VICTOR HIEU NGUYEN

BS Candidate, Department of Earth, Marine, and Environmental Sciences
(704)877-6570 | vhieu@unc.edu | vhi3u | victorhieunguyen

Summary

Incoming fourth-year undergraduate at UNC-Chapel Hill. Mixed research experience in observational physical oceanography and biogeochemical modeling. Research interest in the development of computational methods to quantify and study marine carbon dioxide removal (mCDR) techniques. Planning to apply to graduate programs in 2026 to study physical oceanography.

Education

University of North Carolina at Chapel Hill *Chapel Hill, NC*

ENVIRONMENTAL SCIENCES, B.S., MATHEMATICS B.S. *Anticipated Graduation: 2026*

- Honors Carolina
- Minor in Marine Sciences
- Relevant Coursework: Oceanography, Blue Carbon Ecosystems, Fluid Dynamics, Numerical Analysis, Numerical Methods, Linear Algebra, Data Structures and Analysis, Classical Mechanics, Differential Equations, Multivariable Calculus

Research and Experience

Department of Earth, Marine, and Environmental Sciences, UNC *Chapel Hill, NC*

UNDERGRADUATE RESEARCHER *Mar. 2023 - Present*

- Data visualizations of Slocum gliders from Processes driving Exchange At Cape Hatteras (PEACH) project
- MATLAB programming for 2D/3D plots, interpolation, time series lagging, and cleaning raw ASCII datasets
- Analysis of primary productivity along Cape Hatteras coastal regions to verify seawater exchange and mixing between shelf and open ocean
- Advisor: Dr. Harvey Seim

Department of Oceanography, Texas A&M University *College Station, TX*

SUMMER REU FELLOW *May 2024 - Aug. 2024*

- Project on interactive Long-term Ocean-atmosphere-Sediment CArbon cycle Reservoir (iLOSCAR) model
- Modified iLOSCAR to test long-term impact of carbon dioxide removal methods on ocean system interactions
- Compared how direct-air capture, ocean alkalinity enhancement, and enhanced rock weathering can mitigate impacts of global warming and ocean acidification
- Advisor: Dr. Shuang Zhang

Skidaway Institute of Oceanography *Savannah, GA*

UNDERWATER GLIDER PILOT *Jul. 2023 - Present*

- Remote monitoring of ocean glider fleet managed by the Southeast Coastal Ocean Observing Association
- Modify and create scripts that designates glider waypoints for dead reckoning navigation and behavior
- Oversee file transfer and glider progress in weekly 24 hour shifts with fellow pilots to ensure data visualizations and communications with the glider are up to date

Ackerman Center for Excellence in Sustainability, UNC *Chapel Hill, NC*

LARGE LANGUAGE MODELS BUSINESS CLIMATE STRATEGY INTERN *Jan. 2024 - May 2024*

- Tested large language models (LLM), including ChatGPT and ChatNetZero for business climate strategy
- Generated sustainability and energy related prompts to evaluate accuracy and performance of LLM response
- Researched ChatNetZero functionality and features and bug reporting for future LLM project development
- Created research report on uses of ChatNetZero and client-facing one pager as final internship deliverables

Leadership

Carolina Science Olympiad *Chapel Hill, NC*

PRESIDENT *May 2024 - Present*

- Served on the 12 member executive board as Media Chair and Service Chair from 2022 - 2024
- Plan and prepare for invitational tournament hosting 15 high school teams and over 500 competitors
- Coordinate with other NC Science Olmypiad alumni networks parent for regional and state tournaments

Office of Undergraduate Research, UNC *Chapel Hill, NC*

OUR STUDENT AMBASSADOR *May 2024 - Present*

- Serve as a mentor for UNC Accelerated Research Program and help mentees with on-campus summer research
- Hold office hours for students to receive advice on how to get involved with research on campus
- Serve on Earth/Physical Sciences Committee, and hold information sessions and workshops for earth and physical science research twice a year

MathWorks *Chapel Hill, NC*

MATLAB STUDENT AMBASSADOR *Aug. 2024 - Present*

- Serve as an ambassador to promote MathWorks products such as MATLAB and Simulink on campus at UNC
- Host events and giveaways to teach and inspire students on campus how to use MATLAB software
- Maintain a social media presence and collaborate with organizations on campus to promote MathWorks software

Honors & Awards

2024	**Inductee,** Epsilon Eta Honors Environmental Fraternity Alpha Chapter	*Chapel Hill, NC*
2024	**Dean's List,** University of North Carolina at Chapel Hill	*Chapel Hill, NC*
2023	**Recipient,** Honors Carolina Membership	*Chapel Hill, NC*
2022	**Recipient,** SECU People Helping People Scholarship Program	*Charlotte, NC*

Skills

Programming	MATLAB, Python, JAVA, Julia, R
Front-end	LaTeX, HTML, CSS, Markdown
Languages	English, Vietnamese

Presentations

Nguyen, V.H. and Seim, H. (2025). *poster presentation.* Continental shelf hydrographic variability during the Processes driving Exchange at Cape Hatteras (PEACH) program. Celebration of Undergraduate Research, UNC.

Zhang, S., **Nguyen, V.H.**, et al. (2024). *poster presentation.* Long-term carbon storage capacity and ocean co-benefits of carbon dioxide removal methods. AGU24 Annual Meeting, American Geophysical Union.

Seim, H., Edwards, C., and **Nguyen, V.H.** (2024). *poster presentation.* Southern Mid-Atlantic Bight conditions observed with shelf gliders during the PEACH project during 2017-2018. NSF OOI Community Workshop: Pioneer Array, Old Dominion University.

Nguyen, V.H., Zhang, S., and Li, S. (2024). *oral presentation.* Carbon capture potential and ocean system interactions. Department of Oceanography REU Symposium, TAMU.

Nguyen, V.H., Zhang, S., and Li, S. (2024). *oral presentation.* Carbon capture potential and ocean system interactions. Department of Oceanography REU Symposium, TAMU.

Nguyen, V.H., Zhang, S., and Li, S. (2024). *poster presentation.* Carbon capture potential and ocean system interactions. LAUNCH REU Poster Symposium, TAMU.

Nguyen, V.H. and Seim, H. (2024). *poster presentation.* Characterization of Hatteras Front using glider deployments from PEACH project. Celebration of Undergraduate Research, UNC.

Nguyen, V.H. and Seim, H. 2024, *poster presentation.* Characterization of Hatteras Front using glider deployments from PEACH project. Earth, Marine, and Environmental Sciences Research Symposium, UNC.