

**Nicholas Meskhidze**

Associate Professor  
School of Marine Earth and Atmospheric Sciences  
North Carolina State University  
Raleigh, NC 27695  
FAX: (919) 515-7243  
Email: [nmeskhidze@ncsu.edu](mailto:nmeskhidze@ncsu.edu)  
<http://www4.ncsu.edu/~nmeskhi/Homepage.html>

**Educational Background**

Ph.D., Atmospheric Chemistry, December 2003, Georgia Institute of Technology  
Thesis titled: “*Iron Mobilization in Mineral Dust and the Possible Effect of Asian Pollution on C-Uptake in North Pacific Ocean*” (Dr. William Chameides, advisor)  
M.S., Environmental Management, 1996, Center for the Environmental Management, Tbilisi, Georgia  
Diploma, Physics, 1993, Tbilisi State University, Tbilisi, Georgia

**Professional Experience**

Associate Professor, North Carolina State University, 2012 - present  
Assistant Professor, North Carolina State University, 2006 - 2012  
Visiting Fellow, NASA Goddard Space Flight Center, 2006  
Research Scientist II, Georgia Institute of Technology, 2005-2006  
Postdoctoral Fellow, Georgia Institute of Technology, 2004

**Current Fields of Interest**

- Regional and global climate modeling
- Laboratory and ambient measurements of sea spray aerosol hygroscopicity and CCN properties
- Application of remotely sensed data (MODIS, MISR, CALIPSO, HSRL)
- Parameterization of marine organic aerosol emissions
- Global scale modeling of micronutrient transport
- Measurements of trace gas emissions from different phytoplankton species

**Honors, Awards, and Recognitions**

2007 – NCAR ECSA Advanced Study Program, Boulder, CO  
2007 –Early career scientist, Gordon Conference on Biogenic Hydrocarbons & the Atmosphere, Ventura, CA  
2006 - Goddard Visiting Fellowship, NASA Goddard Space Flight Center  
2006 - DISCCRS II Symposium Member, Asilomar Conference Center, Pacific Grove, CA  
2005 - ACCESS VIII Colloquium Member, Yellowstone National Park, WY  
2005 - Travel support from NSF for International Conference Dynamic Planet 2005, Cairns, Australia  
2004 - Best graduate journal publication award, Georgia Institute of Technology  
2003 - The GRL, 2003 publication was selected as an "AGU Journal Highlight"  
2000 - Travel support from AMS for 24<sup>th</sup> conference on Ag. and Forest Meteorology, Davis, California

1996 - Recognition for outstanding achievement and completion of the president's University Student Exchange (1000-1000) program funded by the United States Information Agency (USIA)

1995 - Presidential scholar, The University of Georgia

1995 - The University of Georgia fellowship from United States Information Agency (USIA) 1995-1996

### **Invited Seminars/Talks**

The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy, October 4, 2015.

NASA Langley Research Center seminar, July 23, 2015, Hampton, VA

Integrated Land-use Management Modelling of Black Sea Estuaries, 'Black Sea Basin 2007-2013', October 31, 2014, Batumi, Georgia

New Insights Into Gas-Phase Atmospheric Chemistry, July 28 - August 1, 2014, Telluride, CO

SOCRATES Workshop, University of Washington, March 18 -19, 2014, Seattle, WA

Sixth Symposium on Aerosol-Cloud-Climate Interactions, AMS Annual Meeting, 3 February 2-6, 2014, Atlanta, GA

Open Sea Spray Aerosol Workshop, September 30 – October 1, 2013, Galway, Ireland

Biosphere-Atmosphere Exchange and Biosynthesis, AGU Fall conference, December 9-13, 2013, San Francisco, CA

Chemistry Climate Working Group Meeting, NCAR, February 11-13, 2013, Boulder, CO

UCSD Scripps Institution of Oceanography, January 22, 2013, San Diego, CA

New Insights Into Gas-Phase Atmospheric Chemistry, July 30 - August 3, 2012, Telluride, CO

International Workshop on Climate Change Projection and High Performance Computing Climate2012, March 12-15, 2012, Maui, Hawaii

Duke University, Earth and Ocean Sciences Seminar Series, February 15, 2012, Durham, NC

VII Annual International Conference of REC Caucasus "Climate Change Adaptation – Challenge and Opportunity for the Caucasus", November 10-11, 2011, Tbilisi, Georgia,

242<sup>nd</sup> ACS National Meeting & Exposition, August 28-September 1, 2011, Denver, CO

The Abdus Salam International Centre for Theoretical Physics, Workshop on Aerosol Impact in the Environment: from Air Pollution to Climate Change, August 8 - 12, 2011, Trieste, Italy

Dalhousie University – Seminar in Earth Science Modeling, March 17, 2011, Halifax, NS, Canada

WMO SDS-WAS/GESAMP Expert Workshop on Modeling and Observing the Impacts of Dust Transport and Deposition on Marine Productivity, March 6 - 9, 2011, Sliema, Malta

AEROCENTER Forum - NASA-Goddard Space Flight Center, February 21, 2011, Greenbelt, MD

ACE Science Workshop - NASA Headquarters, February 14, 201, Washington, DC

U.S. CRDF – International Conference on Climate Change Curricula in Higher Education, June 7, 2010, Tbilisi, Georgia

IAMA - International Aerosol Modeling Algorithms Conference, December 10, 2009, Davis, CA

AAAR- American Association for Aerosol Research, Annual Conference, Tutorial Session, October 2009, Minneapolis, MN

RTI-International – Global Climate Change Seminar, April 24, 2008, Durham, NC

EPA - Research Triangle Park (RTP) Climate Dialogue March 28, 2008, Durham, NC

CEMPD/UNC - Institute for the Environment, December 19, 2007, Chapel Hill, NC

DUKE/UNC Oceanographic Consortium, November 16, 2007 Beaufort, NC

EPA- Research Triangle Park (RTP) seminar series, October, 6, 2006, Durham, NC

AEROCENTER Forum - NASA-Goddard Space Flight Center, August 29, 2006, Greenbelt, MD

NASA-Goddard Space Flight Center, June 25, 2004, Greenbelt, MD

**External Professional Activities**National and International Science Program Leadership

- Lead Author (27 Co-Authors) Request to consider solicitation on improved marine aerosol characterization as part of the upcoming ROSES call, January 27, 2016
- Lead Author (23 Co-Authors) 2017-2027 NRC Decadal Survey in Earth Science and Applications from Space, the Space Study Board of the U.S. National Academy of Sciences, of white paper of “*Marine aerosol-cloud-climate interactions*”, November 2, 2015
- The Southern Ocean Clouds, Radiation, Aerosol Transport Experimental Study (SOCRATES) white paper, Contributing Author, April, 2014
- Lead guest editor - Advances in Meteorology (AMET) - Special Issue on Marine Aerosol-Cloud-Climate Interaction, an editorial and 12 peer-reviewed publications, 2010
- World Meteorological Organization Global Atmosphere Watch Joint Meeting of GESAMP Working Group 38 and the WMO Sand and Dust Storm Warning Advisory and Assessment System (SDS-WAS), Contributing Author (Lead Authors Prof. Robert A. Duce and Prof. Peter Liss)
- Aerosol Cloud Ecosystems (ACE) 2009-2013 Progress Report and Future Outlook, White paper by the ACE Science Study
- Member, AMS Committee on Atmospheric Chemistry (2010 - 2012)
- Aerosol-Cloud-Ecosystem (ACE) working group member (2009 - current)

