

**JOSEPH DANIEL ORTIZ**

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**Education**

Ph.D., Oceanography, 1995. (Advisor: Dr. Alan C. Mix)  
Oregon State University, Corvallis OR, Major: Marine Geology.  
Thesis: *Planktic Foraminifers of the California Current at 42°N: Last Glacial Maximum and Present.*

B.S., with Honors, 1988. (Advisor: Dr. Warren Prell)  
Brown University, Providence RI, Major: Aquatic Biology.  
Honors thesis: *An Ecological Model of Stable Isotope Variation and Size Distribution in Northern Indian Ocean Populations of G. bulloides*

**Current Employment**

- Professor with Tenure, Department of Earth Sciences, Kent State University, Sept., 2011-

**Prior Employment**

- Associate Professor with Tenure, Department of Geology, Kent State University, Sept. 2005-2011.
- Assistant Director, Water Resources Research Institute, Kent State University, Sept. 2006-2008.
- Assistant Professor, Department of Geology, Kent State University, Aug. 2001-2005.
- Adjunct Associate Research Scientist, Lamont-Doherty Earth Observatory (L-DEO), Columbia University, Aug. 2001-2003.
- Associate Research Scientist, Lamont-Doherty Earth Observatory (L-DEO), Columbia University, July 1998-2001.
- Adjunct Assistant Professor, Division of Natural Sciences, St. Thomas Aquinas College, Sparkill, NY, Spring 2001 (Concurrent with L-DEO)
- Adjunct Assistant Professor, Department of Environmental Science, Barnard College, New York, New York, Fall 2000-2001 (Concurrent with L-DEO)
- Visiting Assistant Professor (part time), Department of Earth and Environmental Sciences, Wesleyan University, Middletown CT, Spring 1999-2000 (Concurrent with L-DEO)
- Post-doctoral Research Scientist, L-DEO, Columbia University, Advisor: Dr. W. Broecker, Feb. 1996 - June 1998.
- Post-doctoral Research Assistant, College of Oceanic and Atmospheric Sciences (COAS), Oregon State University (OSU), Advisor: Dr. A.C. Mix, May-Dec. 1995.

**Research and Education Grants (Total funds raised: \$8,814,922 from 1990 to present)**

*Awards at KSU (\$7,857,114 from 2001 to present)*

- NASA EPSCoR: *Application of UAV and satellite based optical sensors to help preserve the coral reefs of the US Virgin Islands*, \$142,368, (with T. Smith, M. Brandt, UVI St. Thomas and A. Ali, College of Charleston) 2022-
- ORCA - Satellite Algae Bloom and Nutrient Sources Tracking, Subaward from, Ocean Research & Conservation Association, Inc. funded by St. Johns River Water Management District, \$140,000, 2021-2022.
- Florida Department of Environmental Protection, *Remote sensing validation of benthic cover in Biscayne Bay*, \$54,629.34, 2021-2022.
- Herbert W Hoover Foundation: Monitoring Lake Okeechobee Toxic Blooms: Google Earth Engine and KSU spectral Decomposition Method J. Ortiz, J. Amos (SkyTruth), \$100,000. 2018-2020.
- Herbert W Hoover Foundation, *Field-scale estimates of soil carbon based on modeling and soil optical properties*, \$175,000, 2021.
- National Geographic Society 2020 Explorer Travel Grant, *Capacity building for ocean color remote sensing in support of fisheries management in the northern Benguela Current*, \$30,000, 2020.
- Kent Environmental Council, *Environmental Science and Design Research Initiative Symposium*, \$500, 2019.
- Ohio Space Grant Consortium, *Ohio Space Grant Consortium FY2019-2020 Junior/Senior Scholarships*, \$7,063, 2019-2020.
- Herbert W Hoover Foundation: *Monitoring Lake Okeechobee Toxic Blooms: Google Earth Engine and KSU spectral Decomposition Method J. Ortiz*, J. Amos (SkyTruth), \$180,000. 2018-
- National Aeronautics and Space Administration *Remote Sensing Research for Harmful Algal Blooms in Inland Water*, \$58,971, 2017-2021.
- Herbert W Hoover Foundation: *Science in support of management and restoration in Biscayne Bay National Park, Florida, J. Ortiz*, L. Kaufman (BU), \$140,002. 2018-
- Herbert W Hoover Foundation: *CyanoHAB identification in the Indian River Lagoon, Florida, J. Ortiz*, Edith Widder (ORCA), \$70,838, 2016-2020.
- OSGC/NASA, *Ohio Space Grant Campus Allotment, FY2016-2017, J. Ortiz*, \$2,230, 2016
- Ohio Sea Grant 2015 Small Grant Award (R/ER-117-PD): *What limits growth in the Detroit River Plume?*, **J. Ortiz**, G. Bullerjahn, and M. McKay (BGSU), \$10,000, 2016
- Amendment to National Aeronautics and Space Administration (NNC15VB05P), *Ground Data Acquisition and Processing for Hyperspectral Imaging of Harmful Algal Blooms (HABs)*, \$10,000, 2017-
- Amendment to National Aeronautics and Space Administration (NNC15VB05P), *Ground Data Acquisition and Processing for Hyperspectral Imaging of Harmful Algal Blooms (HABs)*, \$50,000, 2016-2017.
- Amendment to National Aeronautics and Space Administration (NNC15VB05P), *Ground Data Acquisition and Processing for Hyperspectral Imaging of Harmful Algal Blooms (HABs)*: NASA-SIF Citizen Science Monitoring project, \$10,000, 2016-2017.

*Awards at KSU (Continued)*

- National Institutes for Water Resources-OH Water Resources Center, (6004013), *Policy Tools for Reducing Nutrient Loads and Combating Harmful Algal Blooms (HABS) in Lake Erie: An Inventory and Assessment* (Key personnel), \$24,455, 2015
- Ohio Space Grant Consortium, *Ohio Space Grant Consortium FY2015-2016 Junior/Senior Scholarships*, \$18,000, 2015-2016.
- Ohio Space Grant Consortium, *Ohio Space Grant Consortium FY2014-2015 Junior/Senior Scholarships*, \$24,250, 2014-2015.
- Ohio Space Grant Consortium, *Ohio Space Grant Consortium Doctoral Fellowship*, \$30,000, FY2014-2015.
- NASA EPSCoR subaward, Using NASA's Ocean Color Sensors to Identify Effects of Watershed Development and Climate Change on Coastal Marine Ecosystems of the US Virgin Islands, Project PI: A. Ali, College of Charleston; USVI PIs: M. Brand, T. Smith; KSU PI J.D. Ortiz: \$80,000, 2016-2019.
- National Aeronautics and Space Administration (NNC15VB05P), *Ground Data Acquisition and Processing for Hyperspectral Imaging of Harmful Algal Blooms (HABs)*, \$89,000, 2014-2016.
- Ohio Board of Regents Water Quality Grant: *HAB Detection, Mapping, and Warning Network: Sandusky Bay*, G.S. Bullerjahn, R. M. McKay, **J.D. Ortiz**, D. Bade, J. Chaffin; Kent State Sub-award to **J. Ortiz** and D. Bade: \$128,349, 2014.
- Ohio Sea Grant 2014 Special Small Grant Award (R/ES-021-PD): *Development of an expanded pigment spectral library for identification of phytoplankton by visible derivative spectroscopy*, **J. Ortiz**, S. Parab (KSU), \$12,000, 2014.
- Kent State University Student Multicultural Center Scholars program, The Honor Project Trust, Cy Pres Initiative Tier II Grant, O. Ramos, **J. Ortiz**, and Y. Delgado, \$45,000, 2014.
- KSU University Research Council award: *Field Studies of Microcystis, a harmful algal bloom causing algae in Grand Lake St. Marys*, **J. Ortiz**, \$3,500; 2014.
- Ohio Sea Grant 2014 Small Grant Request (R/ER-105-PD): *HPLC-measured Pigment and Growth Response of the Harmful Algal Species Microcystis (Cyanophyceae) to Variable Environmental Conditions*, S. Parab (KSU), **J. Ortiz**, K. Ali (College of Charleston), \$10,000, 2014.
- NSF DUE TUES Grant: *Bridging the Conceptual Divide Between Theoretical and Applied Environmental Chemistry*, A. Jefferson, L. Griffith, **J. Ortiz**, D. Dees, \$199,819, 2012.
- Ohio Sea Grant 2012 Small Grant Request (R/ER-100-PD): *Improving techniques of water quality monitoring in the Western Basin of Lake Erie*, **J. Ortiz**, K. Ali (College of Charleston), and Nick Bonini (KSU Geology), \$10,000, 2012.
- Ohio Sea Grant 2012 Ship time request: *Ship time support for Improving techniques of water quality monitoring in the Western Basin of Lake Erie*, **J. Ortiz**, K. Ali (College of Charleston), and Nick Bonini (KSU Geology), (monetary value ~\$5,000), 2012
- NSF DUE S-STEM Scholarship grant: *Scholarships for Broadening Participation in the Sciences*, PI: J. Maletic, **J. Ortiz**, R. Selinger, J. Portman, A. Case, \$599,999; 2012-
- US State Department, Institute of International Education (SIZ-100-11-GR070), *Fulbright Visiting Scholar Program for Iraq at Kent State University*, (Key personnel) \$108,000, 2012.

*Awards at KSU (continued)*

- Ohio Sea Grant 2010 Small Grant Request (R/ER-088-PD): *A Water Quality Monitoring Program in the Western Basin of Lake Erie*, **J. Ortiz**, D. Witter, and K. Ali (KSU Geology), \$10,000, 2010
- Ohio Sea Grant 2010 Ship time request: *Ship time support for a Water Quality Monitoring Program in the Western Basin of Lake Erie*, **J. Ortiz**, D. Witter, and K. Ali (KSU Geology), (monetary value ~\$4,979), 2010.
- NSF ARC Grant: *Collaborative research: Unraveling the post-Pliocene Arctic Ocean transition to the icehouse climate*, **J. Ortiz**, and L. Polyak (Ohio State Univ.), \$89,137; 2010.
- NSF DGE IGERT Grant: "Environmental Aquatic Resources Sensing: Basin Science, Business Education and Outreach" (Senior Personnel- assisted in grant writing, participated in program and mentored a student on the award), \$2,896,040; 2009.
- NSF ARC Grant: *Collaborative Research: Understanding the physics of the Bering Strait through paleoceanography and modeling*, **J. Ortiz** and Doron Nof (FSU), \$187,969; 2009.
- NSF EAR Grant: *Collaborative Research: Spatial and Temporal Patterns of Drought in Western North America during the Holocene*, **J. Ortiz** and M. Abbott (University of Pittsburgh), \$235,416; 2009.
- Ohio Sea Grant Ship time request (R/ES-010-ST): *Summer 2009 Water Quality and Heterotrophic microplankton Diversity in the Western Basin of Lake Erie*, **J. Ortiz**, D. Witter (KSU Geology), and J. Mou (KSU Biology), (monetary value ~\$3,840), 2009.
- NSF ARC Grant: *Collaborative Research: Paleoceanographic constraints on the warming Arctic Ocean*, **J. Ortiz**, L. Polyak (Ohio State Univ.), D. Darby (Old Dominion University), J. Bischof (Old Dominion University), \$134,181; 2008.
- Ohio Board of Regents Research Challenge Grant: *Direct Observation of sediment transport during Hurricanes*, **J. Ortiz** (KSU Geology), T. Schmidlin (KSU Geography) and A. Moore (Earlham College), \$46,000; 2007.
- Ohio Sea Grant Ship time request (R/ER-078-ST): *A Novel water quality monitoring program for the Western Basin of Lake Erie and Sandusky Bay*, **J. Ortiz**, D. Witter, and N. Wijekoon, (monetary value ~\$4,000), 2007.
- NSF DUE S-STEM Grant: *Kent State University Scholarships for Broadening Participation in the Sciences*, J. Maletic (KSU CS), **J. Ortiz** (KSU Geology), R. Selinger (KSU LCI), S. Lee (KSU Chemistry), John Portman (KSU Physics), \$499,896; 2006-2012.
- NSF Grant: *Collaborative Research: Investigating Holocene paleoclimate in the western Arctic Ocean using high-resolution Alaskan Margin records*, **J. Ortiz** (KSU), D. Darby (ODU), S. Brachfield (Montclair State), L. Polyak (Byrd Polar Research Center, Ohio State Univ.), \$62,699; 2006-2010.
- NSF ARC Grant: *Collaborative research: Understanding the distribution and stable-isotopic composition of planktonic foraminifera in the western Arctic Ocean*, Collaborative **J. Ortiz** (KSU), and L. Polyak (BPRC), \$35,097; 2005-2008.
- NSF DGE Grant: *Track 1, GK-12 Inquiry-based Approaches to Earth System Science*, M. Munro-Stasiuk (KSU), **J. Ortiz** (KSU), D. Witter (KSU), R. Dinko (Stark County Educational Services Center), S. Sheridan (KSU), and N. BakerCazan (SCECC), \$1,244,131; 2004-2008.

