Chibueze N. Oguejiofor, Ph.D (In View).

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Education

2020 - Present — **Ph.D., University of Notre Dame, United States** in Civil & Environmental Engineering and Earth Sciences (Fluid Dynamics).
Thesis: *On The Role of Submesoscale and Turbulent Processes in Tropical Cyclone Intensity Changes.*

2019 - 2020 — **Pre-PhD., International Center for Theoretical Physics (ICTP), Italy** in Earth Systems Physics (Meteorology).

2018 - 2019 — **M.Sc., African Institute for Mathematical Sciences (AIMS), Rwanda** in Mathematical Sciences.

2012 - 2017 — **B.Sc., University of Lagos, Nigeria** in Geophysics (GPA: 4.74/5.0; Top 1%)

Employment History

Aug 2022 - Jan 2023 — **National Center for Atmospheric Research (NCAR)** - *Graduate Visitor, ASP* - On the role of coherent turbulence in the rapid intensification of hurricanes.

Sept 2018 - Sept 2019 — **Indicina Inc.** - *Data Engineer* - Building and optimizing machine learning models for large fintech dataset.

Feb 2018 - Aug 2018 — **KPMG** - *Datascience Intern* - Built and deployed a machine learning churn model as REST API for default forecast

Nov 2017 - Jan 2018 — **Carbon Inc.** - *Datascience Intern* - Adapted machine learning models on AWS services.

Research Publications

Journal Articles

1. C. N. Oguejiofor*, R. Rotunno, P. Sullivan, G. Bryan, and D. Richter, "On the role of coherent turbulent structures in intense hurricanes," *(In Prep.)*, 2023.
2. C. N. Oguejiofor*, C. Wainwright, J. Rudzin, and D. Richter, "Onset of tropical cyclone rapid intensification: Evaluating the response to length scales of sea surface temperature anomalies," *Journal of Atmospheric Sciences (Under Review)*, 2023.

Thesis

1. C. N. Oguejiofor* and G. Guiliani, *Local and Non-Local planetary boundary layer (PBL) schemes in WRF model - Impact on the Intensification of Tropical cyclone Idai*. Trieste, Italy, 2020. URL: https://drive.google.com/file/d/1F6uRMYqRKw06MXhs9J69rbkEwE8w-_F3/view.
2. C. N. Oguejiofor* and B. J. Abiodun, *Simulating the influence of sea-surface-temperature (SST) on tropical cyclones over South-West Indian ocean, using the UEMS-WRF regional climate model*. Kigali, Rwanda, 2019. URL: https://arxiv.org/abs/1906.08298.

Conference Proceedings

1. C. N. Oguejiofor*, C. Wainwright, J. Rudzin, and D. Richter, "Tropical cyclone rapid intensification: Evaluating the response to length scales of sea surface temperature anomalies.," in *American Meteorological Society's (AMS) 23rd Conference on Air-Sea Interaction - The 103rd AMS Annual Meeting*, Denver, Colorado, 2023.

2. C. N. Oguejiofor*, C. Wainwright, and D. Richter, "Investigating the dependence of hurricane intensity on varying sst patterns using idealized model simulations," in *Ocean Sciences Meeting (OSM)*, Held Virtually, 2022.
3. C. N. Oguejiofor*, C. Wainwright, and D. Richter, "Investigating the sensitivity of hurricane intensification to length scales of sea surface temperature (sst) heterogeneities.," in *35th Conference on Hurricanes and Tropical Meteorology (AMS)*, New Orleans, Louisiana, 2022.
4. C. N. Oguejiofor*, C. Wainwright, and D. Richter, "Investigating the dependence of hurricane intensity on varying sst patterns using idealized model simulations.," in *American Geophysical Union (AGU)*, New Orleans, Louisiana, 2021.

Skills

Coding	Python, FORTRAN, Shell Scripting, MATLAB, SQL, R, LaTeX.
Packages	Numpy/Scipy, Pangeo, Tensorflow/Keras, xarray, Matplotlib, CDO, NCL/NCO, GRADS.
Models	Weather research and forecast (WRF), Cloud model (CM1), HYSPLIT.
Computing	High performance computing (MPI), Cloud Computing (AWS), Git, Satellite Intelligence.

Awards and Certifications

Awards

2023	**Computational Sciences and Visualization Award ($1,000)** - Center for Research Computing.
2023	**3rd place oral presentation award** - AMS 23rd Conference on Air-Sea interaction.
2022 - 2023	**NCAR Fellowship ($15,750) award** - Advanced Study Program (ASP) graduate visitor.
2022 - 2024	**American Meteorological Society (AMS)**, air-sea interaction committee.
2019	**UNESCO/IAEA Study Grant** - International Centre for Theoretical Physics.
2017	**AAPG - L. Austin Weeks**, foundation scholarship grant.

Professional Certifications

Sept 2022	**Certified AWS Cloud Practioner** - by Udemy.

Teaching

Fall 2022	**CE 30125**: Statics (Prof. David. H. Richter).
2020; 2021	**CE 30125**: Computational Methods (Prof. David. H. Richter).
2021	**CE 40450**: Hydraulics (Prof. Andew Kennedy).

References

Prof. Joseph H. Fernando
Wayne and Diana Murdy Endowed Prof. of Engr.,
University of Notre Dame,
Harindra.J.Fernando.10@nd.edu

Dr. George H. Bryan
Section head, Meso. and Microscale Meteorology,
National Center for Atmospheric Research (NCAR),
gbryan@ucar.edu

Dr. Richard Rotunno
Senior scientist,
National Center for Atmospheric Research (NCAR),
rotunno@ucar.edu

Prof. David H. Richter (PhD. Advisor)
Civil and Environmental Engineering,
University of Notre Dame,
David.Richter.26@nd.edu