Scientific Conferences and Meetings Organized

- Chair of the AGU Fall 2015 Meeting session “Marine aerosols and trace gases”, Co-Chairs Susannah Burrows, PNNL, Lynn Russell Scripps, UC San Diego, Timothy Bertram, UC San Diego
- Chair of AMS 2015 Annual Meeting, 17th Conference on Conference on Atmospheric Chemistry, session “Marine Aerosols: Sources, Chemistry, Clouds and Climate, Co-Chair Phil Rausch, PNNL
- Chair of the International workshop “Extreme Weather and Climate Events in the Southern Caucasus - Black Sea Region”, Jun 3-7, 2013, Tbilisi, Georgia. Co-Chair Fabien Solomon, ICTP, Italy
- Chair of the international workshop “Production mechanism, number concentration, size distribution, chemical composition, and optical properties of sea spray aerosols”, June 4 to 6, 2012, Raleigh, NC. Co-Chairs, Markus Petters, NCSU and Kostas Tsigaridis, NASA GISS.
- Chair of the AGU Fall 2013 Meeting session “Marine Trace Gases and Aerosols”, Co-Chair Rainer Volkamer, Univ. of Colorado, Boulder, CO
- Chair of the Goldschmidt 2012 Meeting session “Biogeochemical cycling of aerosols and their effects in the evolving Earth's climate”, Co-Chair Ina Tegen, Institute for Tropospheric Research, Leipzig, Germany
- Chair of the AGU Fall 2012 Meeting session “Sources, Properties, and the Budget of Ocean-Derived CCN”, Co-Chairs Timothy S Bates, NOAA PMEL, William C Keene, University of Virginia, Kostas Tsigaridis, NASA GISS
- Chair of the AGU Fall 2011 Meeting session “Aerosols and Trace Gases over Marine Environment: Their Production Mechanisms, Abundance, Optical Properties, Biogeochemical Cycling and Climatic Effects”, Co-Chairs Markus Petters, NCSU, Alexander Smirnov, NASA/GSFC, Cristina Facchini, ISAC-CNR, Bologna, Italy
- Chair of the Goldschmidt 2010 Meeting session “Connecting Oceanic Emissions, Aerosols, and Maritime Clouds: What do we know and where will we go?” Co-Chair Maria Cristina Facchini, ISAC-CNR, Bologna, Italy

Chair of the AGU Fall 2010 Meeting session “Marine Aerosols: Production Mechanisms, Chemical Composition, and Representation in Regional and Global Models”, Co-Chairs Markus Petters, NCSU and Lynn Russell, Scripps Institution of Oceanography

Chair of the AGU Spring 2010 Meeting session “Ocean-Aerosol Interactions”, Co-Chairs Santiago Gassó, NASA/GSFC and Norman Nelson, UC Santa Barbara

Chair of the AGU Fall 2009 Meeting session “Marine Biogeochemical Cycles: A Second Look at Aerosol-Cloud-Climate Feedbacks”, Co-Chairs Markus Petters, NCSU and Santiago Gassó, NASA/GSFC

### Editorial Service

Advances in Meteorology, Editorial Board Member 2015 – present

Journal of Marine Science: Research & Development, Editorial Board Member 2013 – 2015

Atmospheric and Climate Sciences, Editorial Board Member 2012 – 2014

### Reviewer

Journal of Geophysical Research (AGU), Earth Interactions, American Geophysical Union (AGU), Geochemistry, Geophysics, Geosystems (AGU), Geobiology, Wiley-Blackwell, Atmospheric Environment (ELSEVIER), Atmospheric Chemistry and Physics (ACP), Nature Geosciences, Environmental Science and Technology (ES&T), National Environmental Research Council (NERC) of the UK

Panel participant at EPA, NSF, NOAA, & NASA.

### Field Experience

Chief Scientist, fall 2015 field campaign at the US Army Corps of Engineers’ Field Research Facility in Duck, NC. The study was performed from Nov 3 - 22, 2015. Co-Chief Scientist Markus Petters.

Chief Scientist, spring 2015 field campaign at the US Army Corps of Engineers’ Field Research Facility in Duck, NC. The study was performed from April 27<sup>th</sup> - May 10<sup>th</sup>, 2015. Co-Chief Scientist Markus Petters.

Chief Scientist, field-testing of the size-resolved sub-micron sea-salt particle flux measuring instrument at North Carolina State University’s Center for Marine Science Technology (CMAST) in Moorehead City, NC. The measurements were conducted from November 22 to 30, 2014. Co-Chief Scientist Markus Petters.

In charge of study of turbulent fluxes over the tall, artificial pine tree forest canopy; SF6 Purposeful Tracer Release Experiment, at Gainesville, FL during December - January 1998. Person in charge Monique Leclerc.

In charge of study of turbulent fluxes over the peach tree canopy; SF6 Purposeful Tracer Release Experiment, at Hollonville, GA during July - September 1998. Person in charge Monique Leclerc.

### Teaching And Mentoring

Undergraduate Student Research Advisor/Co-Advisor: Adele Igel (2008-2009), Matthew Igel (2008-2009), David Hurley (2013-2014), Zach Fair (2014 – 2015)

Graduate Student Advisor: Joshua Hemperly (M.S., 2009), Brett Gantt (M.S., 2009; Ph.D. 2012), Matthew Johnson (M.S., 2009; Ph.D. 2012), Alyssa Sabolis (M.S., 2009), Jon Trueblood (M.S., 2014), Kyle Dawson (M.S. 2013; 2015 - current), Brittany Phillips (2015 - current), Taylor Royalty (2015 - current)

Postdoctoral Advisor/co-advisor:

Jun Xu (2008 – 2011)

Thesis Committee Member (other than as advisor/co-advisor):

Kristen Olsen (M.S., 2009), Kai Wang (Ph.D., 2011), Ying Pan (Ph.D., 2011), Yang Jean (Ph.D., 2013), Tim Wright (Ph.D., 2013), Sarah Suda (Ph.D., 2015), Tim Glotfelty (P.D., current), Yijia Zhao (P.D., current)

Visiting Graduate Research Advisor:

Mariam Elizbarashvili (Tbilisi State University, Georgia, May-June, 2012)

Other: Matt Wilbanks (2010), Kiliyanpilakkil Praju (2011), Sean States (2010)

Membership in Professional and Honor Societies

American Geophysical Union (AGU)

European Geophysical Union (EGU)

American Meteorological Society (AMS)