*Awards at KSU (continued)*

KSU University Research Council award: *Re-evaluation of the Arctic Ocean Sedimentary Stratigraphic Record: Implications for variations in Sea Ice Cover and Future Arctic Climate Change*, **J. Ortiz**, \$3,136; 2006.

- KSU University Research Council award: *Travel funds to participate in an Oceanographic research cruise (HLY0501) to the Chukchi Sea aboard the USCGC Healy*, **J. Ortiz**, \$3,500; 2005
- Ohio Sea Grant Ship time request: *Calibration of Remotely-Sensed Suspended Sediment Concentration in the Western Basin of Lake Erie (Case II Waters)*, **J. Ortiz**, M. Munro-Stasiuk, and D. Witter, (monetary value \$3,872), 2004.
- NSF OCE Grant: *Supplemental Award: Collaborative Research: A high resolution record of productivity and/or ventilation of the northeast Pacific from Soledad Basin, Baja California*, **J. Ortiz**, \$14,927, 2003-2004.
- NSF OCE Grant: *Collaborative Research: A high resolution record of productivity and/or ventilation of the northeast Pacific from Soledad Basin, Baja California*, Collaborative **J. Ortiz**, A. van Geen (LDEO), T. Marchitto (LDEO), and Y. Zheng (Queens), \$135,991, 3 years, 2002-2005.
- Kent State University Farris Family Innovation Fund for Early Achievement Grant: *Paleoclimate change research off Baja California*, **J. Ortiz**, \$25,500, 2002-2005.
- Kent State University Teaching Council Summer Teaching Development Grant: *Course development: Teaching aids for a new course, Light Isotope Geology*, **J. Ortiz**, \$6,500, 2002
- Educational Consultant to: *Collaborative Research: Connecting with the River: Geoscience Research and Education for Hartford, CT*, NSF Geodiversity Grant to S. O'Connell, J. Morrison, and J. Osborn, \$9,222, 2001-2003.

***Prior Awards (\$957,808 from 1990 to 2001)***

- NSF DUE Grant: *Collaborative Research: The Cross-Rock Collaborative--Science Teachers for the New Millennium*, Dr. K. Kastens, **J. Ortiz** (LDEO), and Dr. P. Solomon (STAC), \$114,966; 2000-2001.
- NSF OCE grant: *Subtropical Signatures of Holocene Climate Variability*, P. deMenocal and **J. Ortiz**, 3 years, \$246,241, 1999-2001.
- NSF OCE grant: *Experimental Determination of Equilibrium and Kinetic Fractionation of Boron, Carbon and Oxygen Isotopes during Carbonate Precipitation*, **J. Ortiz**, A. Sanyal and W. Broecker, 3 years, \$347,061; 1998-2001.
- ODP JOI/USSSP grants: ODP Leg 177 Participation and Post-cruise Science Support: *Participation on a Scientific Cruise of the JOIDES Resolution and Post-Cruise Processing of Split Core Analysis Track (SCAT) Records Obtained from ODP Leg 177 sediments*, **J. Ortiz**, \$35,962, 1998-1999.
- Lamont-Doherty Climate Center Grant: *Metabolic Rate and Ca-ATPase in Benthic Foraminifera*, **J. Ortiz**, \$1,900; 1998.
- Lamont-Doherty Climate Center Grant, *Diffuse Spectral Reflectance Measurements of Southern Ocean Sediments Recovered during a 1995 Cruise aboard R/V Thompson*, **J. Ortiz**, \$6,000; 1997.
- ODP JOI/USSSP Post-cruise Science Support grant: *Spectral Reflectance of North Atlantic Drift Sediments: Developing High Resolution Proxies for Percent Carbonate and Sediment Mineralogy (ODP Leg 162)*, **J. Ortiz** and W. Broecker, \$14,500; 1996.

**Prior Awards (Continued)**

- NSF OCE Grant: *Testing Models of Carbon and Oxygen Isotopic Disequilibrium in Planktic Foraminifers*, A. Mix and **J. Ortiz**, \$125,178; 1994-1996.
- NASA Graduate Student Research Fellowship: *Comparison of CZCS, AVHRR, and Sediment Trap Flux in the California Current*, **J. Ortiz**, Mentor, Dr. M. Abbott, \$66,000; 1990-1993.

**Research Cruises/Field Campaigns (20 campaigns total)**

- 2019 Environment Canada RV Limnos Lake Erie Cruise. Invited participant on a two-week long water quality monitoring cruise in Aug to the Western and Central Basin of Lake Erie. Co-PIs: Caren Binding Arthur Zastepa
- 2019 Detroit River Plume campaign; Two sampling trips along a transect from the Maumee to the Detroit River Plume in Aug with NASA Glenn to validate NASA HSI2 and HSI3 aerial remote sensing data and the KSU spectral decomposition method.
- 2019 Lake Okeechobee field work; Week-long campaign for sampling of water quality in the Lake Okeechobee to collect validation data for remote sensing of water quality field-based spectroradiometer and fluoroprobe measurements
- 2018 USVI field work; Week-long campaign for sampling of water quality in the coastal waters around St. Thomas to provide validation data for remote sensing of water quality and coral health using field and shore-based spectroradiometer measurements
- 2018 Detroit River Plume campaign; Four sampling trips along a transect from the Maumee to the Detroit River Plume in August and September in collaboration with NASA Glenn to validate NASA HSI2 and HSI3 aerial remote sensing data and the KSU spectral decomposition method.
- 2017 Sandusky Bay CyanoHAB Bloom campaign; Approximately bi-weekly Field sampling from June to September in collaboration with Bowling Green during multiple day cruises and shore-based spectroradiometer measurements in support of Visible Hyperspectral aerial and remote sensing by NASA.
- 2017 USVI field work; Sixteen-day campaign for sampling of water quality in the coastal waters around St. Thomas to provide validation data for remote sensing of water quality and coral health using field and shore-based spectroradiometer measurements.
- 2017 Detroit River Plume campaign; Two sampling trips along a transect from the Maumee to the Detroit River Plume in August and September in collaboration with Bowling Green to test mechanisms of autotrophic growth limitation in conjunction with field observations and remote sensing by NOAA.
- 2016 USVI field work; Week-long campaign for sampling of water quality in the coastal waters around St. Thomas to provide validation data for remote sensing of water quality and coral health using field and shore-based spectroradiometer measurements
- 2016 Detroit River Plume campaign; Two sampling trips along a transect from the Maumee to the Detroit River Plume in August and September in collaboration with Bowling Green to test mechanisms of autotrophic growth limitation in conjunction with field observations and remote sensing by NOAA.
- 2016 Sandusky Bay CyanoHAB Bloom campaign; Weekly Field sampling from June to September in collaboration with Bowling Green during multiple day cruises and shore-based spectroradiometer measurements in support of Visible Hyperspectral aerial and remote sensing by NASA.

### **Research Cruises/Field Campaigns (Continued)**

- 2015 Sandusky Bay CyanoHAB Bloom campaign; Weekly Field sampling from June to September in collaboration with Bowling Green during multiple day cruises and shore-based spectroradiometer measurements in support of Visible Hyperspectral aerial and remote sensing by NASA.
- 2014 Lake Erie CyanoHAB Bloom campaign; Field sampling during multiple day cruises and shore-based spectroradiometer measurements in support of Visible Hyperspectral aerial and remote sensing by NASA and the Naval Research Lab.
- IMAGES-IPY Eastern Canadian Arctic Expedition, (Halifax-Halifax), *CCGS Hudson*, [Aug. 24-Sept 23, 2008].
- HOTRAX Leg 1, HLY0501, (Point Barrow, Alaska-Point Barrow, Alaska), *USCGC Icebreaker Healy*, June, 2005.
- IMAGES MONA Expedition, Leg 2 (San Diego-Panama City), *Marion Dufresnes*, June 7- June 25, 2002.
- ODP Leg 177, Southern Ocean Paleoceanography, *R/V Joides Resolution (SEDCO/BP471)*, Sedimentologist and Operator, OSU Split Core Analysis Track (SCAT), December –February, 1997.
- ODP Leg 162, North Atlantic Arctic Gateways II, *R/V Joides Resolution (SEDCO/BP 471)*, Sedimentologist and Operator, OSU SCAT, July - September 1995.
- Four Multitracers Project cruises (W9009A, NH9003A, W8909A, and W8809A) on *R/V Wecoma* and *R/V New Horizon*, Assisted in MOCNESS sampling and operation, sediment trap deployment and recovery, gravity and box coring operations, Two-week cruises during September, 1988, 1989, 1990, and March 1990.
- Two Day cruises (NH5 time series) on *R/V Sacajawea*, 37' coastal oceanographic research vessel at Oregon State University. Assisted in horizontal plankton tows with Puget Sound net, Niskin bottle sampling, and CTD deployment, 1991-1992.

### **Patents**

- KSU.348: US Utility Patent Application for “Core measurement stand for use with a portable XRF scanner”, Ser. No.: 12/769,892; 2010
- KSU.348: US Provisional Patent for “Core measurement stand for use with a Portable XRF Analyzer”, Ser. No.: 61/174,182; 2009

### **Refereed Publications (87 publications)**

(As of 5/23/2022: 48 are ISI-tracked works with a total of 3,671 citations for an average citation rate of 76.5 citations per paper, 136.0 average citations per year and an *h-index* of 26; Google Scholar tracks 6,468 citations for an *h-index* of 32, *i10-index* of 66, and an average of 435.6 citations per year since 2017; ResearchGate tracks 30,729 reads, 6,399 citations, 38.10 RG Score (95th percentile); h-index of 31; h-index excluding self-citations, 31).

