Curriculum Vitae: Lynn M. Russell

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Research Interests
Chemistry of atmospheric aerosols
Aerosol production and growth mechanisms
Aerosol-cloud interactions
Secondary organic aerosol formation processes
Mixing processes in boundary layer aerosols
Aircraft-based atmospheric measurements

Education

California Institute of Technology, Pasadena, CA. *6/91 - 11/95*
Ph.D., Chemical Engineering. November 1995
Thesis: "The Physics and Chemistry of Marine Aerosols," 1995, Advisor: John H. Seinfeld and Richard C. Flagan.
M.S., Chemical Engineering. June 1993
Coursework included environmental fluid mechanics, reaction kinetics, statistical mechanics, atmospheric radiation, atmospheric chemistry, and nonlinear dynamical systems.

Stanford University, Palo Alto, CA. *9/87 - 6/91*
B.S. with Distinction, Chemical Engineering. June 1991
Coursework included chemical engineering and chemistry classes, as well as biochemistry, physics, environmental engineering, and computer science.
A.B. with Distinction and Departmental Honors, International Relations. June 1991
Coursework included international politics, literature, and microeconomics.
Thesis: "Brown Coal in the Energy Policy of the German Democratic Republic: Environmental Values in Transition," Advisors: Rosamond L. Naylor and Paul V. Roberts.

Bellaire Senior High School, Bellaire, TX. *9/84 - 6/87*
International Baccalaureate Diploma. June 1987
Coursework focused on Chemistry, Math and German, with Biology, History and English minors.

Experience

Research and Teaching
Professor, Scripps Institution of Oceanography, University of California San Diego, La Jolla, CA. 2005-present
Professor of Atmospheric Chemistry on the faculty of the Scripps Institution of Oceanography. Research focused on organic aerosols and their climate impacts. Courses developed and taught: SIO217a Atmosheric Thermodynamics; SIO217d Atmospheric Chemistry; CHEM173 Atmospheric Chemistry; CHEM149a Environmental Chemistry; SIO209 Seminars: Organic Aerosols; Aerosol-Cloud Interactions.
Associate Professor, Scripps Institution of Oceanography, University of California San Diego, LaJolla,CA. 2003-05
Associate Professor of Atmospheric Chemistry on the faculty of the Scripps Institution of Oceanography. Courses developed and taught: SIO217D Atmospheric Chemistry; SIO209 Organic Aerosols; SIO209 Aerosol-Cloud Interactions.
Assistant Professor, Princeton University, Princeton, NJ. 1997-03
Faculty member in the Department of Chemical Engineering and associated faculty member in the Department of Civil and Environmental Engineering, the Program in Atmospheric and Oceanic Sciences, and the Princeton Environmental Institute. Started a research program in atmospheric aerosols that included development of instrumentation for measuring aerosol particles and their composition, numerical modeling of aerosol evolution, and airborne and ship-based field measurements. Developed an undergraduate course on Air Pollution and a graduate course on Aerosol Physics and Chemistry. Taught courses for undergraduate students on Thermodynamics and for

graduate students in Mathematical Methods in Engineering. Developed an Aerosol Sampling lab module for undergraduate non-science majors.

Postdoctoral Scholar, National Center for Atmospheric Research, Boulder, CO. 1996-97

Fellow in the NCAR Advanced Studies Program. Installed Radially-Classified Aerosol Detector in the Center for Integrated Remotely Piloted Aircraft Studies Pelican aircraft. Measured submicron particle characteristics as part of the TARFOX Experiment aboard the Pelican remotely-piloted aircraft. Studied the role of boundary layer structure on aerosol concentrations in data from ACE-1. Designed and constructed a model to study externally-mixed aerosol populations as they are processed in the clear and clouded marine boundary layer.

Postdoctoral Scholar, California Institute of Technology, Pasadena, CA. 1995

Measured submicron particle characteristics as part of the ACE-1 Experiment aboard the C130. Studied the cloud microphysical model of Andrea Flossman, Professor of Physical Meteorology, as a visitor at the University of Blaise Pascal.

Graduate Research Assistant, California Institute of Technology, Pasadena, CA. 1991 - 95

Measured submicron aerosols in ASTEX/MAGE Lagrangian field experiment. Designed instrumentation and developed software for evaluation of time-resolved submicron particle size distribution characterization. Developed measurement strategy for MAST experiment to study ship tracks. Constructed instrumentation and developed protocol for identification of fine particle organics using Gas Chromatography and Mass Spectrometry with Supercritical Fluid Extraction. Developed and evaluated model for aerosol evolution in the marine boundary layer.

Graduate Teaching Assistant, California Institute of Technology, Pasadena, CA. 1/93 - 4/93

Guided review sessions in undergraduate chemical engineering kinetics course.

Associate Engineer, Radian Corporation, Sacramento, CA. 6/91 - 9/91

Reported on the effects of nitrous oxide in the atmosphere. Developed strategy for assessing the contribution of shipping to Lake Michigan pollution. Estimated the role of cattle feed lots in Denver brown clouds. Compared pollution control strategies in ozone non-attainment districts. Evaluated the environmental impact of cement-producing and silk-screening industries.

Research Engineer, Hüls, AG, Marl, West Germany. 6/90 - 9/90

Carried out studies of the distillation of cyclohexane and n-butanol.

Process Engineer, Kelco Division of Merck, San Diego, CA. 6/89 - 9/89

Developed approaches to reduce water consumption in the production of alginates based on bench-scale experiments. Performed and analyzed bench-scale tests for plant modifications.

Student Tutor, Stanford Center for Teaching and Learning Studies, Palo Alto, CA. 1/88 - 2/91

Helped other students to increase their problem-solving abilities and study skills in physics and chemistry.

Research Assistant, Stanford Chemical Engineering Department, Palo Alto, CA. 4/88 - 6/88

Constructed cell for observing fluid fingering. Set up apparatus for data collection using digital imaging.

Honors

National Aeronautics and Space Administration Group Achievement Award (INTEX), 2007.
Kenneth T. Whitby Award, American Association of Aerosol Research, 2003.
Thiele Lectureship in Chemical Engineering, University of Notre Dame, 2002.
James S. McDonnell Foundation 21st Century Science Research Award, 2002.
National Aeronautics and Space Administration New Investigator Award in Earth Science, 1999.
National Science Foundation New Century Scholars Workshop, 1999.
MIT Technology Review Magazine's Outstanding Young Innovators' Award, 1999.
Honoree of the University Committee on the Standing of Women, 1999.
National Center for Atmospheric Research Outstanding Publication Award, 1998.
Princeton School of Engineering Rheinstein `11 Faculty Award for Excellence in Teaching and Scholarship, 1998.
National Science Foundation Young Faculty CAREER Award, 1998.
National Center for Atmospheric Research Significant Scientific Achievement Award, 1997.
Dreyfus Foundation New Faculty Award, 1997.
Office of Naval Research Young Investigator Program Award, 1997.
National Center for Atmospheric Research Advanced Study Program Fellowship, 1996.
Gordon Conference Atmospheric Chemistry Consortium for Emerging Senior Scientists, 1995.
Landau Fellowship, California Institute of Technology, 1994.