**Refereed Publications**

Google Scholar: h-index 20, i10-index 29, Citations 1,552

Web of Science: h-index 18, Citations 1021

- [35] Gantt, B., T. Glotfelty, **N. Meskhidze**, Y. Zhang (2015), Simulating the Impacts of Marine Organic Emissions on Global Atmospheric Chemistry and Aerosols Using an Online-Coupled Meteorology and Chemistry Model, *Atmospheric and Climate Sciences*, 5, 266 - 274, doi: 10.4236/acs.2015.53020
- [34] **Meskhidze, N.**, A. Sabolis, R. Reed, and D. Kamykowski (2015), Quantifying Environmental Stress Induced Emissions of Algal Isoprene and Monoterpenes Using Laboratory Measurements, *Biogeosciences.*, 12, 637– 651, doi:10.5194/bg-12-637-2015.
- [33] Gantt, B., M. S. Johnson, M. Crippa, A. S. H. Prévôt, and N. Meskhidze (2015), Implementing marine organic aerosols into the GEOS-Chem model, *Geosci. Model Dev.*, 7, 5965-5992, doi:10.5194/gmdd-7-5965-2014.
- [32] Dawson, K.W., **N. Meskhidze**, D. Josset, and S. Gassó (2015), Spaceborne observations of the lidar ratio of marine aerosols, *Atmos. Chem. Phys.*, 15, 3241 - 3255, doi:10.5194/acpd-15-3241-2015.
- [31] **Meskhidze, N.**, Meskhidze, N. M. D. Petters, K. Tsigaridis, T. Bates, C. O'Dowd, J. Reid, E. R. Lewis, B. Gantt, M. D. Anguelova, P. V. Bhave, J. Bird, A. H. Callaghan, D. Ceburnis, R. Chang, A. Clarke, G. de Leeuw, G. Deane, P. J. DeMott, S. Elliot, M. C. Facchini, C. W. Fairall, L. Hawkins, Y. Hu, J. G. Hudson, M. S. Johnson, K. C. Kaku, W. C. Keene, D. J. Kieber, M. S. Long, M. Martensson, R. L. Modini, C. L. Osburn, K. A. Prather, A. Pszenny, M. Rinaldi, L. M. Russell, M. Salter, A. M. Sayer, A. Smirnov, S. R. Suda, T. D. Toth, D. R. Worsnop, A. Wozniak, and S. R. Zorn, (2013), Production mechanisms, number concentration, size distribution, chemical composition, and optical properties of sea spray aerosols, *Atmos Sci Lett*, DOI: 10.1002/asl2.441.
- [30] Johnson, M.S. and **N. Meskhidze** (2013), Atmospheric dissolved iron deposition to the global oceans: Effects of oxalate-promoted Fe dissolution, photochemical redox cycling, and dust mineralogy, *Geosci. Model Dev.*, 6, 1137-1155, doi:10.5194/gmd-6-1137-2013.
- [29] Gantt, B. and **N. Meskhidze** (2013), The physical and chemical characteristics of marine organic aerosols: a review, *Atmos. Chem. Phys.*, *Atmos. Chem. Phys.*, 13, 3979-3996, 2013, doi:10.5194/acp-13-3979-2013.

- [28] Gantt, B., M. S. Johnson, **N. Meskhidze**, J. Sciare, J. Ovadnevaite, D. Ceburnis, and C. D. O'Dowd (2012), Model evaluation of marine primary organic aerosol emission schemes, *Atmos. Chem. Phys.*, 12, 8553–8566, doi:10.5194/acp-12-8553-2012
- [27] Zhang, Y., J. Hemperly, **N. Meskhidze** and W. Skamarock (2012), The Global Weather Research and Forecasting (GWRf) Model: Model Evaluation, Sensitivity Study, and Future Year Simulation, *Atmospheric and Climate Sciences*, 2, 231-253, doi: 10.4236/acs.2012.23024.
- [26] Gantt, B., J. Xu, **N. Meskhidze**, Y. Zhang, A. Nenes, S. J. Ghan, X. Liu, R. Easter, and R. Zaveri (2012), Global distribution and climate forcing of marine organic aerosol – Part 2: Effects on cloud properties and radiative forcing, *Atmos. Chem. Phys.*, 12, 6555–6563, doi:10.5194/acp-12-6555-2012.
- [25] Johnson, M. S., **N. Meskhidze**, V.P. Kiliyanpilakkil (2012), A global comparison of GEOS-Chem predicted and remotely-sensed mineral dust aerosol optical depth, *J. Adv. Model. Earth Syst.*, 4, M07001, doi:10.1029/2011MS000109.
- [24] **Meskhidze, N.**, J. Xu, B. Gantt, Y. Zhang, A. Nenes, S. J. Ghan, X. Liu, R. Easter, and R. Zaveri (2011), Global distribution and climate forcing of marine organic aerosol – Part 1: Model improvements and evaluation, *Atmos. Chem. Phys.*, 11, 11689–11705, doi:10.5194/acp-11-11689-2011.
- [23] Ghan, S.J., H. Abdul-Razzak, A. Nenes, Y. Ming, X. Liu, M. Ovchinnikov, **N. Meskhidze**, J. Xu, and X. Shi (2011), Droplet Nucleation: Physically-Based Parameterization and Comparative Evaluation, *J. Adv. Model. Earth Syst.*, 3, M10001, 33 pp, doi:10.1029/2011MS000074.
- [22] Sabolis A., **N. Meskhidze**, G. Curci, P. I. Palmer and B. Gantt (2011), Interpreting elevated spaceborne HCHO columns over the Mediterranean Sea using the OMI sensor, *Atmos. Chem. Phys.*, 11, 12,787–12,798, doi:10.5194/acp-11-12787-2011.
- [21] Kiliyanpilakkil, V. P. and **N. Meskhidze** (2011), Deriving the effect of wind speed on clean maritime aerosol optical properties using the A-Train satellites, *Atmos. Chem. Phys.*, 11, 11401-11413, doi:10.5194/acp-11-11401-2011.
- [20] Gantt, B, **N. Meskhidze**, M. C. Facchini, M. Rinaldi, D. Ceburnis, and C. O'Dowd (2011), Wind speed dependent size-resolved parameterization for the organic enrichment of sea spray, *Atmos. Chem. Phys.*, 11, 8777–8790, doi:10.5194/acp-11-8777-2011.
- [19] Johnson, M. S., **N. Meskhidze**, V. P. Kiliyanpilakkil, and S. Gassó (2011), Understanding the transport of Patagonian dust and its influence on marine biological activity in the South Atlantic Ocean, *Atmos. Chem. Phys.*, 11, 2487-2502, doi:10.5194/acp-11-2487-2011.
- [18] Shaw, S.L., B. Gantt, and **N. Meskhidze** (2010), Marine isoprene and monoterpene production and emissions: A review, *Advances in Meteorology*, Article ID 408696, doi:10.1155/2010/408696.
- [17] **Meskhidze N.** and A. Nenes (2010), Effects of ocean ecosystem on marine aerosol-cloud interactions, *Advances in Meteorology*, Article ID 239808, doi:10.1155/2010/239808.
- [16] Johnson, M. S., **N. Meskhidze**, F. Solmon, S. Gassó, P. Y. Chuang, D. M. Gaiero, R. M. Yantosca, S. Wu, Y. Wang, C. Carouge (2010), Modeling Dust and Soluble Iron Deposition to the South Atlantic Ocean, *J. Geophys. Res.*, 115, D15202, doi:10.1029/2009JD013311
- [15] Gantt, B., **N. Meskhidze**, and A. G. Carlton (2010), The impact of marine organics on the air quality of the western United States, *Atmos. Chem. Phys.*, 10, 1–9, doi:10.5194/acp-10-7415-2010.
- [14] Gantt, B., **N. Meskhidze**, Y. Zhang, and J. Xu (2010), The effect of marine isoprene emissions on secondary organic aerosol and ozone formation in the coastal United States, *Atmos. Environ.*, 44, 115–121, doi:10.1016/j.atmosenv.2009.08.027.