87. Pan, H.-J. and **Ortiz, J.D.**, Assessing the accuracy of biogenic content estimation from visible derivate spectroscopy of sedent cores from the western Pacific, *Lithosphere*, 2022, article ID 8587468, <https://doi.org/10.2113/2022/8587468>.
86. Recker, A., Mulvey, B., and **Ortiz, J.D.**, What is happening to our water? *Science & Children*, March/April, 44-49, 2022. <https://www.nsta.org/science-and-children/science-and-children-marchapril-2022/what-happening-our-water>

**Refereed Publications (Continued)**

85. Lewis, A.R., Simone, D., Williams, J., Erin, M.I., and **Ortiz, J.D.**, Using visible derivative spectroscopy to assess flaked projectile point provenance: application and preliminary analysis of the Welling Site, Ohio, U.S.A., *Archeometry*, <https://doi.org/10.1111/arcm.12754>
84. Olaoye, I.A.; Confesor, R.B., Jr.; **Ortiz, J.D.** Impact of Agricultural Practices on Water Quality of Old Woman Creek Watershed, Ohio. *Agriculture* 2021, 11, 426. <https://doi.org/10.3390/agriculture11050426>.
83. Olaoye, I.A., Confesor, R.B., Jr., **Ortiz, J.D.** Effect of Projected Land Use and Climate Change on Water Quality of Old Woman Creek Watershed, Ohio. *Hydrology*, 2021, 8, 62. <https://doi.org/10.3390/hydrology8020062>.
82. Olaoye, I.A., Confesor, R.B., Jr., **Ortiz, J.D.** Impact of Seasonal Variation in Climate on Water Quality of Old Woman Creek Watershed Ohio Using SWAT. *Climate*, 2021, 9, 50. <https://doi.org/10.3390/cli9030050>.
81. Cawse-Nicholson, K., Townsend P.A., Schimel, D., Assiri, A.M., Blake, P.L., Buongiorno, M.F., Campbell, P., Carmon N., Casey, K.A., Correa-Pabón, R.E., Dahlin K.M., Dashti, H., Dennison, P.E., Dierssen H., Erickson, A., Fisher, J.B., Frouin, R., Gatebe, C.K., Gholizadeh, H., Gierach, M., Glenn, N.F., Goodman, J.A., Griffith D.M., Guild, L., Hakkenberg, C.R., Hochberg, E.J., Holmes, T.R.H., Hu C., Hulley, G., Huemmrich, K.F., Kudela, R.M., Kokaly, R.F., Lee, C.M., Martin, R., Miller C.E., Moses W.J., Muller-Karger, F.E., **Ortiz, J.D.**, Otis, D.B., Pahlevan, N., Painter, T.H., Pavlick, R., Poulter B., Qi, Y., Realmuto, V.J., Roberts, D., Schaepman, M.E., Schneider F.D., Schwandner F.M., Serbin, S.P., Shiklomanov A.N., Stavros, E.N., Thompson D.R., Torres-Perez J.L., Turpie, K.R., Tzortziou, M., Ustin, S., Yu, Q., Yusup, Y., Zhang, Q., the SBG Algorithms Working Group NASA's surface biology and geology designated observable: A perspective on surface imaging algorithms, *Remote Sensing of Environment* 257 (2021) 112349, <https://doi.org/10.1016/j.rse.2021.112349>.
80. Maselli, V., Oppo, D., Moore, A.L, Gusman, A.R., Mtelela, C., Iacopini, D., Taviani, M., Mjema, E., Mulaya, E., Che, M., Tomioka, A.L., Mshiu, E., and **Ortiz, J.D.**, A 1,000-year-old tsunami in the Indian Ocean points to greater risk for East Africa: REPLY, *GEOLOGY*, 49, 2021. e516-e516, <https://doi.org/10.1130/G47257.1>
79. **Ortiz, J.D.** and Jackson, R. Understanding Eunice Foote's 1856 Experiments: Heat absorption by atmospheric gases, *Notes and Records*, doi:10.1098/rsnr.2020.0031, 2020. <https://royalsocietypublishing.org/doi/10.1098/rsnr.2020.0031>
78. Judice, T., Widder, E.A., Falls, W.H., Avouris, D.M., Cristiano, D.J., & **Ortiz, J.D.** Field-validated detection of Aureoumbra lagunensis brown tide blooms in the Indian River Lagoon, Florida using Sentinel-3A OLCI and ground-based hyperspectral spectroradiometers, *GeoHealth*, 2020. <https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2019GH000238>
77. Maselli, V., Oppo, D., Moore, A.L, Gusman, A.R., Mtelela, C., Iacopini, D., Taviani, M., Mjema, E., Mulaya, E. Che, M.m Tomioka, A.L., Mshiu, E., and Ortiz, J.D., A 1,000-year-old tsunami in the Indian Ocean points to greater risk for East Africa, *GEOLOGY*, 48, 2020. <https://doi.org/10.1130/G47257.1>



**Refereed Publications (Continued)**

76. **Ortiz, J.D.**, Palaeoclimate: ancient ice sheet collapse, *Nature Geoscience* volume 13, 328–329, 2020. <https://www.nature.com/articles/s41561-020-0572-7>
75. Akins, L., **Ortiz, J.D.**, Leff, L.G., (2019) Strain-specific responses of toxic and non-toxic *Microcystis aeruginosa* to exudates of heterotrophic bacteria, *Hydrobiologica*, <https://doi.org/10.1007/s10750-019-04073-4>.
74. **Ortiz, J.D.**, Avouris, D. Schiller, S.J., Luvall, J.C., Lekki, J.D., Tokars, R.P., Anderson, R.C., Shuchman, R., Sayers, M. and R. Becker, (2019) Evaluating visible derivative spectroscopy by varimax-rotated, principal component analysis of aerial hyperspectral images from the western basin of Lake Erie, *Journal of Great Lakes Research*, Volume 45, Issue 3, June 2019, Pages 522-535, <https://doi.org/10.1016/j.jglr.2019.03.005>
73. Avouris, D.M. and **Ortiz, J.D.**, (2019) Validation of 2015 Lake Erie MODIS image spectral decomposition using visible derivative spectroscopy and field campaign data, *Journal of Great Lakes Research* Volume 45, Issue 3, June 2019, Pages 466-479, <https://doi.org/10.1016/j.jglr.2019.02.005>.
72. Shuchman, R., Binding, C., Leshkevich, G., **Ortiz, J.**, (2019). Remote sensing of harmful algal blooms (HABs) in Lake Erie and other surrounding inland waters: Foreword to special section, *Journal of Great Lakes Research*, Volume 45, Issue 3, June 2019, Pages 403-404, <https://doi.org/10.1016/j.jglr.2019.03.015>.
71. Mitra, R., Marchitto, T.M., Ge, Q., Zhong, B., Kanakiya, B., Cook, M.S. Fehrenbacher, J.S., Ortiz, J.D., Tripathi, A., and E. Lobaton, (2019) Automated species-level identification of planktic foraminifera using convolutional neural networks, with comparison to human performance, *Marine Micropaleontology*, 147, 16-24.
70. Dipre, G.R., Polyak, L., Kuznetsov, A.B., Oti, E.A., **Ortiz, J.D.**, Brachfeld, S.A., Xuan, C., Lazar, K.B., Cook, A.E., (2018) Plio-Pleistocene sedimentary record from the Northwind Ridge: new insights into paleoclimatic evolution of the western Arctic Ocean for the last 5 Mam, *Arktos* 4: 24. <https://doi.org/10.1007/s41063-018-0054-y>
69. Finkenbinder, M.S., Abbott, M.B., Stoner, J.S., **Ortiz, J.D.**, Finney, B.P., Dorfman, J.M., Stansell, N.D., Millennial-scale variability in Holocene aquatic productivity from Burial Lake, Arctic Alaska, *Quaternary Science Reviews*, 187, 220-234, 2018
68. Waugh DA, Suydam RS, **Ortiz JD**, Thewissen JGM (2018) Validation of Growth Layer Group (GLG) depositional rate using daily incremental growth lines in the dentin of beluga (*Delphinapterus leucas* (Pallas, 1776)) teeth. *PLoS ONE* 13(1): e0190498. <https://doi.org/10.1371/journal.pone.0190498>
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13. deMenocal, P.B., **Ortiz, J.D.**, and M. Sarthein, Holocene variations in subtropical Atlantic sea-surface temperatures: links to the North Atlantic, PAGES Conference, London, 1998.
12. Jansen, E., Fronval, T., Kleiven, H., Channell, J.E., **Ortiz, J.D.**, Solheim, A., T. Dokken, A continuous Record of Northern Hemisphere Glaciation from ODP Leg 162, *Eos*, 78(46), F353, American Geophysical Union, Fall Meeting Supplement, 1997.
11. Lynch-Stieglitz, J., **Ortiz, J.D.**, and D.H. Sandweiss, The global fingerprint of early Holocene climate, *Eos*, 78(46), F375, American Geophysical Union, Fall Meeting Supplement, 1997.
10. Ranganathan, Jai V., O'Connell, S. **Ortiz, J.D.**, and J. McManus, An improved grayscale analysis method for estimating calcium carbonate content in deep-sea cores, GSA 1997 Annual meeting, Abstracts with Programs - Geological Society of America, 29(6), Meeting: Oct. 20-23, 1997, Salt Lake City, UT, 1997.
9. **Ortiz, J.D.**, and A.C. Mix, Environmental control of oxygen and carbon isotopic disequilibria in asymbiotic planktic foraminifera, *Eos*, 77(46), F334, American Geophysical Union, Fall Meeting Supplement, 1996.
8. Kohfeld, K.E., **Ortiz, J.D.**, and R.F. Anderson, Temperature-dependent carbon isotope disequilibrium explains low  $\delta^{13}\text{C}$  of polar planktonic foraminifera across the Antarctic Polar Front, *Eos*, 77(17), S160, American Geophysical Union, Spring Meeting Supplement, 1996.
7. Harris, S.E., Mix, A.C., **Ortiz, J.D.**, and D.C. Lund, Terrigenous and biogenic marinesediment variability: A new high-resolution view from reflectance spectroscopy. 30th International Geological Congress, (Beijing, China, 4-14 August, 1996), Abstract Vol. 2, p.217, 1996.
6. Dooe, H., **Ortiz, J.D.**, Pahl, F.G., Suess, E., UK'37 temperature record in the California current system; a comparison of the modern and the last glacial maximum, Terra Abstracts. Vol. 7, Abst. Suppl. 1., p. 220. Oxford: Blackwell Scientific Publications, 1995.



## Abstracts (Continued)

5. **Ortiz, J.D.**, Mix, A.C., and S. Hostetler, Comparison of planktic Foraminiferal faunas from mid-latitude sediment traps with core top and Last Glacial Maximum faunas, *Eos* 75(44) 392, Fall Meeting Supplement, 1994.
4. **Ortiz, J.D.**, Mix, A.C., and R.W. Collier, Planktic foraminifers and plankton biomass in the California Current at 42°N, September 1990, 73(23), 310, American Geophysical Union, Fall Meeting Supplement, 1992.
3. **Ortiz, J.D.**, Mix, A.C., and R.W. Collier, Planktic foraminifers in MOCNESS tows from the California Current during September, 1990, in ICP IV Abstract Volume, Sarnthein, M., Thiede, J. and Zahn, R. (Eds.), GEOMAR Report 15, Kiel, 1992.
2. **Ortiz, J.D.**, and A.C. Mix, The spatial distribution and seasonal succession of modern Foraminifera in the California Current off Oregon, *Eos* 71(43), 1352, American Geophysical Union, Fall Meeting Supplement, 1990.
1. **Ortiz, J.D.**, and A.C. Mix, The spatial and temporal distribution of foraminiferal assemblages in the California Current off Oregon: Response to upwelling and seasonal forcing, in Evolution of upwelling systems since the early Miocene (Abstract volume), Summerhays, C.P., Prell, W., and Emeis, K.C., (Eds.), London, 1990.