National Science Foundation Fellowship, 1991-1994.
Phi Beta Kappa, Stanford University, 1991.
Tau Beta Pi, Stanford University, 1990.
American Institute of Chemical Engineers Award for Scholastic Achievement, Stanford University, 1990.
Cap and Gown Honor Society, Stanford University, 1989.
American Chemical Society Scholarship, 1987.
Society of Petroleum Engineers Scholarship, 1987-1991.
National Merit Scholarship, 1987-1991.

Service

Editorial

Atmospheric Environment: Section Editor for "New Directions," May 2009 – May 2010 (One-Year Term Appointment; Handled 12 submissions).

Atmospheric Chemistry and Physics: Co-Editor, December 2009 – present (Ongoing Appointment; Handled 10 submissions/yr), http://www.atmospheric-chemistry-and-physics.net/general_information/editorial_and_advisory_board.html.

Treatise on Geochemistry: Co-Editor for Atmospheres Chapter, March 2010 – present.

Other Professional

Panel on Atmospheric Effects of Aviation, National Research Council, 1997-1999.
Communications Committee, Atmospheric Sciences Division, American Geophysical Union, 1998-99; 1999-00.
Student Chapter Advisor, American Institute of Chemical Engineers, 1997-98; 1998-99; 1999-00.
University Liaison Officer and Executive Board Member, American Institute of Chemical Engineers, Central Jersey Chapter, 1997-98; 1998-99; 1999-00.
Divisional Review Committee, Advanced Studies Program, National Center for Atmospheric Research, 2001.
Session Chair, Annual Meeting, American Association of Aerosol Research, 1997.
University Liaison, Central Jersey Chapter, American Institute of Chemical Engineers, 1997-2000.
Communications Committee, Atmospheric Sciences Division, American Geophysical Union, 2000-2001.
Communications Committee, American Association of Aerosol Research, 2000-2001.
Session Chair, Annual Meeting, American Institute of Chemical Engineers, 2000.
Tri-National Review of NARSTO PM Assessment, National Research Council, 2002.
Co-Chair, HIAPER IPT Subgroup on Aerosol and Microphysics, UCAR/NCAR/NSF, 2002-2003.
HIAPER IPT Subgroup on Inlet Design, UCAR/NCAR/NSF, 2002-2003.
Session Co-Chair, Spring Meeting, American Chemical Society, 2003.
Observing Facilities Advisory Panel, National Center for Atmospheric Research, 2000-2002.
Board of Directors, American Association of Aerosol Research, 2001-2005.
Session Chair, Organic Speciation, Photochemistry and Hygroscopicity, ACE-Asia Data Workshop, 2001; 2002.
Session Co-Chair, Annual Meeting, American Institute of Chemical Engineers, 2002.
HIAPER Advisory Committee, UCAR/NCAR/NSF, 2002-2004.
Radiative Forcing Effects Committee, National Research Council, 2003-2004.
Co-Chair of Telluride Workshop: Atmospheric Aerosol Aging, 9-13 August 2004.
Working Group Chair at AGCI Aerosols and Hydrological Forcing, 12-16 July 2004.
New Source Review Committee, National Research Council, 2004-2005.
Conference Chair for 27th Informal Symposium on Kinetic and Photochemical Processes in the Atmosphere (Scripps, 12 February 2010).
Symposium Co-Chair for "Aerosols in Geoengineering" at Annual Meeting (Portland, October 2010) of the American Association for Aerosol Research.
Co-Chair of Telluride Workshop: Aerosol-Cloud Interactions (Telluride, 2-6 August 2010).
Session Convener for Fall Meeting (2010) of the American Geophysical Union.
Scientific Steering Committee of the International Geosphere-Biosphere Programme, 2005-2010.
Conference Chair for Annual Meeting (Orlando, October 2011) of the American Association for Aerosol Research.
Editorial Board of *Atmospheric Environment*, 2004-2011.

Publications

Papers Published in Peer-Reviewed Journals

A001 "The Relationship between DMS Flux and CCN Concentration in Remote Marine Regions," S.N. Pandis, L.M. Russell, and J.H. Seinfeld, *Journal of Geophysical Research – Atmospheres,* 99: 16945-16957, 1994.

A002 "Aerosol Production and Growth in the Marine Boundary Layer," L.M. Russell, S.N. Pandis, and J.H. Seinfeld, Journal *of Geophysical Research – Atmospheres,* 99: 20989-21003, 1994.

A003 "Asymmetric Instrument Response Resulting from Mixing Effects in Accelerated DMA-CPC Measurements," L.M. Russell, R.C. Flagan, and J.H. Seinfeld, *Aerosol Science and Technology,* 23: 491-509, 1995.

A004 "The Relationship Between DMS Flux and CCN Concentration in Remote Marine Regions – Reply," S.N. Pandis, L.M. Russell and J.H. Seinfeld, *Journal of Geophysical Research – Atmospheres,* 100: 14357-14358, 1995.

A005 "Radial Differential Mobility Analyzer," S.H. Zhang, Y. Akutsu, L.M. Russell, R.C. Flagan, and J.H. Seinfeld, *Aerosol Science and Technology,* 23: 357-372, 1995.

A006 "Characterization of Submicron Aerosol Size Distributions from Time-Resolved Measurements in Atlantic Stratocumulus Transition Experiment Marine Aerosol and Gas Exchange," L.M. Russell, B.J. Huebert, R.C. Flagan, and J.H. Seinfeld, *Journal of Geophysical Research – Atmospheres,* 101: 4469-4478, 1996.

A007 "Radially Classified Aerosol Discriminator for Aircraft-based Submicron Aerosol Measurements," L.M. Russell, S.H. Zhang, R.C. Flagan, J.H. Seinfeld, M.R. Stolzenburg, and R. Caldow, *Journal of Atmospheric and Oceanic Technology,* 13: doi: 10.1175/1520-0426, 1996.

A008 "Center for Interdisciplinary Remotely-Piloted Aircraft Studies (CIRPAS)," R.T. Bluth, P.A. Durkee, J.H. Seinfeld, R.C. Flagan, L.M. Russell, P.A. Crowley, and P. Finn, *Bulletin of the American Meteorological Society,* 77: 2691-2699, 1996.

A009 "Particle Charging and Transmission Efficiencies of Aerosol Charge Neutralizers," D. Covert, A. Wiedensohler, and L. Russell, *Aerosol Science and Technology*, 27: 206-214, 1997.

A010 "Determination of Differential Mobility Analyzer Transfer Functions Using Identical Instruments in Series," W. Birmili, F. Stratmann, A. Wiedensohler, D. Covert, L.M. Russell, and O. Berg, *Aerosol Science and Technology,* 27: 215-223, 1997.

A011 "Intercomparison Study of the Size-Dependent Counting Efficiency of 26 Condensation Particle Counters," A. Wiedensohler, D. Orsini, D.S. Covert, D. Coffmann, W. Cantrell, M. Havlicek, F.J. Brechtel, L.M. Russell, R.J. Weber, J. Gras, J.G. Hudson, and M. Litchy, *Aerosol Science and Technology,* 27: 224-242, 1997.

A012 "Size- and Composition-Resolved Externally Mixed Aerosol Model," L.M. Russell and J.H. Seinfeld, *Aerosol Science and Technology*, 28: 403-416, 1998.