- [13] Wang, L.-T., C. Jang, Y. Zhang, K. Wang, Q. Zhang, D. Streets, L. Yu, K. He, J.-M. Hao, J. Fu, N. Lam, J. Lin, **N. Meskhidze**, S. Voorhees, J. Schreifels, D. Evarts, and S. Phillips (2010), Assessment of air quality benefits from national air pollution control policies in China. I: Background, emission scenarios and evaluation of meteorological predictions, *Atmos. Environ.*, 44 (28), 3442-3448, doi:10.1016/j.atmosenv.2010.05.051
- [12] Wang, L.-T., C. Jang, Y. Zhang, K. Wang, Q. Zhang, D. Streets, L. Yu, K. He, J.-M. Hao, J. Fu, N. Lam, J. Lin, **N. Meskhidze**, S. Voorhees, J. Schreifels, D. Evarts, and S. Phillips (2010), Assessment of air quality benefits from national air pollution control policies in China. Part II: Evaluation of air quality predictions and air quality benefits assessment, *Atmos. Environ.*, 44 (28), 3449-3457, doi:10.1016/j.atmosenv.2010.05.051.
- [11] Gantt, B., **N. Meskhidze**, and D. Kamykowski (2009), A new physically-based quantification of isoprene and primary organic aerosol emissions from the world's oceans, *Atmos. Chem. Phys* 9, 4915-4927, doi:10.5194/acpd-9-2933-2009.
- [10] **Meskhidze**, N., Remer, L. A., Platnick, S., Negrón Juárez, R., Lichtenberger, A. M., and A. R. Aiyyer (2009), Exploring the differences in cloud properties observed by the Terra and Aqua MODIS sensors, *Atmos. Chem. Phys.*, 9, 3461–3475, doi:10.5194/acp-9-3461-2009.
- [9] Solmon, F., P. Y. Chuang, **N. Meskhidze**, and Y. Chen (2009), Anthropogenic processing of iron in mineral dust over the north Pacific Ocean, *J. Geophys. Res.*, 114, D02305, doi:10.1029/2008JD010417
- [8] **Meskhidze**, N., A. Nenes, W. L. Chameides, C. Luo and N. Mahowald (2007), Southern Ocean Productivity: Fertilization From Above or Below? *Global Biogeochemical Cy.*, 21, GB2006, doi:10.1029/2006GB002711.
- [7] Fountoukis, C., **N. Meskhidze**, W.C. Conant, R. Bahreini, H. Jonsson, A. Sorooshian, V. Varutbangkul, S. Murphy, R.C. Flagan, J.H. Seinfeld, and A. Nenes (2007), Aerosol - Cloud Drop Concentration Closure and Droplet Formation Parameterization Evaluation using in-situ Data from ICARTT, *J. Geophys. Res.*, 112, D10S30, doi:10.1029/2006JD007272.
- [6] **Meskhidze**, N., A. Nenes (2006), Phytoplankton and Cloudiness in the Southern Ocean, *Science*, 314 (5804), 1419-1423, DOI: 10.1126/science.1131779.
- [5] Luo, C., N. Mahowald, **N. Meskhidze**, Y. Chen, R. L. Siefert, A. R. Baker, A. Johansen (2005), Estimation of Iron Solubility From Observations and A Global Aerosol Model, *J. Geophys. Res.*, 110, D23307, doi:10.1029/2005JD006059.
- [4] **Meskhidze** N., A. Nenes, W. C. Conant, J. H. Seinfeld, Evaluation of a new Cloud Droplet Activation Parameterization with In Situ Data from CRYSTAL-FACE and CSTRIFE (2005), *J. Geophys. Res.*, 110, D16202, doi:10.1029/2004JD005703.
- [3] **Meskhidze**, N., W. L. Chameides, and A. Nenes (2005), Dust and pollution: A recipe for enhanced ocean fertilization?, *J. Geophys. Res.*, 110, D03301, doi:10.1029/2004JD005082.
- [2] **Meskhidze**, N., W. L. Chameides, A. Nenes, and G. Chen (2003), Iron mobilization in mineral dust: Can anthropogenic SO<sub>2</sub> emissions affect ocean productivity?, *Geophys. Res. Lett.*, 30 (21), 2086, doi: 10.1029/2003GL018068.
- [1] Leclerc, M.Y., **N. Meskhidze**, and D. Finn (2003), Comparison between measured tracer fluxes and footprint model predictions over a homogeneous canopy of intermediate roughness, *Agr. Forest Meteorol.*, 117 (3-4), 145, doi:10.1016/S0168-1923(03)00043-1.

### Non-Refereed Publications

**Meskhidze**, N. (2015), The Importance of Marine Aerosols for Climate Change Assessments, in *Integrated Land-use Management Modelling of Black Sea Estuaries (ILMM-BSE) Project*

Implemented with the financial assistance of European Union in the framework of Black Sea Basin Joint Operational Program 2007-2013

**Meskhidze, N.**, C. R. McClain, M. D. Petters, E. Vignati, O. Stetzer, C. Osburn, and D. J. Kieber (2010), Marine Aerosol-Cloud-Climate Interaction, Editorial, *Advances in Meteorology*, 2010, Article ID 250896, doi:10.1155/2010/250896.

Commentary:

**Meskhidze, N.**, and A. Nenes (2007), Isoprene, cloud droplets, and phytoplankton – Response, *Science*, 317 (5834), 42-43.

Magazine article:

**Meskhidze, N.**, A. Nenes and W. L. Chameides, Dust storm surprise: Pollution can convert airborne iron into soluble form (2006), SOLAS (Surface Ocean Lower Atmosphere Study) News, issue 3.

### Meetings and Symposia

(Note **only** those presentations in which Meskhidze was the first author or Meskhidze's post-D or student were the first authors are included)

- [109] **Meskhidze, N.**, M. D. Petters, R. Reed, K. Dawson, B. Phillips, and T. Royalty, New Instrument for Measuring Size-resolved Submicron Sea Spray Particle Production From Ocean, December 14 – 18, 2015, San Francisco, CA.
- [108] Phillips, B., K. Dawson, T. Royalty, R. Reed, M. D. Petters, and **N. Meskhidze**, Measurements of Hygroscopicity- and Size-Resolved Sea Spray Aerosol, December 14 – 18, 2015, San Francisco, CA.
- [107] Royalty, T., M. D. Petters, A. Grieshop, **N. Meskhidze**, R. Reed, B. Phillips, and K. Dawson, Aerosol Size, CCN, and Black Carbon Properties at a Coastal Site in the Eastern U.S., December 14 – 18, 2015, San Francisco, CA.
- [106] B. Phillips, K. Dawson, T. Royalty, R. Reed, M. D. Petters, and **N. Meskhidze**, A novel instrument to measure hygroscopicity- and size-resolved particle fluxes, Community Modeling and Analysis System (CMAS), October 5–7, 2015, Chapel Hill, NC
- [105] **Meskhidze, N.**, M. D. Petters, R. E. Reed, K. Dawson, and B. Phillips, New instrument for measuring size-resolved submicron sea-salt particle production from ocean, 95<sup>th</sup> AMS Annual Meeting, 4–8 January 2015, Phoenix, AZ.
- [104] Dawson, K., M. D. Petters, and **N. Meskhidze**, Hygroscopic growth and cloud droplet activation of marine hydrogels, oral presentation, 95<sup>th</sup> AMS Annual Meeting, 4–8 January 2015, Phoenix, AZ.
- [103] **Meskhidze, N.**, K. Dawson, S. Suda, M. Petters, New Insights For Marine Source Organics: Laboratory Measurements, Remote Sensing & Model Results, invited presentation at the New Insights into Gas-Phase Atmospheric Chemistry conference, July 28-August 1, 2014, Telluride, CO.
- [102] **Meskhidze, N.**, Workshop on Clouds, Aerosols, Radiation and Air-Sea Interface of the Southern Ocean: Establishing Directions for Future Research, March 18-19, 2014, Seattle, WA.
- [101] **Meskhidze, N.**, Climatic Effects of Sea Spray Aerosols, 94<sup>th</sup> AMS Annual Meeting, 2-6 February, 2014, Atlanta, GA.
- [100] **Meskhidze, N.**, M. S. Johnson, Effect of atmospheric organics on iron bioavailability, poster presentation, AGU Fall Meeting, December 9 – 13, 2013, San Francisco, CA.
- [99] **Meskhidze, N.**, B. Gantt, The Impacts of Marine Organic Emissions on Atmospheric Chemistry and Climate, invited talk, AGU Fall Meeting, December 9 – 13, 2013, San Francisco, CA.



