Oluwaseun O. Ogunro

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EDUCATION

Ph.D. (2016) — Chemistry Department, New Mexico Institute of Mining and Technology, Socorro, NM 87801
Dissertation: "Marine Biogeochemistry Feedbacks for Earth System Modeling: Case Studies"
Thesis Advisors: Scott Elliott, Los Alamos National Laboratory and Oliver Wingenter, New Mexico Institute of Mining and Technology. **GPA:** 3.94

B.S. (2008) — Chemistry Department, Obafemi Awolowo University, Ile-Ife, Nigeria. **GPA:** 3.71

RESEARCH

2016 – Present — Post Doctoral Researcher, Oak Ridge National Laboratory – New Mexico Institute of Mining and Technology
▪*Developing marine Biogeochemical Feedbacks and Benchmarking*
▪*Incorporating new measurements to improve Earth System Model assessments*

2014 – 2016 — Graduate Research Assistant, Los Alamos Institute of Geophysics, Planetary Physics, and Signatures (IGPPS) - New Mexico Institute of Mining and Technology, NM
▪*Designed, implemented and analyzed suites of climate simulation models*
▪*Developed a proposal on the impact of soot and chlorophyll on Arctic sea ice. Proposal was funded ($120,000) by Los Alamos IGPPS*

2014 – 2014 — Research Assistant, Petroleum Recovery Research Center - New Mexico Tech
▪*Investigated new technologies to improve CO_2 capture and separation (CCS) in oil and gas fields*

2013 – 2014 — Graduate Research Assistant, New Mexico Institute of Mining and Technology in Collaboration with Los Alamos National Laboratory and Pacific Northwest National Laboratory
▪*Designed, implemented and analyzed suites of climate simulation models*
▪*Modeled macromolecular sources of marine organic aerosols*

2011 – 2014 — Research Assistant, Chemistry Department - New Mexico Institute of Mining and Technology, NM

▪*Modeled global and tropical dimethyl sulfide flux during El Niño Southern Oscillation (ENSO)*

2007 – 2008 Research Chemist, Chemistry Department – Obafemi Awolowo University, Ile-Ife, Nigeria
▪*Developed new assay method to analyze and validate active ingredients in some over-the-counter analgesics*

TEACHING

2011 – 2014 Teaching Assistant, Chemistry Department, New Mexico Institute of Mining and Technology, Socorro, NM 87801
Classes: General Chemistry I Lab. (Fall 2011),
Organic Chemistry Lab. (Summer 2012),
Quantitative Analysis Lab. (Spring 2012, Fall 2012, Spring 2013), Instrumental Analysis Lab. (Fall 2013, Fall 2014),
Environmental Chemistry Lab (Spring, 2014)

Instructor for twelve (12) laboratory sessions involving the use of effective analytical instruments such as ICP-MS, ICP-AES, HPLC, UV-Vis, GC-MS, AAS, FTIR

HONORS

2016 Graduate Research Excellence Award, NMT Chemistry Department
2014 Awarded research grant by Los Alamos National Laboratory Institute of Geophysics, Planetary Physics, and Signatures
2013 2013 Charter Officer Award, Golden Key International Honour Society
2013 Ocean Carbon and Biogeochemistry (OCB) Travel Support to attend 2013 Surface Ocean - Lower Atmosphere Study (SOLAS) Summer School in China
2013 The 2013 Comcast Business Class Scholarship
2012 The 2012 Comcast Business Class Scholarship
2011 Awarded tuition assistantship from New Mexico Institute of Mining and Technology to serve as chemistry teaching assistant

TRAININGS

2014 Community Earth System Model (CESM) Tutorial, National Center for Atmospheric Research, Mesa Lab, Boulder, CO
2013 Surface Ocean - Lower Atmosphere Study (SOLAS) Summer School, Xiamen University, Fujian Province, China

COMPUTER SKILLS

Working knowledge of Microsoft Office suite, Linux, MySQL, Oracle, Fortran, Matlab, NCL, Python and Ferret

PUBLICATIONS

Ogunro, O., Elliott, S. M., Jeffery, N., Hunke, E., Hoffmann, F., Wingenter, O. "Light Absorption in Arctic Sea Ice – Black Carbon and Chlorophyll." *In Prep.*

Wingenter, O., **Ogunro, O.**, Elliott S. M. "Influence of El Niño on tropical DMS flux and Radiative Cloud Properties: Possible Feedback." *In Prep.*

Wingenter, O., **Ogunro**, **O.,** Nance, S., Elliott, S., and Blake, N. "Impact of Increasing Dimethylsulfide Flux on Reflectivity in Antarctica: a Possible Positive Feedback on the Westerly Winds." *Nature Climate Change (2016): Submitted.*

Ogunro, O. O., Burrows, S. M., Elliott, S., Frossard, A. A., Hoffman, F., Letscher, R. T., Moore, J. K., Russell, L.M., Wang, S., and Wingenter, O. W. (2015). Global distribution and surface activity of macromolecules in offline simulations of marine organic chemistry. *Biogeochemistry*, 1-32.

Burrows, S. M., **O. Ogunro**, A. A. Frossard, L. M. Russell, P. J. Rasch, and S. M. Elliott. "A physically based framework for modeling the organic fractionation of sea spray aerosol from bubble film Langmuir equilibria." *Atmos. Chem. Phys*14 (2014): 13601-13629.

