

Mariel Meier

[Mariel Desroche]

Physics Program, Oglethorpe University
4484 Peachtree Rd NE Atlanta, GA 30319

Phone: (404)364-8339 • E-Mail: mmeier@oglethorpe.edu

Education

Ph.D., **Physics**, University of Colorado, Boulder, 2012. Advisor: Fran Bagenal, APS dept. CU Boulder.

B.A., **Physics**, Smith College, Northampton, MA, 2006.

Teaching Experience

Associate Professor of Physics , Oglethorpe University	2021- present
Assistant Professor of Physics , Oglethorpe University	2015 -2021
Part-Time Instructor , Physics Department, Agnes Scott College	2013-2014
Part-Time Instructor , Georgia Perimeter College Dunwoody	2013-2014
Textbook Solution Manual Author , online	2013-2014
Part-Time Instructor , Physics Dept. Red Rocks Community College	Spring 2013
Volunteer Teaching Assistant , Physics Dept. CU Boulder	Fall 2012
Lead Teaching Assistant , Physics Dept. CU Boulder	2007-2008
Teaching Assistant , Physics Dept. CU Boulder	2006-2007
Personal Tutor , Northampton, MA and Boulder, CO	2004-2013
Peer Tutor , Smith College	2003-2006

Courses Developed and Taught at Oglethorpe

Science & Human Nature , COR 400	Modern Physics , PHY 203
Mathematics & Human Nature , COR 314	Modern Physics Lab , PHY 203L
Introduction to Descriptive Astronomy , PHY 100	Mathematical Physics , PHY 204
General Physics I , PHY 101	Computational Physics , PHY 206
Introductory Physics Lab I , PHY 101L	Thermal Physics , PHY 333
General Physics II , PHY 102	Quantum Mechanics , PHY 334
Introductory Physics Lab II , PHY 102L	Independent Study in Physics , PHY 200
Fundamentals of Electronics , PHY 232	Advanced Independent Study in Physics , PHY 400
Fundamentals of Electronics Lab , PHY 232L	Space Physics , PHY 490
Electricity and Magnetism , PHY 331	

Professional Development

Advanced Laboratory Physics Association Workshop , “3D Printing a Laser Housing for Spectroscopy Experiments”, De Pere, WI	July 2021
American Association of Physics Teachers Workshop , “Introduction to Using Robotic Telescopes in Student Research”, Houston, TX	January 2019
American Association of Physics Teachers Workshop , “Intermediate and Advanced Labs”, Washington, D.C.	July 2018
American Association of Physics Teachers Workshop , “3D Solid Modeling”, Washington, D.C.	July 2018
IUPUI Assessment Institute , Indianapolis, Indiana	October 2017
Advanced Laboratory Physics Association Workshop , “Physics & the Human Body”, Loyola University, Maryland	June 2017
AAPT Faculty Online Community Member	August 2016-May 2017
AAPT New Physics Faculty Workshop , Baltimore, Maryland	June, 2016
Assessment in Mathematics and Science Education Course , Education Dept. CU Boulder	Spring 2007
Teaching and Learning Physics Course , Physics Dept. CU Boulder	Fall 2006
Graduate Teacher Program seminars , CU Boulder	2006-2012

Awards and Grants

Advanced Lab Equipment Grant , Jonathon F. Reichert Foundation (\$3482.88)	2021
Summer Research Grant , Oglethorpe University (\$5350)	2021
Faculty Development Grant , Oglethorpe University (\$997.50)	2021
Lu Thomasson Garrett ’52 Award for Meritorious Teaching , Oglethorpe University	2021
Core Teaching Award , Oglethorpe University	2021
Faculty Development Grant , Oglethorpe University (\$1760.50 – not fully dispersed due to COVID)	2020
Faculty Development Grant , Oglethorpe University (\$800)	2018
Faculty Development Grant , Oglethorpe University (\$1800)	2017
NASA Earth and Space Science Fellowship	2009-2012
Title: “Modeling the Outer Magnetosphere and its Coupling to the Solar Wind”.	