- [98] Dawson, K., **N. Meskhidze**, Y. Hu, Anomalies in Sea Spray Aerosol Optical Properties Detected by NASA High Spectral Resolution Lidar, poster presentation, AGU Fall Meeting, December 9 – 13, 2013, San Francisco, CA.
- [97] **Meskhidze, N.**, Sea spray aerosol and climate assessments: Model results and remotely sensed data, Open Sea Spray Aerosol Workshop, Galway, Ireland, September 30 – October 1, 2013.
- [96] Gantt, B., T. Glotfelty, N. Meskhidze, and Y. Zhang, Simulating the Impacts of Marine Organic Emissions on Global Atmospheric Chemistry and Climate using an Online-Coupled Meteorology and Chemistry Model, poster presentation, October 28-30, 2013, Chapel Hill, NC.
- [95] **Meskhidze, N.** and K. Dawson, Sea spray aerosol and climate assessments: Model results and remotely sensed data, oral presentation, AGU meeting of the Americas, May 14-17, 2013, Cancun, Mexico.
- [94] Hurley, D., **N. Meskhidze**, and M. D. Petters, Effect of atmospheric organics on iron bioavailability, poster presentation, AGU meeting of the Americas, May 14-17, 2013, Cancun, Mexico.
- [93] **Meskhidze, N.**, and M.S. Johnson, Updated dust-iron dissolution mechanism in GEOS-Chem, poster presentation, 6<sup>th</sup> International GEOS-Chem User's meeting, May 6-10, 2013, Harvard University, MA.
- [92] Johnson, M.S. and **N. Meskhidze**, Atmospheric input of soluble iron to the ocean: GEOS-Chem investigation of the role of oxalate and photochemistry, oral presentation, 6<sup>th</sup> International GEOS-Chem User's meeting, May 6-10, 2013, Harvard University, MA.
- [91] Gantt, B., M. S. Johnson, and **N. Meskhidze**, GEOS-Chem evaluation of marine primary organic aerosol emission schemes, oral presentation, 6<sup>th</sup> International GEOS-Chem User's meeting, May 6-10, 2013, Harvard University, MA.
- [90] **Meskhidze, N.**, Marine organic aerosols in CAM5-MAM, oral presentation at *Chemistry Climate Working Group Meeting* at NCAR, February 11-13, 2013, Boulder, CO.
- [89] Dawson, K., **N. Meskhidze**, B. Gantt, M. S. Johnson and S. Gassó, *Reducing the uncertainty in background marine aerosol radiative properties using CAM5 model results and CALIPSO-retrievals*, poster presentation, American Geophysical Union (AGU) Fall Meeting, December 3 – 7, 2011, San Francisco, CA.
- [88] Johnson, M.S. and **N. Meskhidze**, *Updated dust-iron dissolution mechanism in GEOS-Chem*, poster presentation, American Geophysical Union (AGU) Fall Meeting, December 3 – 7, 2011, San Francisco, CA.
- [87] Gantt, B. and **N. Meskhidze**, *Model implementation of marine organic aerosols*, poster presentation, American Geophysical Union (AGU) Fall Meeting, December 3 – 7, 2011, San Francisco, CA.
- [86] Trueblood, J. and **N. Meskhidze**, *A Novel Formation Mechanism of Atmospheric Low-Molecular Weight Carbonyls over Marine Regions*, poster presentation at the 12<sup>th</sup> Annual CMAS Conference, October 28-30, 2013, Chapel Hill, NC.
- [85] Johnson, M. S. and **N. Meskhidze**, Updated dust-nutrient dissolution mechanism: Effects of organic acids, photolysis, and dust mineralogy, poster presentation at *Goldschmidt2012*, June 24-29, 2012, Montréal, Canada.
- [84] **N. Meskhidze**, and M. S., Johnson, Improved representation of dust-nutrient deposition to the ocean for the Earth System Models, oral presentation at *Goldschmidt2012*, June 24-29, 2012, Montréal, Canada.
- [83] **Meskhidze, N.**, *Ocean-Atmosphere Interaction of Organic Compounds*, oral presentation at New Insights Into Gas-Phase Atmospheric Chemistry, July 30 - August 3, 2012, Telluride, CO.

- [82] Elizbarashvili, M., **N. Meskhidze**, B. Gantt, D. Mikava, Model simulation study of temperature and precipitation extremes in Georgia, The 12<sup>th</sup> International Multidisciplinary Scientific GeoConference SGEM 2012, June 17 - 23 June, 2012, Bulgaria.
- [81] Johnson, M.S., and **N. Meskhidze**, *Updated mineral dust-nutrient dissolution mechanism: Effects of organic acids, photolysis, and mineralogy*, poster presentation Surface Ocean-Lower Atmosphere Study (SOLAS) Open Science Conference, May 7 - 10, 2012, Cle Elum, WA.
- [80] **Meskhidze, N.** and B. Gantt, *The role of sea spray aerosols in climate assessments*, poster presentation Surface Ocean-Lower Atmosphere Study (SOLAS) Open Science Conference, May 7 - 10, 2012, Cle Elum, WA.
- [79] Elizbarashvili, M., **N. Meskhidze**, B. Gantt, N. Kutaladze, *Extreme Precipitation and Temperature Events in Georgia Using Regional Climate Model*, poster presentation at Sixth ICTP Workshop on the Theory and Use of Regional Climate Models, May 7 – 18, Trieste, Italy.
- [78] **Meskhidze, N.**, B. Gantt, M. S. Johnson, *Sea Spray Aerosols and Climate Assessments*, Oral presentation at American Meteorological Society (AMS) 92nd annual meeting, January 22 - 26, 2012, New Orleans, LA.
- [77] **Meskhidze, N.**, B. Gantt, Jun Xu, *Evaluating the potential impact of marine organic aerosols on climate assessments*, poster presentation, American Geophysical Union (AGU) Fall Meeting, December 5 – 9, 2011, San Francisco, CA.
- [76] Johnson, M. S and **N. Meskhidze**, Updated dust-iron dissolution mechanism: Effects of organic acids, photolysis, and dust mineralogy, poster presentation, American Geophysical Union (AGU) Fall Meeting, December 5 – 9, 2011, San Francisco, CA.
- [75] **Meskhidze, N.**, and M. S. Johnson, *Updated dust-iron dissolution mechanism: effects of organic acids, photolysis, and dust mineralogy*, oral presentation at the First International Workshop on the Long-Range Transport and Impacts of African Dust on the Americas, October 6-7, 2011, San Juan, Puerto Rico.
- [74] Johnson, M. S., **N. Meskhidze**, V. P. Kiliyanpilakkil, *African Dust Evaluation: Comparison between GEOS-Chem and Remotely-Sensed Observations*, poster presentation at the First International Workshop on the Long-Range Transport and Impacts of African Dust on the Americas, October 6-7, 2011, San Juan, Puerto Rico.
- [73] **Meskhidze, N.**, B. Gantt, M. Wilbanks, *Evaluating the impact of marine carbonaceous aerosols on clouds and climate assessments*, invited oral presentation, 242<sup>nd</sup> ACS National Meeting & Exposition, August 28-September 1, 2011, Denver, Colorado.
- [72] Johnson, M., and **N. Meskhidze**, *Updated dust-iron dissolution mechanism: Effects of organic acids, photolysis, and dust mineralogy*, oral presentation at Goldschmidt2011, August 14-19, 2011, Prague, Czech Republic.
- [71] Gantt, B., M. Johnson, and **N. Meskhidze**, *Evaluation of marine Primary Organic Aerosol Emission Schemes*, poster presentation at Goldschmidt2011, August 14-19, 2011, Prague, Czech Republic.
- [70] **Meskhidze, N.**, J. Xu and B. Gantt, *Evaluating the Impact of Marine Organic Aerosols on Climate*, oral presentation at Goldschmidt2011, August 14-19, 2011, Prague, Czech Republic.
- [69] Johnson, M., **N. Meskhidze**, V. P. Kiliyanpilakkil, *Evaluating GEOS-Chem predicted mineral dust optical depth using A-Train satellites*, oral presentation at 5<sup>th</sup> GEOS-Chem User's meeting, May 2-5, 2011, Harvard University, MA.
- [68] Kiliyanpilakkil, V.P., **N. Meskhidze**, *A comparison of CALIPSO clean marine and GEOS-Chem sea salt aerosol optical depth*, poster presentation at 5<sup>th</sup> GEOS-Chem User's meeting, May 2-5, 2011, Harvard University, MA.