Elliott, S., Susannah M. Burrows, C. Deal, Xiaohong Liu, M. Long, **O. Ogunro**, Lynn M. Russell, and O. Wingenter. "Prospects for simulating macromolecular surfactant chemistry at the ocean–atmosphere boundary." *Environmental Research Letters* 9, no. 6 (2014): 064012.

NEWS AND MEDIA

February, 2015	Phys.org: "Scientists identify ocean biology that affects sea spray chemistry, atmospheric particles" http://phys.org/news/2015-02-scientists-ocean-biology-affects-sea.html
January, 2015	Pacific Northwest National Laboratory Science Highlight: "Born by Bubbles, Destined for Clouds": http://www.pnnl.gov/science/highlights/highlight.asp?id=3895
June, 2014	Phys.org: "Scientists show how organic matter in sea spray contributes to atmospheric particles": http://phys.org/news/2014-06-scientists-sea-contributes-atmospheric-particles.html
June, 2014	Pacific Northwest National Laboratory Science Highlight: "Bubbling to the top": http://www.pnnl.gov/science/highlights/highlight.asp?id=2686
December, 2013	Ocean Carbon and Biogeochemistry (OCB) 2013 Fall News Letter, pg 23-24: "OCB Education and Outreach": http://www.us-ocb.org/publications/OCB_NEWS_FALL13.pdf

PROFESSIONAL MEMBERSHIP

2014	American Meteorological Society (AMS)
2012	**Founding President**, New Mexico Institute of Mining and Technology Chapter, Golden Key International Honour Society
2011	National Society of Black Engineers, New Mexico Institute of Mining and Technology Chapter (**Vice President – 2012)**
2011	American Geophysical Union (AGU)
2010	Oracle Certified Associate (OCA)
2009	Institute of Strategic Management, Nigeria

INVITED PRESENTATIONS (Selected)

O. Ogunro, O. Wingenter, S. Elliott, H. Wang, N. Jeffery, E. Hunke: *Aspects of the Ocean-Ice-Aerosol System: Soot versus Biopigments in Sea Ice*: Institute of Geophysics, Planetary Physics, and Signatures, Los Alamos National Laboratory, Los Alamos, NM. April, 2015

Ogunro, O., Wingenter, O., Elliott, S., Flanner, M., Dubey, M: *Impacts of organic macromolecules, chlorophyll and soot on Arctic sea ice*: American Geophysical Union Fall Meeting, San Francisco, CA. December, 2014

Ogunro, O. O., Wingenter, W. O., Elliott, S.: *Modeling the impacts of organic macromolecules and chlorophyll on Arctic sea ice*. Ocean Carbon and Biogeochemistry workshop, Woods Hole Oceanographic Institute, Falmouth, MA. July 2014.

Ogunro, O., Wingenter, O., Burows, S., Elliott, S: *Macromolecular sources of marine organic aerosols*. SOLAS Summer School – Xiamen, China. September, 2013

Ogunro, O., Wingenter, O., Burows, S., Elliott, S: *Marine aerosol and its possible contribution to the changing westerly.* Ocean Carbon and Biogeochemistry workshop, Woods Hole Oceanographic Institute, Falmouth, Massachusetts. July 2013.

Ogunro, **O**., Nance, S., Elliott, S., Blake, N., Wingenter, O: *Impact of Increasing Dimethyl Sulfide Flux on Reflectivity in Antarctica.* Ocean Carbon and Biogeochemistry workshop, Woods Hole Oceanographic Institute, Falmouth, Massachusetts. July 2012.

CONTRIBUTED PRESENTATIONS (selected)

O. W. Wingenter, **O. O. Ogunro**, S. N. Nance, S.M. Elliott, D. R. Blake and N. J. Blake: *Changing Sea-to Air Flux of Aerosol Chemical Material and the Feedback with Ocean and Atmospheric Dynamics*. American Geophysical Union Chapman Conference, Fairbanks, AL. September, 2015

Susannah M. Burrows, **O. O. Ogunro,** A. A. Frossard, L. M. Russell, P. J. Rasch, and S. M. Elliott, Rob Walker, Eric Gobrogge, Fu Li, Hongfei Wang: *Modelling organic enrichment in submicron sea spray aerosol from ocean surface films.* Ocean Microlayer Workshop, Kiel, Germany, July, 2015.

Burrows, S., Elliott, S., Frossard, A., McCoy, T., Russell, L. M., Liu, X., **Ogunro, O.**, Easter, R., Rasch, P: *Advancing understanding of the marine biogeochemical influence on primary sea spray aerosol composition.* American Meteorological Society, Phoenix, AZ, January, 2015

Burrows, S. M., Elliott, S., Liu, X., **Ogunro, O. O.**, Easter, R. C., Rasch, P. J.: *Explicit modeling of marine biogeochemical influence on primary sea spray aerosol composition, and cloud impacts.* American Geophysical Union Fall Meeting, San Francisco, CA. December, 2013

Wingenter, O., **Ogunro, O**., Nance, S., Elliott, S., Blake, N: *Impact of Increasing Westerly Winds on Dimethyl Sulphide Flux and Reflectivity over the Southern Ocean and Antarctica:*

Possible Climate Feedback. American Chemical Society Meeting, New Orleans, Louisiana. April, 2013

Nance, S., Wingenter, O., **Ogunro, O.**, Elliott, S., Blake, N: *Increasing Dimethyl Sulphide Flux over the Southern Ocean and off of the Antarctic Coast in Response to the Shifting and Intensifying Westerly Winds: A Possible Positive Feedback.* American Meteorological Society, New Orleans, Louisiana. April, 2012