A013 "Bidirectional Mixing in an ACE 1 Marine Boundary Layer Overlain by a Second Turbulent Layer," L.M. Russell, D.H. Lenschow, K.K. Laursen, P.B. Krummel, S.T. Siems, A.R. Bandy, D.C. Thornton, and T.S. Bates, *Journal of Geophysical Research – Atmospheres,* 103: 16411-16432, 1998.

A014 "Characteristics of the Marine Boundary Layers during Lagrangian Measurement Periods 2. Turbulence Structure," Q. Wang, D.H. Lenschow, L. Pan, R.D. Schillawski, G.L. Kok, A.S.H. Prévot, K.K. Laursen, L.M. Russell, A.R. Bandy, D.C. Thornton, and K. Suhre, *Journal of Geophysical Research – Atmospheres,* 104: 21767-21784, 1999.

A015 "Aerosol Dynamics in Ship Tracks," L.M. Russell, J.H. Seinfeld, R.C. Flagan, R.J. Ferek, D.A. Hegg, P.V. Hobbs, W. Wobrock, A. Flossmann, C.D. O'Dowd, K.E. Nielsen, and P.A. Durkee, *Journal of Geophysical Research – Atmospheres,* 104: 31077-31095, 1999.

A016 "Aerosol Particle Chemical Characteristics Measured from Aircraft in the Lower Troposphere during ACE 2," M. Schmeling, L.M. Russell, C. Erlick, D.R. Collins, H. Jonsson, Q. Wang, P. Kregsamer, and C. Streli, *Tellus,* 52B: 185-200, 2000.

A017 "An Overview of the Lagrangian Experiments Undertaken during the North Atlantic Regional Aerosol Characterization Experiment (ACE-2)," D.W. Johnson, S. Osborne, R. Wood, K. Suhre, R. Johnson, S. Businger, P.K. Quinn, A. Wiedensohler, P.A. Durkee, L.M. Russell, M.O. Andreae, C. O'Dowd, K. Noone, B. Bandy, J. Rudolph, and S. Rapsomanikis, *Tellus,* 52B: 290-320, 2000.

A018 "Entrainment Rates during ACE 2 Lagrangian Experiments Calculated from Aircraft Measurements," M.J. Sollazzo, L.M. Russell, D. Percival, S. Osborne, R. Wood, and D.W. Johnson, *Tellus*, 52B: 335-347, 2000.

A019 "Regional Aerosol Optical Depth Characteristics from Satellite Observations: ACE-1, TARFOX and ACE-2 Results," P. A. Durkee, K. E. Nielsen, P. J. Smith, P. B. Russell, B. Schmid, J. M. Livingston, B. N. Holben, C. Tomasi, V. Vitale, D. Collins, R. C. Flagan, J. H. Seinfeld, K. J. Noone, E. Öström, S. Gassò, D. Hegg, and L. M. Russell, *Tellus,* 52B: 484-497, 2000.

A020 "In Situ Aerosol Size Distributions and Clear Column Radiative Closure during ACE 2," D.R. Collins, H.H. Jonsson, J.H. Seinfeld, R.C. Flagan, S. Gasso, D.A. Hegg, P.B. Russell, B. Schmid, J.M. Livingston, E. Ostrom, K.J. Noone, L.M. Russell, and J.P. Putaud, *Tellus,* 52B: 498-525, 2000.

A021 "An Analysis of Processes Determining the Number-to-Volume Relationship for Submicron Aerosol in the Eastern Atlantic," D.A. Hegg and L.M. Russell, *Journal of Geophysical Research – Atmospheres,* 105: 15321-15328, 2000.

A022 "The Impact of Ship-Produced Aerosols on the Microstructure and Albedo of Warm Marine Stratocumulus Clouds: A Test of Hypotheses 1i and 1ii," P.A. Durkee, K.J. Noone, R.J. Ferek, D.W. Johnson, J.P. Taylor, T.J. Garrett, P.V. Hobbs, J.G. Hudson, C.S. Bretherton, G. Innis, G.M. Frick, W.A. Hoppel, C.D. O'Dowd, L.M. Russell, R. Gasparovic, K.E. Nielsen, S.A. Tessmer, E. Öström, S.R. Osborne, R.C. Flagan, J.H. Seinfield, and H. Rand, *Journal of the Atmospheric Sciences,* 57: 2554-2568, 2000.

A023 "Emissions from Ships with Respect to their Effects on Clouds," P.V. Hobbs, T.J. Garrett, R.J. Ferek, S.R. Strader, D.A. Hegg, G.M. Frick, W.A. Hoppel, R.F. Gasparovic, L.M. Russell, D.W. Johnson, C. O'Dowd, P.A. Durkee, K. Nielsen, and G. Innis, *Journal of the Atmospheric Sciences,* 57: 2570-2590, 2000.

A024 "Combustion Organic Aerosol as Cloud Condensation Nuclei in Ship Tracks," L.M. Russell, K.J. Noone, R.J. Ferek, R.A. Pockalny, R.C. Flagan, and J.H. Seinfeld, *Journal of the Atmospheric Sciences,* 57: 2591-2606, 2000.

A025 "A Case Study of Ships Forming and Not Forming Tracks in Moderately Polluted Clouds," K.J. Noone, E. Öström, R.J. Ferek, T.J. Garrett, P.V. Hobbs, D.W. Johnson, J.P. Taylor, L.M. Russell, R.C. Flagan, J.H. Seinfeld, C.D. O'Dowd, M.H. Smith, P.A. Durkee, K. Nielsen, J.G. Hudson, R.A. Pockalny, L. DeBock, R.E. VanGrieken, R.F. Gasparovic, and I. Brooks, *Journal of the Atmospheric Sciences,* 57: 2729-2747, 2000.

A026 "A Case Study of Ship Track Formation in a Polluted Marine Boundary Layer," K.J. Noone, D.W. Johnson, J.P. Taylor, R.J. Ferek, T.J. Garrett, P.V. Hobbs, P.A. Durkee, E. Öström, C.D. O'Dowd, M.H. Smith, L.M. Russell, R.C. Flagan, J.H. Seinfeld, L. DeBock, R.E. VanGrieken, J.G. Hudson, I. Brooks, R.F. Gasparovic, and R.A. Pockalny, *Journal of the Atmospheric Sciences,* 57: 2748-2764, 2000.

A027 "Understanding Atmospheric Aerosols: Novel Techniques Help Sample, Preserve, and Study Particles to Determine their Effect on Climate," (Invited Commentary) L.M. Russell, *Chemical and Engineering News,* 79: 69, 2001.

A028 "Evaluation of the DMS Flux and its Conversion to SO_2 over the Southern Ocean," Z.-H. Shon, D. Davis, G. Chen, G. Grodzinsky, A. Bandy, D. Thornton, S. Sandholm, J. Bradshaw, R. Stickel, W. Chameides, G. Kok, L. Russell, L. Mauldin, D. Tanner, and F. Eisele, *Atmospheric Environment*, 35: 159-172, 2001.