- [67] **Meskhidze, N.**, and B. Gantt, *Modeling of marine primary and secondary organic aerosols*, poster presentation at 5<sup>th</sup> GEOS-Chem User's meeting, May 2-5, 2011, Harvard University, MA.
- [66] **Meskhidze, N.**, B. Gantt, M. Wilbanks, and J., Xu, *Effect of Marine Biogenic Aerosols on Clouds: A Community Atmosphere Model (CAM) Study*, poster presentation at DOE ASR meeting, March 28-April 1, 2011, San Antonio, Texas.
- [65] **Meskhidze, N.**, *Modeling of Atmospheric Transport and Deposition of Mineral Iron to the Oceans*, invited seminar at Dalhousie University – Seminar in Earth Science Modeling, March 17, 2011, Halifax, NS, Canada.
- [64] **Meskhidze, N.**, *Modeling of Atmospheric Transport and Deposition of Soluble Iron to the Oceans*, invited oral presentation at WMO SDS-WAS/GESAMP Expert Workshop on Modelling and Observing the Impacts of Dust Transport and Deposition on Marine Productivity, March 7-9, 2011, Malta.
- [63] **Meskhidze, N.**, *Marine Primary and Secondary Organic Aerosol: Their Emission Rates and Potential Effects on Cloud Microphysical Properties*, invited seminar at AEROCENTER Forum - NASA-Goddard Space Flight Center, February 21, 2011, Greenbelt, MD.
- [62] **Meskhidze, N.**, B. Gantt, J. Xu, A. Sabolis, E. Morris, M. Petters, *Marine Primary and Secondary Organic Aerosols and Their Effect on Indirect Radiative Forcing*, 91st Annual Meeting, January 23-27, 2011, Seattle, WA.
- [61] Sabolis, A., **N. Meskhidze**, D. Kamykowski, and R. Reed, *Quantifying Marine Emissions of Biogenic Volatile Organic Compounds Using Laboratory Measurements of Plankton Monocultures and Field Samples*, poster presentation, American Geophysical Union (AGU) Fall Meeting, December 13 – 17, 2010, San Francisco, CA.
- [60] Gantt, B., E. Morris, M. Petters, **N. Meskhidze**, *Isolating factors that determine the organic enrichment of sea spray aerosols*, oral presentation at American Geophysical Union (AGU) Fall Meeting, December 13 – 17, 2010, San Francisco, CA.
- [59] **Meskhidze, N.** and B. Gantt, *New insights into an organic mass fraction of sea spray aerosol*, poster presentation, American Geophysical Union (AGU) Fall Meeting, December 13 – 17, 2010, San Francisco, CA.
- [58] Kiliyanpilakkil, V. P. and **N. Meskhidze**, *Deriving a relationship between wind speed and clean marine aerosol optical depth using CALIPSO and AMSR-E data*, poster presentation, American Geophysical Union (AGU) Fall Meeting, December 13 – 17, 2010, San Francisco, CA.
- [57] Johnson, M.S., and **N. Meskhidze**, *Understanding the Transport of Patagonian Dust and its Influence on Marine Biological Activity in the South Atlantic Ocean carbon cycle*, oral presentation at International Symposium on the A-Train Satellite Constellation, October 25-28, 2010, New Orleans, LA.
- [56] Gantt, B and **N. Meskhidze**, *Using A-train satellites to better understand the connection between marine aerosols and ocean biology atmospheric composition and chemistry*, poster presentation, International Symposium on the A-Train Satellite Constellation, October 25-28, 2010, New Orleans, LA.
- [55] **Meskhidze, N.** and B. Gantt, *A Novel Parameterization of the Marine Primary Organic Aerosol Emission for Regional and Global Models*, poster presentation at 9<sup>th</sup> Annual CMAS Conference, October 11-13, 2010, Chapel Hill, NC.
- [54] Gantt, B., **N. Meskhidze**, A. M. Carlton, *The Contribution of Marine Organic Emissions to Coastal Air Quality*, oral presentation at 9<sup>th</sup> Annual CMAS Conference, October 11-13, 2010, Chapel Hill, NC.

- [53] **Meskhidze, N.**, J. Xu, J. and B. Gantt, *The Impact of Marine Organic Emissions on Global Climate*, poster presentation at Goldschmidt 2010, Earth Energy and the environment, June 13 – 18, 2010, Knoxville, TN.
- [52] Gantt, B. and **N. Meskhidze**, *Rethinking the Organic Sea Spray Function*, poster presentation at Goldschmidt 2010, Earth Energy and the environment, June 13 – 18, 2010, Knoxville, TN.
- [51] Sabolis, A. and **N. Meskhidze**, *Quantifying Marine Emissions of Volatile Organic Compounds Using Laboratory and Field Measurements from North Carolina Estuarine System*, poster presentation at Goldschmidt 2010, Earth Energy and the environment, June 13 – 18, 2010, Knoxville, TN.
- [50] **Meskhidze, N.**, *Climate Change and Recommended Curriculum Guide*, invited oral presentation on Constraining Climatic Effects of Anthropogenic Aerosols by Improving Marine Emissions, at International Conference on Climate Change Curricula in Higher Education, June 7-9, 2010, Tbilisi, Georgia.
- [49] **Meskhidze, N.**, *Constraining Climatic Effects of Anthropogenic Aerosols by Improving Marine Emissions*, invited oral presentation at Ilia State University, Jun 5, 2010, Tbilisi, Georgia.
- [48] Gantt, B. and **N. Meskhidze**, *Measuring and modeling marine biogenic volatile organic compounds*, invited oral presentation in the early career session at 5th Biogenic Hydrocarbons & The Atmosphere Gordon Research Conference, May 23-28, 2010, Les Diablerets, Switzerland.
- [47] **Meskhidze, N.**, J. Xu, Y. Zhang, B. Gantt, A. Carlton, S. Ghan, A. Nenes, X. Liu, R. Easter, and R. Zaveri, *The Impact of Marine Organic Emissions on Global Climate and Coastal Air Quality*, poster presentation at DOE ASR meeting, March 15 – 18, Washington, DC.
- [46] **Meskhidze, N.**, J. Xu, Y. Zhang, B. Gantt, A. G. Carlton, S. J. Ghan, A. Nenes, X. Liu, R. C. Easter, R. A. Zaveri, *The Impact of Marine Organic Emissions on Coastal Air Quality and Climate*, poster presentation at American geophysical Union (AGU) Ocean Sciences Meeting, February 22-26, 2010, Portland, OR.
- [45] Sabolis, A. W., **N. Meskhidze**, D. Kamykowski, and R. E. Reed, *Quantifying Marine Emissions of Biogenic Volatile Organic Compounds Using Laboratory and Field Measurements from North Carolina Estuarine System*, poster presentation at American geophysical Union (AGU) Ocean Sciences Meeting, February 22-26, 2010, Portland, OR.
- [44] Gantt, B., **N. Meskhidze**, A. G., Carlton, *The Impact of Marine Organic Emissions on Coastal Air Quality of the Western US.*, poster presentation at American geophysical Union (AGU) Fall Meeting, December 14 – 18, 2009, San Francisco, CA.
- [43] Johnson, M. S., **N. Meskhidze**, S. Gassó, F. Solmon, *Quantifying the Impact of Mineral Dust and Dissolved Iron Deposition on Marine Biological Activity*, poster presentation at American geophysical Union (AGU) Fall Meeting, December 14 – 18, 2009, San Francisco, CA.
- [42] Xu, J., **N. Meskhidze**, Y. Zhang, B. Gantt, S. J. Ghan, A. Nenes, X. Liu, R. C. Easter, R. A. Zaveri, *Climatic Effects of Marine Organic Aerosols*, poster presentation at American geophysical Union (AGU) Fall Meeting, December 14 – 18, 2009, San Francisco, CA.
- [41] **Meskhidze, N.**, J. Xu, B. Gantt, *Connecting Oceanic Emissions, Aerosols, and Maritime Clouds: What do we know and where do we go?*, oral presentation at American geophysical Union (AGU) Fall Meeting, December 14 – 18, 2009, San Francisco, CA.
- [40] **Meskhidze, N.**, *Connecting Oceanic Emissions of Trace Gases, Aerosols, and Maritime Clouds*, invited oral presentation at International Aerosol Modeling Algorithms (IAMA) Conference, December 9 – 11, 2009, UC Davis, CA.