## Honors and Awards

- Kent State University President's Faculty Excellence Award, 2020.
- KSU Center for Teaching and Learning: "Noteworthy Faculty Success Stories" for transition of Sedimentology and Stratigraphy to online instruction with virtual field trips on Ohio Geology and Grand Canyon Geology, including participation by two world-experts on Grand Canyon Geology in response to the COVID-19 pandemic shutdown. <https://www.kent.edu/ctl/teaching-recognition>
- Kent State University Outstanding Research and Scholarship Award, 2019.
- Fellow, Geological Society of America, 2017.
- NASA Group Achievement Award, Lake Erie Aerial Hyperspectral CyanoHAB Monitoring Team, 2015.
- Nominee, Kent State University Diversity Trailblazer Award, 2014.
- Semi-Finalist, Alliance for Water Future, Water Quality Innovation Award, 2013.
- NSF Highlight on Darby et al., *Nature Geoscience*, *Advanced Online Publication*: 11/11/2012, (doi: 10.1038/NGEO1629), 2012.
- NSF Highlight on Marchitto et al., *Science*, 330, 1378-1381, DOI: 10.1126/science.1194887, 2010.
- Best Departmental Field Trip Award, West Virginia Stratigraphy Field Trip, 2010
- Appointed to the Ohio Geology Advisor Committee by Governor Ted Strickland, providing advice to the Director of the Ohio Geological Survey, 2009-2012.
- NSF Highlight on Marchitto et al., *Science* 316 (5830), 1456. [DOI: 10.1126/science.1138679] 2007.
- Science Magazine Perspective piece by R. Keeling, ScienceExpress, / [www.sciencexpress.org](http://www.sciencexpress.org) / 10 May 2007 / Page 2/ 10.1126/science.1142326 for Marchitto et al, *Science*, / [www.sciencexpress.org](http://www.sciencexpress.org) / 10 May 2007 / Page 5 / 10.1126/science.1138679
- Mentoring Excellence Award, KSU Graduate Student Senate, 2007.
- Outstanding Teaching Award, KSU Student Disability Services/Ability Unlimited, 2005.

## Honors and Awards (Continued)

- Science Magazine Editor's Choice Citation for: **Ortiz**, et al, *Geology*, 32(6), 521-524, 2004.
- Promoted to full member, Sigma XI, 2003
- Nominee, KSU College of Arts and Sciences Student Advisory Council Distinguished Teacher Award, 2003.
- Nominee, Department of Geology Glenn Frank Teaching Award, 2001.
- American Geophysical Union Editors' Citation: Excellence in Refereeing for *Paleoceanography*, 1998.

## Invited Talks (26)

Varimax-rotated principal component analysis: spectral decomposition for hyperspectral and multispectral sensors, HTu6F.4, Optical Sensors and Sensing Congress, Hyatt Regency Vancouver, Vancouver BC 2021, (Virtual Invited Talk), 2021.

Porting VPCA to Google Earth Engine: Harmful algal blooms and Benthic cover, GeoAqua Watch webinar, 2021.

Harmful algal bloom monitoring in optically complex waters, NASA SGB Algorithms Working group Webinar, 2021.

NASA Surface Biology and Geology Mission Concept Community Workshop Planning meeting (Participation paid by NASA JPL), Washington, DC, May 2019

2019 International Ocean Colour Science Meeting, (Invited Workshop Speaker) Busan, South Korea, 9-12 April 2019.

Wright State University, Department of Earth, and Environmental Science, What's in the water? Composition studies by remote sensing, Sept 10, 2019.

Spectral Decomposition and Visible Derivative Spectroscopy: New data product for the NOAA Great Lakes Coast Watch node? NOAA Coastwatch Annual Meeting, 2019.

Beyond remote sensing of Chl A: taxonomic identification of harmful algal blooms, 2019 NE Ohio GIS Symposium, Invited Speaker, 2019

Differentiation of CyanoHABs in Lake Erie Using Multispectral and Hyperspectral Remote Sensing, EPA Numeric Nutrient Criteria Webinar, 2018.

Insights into the composition of the 2018 CyanoHAB on Lake Erie based on spectral decomposition of visible remote sensing images, OSU Water Resources Center, 2018.

Human impacts on the sea: Ocean science research for socio-ecological sustainability, University of Ruhuna, Sri Lanka, 15<sup>th</sup> Annual Academic Sessions (Research Conference) Invited Keynote Presentation, 2018.

American Geophysical Union, Ocean Sciences Meeting 2018, NASA HyspIRI Mission Town Hall Keynote address. The Future of Remote Sensing of Coastal and Inland Waters., 2018.

2016 NASA GRC Airborne Hyperspectral Observation of Harmful Algal Blooms Data Meeting, 2016 *KSU Lake Erie Field work update: Developments in Spectral Deconvolution*, Monday Dec. 19 – Tuesday Dec. 20, Lake Erie Center, Oregon, Ohio

3rd Coastal Ocean Color Imager (COCI) Users and Science Team Meeting, *Application of visible derivative spectroscopy to the Coastal Ocean Color Imager (COCI)*, Ottawa, CA, November 29-30, 2016.

### Invited Talks (Continued)

- 2016 Ocean Optics Meeting, Spatial and spectral inter-comparison of CyanoHAB signatures in Lake Erie and Sandusky Bay using multi-spectral and hyperspectral remote sensing instruments, Ocean Optics XXIII October 23–28, 2016, Victoria, BC, Canada, 2016.
- 2016 HyspIRI Town Hall at Ocean Optics Meeting, Lake Erie NASA GRC Aerial Hyperspectral CyanoHAB Monitoring Collaboration, Ocean Optics XXIII October 23–28, 2016, Victoria, BC, Canada, 2016.
- 2016 Oregon Lakes Association Conference, *What's in the Lake? Management implications for using visible remote sensing to sort things out*, Columbia River Gorge Discovery Center and Museum, Oct 14-16, The Dalles, OR, 2016
- 2016 Great Lakes HABs Collaboratory Webinar Series: HABs Bloom Monitoring & Forecasting Webinar, *HAB Detection, mapping and warning network: Sandusky Bay*, Aug 11, 2016.
- 2016 Ocean Sciences Meeting, Differentiation of cyanophyte, algal and suspended sediment signatures in the 2015 CyanoHAB in Sandusky Bay, Lake Erie (Abstract #92546), Feb 21-26, 2016, New Orleans, LA, 2016.
- 6th Annual HyspIRI Data Product Symposium and Aquatic Forum, An empirical, mirror-based reflectance calibration method coupled with hyperspectral image decomposition, June 1, to Jun 3, 2016, NASA Goddard Space Flight Center, Greenbelt, MD, 2016.
- Ohio Environmental Health Association 70th Annual Educational Conference, Remote Sensing Monitoring of CyanoHAB Composition & Toxicity in Lake Erie, April 19 and April 20, 2016, Doubletree Hotel, Worthington, Ohio, 2016
- 10th National Monitoring Conference, NWQMA, *Cyanophyte and algal composition of the 2015 CyanoHAB Bloom in Sandusky Bay, Lake Erie*, Tampa Bay, FL, May 2016.
- 2015 NASA Lake Erie Field Campaign Data Meeting, *Vicarious calibration and visible derivative spectroscopy to estimate the composition of the 2015 CyanoHAB in Sandusky Bay, Lake Erie*, Lake Erie Center, Toledo OH, 2015
- 2015 NASA HyspIRI Science and Applications Workshop, *Vicarious calibration and visible derivative spectroscopy to estimate the composition of the 2015 CyanoHAB in Sandusky Bay, Lake Erie*, 13-15 October 2015 (Presented by collaborator Jeff Luvall).
- 2015 IAGLR meeting, *Airborne Hyperspectral remote sensing of Harmful Algal Blooms in Western Lake Erie*, Burlington VT, May 2015 (For collaborator John Lekki).
- 2015 IAGLR meeting, *An estimate of the composition of the 2014 Lake Erie CyanoHAB by VNIR derivative spectroscopy*, Burlington VT, May 2015.
- 2015 NASA Headquarters Lake Erie HAB Briefing, *Algal Identification by Spectral Decomposition of Hyperspectral data during the 2014 Lake Erie Field Campaign*, Washing DC, 2015
- 2014 NASA HAB Campaign Data Coordination Meeting, *A Tale of two Cyanophytes: Microcystis and Planktothrix in Maumee and Sandusky Bays*, G. Bullerjahn and **J.D. Ortiz**, Lake Erie Center, Toledo OH, 2015.
- 2014 NASA HAB Campaign Data Coordination Meeting, *Summer 2014 CyanHAB field work: Kent State University ASD FieldSpec Spectroradiometer data*, Lake Erie Center, Toledo OH, 2015.

## **Invited Talks (Continued)**

- 2014 NASA HypsIRI Science Meeting, *Hyperspectral Visible Derivative Spectroscopy for compositional analysis of CPAs in aquatic systems*, CalTech, Pasadena CA, 2014.
- 2014 NASA HypsIRI Product Symposium, *Decomposition of Hyperspectral data for use in Case 2 Environments*, NASA Goddard Space Flight Center, MD, 2014
- Second annual Water Research Symposium at Kent State University, "Water Infrastructure and Rebounding Cities", *Recent developments in phytoplankton identification by hyperspectral remote sensing*, October, 31st, 2014.
- 43<sup>rd</sup> International Arctic Workshop 2013, UMass Amherst, *Reconciliation of Physical Oceanographic Theory and Paleoceanographic Data: The Role of The Bering Strait, Southern Ocean Winds and the Atlantic Meridional Circulation*, 2013.
- Third International IMAGES/PAGES Workshop of Western Pacific Paleoceanography, Kaohsiung, Taiwan, *The impact of the Southern Ocean winds and global fresh water fluxes on the flow through Bering Strait and the Atlantic Meridional overturning circulation during the Holocene*, 2013.
- AGU Chapman Conference on the Agulhas System and its Role in Changing Ocean Circulation, Climate, and Marine Ecosystems, Western Cape, South Africa, *An Indirect estimate of the impact of the Agulhas leakage on the Atlantic Meridional Overturning Circulation during the Holocene*, 2012 (Contributed talk).
- Ocean Sciences meeting, Session PA33A, Deciphering the paleoceanographic connection between the North Pacific and Arctic Ocean using non-invasive measurement techniques, 2010.
- 17<sup>th</sup> Biennial Meeting, American Quaternary Association, Anchorage Alaska, *Quaternary Marine Productivity Variations off Baja California*, 2002.
- Fourth International Congress of Paleoceanographers (ICP-VI), Lisbon, Portugal, *Non-invasive sediment monitoring methods: Current and future tools for high-resolution climate studies*, 1998.

## **Teaching Experience**

- ESCI 22000, *Degree and Career Paths in Earth Science*
- GEOL 21080, *Oceanography*
- GEOL 21080, *All about the Oceans*
- GEOL 21080, *Honors Oceanography* (Team taught)
- GEOL 4/57024, *Environmental Core and Well Logging*
- GEOL 4/572030 and GEOG 4/579230 *Remote Sensing*
- GEOL 4/572035, *Scientific Methods*
- GEOL 4/54070, *Sedimentology and Stratigraphy*
- GEOL 4/54074, *Paleoceanography*
- GEOL 4/50095, *Marine Processes*
- GEOL 4/50095, *Special Themes in Geology: Light Isotope Geochemistry*
- GEOL 4/50095, *Special Themes in Geology: Marine Processes*
- GEOL 4/50095, *Advanced Remote Sensing*
- GEOL 6/83067, *Carbonate Rocks*
- GEOL 6/70084, *Graduate Student Orientation*

## **Mentoring Experience**

### **KSU Postdoctoral Advisees (Four)**

- Dr. Dulcinea, Avouris, 2018-2021, now at UC Merced
- Dr. Sushma Parab, 2012-2015, now at Takeda, Lexington MA
- Dr. Liang Yi, 2011-2012, now at National Academy of Sciences, People's Republic of China
- Dr. Katrin Monecke, 2007-2008, now at Wellesley College Dept. of Geosciences

### **Current KSU Graduate Students**

- Nathan Rohrbaugh, HW Hoover Foundation-funded and OSGC-funded PhD student
- McKenzie Woodman, HW Hoover Foundation-funded M.S. student
- Sachini Ranaginghe, Department-funded M.S. student
- Scarlett Henson, HW Hoover Foundation-funded M.S. student
- Edgar Ferguson, NASA-funded M.S. student
- Kyle Carey, Department-funded M.S. student
- Amber Huston, Department-funded M.S. student

