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

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🌐 https://chibueze-oguejiofor.github.io/

Education

2020 - Present	🔖	**Ph.D., University of Notre Dame, United States** in Civil & Environmental Engineering. *Thesis: On The Role of Submesoscale and Turbulent Processes in Tropical Cyclone Intensity Changes. Expertise: Turbulence modeling, Air-Sea Interaction & Hurricane rapid intensification.*
2019 - 2020	🔖	**Pre-PhD., Int'l. Center for Theoretical Physics (ICTP), Italy** in Physics (Earth Systems).
2018 - 2019	🔖	**M.Sc., African Inst. 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)** - *Advanced Graduate Visitor, ASP* - Investigated the role of turbulence in the inner eyewall of intense hurricanes.
Sept 2018 - Sept 2019	🔖	**Indicina Inc.** - *Data Engineer* - Built and optimized credit risk machine learning (ML) models.
Feb 2018 - Aug 2018	🔖	**KPMG** - *Datascience Intern* - Built and deployed a machine learning (ML) churn model as an API.
Nov 2017 - Jan 2018	🔖	**Carbon Inc.** - *Datascience Intern* - Adapted machine learning models on AWS platforms.

Research Publications

Peer-Reviewed Publications

1. **C. N. Oguejiofor***, R. Rotunno, P. Sullivan, G. Bryan, and D. Richter, "The role of turbulence 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*, vol. 48, no. 3, pp. 479–492, 2023. 🔗 DOI: 10.1175/JAS-D-22-0158.1.

Thesis

1. **C. N. Oguejiofor*** and G. Guiliani, *Local and Non-Local PBL schemes in WRF model - Impact on the Intensification of Tropical cyclone Idai.* 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 on tropical cyclones over South-West Indian ocean, using the UEMS-WRF regional climate model.* 2019. 🔗 DOI: 10.48550/arXiv.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, J. Rudzin, and D. Richter, "Tropical cyclone rapid intensification: Influence of multiscale anomalies in sea surface temperature (sst).," in *Front Range Tropical Cyclone Workshop*, Fort Collins, Colorado, 2022.

5 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.

6 C. N. Oguejiofor*, C. Wainwright, and D. Richter, "Investigating the dependence of hurricane intensity on varying sst patterns using idealized model simulations.," in *Midwest Student Conference on Atmospheric Research (MSCAR)*, Held Virtually, 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), Version control (Git).

Awards and Certifications

Grants & Awards

2023	◫	**Computational Sciences and Visualization Award** - Center for Research Computing.	**$1,000**
2023	◫	**3rd place oral presentation Award** - AMS 23rd Conference on Air-Sea interaction.	
2022 - 2023	◫	**NCAR Fellowship Award** - Advanced Study Program (ASP) graduate visitor.	**$15,750**
2022 - 2024	◫	**American Meteorological Society (AMS)**, air-sea interaction committee.	
2019	◫	**UNESCO/IAEA Study Grant** - International Centre for Theoretical Physics.	**€9,600**
2017	◫	**AAPG - L. Austin Weeks**, Undergraduate Research Grant Program.	**$500**
2012 - 2017	◫	**MTN Foundation Scholarship**, for outstanding academic performance.	**$450/year**

Professional Certifications

May 2023	◫	**Machine Learning in Weather and Climate (Tier 1)** - by ECMWF.
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. Andrew 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. Richard Rotunno
Senior scientist,
National Center for Atmospheric Research (NCAR),
  rotunno@ucar.edu

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

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