A029 "A Microphysics-Based Investigation of the Radiative Effects of Aerosol-Cloud Interactions for Two MAST Experiment Case Studies," C. Erlick, L.M. Russell, and V. Ramaswamy, *Journal of Geophysical Research – Atmospheres,* 106: 1249-1269, 2001.

A030 "Predicted Hygroscopic Growth of Sea Salt Aerosol," Y. Ming and L.M. Russell, *Journal of Geophysical Research – Atmospheres*, 106: DOI: 10.10.29/2001JD000454, 2001.

A031 "The Effects of Low Molecular Weight Dicarboxylic Acids on Cloud Formation," A.J. Prenni, P.J. DeMott, S.M. Kreidenweis, D.E. Sherman, L.M. Russell, and Y. Ming, *Journal of Physical Chemistry*, 105: 11240-11248, 2001.

A032 "Deliquescence of Small Particles," L.M. Russell and Y. Ming, *Journal of Chemical Physics,* 116: 311-321, 2002.

A033 "Mathematical Modeling of Nucleation and Growth of Particles Formed by the Rapid Expansion of a Supercritical Solution under Subsonic Conditions," M. Weber, L.M. Russell, and P.G. Debenedetti, *Journal of Supercritical Fluids*, 23: 65-80, 2002.

A034 "Thermodynamic Equilibrium of Organic Electrolyte Mixtures in Aerosol Particles," Y. Ming and L.M. Russell, *American Institute of Chemical Engineers Journal,* 48: 1331-1348, 2002.

A035 "Mapping Organic Coatings on Atmospheric Particles," L.M. Russell, S.F. Maria, and S. Myneni, *Geophysical Research Letters*, 29: DOI: 10.1029/2002GL014874, 2002.

A036 "FTIR Measurements of Functional Groups and Organic Mass in Aerosol Samples over the Caribbean," S.F. Maria, L.M. Russell, B.J. Turpin, and R.J. Porcja, *Atmospheric Environment,* 36: 5185-5196, 2002.

A037 "Microphysical and Radiative Evolution of Aerosol Plumes over the Tropical North Atlantic Ocean," T.J. Garrett, L.M. Russell, S.F. Maria, V. Ramaswamy, and B.J. Huebert, *Journal of Geophysical Research – Atmospheres*, 108: doi10.1029/2002JD002228, 2003.

A038 "Dynamics and Chemistry of Marine Stratocumulus – DYCOMS-II," B. Stevens, D.H. Lenschow, G. Vali, H. Gerber, A. Bandy, B. Blomquist, L.-L. Brenguier, C.S. Bretherton, F. Burnet, T. Campos, S. Chai, I. Faloona, D. Friesen, S. Haimov, K. Laursen, D.K. Lilly, S.M. Loehrer, S.P. Malinowski, B. Morley, M.D. Peters, D.C. Rogers, L. Russell, V. Savic-Jovcic, J.R. Snider, D. Straub, M.J. Szumowski, H. Takagi, D.C. Thornton, M. Tschudi, C. Twohy, M. Wetzel, and M.C. van Zanten, *Bulletin of the American Meteorological Society,* 84: 579-593, 2003.

A039 "Aerosol Organic-Mass-to-Organic-Carbon Ratio Measurements," L.M. Russell, *Environmental Science and Technology*, 37: 2982-2987, 2003.

A040 "Organic and Elemental Carbon Measurements during ACE-Asia Suggest a Longer Atmospheric Lifetime for Elemental Carbon," H.J. Lim, B.J. Turpin, L.M. Russell, and T.S. Bates, *Environmental Science and Technology,* 37: 3055-3061, 2003.

A041 "Source Signatures of Carbon Monoxide and Organic Functional Groups in Asian Pacific Regional Aerosol Characterization Experiment (ACE-Asia) Submicron Aerosol Types," S.F. Maria, L.M. Russell, B.J. Turpin, R.J. Porcja, T.L. Campos, R.J. Weber, and B.J. Huebert, *Journal of Geophysical Research–Atmospheres,* 108: doi10.1029/2003JD003703, 2003.

A042 "ACE-ASIA: Regional Climatic and Atmospheric Chemical Effects of Asian Dust and Pollution," J.H. Seinfeld, G.R. Carmichael, R. Arimoto, W.C. Conant, F.J. Brechtel, T.S. Bates, T.A. Cahill, A.D. Clarke, S.J. Doherty, P.J. Flatau, B.J. Huebert, J. Kim, K.M. Markowicz, P.K. Quinn, L.M. Russell, P.B. Russell, A. Shimizu, Y. Shinozuka, C.H. Song, Y.H. Tang, I. Uno, A.M. Vogelmann, R.J. Weber, J.H. Woo, X.Y. Zhang, *Bulletin of the American Meteorological Society,* 85: 367-380, 2004.

A043 "Organic Aerosol Effects on Fog Droplet Spectra," Y. Ming and L.M. Russell, *Journal of Geophysical Research–Atmospheres,* 109: doi10.1029/2003JD004427, 2004.

A044 "Hygroscopic and Optical Properties of Organic Sea-Salt Aerosol and Consequences for Climate Forcing," C.A. Randles, L.M. Russell, and V. Ramaswamy, *Geophysical Research Letters,* 31: doi10.1029/2004GL020628, 2004.

A045 "Marine Boundary Layer Dust and Pollutant Transport Associated with the Passage of a Frontal System over Eastern Asia," T.S. Bates, P.K. Quinn, D.J. Coffman, D.S. Covert, T.L. Miller, J.E. Johnson, G.R. Carmichael, I. Uno, S.A. Guazzotti, D.A. Sodeman, K.A. Prather, M. Rivera, L.M. Russell, and J.T. Merrill, *Journal of Geophysical Research—Atmospheres*, 109: doi10.1029/2003JD004094, 2004.

A046 "Aerosol Optical Properties Measured Onboard the Ronald H. Brown During ACE Asia as a Function of Aerosol Chemical Composition and Source Region," P.K. Quinn, D.J. Coffman, T.S. Bates, E.J. Welton, D.S. Covert, T.L. Miller, J.E. Johnson, S.F. Maria, L.M. Russell, R. Arimoto, C.M. Carrico, M.J. Rood, and J. Anderson, *Journal of Geophysical Research—Atmospheres*, 109: doi10.1029/2003JD004010, 2004.

A047 "Organic Aerosol Growth Mechanisms and their Climate Forcing Implications," S.F. Maria, L.M. Russell, M.K. Gilles, and S.C.B. Myneni, *Science,* 306: 1921-1925, 2004.

A048 "Evaluation of the Aerosol Indirect Effect in Marine Stratocumulus Clouds: Droplet Number, Size, Liquid Water Path, and Albedo," C.H. Twohy, M.D. Petters, J.R. Snider, B. Stevens, W. Tahnk, M. Wetzel, L.M. Russell, and F. Burnet, *Journal of Geophysical Research–Atmospheres,* 110: doi10.1029/2004JD005116, 2005.

A049 "Organic and Inorganic Aerosol Below-Cloud Scavenging by Suburban New Jersey Precipitation," S.F. Maria and L.M. Russell, *Atmospheric Environment,* 39: 4793-4800, 2005.