### **Doctoral Dissertations Directed (Ten)**

- Ratnayake, Kalpani Mudiyansele, 2020, *A multi-proxy approach to reconstruction of Holocene climate change: Evidence from Lake Erie sedimentary archives.*
- Olaoye, Israel, 2020, *Water Quality modeling of the Old Woman Creek Watershed, Ohio, under the influence of climate change to year 2100.*
- Avouris, Dulcinea, 2018, *Keeping an eye on Lake Erie: Using remote sensing to identify characteristics of harmful algal blooms*, KSU Ph.D. Dissertation, Kent, OH 200 p. (NASA-funded Ph.D. student).
- Bonini, Nick, 2016, *Assessing the Variability of Phytoplankton Assemblages in Old Woman Creek, Ohio*, KSU Ph.D. Dissertation, Kent, OH 168 p. (NSF-funded Ph.D. student)
- Mihidukulasoorya, Lorita Nivanthi, 2014, *A multi-proxy reconstruction of paleolimnology and paleoclimatic variables using authigenic lake carbonates from Cleland Lake, British Columbia* KSU Ph.D. Dissertation, Kent, OH, 186 p. (NSF-funded Ph.D. student).
- Siriwardana, Chandawimal H.E.R. "Siri", 2014, *Characterization of Paleoclimate and Marine Processes Associated with Holocene Glacial Sedimentation on the Chukchi Margin, Arctic Ocean*, KSU Ph.D. Dissertation, Kent, OH, 171 p. (NSF-funded Ph.D. student).
- Nwaodua, Emmanuel "Chuks", 2013, *Last Deglacial Arctic to Pacific Transgressions via the Bering Strait: Implications for Climate, Meltwater Source, Ecosystems and Southern Ocean Wind Strength*, KSU Ph.D. Dissertation, Kent, OH, 182 p. (NSF-funded Ph.D. student).
- Ali, Khalid Adem, 2011, *Prediction of Water Quality Parameters from VIR Spectral Radiometry: Using Lake Erie as a Natural Laboratory for Analysis of Case 2 Waters*, KSU Ph.D. Dissertation, Kent, OH, 264 p.

### **Doctoral Dissertations Directed (Continued)**

- Ranasinghage, Pradeep Nalaka, 2010, *Holocene Coastal Development in Southeastern-Eastern Sri Lanka: Paleo-depositional Environments and Paleo-coastal Hazards*, KSU Ph.D. Dissertation, Kent, OH, 437p. (GSA fellowship awardee)
- Wijekoon, Nishanthi, 2007, *Spatial and temporal variability of surface cover in an estuarine ecosystem from satellite imagery and field observations*, KSU Ph.D. Dissertation, Kent, OH, 181p. (NOAA-funded, NERR, Ph.D. Fellow)

### **Masters Theses Directed (Thirteen)**

- Rahman, FM Arifur, 2021, Using satellite observations to assess suspended sediment, algal and cyanobacteria composition in Lake Ontario, KSU Geology MS Thesis, Kent, OH, 92p.
- Judice, Taylor, 2019, *Detecting color-producing pigments in the Indian River Lagoon by remote sensing*, KSU Geology MS Thesis, Kent, OH, 120p.
- Zheng, Fangyu, 2017, *Holocene environmental evolution in the Yellow River Delta*, KSU Geology MS Thesis, Kent, OH, 131p.
- Brenner, Alan, 2014, *Determination of Baffin Bay Sediment Composition Variability and Provenance*, KSU Geology MS Thesis, Kent, OH, 99p.
- Bonini, Nick, 2013, *Comparison of VNIR derivative and visible fluorescence spectroscopy methods for pigment estimation in an estuarine ecosystem: Old Woman Creek, Huron, Ohio*, KSU Geology MS Thesis, Kent, OH, 162p.
- Harrison, Jeffery, 2013, *Correlation of Late Holocene sedimentation in the Western Arctic Ocean with an Atmospheric temperature proxy record from a Glacial Lake in the Brooks Range, Alaska*, KSU Geology MS Thesis, Kent, OH, 117p.
- Bloxon, Julie, 2012, *Geophysical characterization of the porosity distribution within the Clinton formation, Ashtabula County, Ohio*, KSU Geology MS Thesis, Kent, OH, 96p. (Self- and partial NSF funded student)
- Siriwardana, C.H.E.R, 2011, *Paleoclimatic Characterization of Arctic Ocean sediment around the Northwind Ridge using X-Ray Fluorescence and Visible Near Infrared*, KSU Geology MS Thesis, Kent, OH, 96p. (NSF-funded M.S. student)
- Mehrotra, Nivedita, 2011, *Reconstruction of Holocene Paleoclimate Based on Benthic Foraminiferal Assemblages from Soledad Basin*, KSU Geology MS Thesis, Kent, OH, 83p.
- Woodward, Stephen, 2009, *Principal Component Analysis of Sediment Deposited in the Village of Titiana from the Solomon Islands Tsunami of April 2, 2007*, KSU Geology MS Thesis, Kent, OH, 55p.
- Vlack, Yvette, 2008, *A Diffuse Spectral Reflectance Library of Clay Minerals and Clay Mixtures within the VIS/NIR Bands*, KSU Geology MS Thesis, Kent, OH, 89p. (NSF GK-12 funded MS student)
- Balogun, Akindele, 2007, *High resolution paleoclimate reconstruction of the Rose Run formation of Eastern Ohio using diffuse spectral reflectance*, KSU Geology MS Thesis, Kent, OH, 68p.
- Wilsbacher, Matthew, 2007, *Reconstructing Past Climate of the Soledad Basin from Planktonic Foraminiferal Faunal Assemblages*, KSU Geology MS Thesis, Kent, OH, 77p. (Partial NSF-funded student).

### **Senior Honors Theses Directed (Three)**

- Schlaerth, Hannah, 2018, Remote Sensing of Water Quality Parameters Influencing Coral Reef Health, U.S. Virgin Islands, KSU Senior Honors Thesis, Kent, OH, 71p.
- Cope, Natalie, 2009, Reconstruction of a Paleoclimate using Diffuse Spectral Reflectance, KSU Senior Honors Thesis, Kent, OH, 73p.
- Yurco, Lyanne, 2007, *Glacial-Interglacial grain size and color reflectance variations on the Northwind Ridge, Chukchi Sea: a regional study of Arctic Climate in the Late Pleistocene*, KSU Senior Honors Thesis, Kent, OH, 50p.

### **KSU Undergraduate Student Researchers**

- Alex Rosul, KSU Honors Geology undergraduate
- Nicholas Manning, KSU Honors Geology undergraduate, OSGC Scholar
- Hannah Schlaerth, KSU Honors Geology undergraduate, OSGC Scholar
- Nina Ward, KSU Biotechnology undergraduate, NASA-funded student worker
- Mikala Coury, KSU Geology undergraduate, Volunteer
- Xiangming Zhao, KSU Geology undergraduate, Volunteer
- Shannon Hunter, KSU Geology undergraduate, NSF S-STEM Scholar
- Kristin Slodysko, UW Public Health undergrad, NSF REU Scholar
- Karli Hollister, KSU Biological Sciences undergraduate, McNair Scholar
- Sean Hunter, KSU Geology undergraduate, Volunteer
- Megan Court, KSU Geology undergraduate, Student Worker
- Jessica Dorfman, KSU Geology undergraduate, Student Worker
- Lindsey Brenizer, KSU Geology undergraduate, Student Worker
- Jamael Sadallah, KSU Geology undergraduate, Student Worker
- Daniel Peacock, KSU Geology undergraduate, Summer field assistant
- Renee Crain, KSU Geology undergraduate, Student Worker
- Michael Farinacci, KSU Geology undergraduate, Student Worker
- Robin Green, KSU Geology undergraduate, Summer field assistant
- Bethany Lavins, Bucknell University, Summer Lab assistant
- Nate Fela, KSU Geology undergraduate and NSF S-STEM Scholar and Undergraduate Research Scholar recipient
- Lonnie Mills, KSU Geology undergraduate and NSF S-STEM scholar
- Michael Duff, KSU Geology undergraduate, Undergraduate Research Scholar recipient
- Chelsea Orsbourn, KSU Geology Honors undergraduate
- Lyanne Yurco, KSU Geology Honors undergraduate
- Allie Sherwood, KSU Geology Honors undergraduate
- Kathleen Wilson, WRRRI REU Student
- Drew Feucht, WRRRI REU Student (co-mentor with M. Munro-Stasiuk)
- Sarah Reagan Palm, WRRRI REU Student (co-mentor with D. Witter)
- Chris Stefano, KSU Geology undergraduate
- Nathan Saraceno, KSU Geology undergraduate, Student volunteer
- Christopher Wargo, Honors Independent Study
- Christopher Mauser, Independent Study

### High School Student Researchers (College Credit Plus faculty mentor)

- Claire Campaneli, 2021
- Evan White, 2020
- Olivia Ols, 2019

### Doctoral Committee Service (Thirty)

- Aljehane, Salwa, 2022, Eye movements characterizing for the assessment of expertise in source code reading, (Ph.D. Committee member; Maletic, advisor, Computer Science).
- Tashman, Jessica, 2022, Utilities of extinct and extant marine arthropod cuticle, (Ph.D. Committee member; Schweitzer, advisor, Geology).
- Hartzell, Samantha, 2022, Extinction and survival of frog crabs (Crustacea: Brachyura: Rainoida) from the early Cretaceous to the present, (Ph.D. Committee member; Schweitzer, advisor, Geology).
- Alsuhaibani, Reem, 2022, A comprehensive examination of factors for assessing the quality of method names in source code, (Ph.D. Committee member; Maletic, advisor, Computer Science).
- Magurie, Evin, 2022, The effect of volcanic ash deposition on marine environments, invertebrate ecosystems, and fossil preservation: Integrating field observations and laboratory experiments, (Ph.D. Committee member; Schweitzer, advisor, Geology).
- Kirk, Johnathan P., 2017, Hydroclimatic variability and contributing mechanisms during the early 21<sup>st</sup> century drought in the Colorado River Basin, (Graduate Representative Ph.D. Committee member; Schmidlin advisor, Geography).
- Widanagamage, Inoka Hasanthi, 2015, *Stable strontium isotope fractionation ( $\Delta^{88/86}\text{Sr}$ ) in abiotic and microbially mediated barite in modern continental settings*, (Ph.D. Committee member; Griffith advisor, Geology).
- Alnaeli, Saleh, 2015, *A Transformational Approach to Automatically Adapt Source Code for Enhanced Parallelizability* (Ph.D. Committee member; Maletic advisor, Computer Science).
- Ballinger, Thomas, 2015, *A Synoptic Climatological Assessment of the Relationship between Regional Arctic Sea Ice Variability and Climatic Anomalies over North America* (Ph.D. Committee member; Sherridan, advisor, Geography).
- Xinxin, Lv, 2015, *Microbially Mediated Transformation of Dissolved Nitrogen in Aquatic Environments* (Ph.D. Committee member; Mou, advisor, Biological Sciences).
- Alali, Abdulkareem, 2014, *Improved methods for mining software repositories to detect evolutionary couplings*, (Ph.D. Committee member; Maletic advisor, Computer Science).
- Johnston, Gloria, 2014, *Characterization of bacterial communities of riverbank sediments contaminated with polycyclic aromatic hydrocarbons* (Graduate Faculty Representative; Leff, advisor, Biological Sciences).
- Hui-Juan Pan, Ph.D. student, visiting doctoral scholar from National Taiwan Ocean University, 2013-2014.
- Clevinger, Curtis, 2013, *Nitrification and the contribution of Nitrification to oxygen consumption in Lake Erie* (Ph.D. Committee member; Bade, advisors, Biological Sciences).



