Patrick T. Duran
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Education

Ph.D Atmospheric Science (In progress) Anticipated 2017
University at Albany, State University of New York
Advisor: John Molinari
Committee Members: John Molinari, Kristen Corbosiero
Robert Fovell, Brian Tang, Ryan Torn

B.S. Meteorology, cum laude 2012
Florida Institute of Technology

Professional Experience

- **Graduate Research Assistant, University at Albany, State University of New York**
  August 2012 – Present
  Advisor: John Molinari
  My research currently focuses on the physics of the tropical cyclone outflow layer, with emphasis on cloud-radiative interaction and its effects on TC structure and evolution.
- **Forecaster, Office of Naval Research Tropical Cyclone Intensity Experiment (TCI)**
  October 2014; July-October 2015
  - Presented tropical analysis and forecast briefings when I was tasked with this duty.
  - Maintained a live archive of imagery from cameras onboard the NASA WB-57 aircraft, which was included in the TCI field catalog.
  - Performed dropsonde quality control using Aspen for two WB-57 flights as a member of the quality assurance team.
- **Forecaster, NASA Hurricane and Severe Storm Sentinel (HS3)**
  August 2014 – September 2014
  - Collaborated with a team of forecasters to provide 24-hour forecast support over a 2-week period at Wallops Flight Facility, VA.
  - Produced daily oral and written tropical analysis and forecast discussions.
  - Provided real-time tropical cyclone center fixes and short-term forecasts to mission scientists during Global Hawk flights.

Refereed Publications

Duran, P., and J. Molinari, 2016: Dramatic inner-core tropopause variability during the rapid intensification of Hurricane Patricia (2015). *Mon. Wea. Rev., in preparation.*

Doyle, J. D., and Coauthors, 2016: A view of tropical cyclones from above: The TCI Experiment. *Bull. Amer. Meteor. Soc.*, *in preparation.*

Duran, P., and J. Molinari, 2016: Upper-tropospheric low Richardson number in tropical cyclones: Sensitivity to cyclone intensity and the diurnal cycle. *J. Atmos. Sci.*, **73**, 545-554.

Molinari, J., **P. Duran**, and D. Vollaro, 2014: Low Richardson number in the tropical cyclone outflow layer. *J. Atmos. Sci.,* **71**, 3164-3179.

Other Publications

Bell, Michael M., James D. Doyle, Mark Beaubein, Todd Allen, Bonnie R. Brown , Jason P. Dunion, **Patrick Duran**, Joel W. Feldmeier, Lee C. Harrison, Eric A. Hendricks, Will Jeffries, William A. Komaromi, Jonathan Martinez, John Molinari, Jonathan R. Moskaitis, Daniel P. Stern, and David Vollaro, 2016: "Office of Naval Research Tropical Cyclone Intensity (TCI) 2015 NASA WB-57 High Density Dropsonde Sounding System (HDSS) Data, Version 1.0", doi: 10.5065/D6KW5D8M

Oral Presentations (First Author)

Duran, P., and J. Molinari, 2016: Tropopause variations in tropical cyclones: TCI observations and modeling. Office of Naval Research Tropical Cyclone Intensity Science Meeting, Boulder, CO.

Duran, P., and J. Molinari, 2016: An analysis of the tropical cyclone cirrus canopy using HS3 and TCI observations, 32nd Conference of Hurricanes and Tropical Meteorology, San Juan, PR

Duran, P., and J. Molinari, 2015: The upper-tropospheric structure of tropical cyclones, 17th Cyclone Workshop, Pacific Grove, CA.

Duran, P., and J. Molinari, 2015: The upper-tropospheric structure of tropical cyclones, 7th Northeast Tropical Workshop, Dedham, MA.

Duran, P., and J. Molinari, 2014: Observations of low Richardson number in the tropical cyclone outflow layer, 31st Conference on Hurricanes and Tropical Meteorology, San Diego, CA.

Duran, P., 2011: Offshore subsidence associated with the sea breeze circulation, Department of Marine and Environmental Systems Field Projects Symposium, Florida Institute of Technology.

Selected Poster Presentations

Duran, P., and J. Molinari, 2017: The tropopause structure of Hurricanes Nadine (2012) and Patricia (2015), Lance Bosart Symposium, 97th AMS Annual Meeting, Seattle, WA.

Duran, P., and J. Molinari, 2015: Dropsonde and CPL observations of tropical cyclone cirrus structure, NASA HS3 Science Meeting, Mountain View, CA.

Helms, C. N., **P. Duran**, P. P. Papin, and L. F. Bosart, 2014: The contribution of environmental mid-level cyclonic vorticity to the genesis of Hurricane Sandy (2012), 94th AMS Annual Meeting, Phoenix, AZ.

Molinari, J., **P. Duran**, D. Vollaro, and K. Corbosiero, 2013: Tropical cyclone outflow layer structure, 6th Northeast Tropical Workshop, Rensselaerville, NY.

Duran, P., 2012: Offshore subsidence associated with the sea breeze circulation, Northrop Grumman Engineering and Science Student Design Showcase, Florida Institute of Technology.

Honors and Awards

Best Student Poster Presentation, Lance Bosart Symposium, 97th AMS Annual Meeeting	2017
NASA Group Achievement Award, Hurricane and Severe Storm Sentinel Team	2015
Graduate Student Runner-Up, Louisville, KY, WxChallenge forecasting competition	2012
Dean's List, Florida Institute of Technology	2010-2012
Florida Institute of Technology Academic Scholarship	2008-2012
Florida Academic Scholar	2008-2012

Technical Proficiency

Computing Languages: Fortran, C++, NCAR Command Language, Shell Scripting, Perl, Awk
Meteorological Software: GEMPAK, WRF, CM1
Publishing Software: LaTeX, Apache HTTP Server
System administration on a number of Linux distributions (Ubuntu, Lubuntu, Mint, CentOS)

Professional Service

Reviewer for the Journal of the Atmospheric Sciences and Journal of Geophysical Research	2016-Present
Volunteer physics and mathematics tutor for atmospheric science, SUNY-Albany	2016-Present
Volunteer forecaster for NOAA Hurricane Research Division map discussions	2013-Present

Professional Organizations

American Meteorological Society	2008-Present