A050 "A Large Organic Aerosol Source in the Free Troposphere Missing from Current Models," C.L. Heald, D.J. Jacob, R.J. Park, L.M. Russell, B.J. Huebert, J.H. Seinfeld, H. Liao, R.J. Weber, *Geophysical Research Letters*, 32: doi10.1029/2005GL023831, 2005.

A051 "Phase Transitions of Single Salt Particles Studied using a Transmission Electron Microscope with an Environmental Cell," M.E. Wise, G. Biskos, S.T. Martin, L.M. Russell, and P.R. Buseck, *Aerosol Science and Technology,* 39: 849-856, 2005.

A052 "Geophysical Fluid Dynamics Laboratory General Circulation Model Investigation of the Indirect Radiative Effects of Anthropogenic Sulfate Aerosol," Y. Ming, V. Ramaswamy, P. A. Ginoux, L.W. Horowitz, and L.M. Russell, *Journal of Geophysical Research–Atmospheres,* 110: doi:10.1029/2005JD006161, 2005.

A053 "Health and Climate Policy Impacts on Sulfur Emission Control," Y. Ming, L. M. Russell, D. F. Bradford, *Reviews of Geophysics,* 43: doi10.1029/2004RG000167, 2005.

A054 "Differing Regional Responses to a Perturbation in Solar Cloud Absorption in the SKYHI General Circulation Model," C. Erlick, V. Ramaswamy, and L.M. Russell, *Journal of Geophysical Research–Atmospheres,* 111: doi10.1029/2005JD006491, 2006.

A055 "Accumulation Mode Aerosol, Pockets of Open Cells, and Particle Nucleation in the Remote Subtropical Pacific Marine Boundary Layer," M.D. Petters, J. R. Snider, B. Stevens, G. Vali, I. Faloona, and L.M. Russell, *Journal of Geophysical Research–Atmospheres,* 111: doi10.1029/2004JD005694, 2006.

A056 "Nanosize Effect on the Deliquescence and Efflorescence of Sodium Chloride Particles," G. Biskos, A. Malinowski, L.M. Russell, P.R. Buseck, and S.T. Martin, *Aerosol Science and Technology,* 40: 97-106, 2006.

A057 "Nanosize Effect on the Hygroscopic Growth Factor of Aerosol Particles," G. Biskos, L.M. Russell, P.R. Buseck, and S.T. Martin, *Geophysical Research Letters,* 33: doi10.1029/2005GL025199, 2006.

A058 "Void-induced Dissolution in Molecular Dynamics Simulations of NaCI and Water," R. Bahadur, L. M. Russell, S. Alavi, S.T. Martin, and P.R. Buseck, *Journal of Chemical Physics*, 124: doi10.1063/1.2185091, 2006.

A059 "Critical Assessment of the Current State of Scientific Knowledge, Terminology, and Research Needs Concerning the Role of Organic Aerosols in the Atmosphere, Climate, and Global Change," S. Fuzzi, M.O. Andreae, B.J. Huebert, M. Kulmala, T.C. Bond, M. Boy, S.J. Doherty, A. Guenther, M. Kanakidou, K. Kawamura, V.M. Kerminen, U. Lohmann, L.M. Russell, U. Poschl, *Atmospheric Chemistry and Physics,* 6: 2017-2038, 2006.

A060 "Submicron Salt Particle Production Mechanisms in Bubble Bursting," L.M. Russell and E.G. Singh, *Aerosol Science and Technology,* 40: 664-671, 2006.

A061 "Prompt Deliquescence and Efflorescence of Aerosol Nanoparticles," G. Biskos, D. Paulsen, L.M. Russell, P.R. Buseck, and S.T. Martin, *Atmospheric Chemistry Physics,* 6: 4633-4642, 2006.

A062 "Regional Variation of Organic Functional Groups in Aerosol Particles on Four U.S. East Coast Platforms during the International Consortium for Atmospheric Research on Transport and Transformation 2004 Campaign," S. Gilardoni, L.M. Russell, A. Sorooshian, R.C. Flagan, J.H. Seinfeld, T.S. Bates, P.K. Quinn, J.D. Allan, B. Williams, A.H. Goldstein, T.B. Onasch, and D.R. Worsnop, *Journal of Geophysical Research–Atmospheres,* 112: doi10.1029/2006JD007737, 2007.

A063 "Nanoparticle Growth Following Photochemical α- and β-Pinene Oxidation at Appledore Island during International Consortium for Research on Transport and Transformation/Chemistry of Halogens at the Isles of Shoals 2004," L.M. Russell, A.A. Mensah, E.V. Fischer, B.C. Sive, R.K. Varner, W.C. Keene, J. Stutz, and A.A.P. Pszenny, *Journal of Geophysical Research–Atmospheres,* 112: doi10.1029/2006JD007736, 2007.

A064 "Hygroscopic behavior of aerosol particles from biomass fires using environmental transmission electron microscopy," T.A. Semeniuk, M.E. Wise, S.T. Martin, L.M. Russell, and P.R. Buseck, *Journal of Atmospheric Chemistry,* 56: 259-273, 2007.

A065 "Hygroscopic behavior of NaCl-bearing natural aerosol particles using environmental transmission electron microscopy", M.E. Wise, T.A. Semeniuk, R. Bruintjes, S.T. Martin, L.M. Russell, and P.R. Buseck, *Journal of Geophysical Research–Atmospheres*, 112: 10.1029/2006JD007678, 2007.

A066 "Water uptake characteristics of individual atmospheric particles having coatings," T.A. Semeniuk, M.E. Wise, S.T. Martin, L.M. Russell, and P.R. Buseck, *Atmospheric Environment,* 41: 6225-6235, doi10.1016/j.atmosenv.2007.04.001, 2007.

A067 "Surface Tensions in NaCI-Water-Air Systems from MD Simulations," R. Bahadur, L.M. Russell, and S. Alavi, *Journal of Physical Chemistry B,* 111: 11989-11996, 2007.

A068 "Classification of Multiple Types of Organic Carbon Composition in Atmospheric Particles by Scanning Transmission X-Ray Microscopy Analysis," S. Takahama, S. Gilardoni, L.M. Russell, and A.L.D. Kilcoyne, *Atmospheric Environment,* 41: 9435-9451, 2007.

A069 "Effect of Surface Tension from MD Simulations on Size-Dependent Deliquescence of NaCl Nanoparticles," R. Bahadur and L.M. Russell, *Aerosol Science and Technology,* 42: 369-376, 2008.

A070 “Water uptake coefficients and deliquescence of NaCl nanoparticles at atmospheric relative humidities from MD simulations,” R. Bahadur and L.M. Russell, *Journal of Chemical Physics,* 129: 94508 (10 pages), 2008.

A071 “Uniform Particle-Droplet Partitioning of 18 Organic and Elemental Components Measured in and below DYCOMS-II Stratocumulus Clouds,” L.N. Hawkins, L.M. Russell, C.H. Twohy, and J.R. Anderson, *Journal of Geophysical Research–Atmospheres*, 113 (D14201): doi:10.1029/2007JD009150 (15 pages), 2008.

A072 “Single-Particle Oxidation-State and Morphology of Atmospheric Iron Aerosols,” S. Takahama, S. Gilardoni, and L.M. Russell, *Journal of Geophysical Research–Atmospheres*, 113(D22202): doi:10.1029/2008JD009810 (16 pages), 2008.

