

CONTACT  
INFORMATION

College of Charleston  
Department of Physics and Astronomy  
223 J. C. Long Building  
9 Liberty Street  
Charleston, SC 29424

Phone: (843) 953-0278

Email: [williamsgj@cofc.edu](mailto:williamsgj@cofc.edu)  
<http://williamsgj.people.cofc.edu>

EDUCATION

**Ph.D. in Atmospheric Science**

**Colorado State University**

Thesis: *The Effects of Environmental Flow on the Internal Dynamics of Tropical Cyclones*

Advisor: Wayne Schubert

August 2012

**M.S. in Physics**

**University of Texas at Brownsville**

Thesis: *A Statistical Analysis of Double White Dwarf Binaries in the LISA Gravitational Wave Foreground.*

Advisor: Matthew Benacquista

May 2008

**B.S. in Mathematics and Physics**

**Morehouse College**

Magna Cum Laude

May 2006

PROFESSIONAL  
POSITIONS

**College of Charleston**

2013-present

Assistant Professor of Atmospheric Physics

**University of Louisiana at Monroe**

2012-2013

Assistant Professor of Atmospheric Sciences

**Front Range Community College**

2010-2011

Adjunct Instructor of Physics and Meteorology

**University of Texas at Brownsville**

2006-2008

Physics Lecturer and Lab Instructor

RESEARCH  
INTERESTS

Dynamics of the Tropical Cyclone Boundary Layer  
Axisymmetrization of Geophysical Vortices  
Tropical Cyclone Inner Core Structure and Evolution

PROFESSIONAL  
ORGANIZATIONS

American Geophysical Union  
American Meteorological Society

RESEARCH  
STUDENTS  
SUPERVISED

Jared Marquis: Investigation of Strength, Intensity, and Integrated Kinetic Energy Associated with Hurricane Humberto (2008), 2013-2014.

Terreka Hart (CSU CMMAP Summer Intern): Concurrent Observations of Eyewall Mesovortices and Concentric Eyewalls in Hurricane Ivan, 2009.

Courtney Lawrence: Convection Associated with the Collision of Sea-Breeze Front and Gust Front on June 16<sup>th</sup>, 2014.

Linsey Passarella: Concurrent Observations of Eyewall Mesovortices and Concentric Eyewalls in Atlantic Hurricanes, 2015 - 2016

Joseph Dibrigida: The Role of Warm Oceanic Eddies in the Rapid Intensification of Atlantic Hurricanes, 2016

PUBLICATIONS

**G. Williams**, 2016: Inner Core Thermodynamics of the Tropical Cyclone Boundary Layer, *Meteorology and Atmospheric Physics*, doi:10.1007/s00703-016-0441-5, pp.1 – 20.

**G. Williams**, 2016: “The Dynamics and Thermodynamics of the Tropical Cyclone Boundary Layer” *Tropical Cyclones*. ISBN 978-953-51-4702-2. Ed. Anthony Lupo and Jennifer Collins. accepted

**G. Williams**, 2016: Hurricane Eyewall Evolution in a Forced Primitive Equation Model, *Meteorology and Atmospheric Physics*, submitted.

**G. Williams**, 2016: Inner Core Kinematic Structure of the Tropical Cyclone Boundary Layer During Landfall, *Meteorology and Atmospheric Physics*, submitted.

**G. Williams**, 2015: The Effects of Vortex Structure and Vortex Translation on the Tropical Cyclone Boundary Layer Wind Field, *J. Adv. Model. Earth Syst.*, 07, doi:10.1002/2013MS000299

C. Slocum, **G. Williams**, R. Taft, and W. Schubert 2014: Tropical Cyclone Boundary Layer Shocks. arXiv:1405.7939 [physics.ao-ph].

**G. Williams** et al. 2013: Shock-like Structures in the Tropical Cyclone Boundary Layer. *J. Adv. Model. Earth Syst.*, **5**, 338-353.

B. McNoldy, Z. Finch, D. Henderson, D. Lerach, R. Seigel, J. Steinweg-Woods, E. Stuckmeyer, D. Van Cleave, **G. Williams** et al. 2011: A High Wind Statistical Prediction

Model for the Northern Front Range of Colorado. *Electronic Journal of Operational Meteorology*.

## PRESENTATIONS

*Vortex Rossby Wave (VRW) Dynamics in Hurricane-Like Vortices*. Eleventh CMMAP Team Meeting Presentation, August 11, 2011.

*The Instability of Vortex Rings in Vertical Shear*. NCAR/NOAA/CSU TC Workshop. November 16, 2011.

*Shock-Like Structures in the Tropical Cyclone Boundary Layer*. National Weather Association, 38<sup>th</sup> Annual Meeting. October 17, 2013

*The Inner Core Thermal Structure of the Tropical Cyclone Boundary Layer*. 22<sup>nd</sup> Annual PAMS Allen Weber Mini-Technical Conference, March 4, 2016.

## COURSE TAUGHT

Introductory Physics I (F2013, F2014, F2015, S2015)

Introductory Physics I Lab (F2013)

Introductory Physics II (S2016, F2016)

Introductory Physics II Lab (S2014)

Introduction to Oceanography (F2012, S2013)

Basic Meteorology Lab (F2012)

General Physics I (Calculus Based) (F2007)

General Physics I Lab (Calculus Based) (F2007)

General Physics II (Calculus Based) (S2008)

General Physics II Lab (Calculus Based) (S2008)

General Meteorology (Calculus Based) (F2010, S2011)

Human and Atmosphere Interaction (F2012)

Physical Meteorology (S2013)

Synoptic Meteorology (S2014, S2016)

Mesoscale Meteorology (S2013)

Micrometeorology (S2013)

Electricity and Magnetism (F2014, F2015)

Thermal Physics (S2014, S2015, S2016)

Tropical Meteorology (F2012)

## PROFESSIONAL SERVICE

### **Councilor**

*Council on Undergraduate Research* 2016 – present

### **Referee**

Energies (MDPI – Open Access Publishing) 2013 – present

### **College of Charleston Committees**

Physics Department Air Quality Faculty Search Committee 2014

Physics Department Atmospheric Physics Curriculum Committee 2013 – present

Physics Department Resources and Awards Committee	2015 – 2016
Physics Department Assessment Committee	2015 – present
Committee on Assessment of Institutional Effectiveness	2015 – present