### Doctoral Committee Service (Continued)

- Meqdadi, Omar, 2013, *Automatic Identification of Adaptive Changes from Software Version Histories* (Ph.D. Committee member; Maletic, advisor, Computer Science).
- David Waugh, 2013, *Utility of fossil cuticle morphology applied to the taphonomy and taxonomy of decapod crustaceans* (Ph.D. Committee member; Feldmann, advisor, Geology).
- Frantescu, Adina, 2013, *Comparative Study of the Eocene Fossil Decapod Crustaceans of the North American Atlantic Coast and European Tethyan Provinces* (Ph.D. Committee member; Feldmann, advisor, Geology).
- Frantescu, Ovidiu, 2013, *Systematics, Paleobiogeography, and paleoecology of Cretaceous decapod fauna, from Northeastern Texas* (Ph.D. Committee member; Feldmann, advisor, Geology).
- Hoblos, Jalaa, 2013, *Access Disparity Modeling and fairness provisioning in multi-hop wireless networks*, (Ph.D. Committee member; Peyravi, advisor, Computer Science)
- Assareh, Amin, 2012, *Improving diversity in classification and regression tree ensembles by manipulating the hypothesis space traversal of each individual* (Ph.D. Committee member; Volkert advisor, Computer Science).
- Gautam, Tej, 2012, *An investigation of disintegration behavior of mudrocks based on laboratory and field tests*, (Ph.D. Committee member; Shakoor advisor, Geology)
- Klompmaker, Adiel, 2012, *Mesozoic decapod diversity with an emphasis on the early Cretaceous (Albian) of Spain*, (Ph.D. Committee member; Feldman advisor, Geology).
- Feinstein, Larry, 2012, *Microbial functional activity and diversity patterns at multiple spatial scales*, (Ph.D. Graduate Representative and Moderator; Blackwood advisor, Biological Sciences).
- Johnstone, Jennifer, 2012, *Reinterpreting Welshness: Sounds and choral membership in cultural identity* (Ph.D. Graduate Representative and Moderator; wa Mukuna Advisor, Musicology-Ethnomusicology).
- Hollinger, David, 2011, *Crop condition and yield prediction at the field scale with geospatial and artificial neural network applications*, Kent State University Geography, (Ph.D. Outside Committee member; Munro-Stasiuk advisor, Geography).
- Dalqamouni, Ahmad, 2010, *Development of a landslide hazard rating system for selected counties in Northeast Ohio*, Kent State University Geology, (Ph.D. Committee member; Shakoor advisor, Geology).
- Maen, Hammad, 2010, *Supporting Code-Design Consistency During Software Evolution* Kent State University Computer Science, (Ph.D. Outside Committee member; Maletic advisor, Computer Science).
- Maldonado, Anita, 2008, *Negotiating a sense of place: a study of Hispanic faculty in predominantly white institutions*, Kent State University Education, (Ph.D. Outside Committee member; Michael advisor, TLCS).
- Jovanelly, T. J., 2006, *Tsunami Origin for an ~1100 year old enigmatic sand sheet in Lynch Cove, Puget Sound, Washington*, Kent State University Geology (Ph.D. Committee member; Moore Advisor, Geology)

### **Doctoral Committee Service (Continued)**

- Santmire, Judy, 2005, *Bacterial communities in a Northeast Ohio stream: effects of substrate size, environmental features and temporal changes*, Kent State University Biological Sciences (Ph.D. Moderator; Leff Advisor, Biological Sciences).

### **Masters Committee Service (Nineteen)**

- Hartzell, Samantha, 2022, Extinction and Survival of Frog Crabs (Crustacea: Brachyura: Rainoida) From the Early Cretaceous to the Present, (MS. Committee member, Schweitzer advisor, Earth Sciences).
- Dyer, Lucy, 2022, Identifying marine magnetic anomalies using machine learning, (M.S. Committee member, Rowan advisor, Geology).
- Haas, Ashley, 2021, Utilizing degree of pyritization and framboidal pyrite to compare lake deposits from the modern sluice pond with the ancient Marcellus formation, (M.S. Committee member, Williams advisor, Geology)
- Smart, Kyle, 2021, Exploring physical and chemical trends in a chronosequence of technosols, (M.S. Committee member, Singer advisor, Geology)
- Smith, Courtney, 2021, Grain size analysis of a precursor to a flying spit in the Western Maumee Basin in NW Ohio, and comparison to the Presque Isle flying spit, (M.S. Committee member, Wells advisor, Geology)
- Muzemder, ATM Shahidul Huqe, 2020, Pore-scale geometry and intra-pore tortuosity controls on flow enhancement due to boundary slip, (M.S. Committee member, Singh advisor, Geology)
- Ice, Bryan, 2019, Reconstructing the paleoclimate of the middle Devonian using Marcellus shale geochemical signatures, Seneca Falls, NY, (M.S. Committee member, Williams advisor, Geology)
- Simone, Diana, 2019, Geochemistry and provenance of chert stone tools, Coshocton County, Ohio, (M.S. Committee member, Williams advisor, Geology)
- Koons, Rachel, 2018, Discrepancy of organic richness within the Oatka Creek and Union Springs of the Marcellus Formation, (M.S. Committee member, Williams advisor, Geology)
- Engle, Kevin, 2015, A Late Glacial-Early Holocene Paleoclimate Signal from the Ostracode Record of Twin Ponds, Vermont (M.S. Committee member; Smith advisor, Geology).
- Gerwitz, Andrew, 2015, Evaluating potential growth strategies using bone histology in Pleistocene-Holocene *Odontocoleus virginianus* (Mammalia) from Florida, (M.S. Committee member, Green advisor, Geology)
- Reilly, Darren, 2014, *Identification of Local Ground Water Pollution in Northeastern Pennsylvania: Marcellus Flow-back or Not?* (M.S. Committee member; Jefferson and Singer co- advisors, Geology).
- Onur, Emine, 2014, *Predicting the permeability of sandy soils from grain size distributions*, (M.S. Committee member; Shakoob advisor, Geology).
- Wells, Kathryn, 2011, *Paleoecology of Beringian Lacustrine deposits as indicated by Northern Hemisphere Ostracode Biogeography*, (M.S. Committee member, Smith Advisor, Geology).

### **Masters Committee Service (Continued)**

- Maharjan, Madan, 2011, *Interpretation of domestic water well production data as a tool for detection of transmissive bedrock fractured zones under cover of the glacial formations in Geauga County, OH*, Kent State University Geology, (M.S. Committee member; Eckstein advisor, Geology).
- Razzano, Mandy, 2011, *Monitoring algal production in Akron water supply reservoirs in Northeast Ohio using satellite imagery*, Kent State University Geology (M.S. Committee member; Witter advisor, Geology).
- Nowicki, Lisa, 2011, *Engineering Geology considerations for realignment of interstate 70/76 across the landslide at new Baltimore, Somerset county, SW Pennsylvania*, Kent State University Geology (M.S. Committee member; Shakoor advisor, Geology).
- Weghorst, P. L. 2008, *MODIS Algorithm Assessment and Principal Component Analysis of Chlorophyll Concentration in Lake Erie*, Kent State University Geology (M.S. Committee member; Witter advisor, Geology).
- Hubbard, Michael, 2006, *Soapstone vessels in the Ohio River Valley and determining their source of origin using visible/near-infrared reflectance spectrometry*, Kent State University Anthropology (M.S. Committee member, Seeman Advisor, Anthropology).

### **Mentoring Experience, Prior Institutions**

#### *Undergraduate Advisees*

- Co-Mentor to Jeff DeViscio (Wesleyan), Senior Undergraduate Honors thesis: *Decadal-scale climate variability in the Northeast Pacific Oxygen Minimum Zone: Evidence from carbonate and organic carbon records*, 2001.
- LDEO Research Experience for Undergraduates (REU), Co-mentor to Jeff DeViscio (Wesleyan) *Centennial to Decadal Variability in Soledad Basin sediments, Baja California*, 2001.
- LDEO Research Experience for Undergraduates (REU), Co-mentor to Adam Goss (Wesleyan). *Elemental ratios of North Atlantic sediments as a climate proxy*, 1999.
- Co-mentor to Ben Raker (Wesleyan)  
Senior Undergraduate Honors thesis: *True colors of climate change: Spectral Reflectance analysis and the Southern Ocean paleoenvironment during the Mid-Pleistocene Revolution*, 1998-1999.
- Co-Mentor to Jai Ranganathan (Wesleyan)  
Senior Undergraduate Honors thesis: *Optical methods for determining calcium carbonate concentrations within Ocean Drilling Program sediment cores*, 1996-1997.

### **Informal Education/Public Outreach and Engagement Experience**

- Earth Month Speaker, Trotwood-Madison High School, Dayton OH (“Everything you ever wanted to know about Electrification and EVs”) Invited by Drive Electric Dayton to Trotwood-Madison High School (majority students of color), to speak and participate in EV show, Spring 2023

### **Informal Education/Public Outreach and Engagement Experience (Continued)**

- 2023 Kent State Earth Month Activities - Ortiz organized a panel discussion on energy and climate (Electrify Everything: Practical climate change mitigation and adaptation") and an EV show as part of the Earth Month Activities.
- Public Lecture, Hudson Rotary Club, "Electrify Everything: Practical climate change mitigation and adaptation", Spring 2023.
- 2022 Public lecture ("Everything you ever wanted to know about Electric Vehicles") and EV education event - Ortiz worked with the Office of Sustainability to coordinate an EV car show and public lecture as part of a home basketball game, Spring 2023.
- 2023 OhioView Online GIS and Remote Sensing workshop, "Comparison of Multispectral and Hyperspectral Classification, Advanced Level Session".
- 2022 Ohio Public Universities Sustainability Speaker ("Electrify Everything: Climate change mitigation and adaptation", Fall 2022.
- Organizer, Solar Tour and Renewable Energy Teach in and EV car show – "Electrify Everything: Climate change mitigation and adaptation - Approaches to electrification", Fall 2022.
- 2022 Virtual Guest Scientist, Greenwood Elementary School, Waukegan, IL, 2<sup>nd</sup> Grade Science, "What do Geologists Do?" Presentations to two classes, including one dual language class on Earth Science, Spring 2022.
- 2022 OhioView Online GIS and Remote Sensing workshop, "Comparison of Multispectral and Hyperspectral Classification, Advanced Level Session" (with McKenzie Woodman)
- 2021 OhioView Online GIS and Remote Sensing workshop "Remote Sensing on a shoestring", Module: Normalized Difference Calculations with Sentinel-2 using Multispec. (with Israel Olaoye).
- Hudson, Ohio Chapter League of Woman Voters Climate Workshop Panel presenter, 2020.
- Chair, City of Hudson, Ohio Environmental Awareness Committee, 2023-
- Vice Chair, City of Hudson, Ohio Environmental Awareness Committee, 2021-2023
- Member, City of Hudson, Ohio Environmental Awareness Committee, 2019-2021
- KSU Earth\_Day Keynote lecture Which future? Projected climate change in the coming decades, April, 17, 2019.
- Portage County Sierra Club, *Potential climate change impacts in Ohio*, Oct 20, 2015.
- Kent State University Honors College Secret Cellar Speakers Series, *Climate Change: Global and Local impacts*, Aug 5, 2015.
- Panel Discussion Participant, *How Global Warming Affects Us and What we can do to save ourselves*, UU Church and Kent Environmental Council, Sept 21, 2015.
- Deep Horizons, Virtual World Conference *Water Quality: Harmful Algal Blooms (HABs) in Lake Erie*, Keynote speaker, Ohio Aerospace Institute Virtual Distance Learning Academy, 2015
- Science Friday at Old Woman Creek "New methods for monitoring Harmful Algal Blooms in water bodies - insights from reflectance measurements at Old Woman Creek and Beyond", Old Woman Creek NOAA/NERR Public lecture series, Huron, OH, 2014.