A073 “Hygroscopic behavior and liquid-layer composition of aerosol particles generated from natural and artificial seawater,” M.E. Wise, E.J. Freney, C.A. Tyree, J.O. Allen, S.T. Martin, L.M. Russell, and P.R. Buseck**,** *Journal of Geophysical Research–Atmospheres*, 114(D03201): doi:10.1029/2008JD010449 (8 pages), 2009.

A074 “Climatology of PM2.5 Organic Carbon Concentrations from a Review of Ground-Based Atmospheric Measurements by Evolved Gas Analysis,” R. Bahadur, G. Habib, and L.M. Russell, *Atmospheric Environment,* 43: 1591-1602, doi:10.1016/j.atmosenv.2008.12.018, 2009.

A075 “Oxygenated Fraction and Mass of Organic Aerosol from Direct Emission and Atmospheric Processing Measured on the R/V *Ronald Brown* during TEXAQS/GoMACCS 2006,” L.M. Russell, S. Takahama, S. Liu, L.N. Hawkins, D.S. Covert, P.K. Quinn, and T.S. Bates, *Journal of Geophysical Research–Atmospheres*, 114(D00F05): doi10.1029/2008JD011275 (15 pages), 2009.

A076 "Evidence for Asian dust effects from aerosol plume measurements during INTEX-B 2006 near Whistler, BC," W.R. Leaitch, A.M. Macdonald, K.G. Anlauf, P.S.K. Liu, D. Toom-Sauntry, S.-M. Li, J. Liggio, K. Hayden, M.A. Wasey, L.M. Russell, S. Takahama, S. Liu, A. van Donkelaar, T. Duck, R.V. Martin, Q. Zhang, Y. Sun, I. McKendry, N.C. Shantz, and M. Cubison, *Atmospheric Chemistry and Physics,* 9: 3523-3546, 2009.

A077 “Organic composition of single and submicron particles in different regions of western North America and the eastern Pacific during INTEX-B 2006,” D.A. Day, S. Takahama, S. Gilardoni, and L.M. Russell, *Atmospheric Chemistry and Physics*, 9: 5433-5446, 2009.

A078 “Characterization of organic ambient aerosol during MIRAGE 2006 on three platforms,” S. Gilardoni, S. Liu, S. Takahama, L.M. Russell, J.D. Allan, Steinbrecher, J.L. Jimenez, P.F. De Carlo, E.J. Dunlea, and D. Baumgardner, *Atmospheric Chemistry and Physics,* 9: 5417-5432, 2009.

A079 “Physical and chemical properties of the regional mixed layer of Mexico's Megapolis,” D. Baumgardner, M. Grutter, J. Allan, C. Ochoa, B. Rappenglueck, L.M. Russell, and P. Arnott, *Atmospheric Chemistry and Physics*, 9: 5711-5727, 2009.

A080 “Oxygenated organic functional groups and their sources in single and submicron organic particles in MILAGRO 2006 campaign,” S. Liu, S. Takahama, L.M. Russell, S.Gilardoni, and D. Baumgardner, *Atmospheric Chemistry and Physics*, 9: 6849-6863, 2009.

A081 "Evaluating simulated primary anthropogenic and biomass burning organic aerosols during MILAGRO: implications for assessing treatments of secondary organic aerosols," J. D. Fast, A. C. Aiken, J. Allan, L. Alexander, T. Campos, M. R. Canagaratna, E. Chapman, P. F. DeCarlo, B. de Foy, J. Gaffney, J. de Gouw, J. C. Doran, L. Emmons, A. Hodzic, S. C. Herndon, G. Huey, J. T. Jayne, J. L. Jimenez, L. Kleinman, W. Kuster, N. Marley, L. Russell, C. Ochoa, T. B. Onasch, M. Pekour, C. Song, I. M. Ulbrich, C. Warneke, D. Welsh-Bon, C. Wiedinmyer, D. R. Worsnop, X.-Y. Yu, and R. Zaveri, *Atmospheric Chemistry and Physics*, 9: 6191-6215, 2009.

A082 "Organic Aerosol Characterization by Complementary Measurements of Chemical Bonds and Molecular Fragments," L.M. Russell, R. Bahadur, L.N. Hawkins, J. Allan, D. Baumgardner, P.K. Quinn, and T.S. Bates, *Atmospheric Environment,* 43: 6100-6105, doi10.1016/j.atmosenv.2009.09.036, 2009.

A083 “Coatings and clusters of carboxylic acids in carbon-containing atmospheric particles from spectromicroscopy and their implications for cloud-nucleating and optical properties,” S. Takahama, S. Liu, and L.M. Russell, *Journal of Geophysical Research–Atmospheres*, 115(D01202): doi10.1029/2009JD012622 (21 pages), 2010.

A084 "Carbohydrate-Like Composition of Submicron Atmospheric Particles and their Production from Ocean Bubble Bursting," L.M. Russell, L.N. Hawkins, A.A. Frossard, P.K. Quinn, and T.S. Bates, *Proceedings of the National Academy of Science*, 107(15): 6652-6657, doi10.1073/pnas.0908905107, 2010.

A085 "Phenol Groups in Northeastern U.S. Submicron Aerosol Particles Produced from Seawater Sources," R. Bahadur, T. Uplinger, L.M. Russell, B.C. Sive, S.S. Cliff, D.B. Millet, A. Goldstein, and T.S. Bates, *Environmental Science and Technology*, 44: 2542-2548, doi10.1021/es9032277, 2010.

A086 "Carboxylic Acids, Sulfates, and Organosulfates in Processed Continental Organic Aerosol over the Southeast Pacific Ocean during VOCALS-REx 2008," L.N. Hawkins, L.M. Russell, D.S. Covert, P.K. Quinn, and T.S. Bates, *Journal of Geophysical Research–Atmospheres*, 115(D13201), doi10.1029/2009JD013276 (16 pages), 2010.

A087 "Organonitrate group concentrations in submicron particles with high nitrate and organic fractions in coastal southern California," D.A. Day, S. Liu, L.M. Russell, and P.J. Ziemann, *Atmospheric Environment*, 44: 1970-1979, doi10.1016/j.atmosenv.2010.02.045, 2010.

A088 "Composition and Morphology of Individual Combustion, Biomass Burning, and Secondary Organic Particle Types Obtained Using Urban and Coastal ATOFMS and STXM-NEXAFS Measurements," R. Bahadur, L.M. Russell, and K.A. Prather, *Aerosol Science and Technology,* 44: 1-12, doi:10.1080/02786821003786048, 2010.

A089 "Arctic organic aerosol measurements show particles from mixed combustion in spring haze and from frost flowers in winter," P.M. Shaw, L.M. Russell, A. Jefferson, and P.K. Quinn, *Geophysical Research Letters,* 37 (L10803): doi10.1029/2010GL042831 (5 pages), 2010.

A090 "Biogenic Oxidized Organic Functional Groups from a Mid-Mountain Forest at Whistler, BC, and their Similarities to Laboratory Chamber Products, " R.E. Schwartz, L.M. Russell, S.J. Sjosted, A. Vlasenko, J.G. Slowik, J.P.D. Abbatt, A.M. MacDonald, S.M. Li, J. Liggio, D. Toom-Sauntry, and W.R. Leaitch, *Atmospheric Chemistry and Physics*, 10: 5075-5088, doi:10.5194/acp-10-5075-2010, 2010.