- [39] **Meskhidze, N.**, *The effect of ocean biogeochemistry on aerosol, clouds and climate*, tutorial session presented at American Association for Aerosol Research (AAAR) 28<sup>th</sup> Annual Conference, October 26, 2009, Minneapolis, MN.
- [38] Xu, J., **N. Meskhidze**, Y. Zhang, B. Gantt, S. Ghan, A. Nenes, X. Liu, R. Easter, & R. Zaveri, *The effect of marine biogenic organic aerosols on stratiform clouds: A 10-year global simulation with coupled GCM-aerosol model*, poster presentation, American Association for Aerosol Research (AAAR) 28<sup>th</sup> Annual Conference, October 26 - 30, 2009, Minneapolis, MN.
- [37] Gantt, B., **N. Meskhidze**, A-M. Carlton, *The Impact of Marine Organic Aerosols on Coastal Air Quality of the Western US*, oral presentation, American Association for Aerosol Research (AAAR) 28<sup>th</sup> Annual Conference, October 26 - 30, 2009, Minneapolis, MN.
- [36] Sotiropoulou, R.E.P., **N. Meskhidze**, J. Kouatchou, L. Oreopoulos, J. M. Rodriguez and A. Nenes, *Sensitivity of indirect effects to cloud formation parameterizations and meteorological fields*, 18th International Conference on Nucleation and Atmospheric Aerosols (ICNAA), August 10-14, 2009, Prague, Czech Republic.
- [35] Johnson, M., **N. Meskhidze**, *Modeling mineral dust and dissolved iron deposition*, poster presentation, Goldschmidt2009, June 21 – 26, 2009, Davos, Switzerland.
- [34] **Meskhidze, N.**, J. Xu, Y. Zhang, B. Gant, S. Ghan, A. Nenes, X.Liu, R. Easter, & R. Zaveri, *Effect of marine biogenic organic aerosols on cloud properties: Modeling study*, oral presentation, Goldschmidt2009, June 21 – 26, 2009, Davos, Switzerland.
- [33] Johnson, M., **N. Meskhidze**, F. Solmon, D. Fairlie, S. Gasso, D. Gaiero, *Modeling dust and dissolved iron deposition to the Southern Ocean using GEOS-Chem*, oral presentation, 4<sup>th</sup> GEOS-Chem User's meeting, April 7-10, 2009, Harvard University, MA.
- [32] **Meskhidze, N.**, C. McClain, P. Bontempi, P. Matrai, E. Saltzman, N. Mahowald, J. Propero, Y. Gao, S. Gassó, L. Remer, S. Bauer, M. Behrenfeld, J. Chowdhary, B. Miller, *ACE Ocean - Aerosol Working Group*, oral presentation at Aerosol/Cloud/Ecosystems Mission (ACE) Workshop, March 10-12, 2009 Oxnard, CA.
- [31] **Meskhidze, N.**, J. Xu, Y. Zhang, B. Gantt, S. Ghan, A. Nenes, X. Liu, R. Easter & R. Zaveri, *Effect of Marine Biogenic Organic Aerosols on Clouds*, oral presentation at Annual Science Team Meeting of the Atmospheric Science Program (ASP), February 25-27, 2009, Santa Fe, NM.
- [30] **Meskhidze, N.**, J. Xu, Y. Zhang, B. Gantt, S. Ghan, A. Nenes, X. Liu, R. Easter & R. Zaveri, *Effect of Marine Biogenic Organic Aerosols on Cloud Properties: Community Atmosphere Model (CAM) Study*, poster presentation, Annual Science Team Meeting of the Atmospheric Science Program (ASP), February 25-27, 2009, Santa Fe, NM.
- [29] Gantt, B., J. Xu, D. Kamykowski, **N. Meskhidze**, *A New Physically-based Quantification of Marine Isoprene and Primary Organic Aerosol Emissions*, poster presentation, Annual Science Team Meeting of the Atmospheric Science Program (ASP), February 25-27, 2009, Santa Fe, NM.
- [28] Sotiropoulou, R.E.P., J. Kouatchou, L. Oreopoulos, **N. Meskhidze**, J. M. Rodriguez and A. Nenes, *Sensitivity of indirect effects to cloud formation parameterization and meteorological fields*, American Geophysical Union (AGU), Fall Meeting, December 15 – 19, San Francisco, CA.
- [27] **Meskhidze, N.**, *Modeling of Atmospheric Transport and Deposition of Soluble Iron to the Oceans*, Invited oral presentation at American Geophysical Union (AGU) Fall Meeting, December 15 – 19, 2008, San Francisco, CA.
- [26] Johnson, M., **N. Meskhidze**, F. Solmon, D. Fairlie, S. Gasso, D. Gaiero, *Modeling Patagonian Dust Fluxes and Depositions to the Sothern Ocean Using GEOS-Chem*, NC Space Grant presentations, Appalachian State University, November 22, 2008, Boone, NC.