### **Informal Education/Public Outreach and Engagement Experience (Continued)**

- Judge, Undergraduate Research Posters, 2012 Ocean Sciences Meeting, Salt Lake, UT, 2012.
- Ohio Sea Grant Research Spotlight Interview, *Lake Erie from Above... Way Above* by C. Doerkes, Twinline volume 23, no. 4, Fall/Winter Edition, 2011.  
(<http://ohioseagrant.osu.edu/documents/twineline/v33i4.pdf>)
- Northeast Ohio Chapter American Meteorological Society Public lecture, *Potential Local Impacts of Global Climate Change*, 2012.
- Aurora Conservation Council's Moebius Nature Center Public lecture series, *Life in the Greenhouse: Climate Change*, 2012
- Aurora Conservation Council's Moebius Nature Center Public lecture series, *Living in the Greenhouse*, 2008.
- Northeastern Ohio Geological Society Public Lecture, *Quaternary Arctic Paleooceanographic Circulations Changes*, 2008.
- Geauga Parks District Public lecture, "[Engage the Ice Age](#)" [Speakers Series](#), "[Ice Ages and Abrupt Climate Change: A Marine Perspective](#)", 2005.
- Consultant to NSF Geodiversity Education Grant, *Connecting with the River: Geoscience Research and Education for Hartford, CT* (PI's S. O'Connell, J. J. Morrison, J. Osbourn), 2001-2003.
- Scientific Partner, *Signals of Spring* (<http://www.signalsofspring.com>), 2000-2004.
- Leadership team member, Earth2Class (<http://www.earth2class.org>), 2000-2001.
- Distance learning based, continuing education program, serving middle and high school Earth Science teachers in the Northeastern United States.
- Co-Organizer, Project STEF (Science Teachers Ensure the Future) Workshop, 2000 NSF funded teacher enhancement and mentoring workshop designed to improve the quality and quantity of earth science teachers in New York Metro Area.
- Saturday Workshops for Educators, *CO<sub>2</sub> Studies and climate changes*, 1999. Lectured on climate and climate change as part of a K-12 teacher training program conducted in cooperation with: Westchester Section of STANYS, Eastern Section of the National Association of Geoscience Teachers (NAGT) and the American Meteorological Society Maury Project Peer trainers program (In conjunction with Dr. Michael Passow, White Plains Middle School).
- LDEO Open House, *CO<sub>2</sub>: Where does it come from? Where does it go?*, 1998. Demonstration for K-12 students and parents monitoring effects of photosynthesis, respiration and fossil fuel combustion on [CO<sub>2</sub>] in an enclosed space using a nondispersive IR CO<sub>2</sub> sensor (In conjunction with Drs. Lex van Geen and Kim Kastens).
- LDEO Open House, Core-Lab Exhibit: *Planktic Foraminifers!*, 1996, 1997. Interactive presentation on taxonomy and ecology of planktic foraminifers for K-12 students and parents (In conjunction with Rusty Lotti, LDEO Corelab Curator).

### **Invited Meeting and Workshop Participation (32 total)**

- NASA Surface Biology and Geology Mission Concept Community Workshop Planning meeting (Participation paid by NASA JPL), Washington, DC, May 2019
- 2019 International Ocean Colour Science Meeting, (Invited Workshop Speaker) Busan, South Korea, 9-12 April 2019.

### **Invited Meeting and Workshop Participation (Continued)**

- IAGL2019, Large Lakes Research: Connecting People and Ideas (talk presented by co-author D. Avouris), 2019.
- NSF CyanoHAB workshop, Global Solutions to Regional Problems, Bowling Green, OH, 2015.
- NSF US-Swedish I/B Odin Arctic Research Collaboration meeting, Stockholm, SE, 2015.
- NASA Great Lakes Workshop Series on Remote Sensing of water quality, NOAA GLERL Ann Arbor Michigan, 2014.
- Breakout Session leader, NASA Great Lakes Workshop Series on Remote Sensing of water quality, Ohio Aerospace Institute, Cleveland OH, 2014.
- Expert Witness Fellow, NSF-funded, 3<sup>rd</sup> Expert Witness Training Academy, William Mitchell College of Law, St. Paul, MN, 2013.
- Participant, NSF-funded, Second *R/V Sikuliaq* Science Workshop, 2012.
- Participant, NSF-funded Beaufort Sea Drilling workshop, Kananaskis, CA, 2012.
- Co-Chair, Beaufort Sea Working Group, IODP workshop, “Overcoming barriers to Arctic Ocean Drilling: the site survey Challenge”, Copenhagen, Denmark, 2011.
- Participant, NSF-funded, 1<sup>st</sup> Expert Witness Training Academy, William Mitchell College of Law, St. Paul, MN, 2011.
- Participant, NSF-funded, First *R/V Sikuliaq* Science Workshop, 2011.
- Convener, Session T7, Theory and Application in Cenozoic Paleoclimate Studies, 2011 Northeast/North Central GSA meeting, Pittsburgh, PA, 2011.
- Guest Lecturer Integrated Ocean Drilling Program Summer School 2010 – Canada, University of Quebec at Rimouski, 2010.
- Participant, NSF Post-ESH Paleoclimate Planning Workshop, 2007.
- Participant, NSF Graduate K-12 Fellowship Program Annual Meeting, 2007.
- Member, COREWALL Steering Committee, and participant, JOI sponsored COREWALL Planning Meeting, 2006.
- Co-Convener, Session T1, Monitoring Environmental Properties of Large Lakes, North Central Section GSA 40<sup>th</sup> Annual meeting, 20-21 April 2006, University of Akron, Akron, Ohio.
- Co-Convener, Session T23, Undergraduate Research Poster Session, North Central Section GSA 40<sup>th</sup> Annual meeting, 20-21 April 2006, University of Akron, Akron, Ohio.
- Participant, Digital Library for Earth System Education (DLESE) Data Services Workshop, 2004.
- Speaker, “Constructivist Activities in Large Class Settings”, Transforming University Teaching in Mathematics and Science NEOCEX Conference, KSU, April 28, 2004.
- Participant, NSF-ATM/IMAGES workshop on Image analysis, Sediments and Paleoenvironments, Conveners: P. Francus, R. Bradley, and J. Thurow, University of Massachusetts, Amherst, 2001.
- Participant, NSF workshop on Collaboratives for Excellence in Teacher Preparation (CETP), March, 2001.
- Co-Chair, IMAGES Western Pacific Margins (WEPAMA) Workshop on Paleooceanography of western Pacific marginal basins, (Taipei, Taiwan, R.O.C.), Feb, 2001.
- Participant, “Experiments in Active Learning”, Keck Foundation Undergraduate Teaching Workshop focusing on data rich teaching strategies, Aug., 2000.

### **Invited Meeting and Workshop Participation (Continued)**

- Section leader, CORE/MATE Workshop on Future Trends for Marine Technicians and Technology in the Academic Workplace, Seattle, Washington, September, 1999.
- Co-Convener, Stable Isotopes and Trace Substances: Their Use in Oceanography and Climate Research on Various Time Scales (IUGG 99), Birmingham UK, July, 1999.
- Co-Secretary, IMAGES Western Pacific Margins (WEPAMA) Working Group, (Kaohsiung, Taiwan, R.O.C.), International working group formulated by IMAGES to evaluate and implement giant piston coring sites and objectives for the *Marion Dufrense* in the Western Pacific, January 27-28, 1999.
- Session Rapporteur, Climate Forcing on Short Timescales (External & Internal Mechanisms), Session 07 of the Conference on Multiple Platform Exploration (COMPLEX, Vancouver, BC), May, 1999.
- Co-Convener, NOAA/CORC Southern Ocean Ventilation Workshop: Assessing Southern Ocean Ventilation Power at Present and during the Last Glacial Maximum, June, 1998.
- ICTP Conference on Warm World Climates, (Trieste, Italy), Organizer Dr. G. Philander (Princeton), Presentation (with J. Lynch-Stieglitz; L-DEO): *A synthesis of the oceanic response during the Hypsithermal*, 1997.
- Participant, NSF Workshop, Working Group on LGM Oceanic SST, Organizers: Drs. W. Prell (Brown), A. Mix (OSU), 1997.

### **Service to the University**

- Member, University College, College Advisory Committee, 2023-
- Presidential Fellow for Diversity, Equity, and Inclusion, 2022-
- Member, KSU's AAAS STEMM Equity Achievement (SEA) Change Team, <https://seachange.aaas.org/> 2022-
- Member, Campus Sustainability Plan Committee, 2022-

### **Service to the University (Continued)**

- Member, Career Exploration and Development Energy, Wildlife and Natural Resources Career Advisor Search Committee, 2022.
- Member, 2022 Earth Month Planning Committee, 2021-2022.
- Member, Environmental Science and Design Research Institute (ESDRI) Advisory Board, 2021-
- Member, ad hoc Promotion and Tenure Evaluation Committee, KSU College of Aeronautics and Engineering, 2021.
- 6<sup>th</sup> Environmental Science and Design Research Symposium, Ad Hoc Committee Chair, 2018-2019. Organized planning committee that raised \$15K in external founding for total project funding of \$25K to conduct Symposium "Complexities of Environmental Legacies" and associated Art Show, "The Hidden Cost" featuring the aerial photographic art of J Henry Fair: <https://www.kent.edu/ESDRI-symposium>
- Member, Career Exploration and Development Sustainability, Energy and Natural Resources Career Advisor Search Committee, 2018.
- Member, Dynamic Education and Engagement of Diverse Students (DEEDS) Committee and DEEDS Academic Success subcommittee, University Level Initiatives, 2016-

### **Service to the University (Continued)**

- Member, Women in STEM committee, 2013-
- Member, University Diversity Action Committee (UDAC), 2012-
- Judge, 29<sup>th</sup> Annual Graduate Research Symposium, 2014.
- Member, 1<sup>st</sup> Annual Undergraduate Research Symposium Organizing Committee, 2014.
- Member, Provost's *Ad Hoc* Committee on Undergraduate Research 2013-2014.
- Member, Student Compensation Evaluation Committee, 2013-2014.
- Provost's Faculty Associate for Diversity, Equity, and Inclusion, 2012-2014
- Member, Academic Strategic Planning Committee, 2012-2013
- Co-Chair, Kent State University Climate Study, 2012.
- Keynote Speaker, "Aspira 2010", Hispanic undergraduate recruitment program, KSU Admissions, 2010.
- Member, Director of Sponsored Programs Search Committee, 2010.
- Member, Ad hoc Graduate School Evaluation Committee, 2009.
- Member, Ad hoc Kent Curriculum Implementation Committee, 2009-2010.
- Keynote Speaker, "Aspira 2009", Hispanic undergraduate recruitment Program, KSU Admissions, 2009.
- Co-moderator, College of Education, Health, and Human Services / Faculty Professional Development Center Summer Exploratorium Session on Undergraduate Research, 2008.
- Member, Ad Hoc Committee to consider a University Graduate Council, 2008.
- Moderator, President's Summer Academy Workshop on Undergraduate Research, 2008.
- Member, Provost's 21<sup>st</sup>-Century Mission Statement Stakeholders Working Group 2008. (Commendations for 2008 and 2009).
- Presenter, KSU Faculty Professional Development Center Workshop, New Faculty Institute, sessions on "Dynamic Learning and Teaching", and "Scholarship Creative Arts, Research: Making Connections", 2008.
- Session Leader, KSU Faculty Professional Development Center Workshop, "Excellence in Honors", 2008.
- Co-chair, AQIP Undergraduate Research Action Committee, 2007.
- Honors College Dean Search Committee, 2007-8.
- Panel Moderator, 22nd Annual KSU Graduate Student Senate Colloquium, 2007.
- Undergraduate Research Advisory Committee, 2007.
- Participant, Summit on Funded Research, 2007.
- Honors College Advisory and Planning Committee, 2004-2006.
- Panel Moderator, 20th Annual Graduate Student Senate Colloquium, 2005.
- Speaker, KSU new faculty orientation program, 2005.
- Member, Kent State University Diversity Advisory Committee, 2002-2004.
- NEOCEX Advisory Board, 2003-2005
- Graduate Recruitment Subcommittee of the KSU Enrollment Planning Steering Committee, 2003-2004.
- KSU Undergraduate Research Working Group, 2003-2004.
- Member, ad hoc Arts and Sciences Dean Search Committee, 2021.
- Member, Arts and Sciences Graduate Council Member, (while Acting Grad Coordinator Fall 2019)
- Member, Arts and Sciences College Advisor Committee, 2018-



### **Service to the University (Continued)**

- Member, Computer Science Department Internal Review Committee, 2018
- Member, Arts and Sciences *Ad Hoc* Committee to develop an Interdisciplinary Environmental Studies Major, 2014-2016
- Member, Arts and Sciences Graduate Council Member, 2012-2016
- Member, Arts and Sciences College Advisor Council, 2014-2015

### **Service to the College**

- Member, Physics Department Internal Review Committee, 2012
- Member, Anthropology Department Internal Review Committee, 2011
- Assistant Director of the Water Resources Research Institute (WRRI), Kent State University, 2006-8.
- Member, Arts and Sciences Graduate Council, 2006-2009.
- Member, Geography Department Internal Review Committee, 2005.
- Arts and Sciences Undergraduate Recruitment in the Sciences Working Group, 2004-2005.