A091 "Polysaccharides, Proteins, and Phytoplankton Fragments: Four Chemically Distinct Types of Marine Primary Organic Aerosol Classified by Single Particle Spectromicroscopy," L.N. Hawkins and L.M. Russell, *Advances in Meteorology,* doi10.1155/2010/612132 (14 pages), 2010.

A092 "Characterization of particle cloud droplet activity and composition in the free troposphere and the boundary layer during INTEX-B," G.C. Roberts, D.A. Day, L.M. Russell, E.J. Dunlea, J.L. Jimenez, J.M. Tomlinson, D.R. Collins, Y. Shinozuka, and A.D. Clarke, *Atmospheric Chemistry and Physics*, 10: 6627-6644, doi:10.5194/acp-10-6627-2010, 2010.

A093 "Oxidation of ketone groups in transported biomass burning aerosol from the 2008 Northern California Lightning Series fires," L.N. Hawkins and L.M. Russell, *Atmospheric Environment,* 44: 4142-4154, doi10.1016/j.atmosenv.2010.07.036.

A094 "Cloud albedo increase from carbonaceous aerosol," W.R. Leaitch, U. Lohmann, L.M. Russell, T. Garrett, N.C. Shantz, D. Toom-Sauntry, J.W. Strapp, K.L. Hayden, J. Marshall, D. Worsnop, and J. Jayne, *Atmospheric Chemistry and Physics*, 10: 7669-7684, doi:10.5194/acp-10-7669-2010, 2010.

A095 "Impact of California's air pollution laws on black carbon and their implications for direct radiative forcing," R. Bahadur, Y. Feng, L.M. Russell, and V. Ramanathan, *Atmospheric Environment*, 45: 1162-1167, doi:10.1016/j.atmosenv.2010.10.054, 2011.

A096 "Springtime Arctic haze contributions of submicron organic particles from European and Asian combustion sources," Frossard, A.A., P.M. Shaw, L.M. Russell, J.H. Kroll, M.R. Canagaratna, D.R. Worsnop, P.K. Quinn, and T.S. Bates, *Journal of Geophysical Research–Atmospheres*, 116(D05205), doi:10.1029/2010JD015178, 2011.

A097 "Identifying Organic Aerosol Sources by Comparing Functional Group Composition in Chamber and Atmospheric Particles," L.M. Russell, R. Bahadur, and P.J. Ziemann, *Proceedings of the National Academy of Science*, doi:10.1073/pnas.1006461108, 2011.

A098 "The VAMOS Ocean-Cloud-Atmosphere-Land Study Regional Experiment (VOCALS-REx): Goals, Platforms, and Field Operations," R.Wood, C.R. Mechoso, C.S. Bretherton, R.A. Weller, B. Heubert, F. Straneo, B.A. Albrecht, H. Coe, G. Allen, G. Vaughan, P. Daum, C. Fairall, D. Chand, L. Gallardo Klenner, R. Garreaud, C. Grados, D. S. Covert, T. S. Bates, R. Krejci, L. M. Russell, S. de Szoeke, A. Brewer, S.E. Yuter, S.R. Pringston, A. Chigneau, T. Toniazzo, P. Minnis, R. Palikonda, S.J. Abel, W.O.J. Brown, S. Williams, J. Fochesatto, J Brioude, and K.N. Bower *Atmos. Chem. Phys,* doi: 10.5194/acp-11-627-2011, 2011.

A099 "A Molecular Dynamics Study of Water Mass Accommodation on Condensed-Phase Water Coated by Fatty-Acid Monolayers," S. Takahama, L.M. Russell *J. Geophys. Res.*, doi:10.1029/2010JD014842, 2011.

A100 "Organic Functional Groups in Aerosol Particles from Burning and Non-Burning Forest Emissions at a High-Elevation Mountain Site," S. Takahama, R.E. Schwartz, L. M. Russell, A. M. Macdonald, S. Sharma, and W. R. Leaitch, *Atmospheric Chemistry and Physics*, 11: 6367-6386, doi10.5194/acp-11-6367-2011, 2011.

A101 "Response to Comments on "Impact of California's Air Pollution Laws on Black Carbon and their Implications for Direct Radiative Forcing," R. Bahadur et al.,"
R. Bahadur, Y. Feng, L.M. Russell, and V. Ramanathan, *Atmospheric Environment* [Response], 45: 4119-4121, doi10.1016/j.atmosenv.2011.04.043, 2011.

A102 "Atmospheric Sulfur Cycling in the Southeastern Pacific – Longitudinal Distribution, Vertical Profile, and Diel Variability Observed during VOCALS-REx," M. Yang, B.J. Huebert, B.W. Blomquist, S.G. Howell, L.M. Shank, C.S. McNaughton, A.D. Clarke, L.N. Hawkins, L.M. Russell, D.S. Covert, D.J. Coffman, T.S. Bates, P.K. Quinn, N. Zagorac, A.R. Bandy, S.P. de Szoeke, P.D. Zuidema, S.C. Tucker, W.A. Brewer, K.B. Benedict, and J.L. Collett, *Atmospheric Chemistry and Physics*, 11: 5079-5097, doi10.5194/acp-11-5079-2011, 2011.

A103 "South East Pacific Atmospheric Composition and Variability Sampled along 20° S during VOCALS-REx," G. Allen, H. Coe, A. Clarke, C. Bretherton, R. Wood, S.J. Abel, P. Barrett, P. Brown, R. George, S. Freitag, C. McNaughton, S. Howell, Shank, V. Kapustin, V. Brekhovskikh, L. Kleinman, Y.N. Lee, S. Springston, T. Toniazzo, R. Krejci, J. Fochesatto, G. Shaw, P. Krecl, B. Brooks, G. McMeeking, K.N. Bower, P.I. Williams, J. Crosier, I. Crawford, P. Connolly, J.D. Allan, D. Covert, A.R. Bandy, L.M. Russell, J. Trembath, M. Bart, J.B. McQuaid, J. Wang, and D. Chand, *Atmospheric Chemistry and Physics*, 11: 5237-5262, doi10.5194/acp-11-5237-2011, 2011.

A104 "Ozone-Driven Daytime Formation of Secondary Organic Aerosol Containing Carboxylic Acid Groups and Alkane Groups," S. Liu, D.A. Day, J.E. Shields, and L.M. Russell, *Atmospheric Chemistry and Physics*, 11: 8321-8341, doi10.5194/acp-11-8321-2011, 2011.

A105 "Elemental Composition and Oxidation of Chamber Organic Aerosol," P.S. Chhabra, N.G. Ng, M.R. Canagaratna, A.L. Corrigan, L.M. Russell, D.R. Worsnop, R.C. Flagan, and J.H. Seinfeld, *Atmospheric Chemistry and Physics*, 11: 8827-8845, doi10.5194/acp-11-8827-2011, 2011.