Publications & Presentations

- Lester, Jamie, Joignant, Rowan, and **M. Meier**, Photometric Determination of the Distance to the RR Lyrae YZ Capricorni (2021). *Journal of the American Association of Variable Star Observers*, 49(2), 247.
- Howard, D and **M. Meier**, (2021), Meeting Laboratory Course Learning Goals Remotely via Custom Home Experiment Kits, *The Physics Teacher*, 59(6), 404-409.
- Meier, M.** (presentation) Annie Jump Cannon: Destined for the Stars, *Oglethorpe University "Year of Suffrage" Lecture Series*, Oglethorpe University, April 2021.
- Meier, M.**, (presentation) Challenging Student Ideas About Religion in a General Education Course, *AAPT Summer Meeting 2020*.
- Meier, M.**, (presentation), Everything we knew about Jupiter was wrong: Juno and the process of science, *Thomas W. Chandler Lecture Series*, Oglethorpe University, April 2019.
- Ponce, Iris Daniela and **M. Meier**, (poster), Rotation of the interplanetary magnetic field in Saturn's magnetosheath, *Magnetospheres of the Outer Planets Meeting 2018*.
- Ponce, Iris Daniela and **M. Meier**, (poster), Rotation of the interplanetary magnetic field in the Jovian and Kronian magnetosheaths, *AGU Fall Meeting 2017*.
- Meier, M.**, (poster), Improving Student Attitudes and Beliefs with Primary Literature, *AAPT Winter Meeting 2017*.
- Wilson, R.J., F. Bagenal, P.A. Delamere, **M. Desroche**, B.L. Fleshman, and V. Dols, Radial velocity evidence of an electric field in Saturn's inner magnetosphere, *J. Geophys. Res.*, 2013.
- Desroche, M.**, F. Bagenal, P.A. Delamere, and N. Erkaev, (presentation), Magnetopause conditions at Jupiter and Saturn and implications for the solar wind interaction, *AGU Fall Meeting 2012*.
- Desroche, M.**, F. Bagenal, P.A. Delamere, and N. Erkaev, Conditions at Saturn's magnetopause and implications for the solar wind interaction, *J. Geophys. Res.*, 2013.
- Desroche, M.**, F. Bagenal, P.A. Delamere, and N. Erkaev, Conditions at the expanded jovian magnetopause and implications for the solar wind interaction, *J. Geophys. Res.*, 2012.
- Desroche, M.**, F. Bagenal, P.A. Delamere, N. Erkaev, C.S. Arridge, C. J. Farrugia, and B. Helfried, (poster), A comparison of the interaction of the solar wind with the Jovian and Kronian magnetospheres, *AGU Fall Meeting 2011*.
- Desroche, M.**, (presentation), Conditions at the jovian magnetopause and implications for the solar wind interaction, *Friends of the Magnetospheres Seminar*, LASP – CU Boulder, 2011.
- Desroche, M.**, (presentation), The interaction between the solar wind and Jupiter's magnetosphere, *Magnetospheres of the Outer Planets Meeting 2011*.
- Desroche, M.**, F. Bagenal, and P.A. Delamere, (poster), Potential reconnection sites at Jupiter's magnetopause, *AGU Fall Meeting 2010*.
- Desroche, M.**, (presentation), Modeling the solar wind interaction with Jupiter's magnetosphere, *CIPS seminar*, physics dept. – CU Boulder, 2010..

- Desroche, M.J.**, F. Bagenal, and P.A. Delamere, (poster), Modeling dynamics in Jupiter’s outer magnetosphere and its interaction with the solar wind, *Magnetospheres of the Outer Planets Meeting 2009*.
- Desroche, M.**, F. Bagenal, and P.A. Delamere, (poster), Potential reconnection configurations and flows at Jupiter’s magnetopause, *AGU Fall Meeting 2009*.
- Desroche, M.**, F. Bagenal, and W.R. Paterson, (poster), Preliminary Model of Jupiter’s Plasma Sheet, *AGU Fall Meeting 2008*.
- Desroche, M.**, (2006), Determination of the refractive indices of solids by total reflection, *Honors Thesis*, Smith College, Northampton MA.
- Desroche, M.**, G.N. Felder, J. M. Kratochvil, and A. Linde, (2005), Preheating in new inflation, *Phys. Rev. D.*, **71**, 103516.

Affiliations & Memberships

AAPT Committee on Contemporary Physics , chair	2018-current
American Association of Physics Teachers , member	2015-current
American Physical Society , member	2013-current
American Geophysics Union , member	2008-2013, 2015-current
Phi Beta Kappa	2006

Service at Oglethorpe

Faculty Liaison/Coordinator for FYS and Mentoring	Summer 2022 - present
Tenure and Promotion Committee , member	Fall 2021- present
DEI Task Force , member	Fall 2021- present
Teaching and Learning Task Force , member	Summer 2021 – Spring 2022
Student Success Task Force , member	Spring 2021
President’s Cabinet 2.0 , member	Spring 2021
Honor Council , member	Fall 2020 – Spring 2022
Faculty Council , member	Fall 2020 – Spring 2021
President’s Cabinet , Division III representative	Fall 2020 – Spring 2021
Core Committee , COR 400 representative	Fall 2018 – Spring 2021
Physics Faculty Search Committee , member	Fall 2020

Chemistry Faculty Search Committee, member	Spring 2018, Spring 2019, Fall 2019
Head Librarian Search Committee, member	Fall 2017
Compass Advisor	Fall 2017-Spring 2019, Fall 2020 – Spring 2021
Women’s Tennis Team Faculty Mentor	Spring 2017-Spring 2021
Compass Director Search Committee, member	Spring 2017
APC Committee, member	Fall 2016-Spring 2017
JEO scholarship weekend, seminar leader	Spring 2016, Spring 2017, Spring 2018, Spring 2019, Spring 2021
QEP Committee, member	Spring 2016 – Spring 2017
ITC Committee, member, chair (FA16-SP17)	Fall 2015- Summer 2020
Sigma Zeta, faculty advisor	Fall 2015 -Spring 2021
Outdoors Club, faculty advisor	Fall 2015 -Spring 2021
Physics Program Coordinator	Fall 2015-present