### **Service to the Department**

- Chair, ad hoc Geology Diversity, Equity, and Inclusion Committee, 2021-
- Chair, ad hoc Geology Recruitment Committee, 2020-
- Assistant Chair, 2017-2021.
- Acting Graduate Coordinator, Fall 2019.
- Ad Hoc Chair, Dept. of Geology Chair reappointment evaluation committee, Spring 2018.
- Member, Curriculum Committee, 2010-2013. 2016-2017.
- Graduate Coordinator, Department of Geology, 2006-2009 and 2012-2016.
- Member, Department of Geology Faculty Advisory Committee, 2002-2004, 2006-2008, 2013-2015.
- Internship and Employment Coordinator, Department of Geology, 2009-2014.
- Chair, Department of Geology, Website and Computer committee, 2002-2005, 2009.
- Member, Department of Geology, Website and Computer Committee, 2002.
- Member, Department of Geology Graduate Studies Committee, 2001-2005.
- Member, Kent State University Department of Education Ad-Hoc Science Education Search Committee, 2003.
- Chair, Department of Geology AQIP committee, 2002.

### **Service to the Field**

- Ohio Space Grant Consortium Campus Representative, 2014-
- Member, National Academy of Science, Medicine and Technology, Aviation Research Transportation Subcommittee, Aviation, and the Environment (AV030), 2020-
- Member, Committee on Earth Observations (CEOS) Analysis Ready Data (ARD) Aquatic Reflectance Product Family Specification (PFS) Development team. <https://ceos.org/news/ard-pfs-aquatic-reflectance/> (Part of a select international team of remote sensing experts convened to develop consistent standards for aquatic reflectance data products to be used by the international community). 2020-2021

**Service to the Field (Continued)**

- Member, USGS/NASA Landsat Next Spectral Evaluation and Consideration Committee. One of select team of international remote sensing experts invited to provide advice on Landsat Next sensor spectral design (number of bands, band wavelength placement and width), 2020.
- Co-guest Editor, Journal of Great Lakes Research Special section on Remote Sensing of harmful algal blooms (HABs) in Lake Erie and other surrounding inland waters, (Co-Guest Editor, with Robert Shuchman, Caren Binding, George Leshkevish), <https://www.sciencedirect.com/journal/journal-of-great-lakes-research/special-issue/10M3PMWSG0G>, 2019.
- Member, Baylor University Department of Geology External Review Committee, 2018.
- Panel Member for two NASA Panels since 2018.
- Member, National Science Foundation Division of Ocean Sciences Committee of Visitors, 2012.
- Lead Guest Editor, TOS Arctic Oceanography Special Volume, September 2011.
- Sponsorship Co-Chair, 2011 Northeast/North Central GSA meeting, Pittsburgh, PA, 2011.
- Contributor to Andrew Revkin's Dot Earth Blog published by the NY Times online, 2010. ([May 10, 2010](#) | [May 14, 2010](#) | [May 19, 2010](#))
- Member, Integrated Ocean Drilling Program (IODP) United States Implementation Organization (USIO) Scientific Ocean Drilling Vessel (SODV) JOIDES Resolution, Scientific Review Panel, College Station, TX, June, 2008.
- Panel Member for eleven NSF Panels including: MGG, ESH, STEMTP, and Robert Noyce Scholarship Programs, 2002-present
- Participant, three NSF ESH Holocene Pls meetings, 2005, 2006, 2007
- AMQUA Councilor for Marine Geoprocesses, 2004-2008.
- Editorial Review Board, Kluwer Encyclopedia of Paleoclimate, 2003-2006.
- One of two reviewers of the ODP MST Legacy Data CD-ROM Format, requested by JOIDES SCIMP with direct response to the JOIDES Director, Dr. Nick Pisias.

**Service to the Field (Continued)**

- Member, JOIDES Scientific Measurements Panel (SCIMP) Ad-hoc Working Group on Core-Log-Seismic Integration, 2000-2001.
- Member, GEOLOGY Editorial Board, 1998-2001.
- Member, JOIDES Scientific Measurements Panel, (SciMP), 1999-2001.
- Member, four JOIDES, Post-cruise US Science Support Review Panels for ODP Legs, 1996-completion of program.

**Interdepartmental and Departmental Seminars (39 total)**

Wright State University, Department of Earth and Environmental Science, *What's in the water? Composition studies by remote sensing*, Sept 10, 2019.

Oregon State University Department of Microbiology, *Hyperspectral remote sensing as a tool to monitor CyanoHABs in inland Lakes*, October 6, 2016

Wesleyan University Summer Seminar Series, *Is all that Bloom Toxic? Hyperspectral Remote sensing holds the answer!*, Jun 23, 2016

### **Interdepartmental and Departmental Seminars (Continued)**

- The Ohio State University, *The 2015 Lake Erie CyanoHAB: Field Constraints and Remote Sensing Observations*, School of Earth Sciences Seminar Series, February 11, 2016
- University of Akron, Department of Geosciences Seminar Series, *Toxic Algae in Ohio Waterways*, Sept 17, 2015
- Kent State University Department of Chemistry Seminar Series, *Identification of toxic algae in Ohio's waterways by visible derivative spectroscopy*, Oct 8, 2015
- NASA Glenn Rocket University Working group, *Summer 2014 CyanHAB field work: Kent State University ASD FieldSpec Spectroradiometer data 2015*
- Department of Meteorology Seminar Series, Penn State University, *Solar Variability and the Arctic Oscillation during the Holocene*, 2013
- Department of Geography, Kent State University, *Inter-hemispheric constraints on Holocene variations in the Atlantic Meridional Circulation*, 2011.
- Oregon State University, College of Oceanic and Atmospheric Sciences, *The Bering Strait and the AMOC*, 2010.
- Keynote Speaker, *Physical Aspects of Climate Change in the Arctic Marine Environment*, for Earth Day 2010, "A changing Earth: The facts about global climate change and biodiversity loss", 2010.
- Department of Computer Science, Kent State University, *The Arctic Response to Global Change: Models and data*, 2009.
- Department of Geology, Kent State University, Earth Science Week, *The Arctic Response to Global Change*, 2009.
- University of Akron, *Arctic Paleoceanography from sediment physical properties: Results from the Healy-Oden Transarctic Expedition (HOTRAX)*, 2007.
- University du Montreal á Quebec, GEOTOP, *Non-invasive Paleoceanographic tools for Arctic Climate Change Research: Results from Healy-Oden Transarctic Expedition (HOTRAX)*, 2007.
- University du Montreal á Rimouski, ISMER, *Non-invasive Paleoceanographic tools for Arctic Climate Change Research: Results from Healy-Oden Transarctic Expedition (HOTRAX)*, 2007.
- College of Wooster, Department of Geosciences, *Total Suspended Particulates in Old Woman Creek and the Western Basin of Lake Erie*, 2007.
- Cleveland State University, Department of Biological, Geological and Environmental Sciences, *Total Suspended Particulates in Old Woman Creek and the Western Basin of Lake Erie*, 2007.
- Indiana University-Purdue University Indianapolis (IUPUI), Department of Geology, *Assessing Total Suspended Particulates in Old Woman Creek using Landsat Multispectral Data*, 2006.
- University of Pittsburgh, Department of Geology and Planetary Science, *Holocene and Late Pleistocene Climate Change off Baja California*, 2004.
- College of Wooster, Department of Geology, *Climate studies with a non-destructive tool*, 2003.

### **Interdepartmental and Departmental Seminars (Continued)**

- Ohio University, Department of Geological Sciences, *Estimating Marine Export Productivity off Baja California during the last 60,000 years: Paleoclimate Implications*, 2002.
- University of South Carolina, Department of Geological Sciences, *Warm, productive, Interstadial events off Baja California*, 2003.
- Kent State University Department of Geology, *Lithostratigraphy of Giant Piston Cores from the Baja Margin - The MONA Expedition*, 2002.
- Trinity College (Hartford, CT), *Sands of time: Climate lessons from the bottom of the sea*, 2002.
- Cleveland State University, Department of Biological Geological and Environmental Sciences, *Quaternary marine production cycles with a millennial beat off Baja California*, 2002.
- University of Akron, Department of Geology, *Reflections of the North Atlantic Stadial/Interstadial events as marine organic carbon cycles off Baja California*, 2001.
- Kent State University, Department of Geology, *Millennial scale carbonate and organic carbon cycles in Late Pleistocene sediments off Baja California – Do they reflect production or preservation?* 2001.
- Georgia State University, Department of Geology, *Millennial scale carbonate and organic carbon cycles in Late Pleistocene sediments off Baja California – Do they reflect production or preservation?* 2001.
- University of Illinois, Urbana-Champaign, Department of Geology, *Millennial scale carbonate and organic carbon cycles in Late Pleistocene sediments off Baja California – Do they reflect production or preservation?* 2001.
- University of Wisconsin, Madison, Dept. of Geology & Geophysics, *Environmental reconstruction of the California Current during the Last Glacial Maximum: Constraints from planktic foraminifera and other paleo proxies*, 2001.
- L-DEO Climate Center Workshop on the NE Pacific Oxygen Minimum Zone, *Diffuse spectral reflectance signatures from Melville-99 sediment cores off Baja California*, 2000.
- University of Delaware, College of Marine Studies, *Millennial-scale carbonate variability in North Atlantic deep-sea sediments: Insights from diffuse spectral reflectance measurements*, 1999.
- University of California at Santa Cruz, Earth and Environmental Sciences, *Circulation and productivity in the northern sector of the California Current during the Last Glacial Maximum*, 1999.
- LDEO Physical Oceanography and Geochemistry Seminar Series, *Diffuse spectral reflectance of North Atlantic sediments: Remote sensing at the formation level reveals sub-Milankovitch scale variability*, 1999.
- Wesleyan University, Department of Earth and Environmental Sciences, *Variable climate inferred from reflectance: North Atlantic sediment secrets*, 1998.
- University of Florida, Department of Geology, *Spectral reflectance of North Atlantic drift sediments: High resolution proxy mineralogy measurements from ODP Leg 162*, 1997.

### **Interdepartmental and Departmental Seminars (Continued)**

Brown University, Geosciences Department, *Depth habitats and temperature-dependent carbon isotopic disequilibrium in asymbiotic planktic foraminifera*, 1996.

Woods Hole Oceanographic Institution, Geology and Geophysics, *Planktonic Foraminifers in the California Current*, 1993.

### **Professional Affiliations**

The Geological Society of America (GSA)	American Meteorological Society (AMS)
American Geophysical Union (AGU)	The Oceanography Society (TOS)
SACNAS	Sigma Xi (Scientific research honor society)
AAAS	