A106 "Temperature Response of the Submicron Organic Aerosol from Temperate Forests," W.R. Leaitch, A.M. Macdonald, P. Brickell, J. Liggio, S.J. Sjostedt, A. Vlasenko, J.W. Bottenheim, L. Huang, S.M. Li, P. Liu, D. Toom-Sauntry, K. Hayden, S. Sharma, N.C. Shantz, A. Wiebe, W. Zhang, J. Abbatt, J.G. Slowik, R. Chang, L.M. Russell, R.E. Schwartz, S. Takahama, J.T. Jayne, and N.L. Ng, *Atmospheric Environment,* 45: 6696-6704, doi10.1016/j.atmosenv.2011, 2011.

A107 "Investigating Organic Aerosol Loading in the Remote Marine Environment," K. Lapina, C.L. Heald, D.V. Spracklen, S.R. Arnold, J.D. Allan, H. Coe, G. McFiggans, S.R. Zorn, F. Drewnick, T.S. Bates, L.N. Hawkins, L.M. Russell, A. Smirnov, C.D. O'Dowd, and A.J. Hind, *Atmospheric Chemistry and Physics*, 11: 8847-8860, doi10.5194/acp-11-8847-2011, 2011.

A108 "Contrasting Organic Aerosol Particles from Boreal and Tropical Forests during HUMPPA-COPEC-2010 and AMAZE-08 using Coherent Vibrational Spectroscopy," C. J. Ebben, I. S. Martinez, M. Shrestha, A. M. Buchbinder, A. L. Corrigan, A. Guenther, T. Karl, T. Petäjä, W. W. Song, S. R. Zorn, P. Artaxo, M. Kulmala, S. T. Martin, L. M. Russell, J. Williams, and F. M. Geiger, *Atmospheric Chemistry and Physics*, 11: 10317-10329, 2011.

A109 "Exploring the Vertical Profile of Atmospheric Organic Aerosol: Comparing 17 Aircraft Field Campaigns with a Global Model," C.L. Heald, H. Coe, J.L. Jimenez, R.J. Weber, R. Bahreini, A.M. Middlebrook, L.M. Russell, M. Jolleys, T.-M. Fu, J.D. Allan, K.N. Bower, G. Capes, J., Crosier, W.T. Morgan, N.H. Robinson, P.I. Williams, M.J. Cubison, P.F. DeCarlo, and E.J. Dunlea, *Atmospheric Chemistry and Physics*, 11: 12673-12696, doi:10.5194/acp-11-12673-2011, 2011.

A110 "Effects on precipitation, clouds, and temperature from long-range transport of idealized aerosol plumes in WRF-Chem simulations," Z. Zhao, M. S. Pritchard, and L. M. Russell, *Journal of Geophysical Research – Atmospheres,* doi:10.1029/2011JD016744, in press 2012 (posted at http://www.agu.org/journals/jd/papersinpress.shtml#id2011JD016744).

A111 "A Resilience View on Reframing Geoengineering Research and Implementation," Mark Stafford Smith an Lynn M. Russell, *Carbon Management* [Commentary], in press 2012.

A112 "Ocean-Atmosphere-Sea Ice-Snowpack Interactions, Changes, and Feedbacks in Polar Regions: A Scientifi Challenge for the 21st Century," Paul B. Shepson, Parisa A. Ariya, Clara Deal, D. James Donaldson, Thomas Douglas, Brice Loose, Ted Maksym, Patricia Matrai, Lynn M. Russell, Benjamin Saenz, Jacqueline Stefels, and Nadja Steiner, *EOS,* in press 2012.

A113 "Formation and growth of ultrafine particles from secondary sources in Bakersfield, California," L. Ahlm, S Liu, D. A. Day, L. M. Russell, R. Weber, D. R. Gentner, A. H. Goldstein, J. P. DiGangi, S. B. Henry, F. N. N. Keutsch, T. C. C. VandenBoer, M. Z. Z. Markovic, J. G. G. Murphy, X. Ren, and S. Scheller, *Journal of Geophysical Research – Atmospheres*, doi:10.1029/2011JD017144, in press 2012 (posted at http://www.agu.org/journals/jd/papersinpress.shtml#id2011JD017144).

A114 "Ecosystem Impacts of Geoengineering: A Review for Developing a Science Plan," Lynn M. Russell, Philip J. Rasch, Georgina M. Mace, Robert B. Jackson, John Shepherd, Peter Liss, Margaret Leinen, David Schimel, Naomi E. Vaughan, Anthony C. Janetos, Philip W. Boyd, Richard J. Norby, Ken Caldeira, Joonas Merikanto, Paulo Artaxo, Jerry Melillo, and M. Granger Morgan, *AMBIO*, in press 2012.

Book Contributions, Patents, and Other National Reports

B001 Method of Measuring Aerosol Particles Using Automated Mobility-Classified Aerosol Detector, U.S. Patent Pending 5922976, issued July 13, 1999. *Patent*

B002 Submicron Salt Particle Counter, provisional patent filed August 13, 1999. *Patent*

B003 *A Review of NASA's 'Atmospheric Effects of Stratospheric Aircraft' Project,* P. Wine (Chair), G. Carrier, D. Erickson III, N. Krull, J. McConnell, P. Mirabel, M. Oppenheimer, K. Rosenlof, L. Russell, and C. Spicer, National Academy Press, Washington, D.C., 1999. *National Research Council Report*

B004 *Review of the Draft Report "NARSTO Assessment of the Atmospheric Science on Particulate Matter,"* J. Mauderly (Chair), M. Brauer, M. Hernandez-Avila, N. Kete, C.E. Kolb, W. Leiss, G. Mejia-Velazquez, L.T. Molina, and L. Russell, National Academy Press, Washington, D.C., 2003. *National Research Council Report*

B005 "Aerosol," *World Book Encyclopedia*, L.M. Russell, World Book Publishing, Chicago, IL, in press. *Book Contribution*

B006 *Radiative Forcing of Climate Change: Expanding the Concept,* D. Jacob (Chair), R. Avissar, G. Bond, S. Gaffin, J. Kiehl, J. Lean, U. Lohmann, M. Mann, R. Pielke, V. Ramanathan, and L. Russell, National Academy Press, Washington, D.C., 2004. *National Research Council Report*

B007 *Interim Report of the Committee on Changes in New Source Review Programs for Stationary Sources of Air Pollutants,* C. Stevens (Chair), J. Andino, H. Clack, L. Chinkin, J. Crittendon, H. Frey, J. Levy, T. Louis, B. Hobbs, B. Mannix, C. Oren, K. Palmer, L. Russell, M. Small, I. Tager, J. Watson, National Academy Press, Washington, D.C., 2005. *National Research Council Report*

B008 *Final Report of the Committee on Changes in New Source Review Programs for Stationary Sources of Air Pollutants,* C. Stevens (Chair), J. Andino, H. Clack, L. Chinkin, J. Crittendon, H. Frey, J. Levy, T. Louis, B. Hobbs, B. Mannix, C. Oren, K. Palmer, L. Russell, M. Small, I. Tager, J. Watson, National Academy Press, Washington, D.C., 2006. *National Research Council Report*

B009 "Aerosols in Motion" Interactive Aerosol Dynamics Model, http://aerosols.ucsd.edu/aerosols.html.