

NINA GAL

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EDUCATION

Fall 2016 – Fall 2018

The University of Southern Mississippi – NASA Stennis Space Center

M.S. in Marine Science (Geological Oceanography)

GPA: 3.9

Relevant Course Work: Physical, Chemical, Geological & Biological Oceanography, Nautical Science, Coastal Hazards, Paleoceanography

The University of Massachusetts Amherst

Fall 2013 – Spring 2016

B.S. in Geology

Member of the Commonwealth Honors College

GPA: 3.8

Relevant Course Work: GIS and Spatial Analysis, Hydrogeology, Sedimentology, Geomorphology, Climatology, Mineralogy, Petrology, Geological Field Methods, Geological Mapping, History of the Earth, Structural Geology, Planetary Geology, Living on Earth: Fracking

WORK EXPERIENCE

Fall 2016 – Fall 2018

Division of Marine Science – USM, NASA Stennis Space Center

Research & Teaching Assistant

- Research tools: ArcGIS, SonarWiz, Hypack, MATLAB, Surfer, Adobe Illustrator, Seismic Unix
- Obtained seismic and Chirp profiles along the shoreline of Horn Island and analyzed offshore seismic stratigraphy using SonarWiz
- Built database of seismic and Chirp datasets, as well as cores from the Gulf of Mexico in ArcGIS
- Assessed offshore subsurface sand resources using geophysics, sediment cores and bathymetry
- Utilized LiDAR data using Matlab
- Written quarterly reports that included data analysis and field work results, as well as cost estimation
- Obtained sediment using coring and drilling methods
- Master's Thesis title: 'Holocene Formation and Evolution of Horn Island, Mississippi, USA'
- Taught geological oceanography laboratory classes

Department of Geosciences – UMass Amherst

Fall 2014 – Spring 2016

Research Assistant

- Honors Thesis title: ‘Sedimentological Signatures of Regional Seismicity in Western Shikoku and Eastern Kyushu, Japan’
- Examined sediment core stratigraphy
- Dated organic material according to the C-14 method
- Operated the Itrax X-ray fluorescence core scanner to obtain mineralogical data
- Used Matlab to plot and analyze XRF and stratigraphy data
- Calculated loss on ignition to determine amount of organic matter in sediments
- Used Geotek to collect high-definition photographs of cores

Department of Geology – Amherst College

June 2015 – September 2015

Research Assistant and Mentor

- Taught Amherst College students how to carry out loss on ignition calculations
- Analyzed the mercury content of sediment from the Oxbow Lake, MA
- Measured C:N:P ratios for sediments
- Scanned cores on the Itrax X-ray Fluorescence Core Scanner to obtain mineralogical data
- Contributed to poster of the geological history of the original Oxbow Lake - displayed in Amherst College’s Museum of Natural History

SKILLS & AWARDS

Skills

- Proficient in ArcGIS, SonarWiz, Hypack, Adobe Illustrator, MATLAB, Surfer, Microsoft Office, LibreOffice
- Experience with Seismic Unix
- Seismic Stratigraphy
- Seismic, Chirp and GPR
- Land surveying
- Ability to use GPS equipment
- Fluent in English and German
- Tutored and mentored students in Geology and German
- X-ray fluorescence using ITRAX
- Laser particle diffraction on Malvern Mastersizer 2000
- Analyzing radioactive isotopes using a CANBERRA gamma spectrometer
- Collecting gravity cores and suspended sediment samples
- Experience in handling ADCP and CTD equipment
- Using a multi-core, vibra-core, piston-core and Geoprobe to collect sediment cores
- Partook in educational USM cruise to examine changes in oceanographic conditions at the Deepwater Horizon Site
- Mississippi boating license

Awards

- 2018: Charles H. Bussmann Graduate Scholarship (\$2,500) awarded by the Marine Technology Society

- 2018: MTS Gulf Coast Outstanding Student Award (\$1,000) awarded by the Marine Technology Society
- 2017: MTS Outstanding Student Section
- 2016: Recipient of the Dean's Scholarship at the University of Massachusetts Amherst (\$2,000 per year)
- 2016: Written proposals and received the H.T.U. Smith Memorial Prize (\$660) and Honors College Research Grant (\$1,030) for research

COMMUNITY INVOLVEMENT

USM Marine Technology Society

Spring 2017 – Fall 2018

Peer-elected Treasurer, Vice President and President

- Organized events related to marine technologies, e.g. a tour to the National Data Buoy Center
- Recruited new students and connected members with opportunities in the industry
- Volunteered and participated in MTS conferences
- Oversaw financial matters of the MTS student section
- Contributed to newsletters and outreach
- Won the Outstanding Student Section Award in 2017

Slidell Junior High School Science Fair Judge

November 2018

- Judged 5th grade science fair projects and discussed the science and scientific method behind students' experiments

SeaPerch ROV Challenge

May 2018

Judge

- Graded engineering design notebooks that detail the construction of a remotely operated vehicle in water

USM booth at AGU (American Geophysical Union)

December 2017

- Familiarized visitors with the marine science and hydrography program at USM
- Show and explain the use of an AUV that we had set up there

MTS Oceans in Actions Conference

August 2017

Microphone Runner

- Volunteered at Q&A during industry presentations about marine technologies

Green Mountain Club – Long Trail Patrol, VT

Summer 2014

Long Trail Patrol Worker

- Repaired and maintained hiking trails using rocks found off the trail
- Ensuring safety of hikers and advising them on the weather and resources

Lexington Visitors Center, MA

Spring 2010 – Spring 2013

Volunteer Salesperson and Tourist Advisor

- Taught visitors of Lexington about the local history of the Revolutionary War
- Sold merchandise and managed gift shop

PRESENTATIONS

Oral Presentation

- **Schulze, N.**, Wallace, D. (2017). *Holocene Evolution and Sediment Provenance of Horn Island, Mississippi, USA*. AGU Fall Meeting, New Orleans, LA. (December, 2017)
- **Schulze, N.**, Wallace, D. (2018). *Holocene Formation and Evolution of Horn Island, Mississippi, USA*. Louisiana Coastal Geology Conference, Baton Rouge, LA. (July, 2018)

Poster Presentation

- **Schulze, N.**, Woodruff, J., Kanamaru, K., Baranes, H. (2016). *Sedimentological Signatures of Regional Seismicity in Western Shikoku and Eastern Kyushu, Japan*. Northeastern Annual Meeting of the Geological Society of America, UMass Amherst Undergraduate Research Conference. (March, 2016)