliance	Director	2015-2016
Arecibo Observatory	Co-PI, Deputy Director	2011-2013
MRI-AMISR	PI	2010-2018
Scientific Caribbean Foundation, Inc.	President and Founder	2014-Present
Caribbean Computing Center for Excellence	PI	2009-2014
AGMUS Institute of Mathematics	PI	2008-2015
Model Institutions for Excellence (MIE) Project (NSF Sponsored), Universidad Metropolitana, San Juan, PR	Principal Investigator & Director	1999-2008
MIE Project /NSF Sponsored, Universidad Metropolitana, San Juan, PR	Project Manager	1998-1999
University of Puerto Rico, Mayaguez, PR	Adjunct Professor	1989-1995
Arratia & Associates, PR	Founder and President	1988-1998
Medtronic, Inc.	Manager, Adv. Manufacturing Technology	1987-1988
Inter American Univ., San Germán, PR	Visiting Professor	1986-1997
Academia/Manufacturing Industry	Consultant	1986-1997
Universidad Técnica del Estado, Chile	Instructor – Professor	1973-1986

#### Fellowships

Fulbright Scholar-India	2016
US Presidential Award – PAESMEN	2006
Organization of American States Fellowship	1982-1984
Rotary International Graduate Fellowship	1978-1979
American Field Service Scholarship	1966-1967

#### Grants

UNICA-Puerto Rico Alliance, US State Department, \$25,000, 2015-2016. Management & Operations of the Arecibo, NSF/SRI International, \$51.19 million, 2011-2017. MRI-AMISR, NSF, \$2.30 million 2010-2018. Caribbean Computing Center for Excellence, NSF, \$2.35 million, 2009-2014. Pre-College Research Institute, PRSGC-NASA/UPR, \$13,500, 2009. AGMUS Institute of Mathematics, NSF, \$2.16 million, 2008-2015. Arecibo Observatory, NSF/Cornell University, \$249,998, 2008-2010. Pre-College Research Institute, PRSGC-NASA/UPR, \$28,800, 2008-2009. PAESMEM- US Presidential Award, NSF, \$10,000, 2008-2010. Model Institutions for Excellence (MIE) (Phase III), NSF, \$2.95 million, 2004-2008. Fulbright Scholar-in-Residence Program, IIE, \$120,000, 2004-2005. MIE (Phase II), NSF, \$7.50 million, 1998-2003. REU in Astronomical Sciences (Chile), NSF, \$20,000, 2002-2003. Outreach Prog. in Atmospheric Sciences, NSF – Supplement, \$27,000, 2002-2003. Planning visit to China and Japan, NSF – Supplement, \$4,423, 2002-2203. Biomedical Development at UMET, NIEHS, \$998,200, 2001-2005. D.D. Eisenhower Math & Science Educ., Dept. of Education, \$30,000, 1993.

### C. Products:

1. J. F. Arratia, I. Bojic and et al, "Best Practices Developed by the Model Institutions for Excellence from Puerto Rico," IEEE Proceedings of 2018 Frontier in Education Annual Meeting, San Jose, California, October 3-6, 2018.
2. F. Rodrigues, J. F. Arratia, and et al, "Multi-instrumented observations of the equatorial F-region during June solstice: large-scale wave structures and spread-F," *Progress in Earth and Planetary Science*, March 2018.
3. J. F. Arratia, "The Experience of Using the AMISR-14 to Train Minority Spanish Students from Puerto Rico and the Americas in Atmospheric Science," Proceedings of XIII Congreso Internacional de Investigaciones Cientificas, Santo Domingo, Dominican Republic, June 8-9, 2017.
4. D. A. Hickey, J. F. Arratia and et al, "Concurrent observations at the magnetic equator of small-scale depletions associated with equatorial spread F," *Journal of Geophysical Research: Space Physics*, Vol. 120, Issue 12, December 2015, Pages 10,883-10,896.
5. "AMISR-14: Observations of Equatorial Spread F.," F.S. Rodríguez, M.S. Nicolls, M. Milla, J.M. Smith, R. Varney, A. Stromme, C. Martinis, J.F. Arratia. *Geophysical Research Letters*, Vol. 42, Issue 13, 16 July 2015, Pages 5083-5678.

#### Other Significant Products:

1. "Building a Competitive STEM-C Workforce in a Minority Spanish Institution." IEEE Frontier in Education, October 19, 2017, Indianapolis, Indiana.
2. "Energy and Climate Change: The Carbon-Free Energy Challenge," International Graduate Conference on Climate Change and People, November 15, 2010, Kathmandu, Nepal.
3. "STEM Retention Using Pre-College and Undergraduate Research Experiences," American Education Research Association, 2005 Annual Conference, April 13, 2005, Montreal, Canada.
4. "Pre-College and Early Undergraduate Experiences in Chemistry: The Model Institutions for Excellence Program," 18<sup>th</sup> International Conference in Chemical Education, Turkish Chemical Society, August 3-8, 2004, Istanbul, Turkey.
5. Victor Maldonado\*, José Cardona\*, Arcadio Villanueva\* and Juan F. Arratia, "Robotic Turtle: Development of an Autonomous System," Spring 2004 Pre-College Research Symposium, Universidad Metropolitana, San Juan, Puerto Rico, May 8, 2004.

### D. Synergistic Activities

2012-Present: Honorary Professor QianNan Normal College for Nationalities, Duyun City, China.

2011-Present: Visiting Professor Universidad Industrial de Santander, Bucaramanga, Colombia.

2009-Present: The Society for Advancement of Chicanos and Native Americans (SACNAS) Engineering area abstract reviewer

2009-Present: National Science Foundation (NSF) proposal panel and reviewer

2008: Adviser and Founder of the AGMUS SACNAS Students Chapter, San Juan, Puerto Rico.

1993: Chairman IEEE Puerto Rico and Caribbean Council and IEEE Western Puerto Rico Section (1991-92)

2018-Present IEEE Senior Member

### E. Collaborators and Other Affiliations

**Pre-College, Undergraduate and Graduate Mentored.** More than forty-five poster and oral presentations have been co-authored and supervise over 300 undergraduate STEM majors and over 4,550 pre-college students through the MIE-AGMUS Mentorship Program. Over 160 undergraduates have been placed in graduate schools. PhDs: Fabio Sanchez (2008), Terannie Vazquez (2009), Angela Ortiz (2010), Ricardo Cordero (2011), Ana Mercedes (2011), Amir Gonzalez (2011), Oscar Gonzalez (2011), Gloriceli Rivera (2011), Thompson Leblanc (2012), Maria Velez, (2013), Yahira Baez (2013), Triana Merced (2013), Ruth Castellanos (2013), Jose Ayala (2013), Dalvin Mendez (2014), Emanuel Morales (2014), Indhira de la Rosa (2014); José Gaudier (2014), Nildris Cruz (2014), Reynaldo Santos (2015), Ramón Román (2015), Carlos Díaz (2015), Michael Caraballo (2016), Raúl García (2016), Jerfiz Constanzo (2016), Víctor Correa (2016), José Tirado (2016).