- [25] Gantt, B., **N. Meskhidze**, and D. Kamykowski, *Oceanic Trace Gases: Quantification and Climate Impact*, poster presentation at American Association for Aerosol Research (AAAR) 27<sup>th</sup> Annual Conference, 20 - 24 October, 2008, Orlando, FL.
- [24] **Meskhidze, N.**, L. A. Remer, S. Platnick, R. Negrón Juárez, A. M. Lichtenberger and A. R. Aiyyer, *Exploring the Differences in Aerosol and Cloud Properties Observed by the MODIS Twin Sensors*, poster presentation at American Association for Aerosol Research (AAAR) 27<sup>th</sup> Annual Conference, 20 - 24 October, 2008, Orlando, FL.
- [23] Gantt, B., **N. Meskhidze**, Y. Zhang, J. Xu, and D. Kamykowski, *The Effect of Oceanic Isoprene Emissions on Secondary Organic Aerosol Formation in the Coastal United States*, poster presentation at the 7<sup>th</sup> Annual CMAS Conference, 6 - 8 October, 2008, Chapel Hill, NC.
- [22] Hemperly, J., X.-Y. Wen, **N. Meskhidze**, and Y. Zhang, *Application and Evaluation of the Global Weather Research and Forecasting (GWRf) Model*, oral presentation at the 7<sup>th</sup> Annual CMAS Conference, 6 - 8 October, 2008, Chapel Hill, NC.
- [21] Johnson, M., **N. Meskhidze**, F. Solmon, D. Fairlie, S. Gasso, D. Gaiero, *Modeling Patagonian Dust and Soluble Iron Deposition to the Southern Ocean: Application of GEOS-Chem*, poster presentation at the 7<sup>th</sup> Annual CMAS Conference, 6 - 8 October, 2008, Chapel Hill, NC.
- [20] Sotiropoulou, R.E.P., **N. Meskhidze**, J. Kouatchou, L. Oreopoulos, J. M. Rodriguez and A. Nenes, *Aerosol - cloud interactions in the NASA GMI: Sensitivity of indirect effects to cloud formation parameterization and meteorological fields*, European Aerosol Conference (EAC'2008), August 24-29, 2008, Thessaloniki, Greece.
- [19] **Meskhidze, N.**, Y. Zhang, B. Gantt, J. Hemperly, D. Kamykowski, & X.-Y. Wen, *Effect of Terrestrial and Marine Organic Aerosol on Regional and Global Climate: Work Plan and Some Preliminary Results*, oral presentation at the Department of Energy Atmospheric Science Program FY 2008 Science Team Meeting, February 25 – 27, 2008, Annapolis, MD.
- [18] **Meskhidze, N.**, *Spatial and temporal differences in AOD observed by MODIS twin sensors*, oral presentation at the International Workshop: Aerosols in the Amazon - Changes and their Consequences from Past and Future Human Activities, February 18-22, 2008, Manaus, Amazônia, Brazil,
- [17] Igel., M., and **N. Meskhidze**, *Effects of Aerosol on Shallow Marine Clouds in Bay of Bengal*, oral presentation at American Meteorological Society (AMS) annual meeting, January 11-15, 2008, New Orleans, LA.
- [16] Sotiropoulou, R.E.P., **N. Meskhidze**, and A. Nenes, *Aerosol – cloud interactions using the NASA Global Modeling Initiative (GMI)*, American Geophysical Union (AGU), Fall Meeting, December 10 – 14, 2007, San Francisco, CA.
- [15] **Meskhidze, N.**, R. Negrón Juárez, L. A. Remer, S. Platnick, and A. Aiyyer, *Exploring the differences in aerosol and cloud properties observed by the MODIS twin sensors*, oral presentation at American Geophysical Union (AGU) Fall Meeting, December 10 – 14, 2007, San Francisco, CA.
- [14] **Meskhidze, N.**, *Iron Biogeochemistry in the Southern Ocean and the Possible Role of Patagonian Dust in Ocean Fertilization*, oral presentation at Multidisciplinary Workshop on Southern South American Dust, October 3-5, 2007, Puerto Madrin, Argentina.
- [13] Sotiropoulou, R.E.P., **N. Meskhidze**, and A. Nenes, *Aerosol – cloud interactions: sensitivity of indirect effects to cloud formation parameterization, meteorological fields, and emission scenario*, 25<sup>th</sup> Annual Conference, American Association for Aerosol Research (AAAR2007), September 24-28, 2007, Reno, NV.
- [12] Sotiropoulou, R.E.P., **N. Meskhidze**, and A. Nenes, *Sensitivity of aerosol indirect forcing and autoconversion to cloud formation parameterization, meteorological field and emission scenarios:*

- An assessment with the NASA Global Modeling Initiative (GMI)*, Geophysical Research Abstracts, Vol. 9, 00981, European Geophysical union (EGU), April 15-20, 2007, Vienna, Austria.
- [11] **Meskhidze, N.** and A. Nenes, *The effect of phytoplankton on clouds in the Southern Ocean: A natural “shiptrack” or “smog chamber”?* poster presentation at Gordon Conference on Biogenic Hydrocarbons & the Atmosphere, February 25- April 2, 2007, Ventura, CA.
- [10] Sotiropoulou, R.E.P., **N. Meskhidze** and A. Nenes, *Sensitivity of aerosol indirect forcing and autoconversion to cloud droplet parameterization: an assessment with the NASA Global Modeling Initiative*, American Geophysical Union (AGU), Fall Meeting, December 11-15, 2006, San Francisco, CA.
- [9] **Meskhidze, N.** and A. Nenes, *Phytoplankton and Cloudiness in the Southern Ocean*, oral presentation at American Geophysical Union (AGU) Fall Meeting, December 11-15, 2006, San Francisco, CA.
- [8] **Meskhidze, N.**, A. Nenes, B. N. Duncan and J. M. Rodriguez, *Aerosol Indirect Forcing from the NASA Global Modeling Initiative: Sensitivity to Meteorology, Emission Scenarios and Aerosol Microphysics*, oral presentation at American Association for Aerosol Research (AAAR) International Aerosol Conference 2006, September 10-15, 2006, St. Paul, MN.
- [7] **Meskhidze, N.** and A. Nenes, *Aerosol Indirect Climatic Effect Assessments using the NASA Global Modeling Initiative*, American Geophysical Union (AGU) fall meeting, 5–9 December, 2005, San Francisco, CA.
- [6] **Meskhidze, N.**, *The Possible Role of Air Pollution in Dust - Fe Mobilization and its Implications to Global C-cycle*, ACCESS VIII Colloquium, Yellowstone National Park, Wyoming, September 1-4, 2005 and Gordon Research Conference, September 4 - 9, 2005, Big Sky, MT.
- [5] **Meskhidze, N.**, *Southern Ocean Productivity: Fertilization From Above or Below?* Oral presentation at Dynamic Planet 2005, August 22 -26, 2005, Cairns, Australia.
- [4] **Meskhidze, N.**, A. Nenes, W. Conant, and J. Seinfeld, *Evaluation of a new Cloud Droplet Activation Parameterization with In Situ Data from NASA CRYSTAL-FACE and CSTRIFE*, oral presentation at American Association for Aerosol Research (AAAR) Annual Conference, October 4-8, 2004, Atlanta, GA.
- [3] **Meskhidze, N.**, W. L. Chameides and A. Nenes, *Episodic Dust Passage and Phytoplankton Blooms in North Pacific Ocean*, poster presentation at American Geophysical union (AGU) fall meeting, 8-12 December, 2003, San Francisco, CA.
- [2] **Meskhidze, N.**, W. L. Chameides, *Modeling the Influence of Different Processes on Iron Solubilization in Mineral Aerosols: From the Gobi Desert to the North Pacific Ocean*, poster presentation at American Geophysical union (AGU) fall meeting, December 6-10, 2002, San Francisco, CA.
- [1] **Meskhidze, N.**, *Tracer Measurements and Modeling of Flux Footprint above a Rough Canopy*, 23<sup>rd</sup> Conference on Agricultural and Forest Meteorology, 1998, Albuquerque, New Mexico.