

Peer-reviewed publications for Scanning Electrical Mobility Sizer (SEMS) System

Wen Xu, Philip Croteau, Leah Williams, Manjula Canagaratna, Timothy Onasch, Eben Cross, Xuan Zhang, Ade Robinson, Douglas Worsnop, and John Jayne. (2016) Laboratory characterization of an aerosol chemical speciation monitor with PM_{2.5} measurement capability. *Aerosol Science And Technology*, <http://dx.doi.org/10.1080/02786826.2016.1241859>

Forestieri, S. D., Cornwell, G. C., Helgestad, T. M., Moore, K. A., Lee, C., Novak, G. A., Sultana, C. M., Wang, X., Bertram, T. H., Prather, K. A., and Cappa, C. (2016) D.: Linking variations in sea spray aerosol particle hygroscopicity to composition during two microcosm experiments, *Atmos. Chem. Phys.*, *16*, 9003-9018, doi:10.5194/acp-16-9003-2016, 2016

Ming Chee Yeung, Berto P. Lee, Yong Jie Li and Chak K. Chan (2014). Simultaneous HTDMA and HR-ToF AMS measurements at the HKUST Supersite in Hong Kong in 2011. *Journal of Geophysical Research Atmospheres*, *119*: doi:10.1002/2013JD021146.*

Zhao, R. (2014), Cloud Partitioning of Isocyanic Acid (HNCO) and Evidence of Secondary Source of HNCO in Ambient Air. *Geophysical Research Letters* 09/2014; DOI: 10.1002/2014GL061112

Xerxes F. Lopez-Yglesias, Ming Chee Yeung, Stephen E. Dey, Fred J. Brechtel and Chak K. Chan (2014). Performance evaluation of the Brechtel Mfg. Humidified Tandem Differential Mobility Analyzer (BMI HTDMA) for studying hygroscopic properties of aerosol particles. *Aerosol Science and Technology*, *48*:9, 969-980, DOI: 10.1080/02786826.2014.952366.*

Ying-Hsuan Lin, Sri Hapsari Budisulistiorini, Kevin Chu, Richard A. Siejack, Haofei Zhang, Matthieu Riva, Zhenfa Zhang, Avram Gold, Kathryn E. Kautzman, and Jason Douglas Surratt (2014). Light-absorbing oligomer formation in secondary organic aerosol from reactive uptake of isoprene epoxydiols. *Environ. Sci. Technol.*, *48*:20, 12012-12021, DOI: 10.1021/es503142b.

A.P. Rutter, Q.G.J. Malloy, Y.J. Leong, C.V. Gutierrez, M. Calzada, E. Scheuer, J.E. Dibb and R.J. Griffin (2014). The reduction of HNO₃ by volatile organic compounds emitted by motor vehicles. *Atmospheric Environment*, *87*: 200–206.

M.S. Long, W.C. Keene, D.J. Kieber, A.A. Frossard, L.M. Russell, J.R. Maben, J.D. Kinsey, P.K. Quinn, T.S. Bates (2014). Light-enhanced primary marine aerosol production from biologically productive seawater. *Geophysical Research Letters*, *41*:7, 2661-2670, DOI: 10.1002/2014GL059436.

J. Guzman-Morales, A.A. Frossard, A.L. Corrigan, L.M. Russell, S. Liu, S. Takahama, J.W. Taylor, J. Allan, H. Coe, Y. Zhao, and A.H. Goldstein (2014). Estimated Contributions of Primary and Secondary Organic Aerosol from Fossil Fuel Combustion during the CalNex and Cal-Mex Campaigns. *Atmospheric Environment*, doi10.1016/j.atmosenv.2013.08.047.

P.K. Quinn, T.S. Bates, K.S. Schulz, D.J. Coffman, A.A. Frossard, L.M. Russell, W.C. Keene, and D.J. Kieber (2014). Contribution of Sea Surface Carbon Pool to Organic Matter Enrichment in Sea Spray Aerosol. *Nature Geoscience*, *7*: 228-232, doi10.1038/NCEO20922014.

M.S. Long, W.C. Keene, D.J. Kieber, A.A. Frossard, L.M. Russell, J.R. Maben, J.D. Kinsey, P.K. Quinn and T.S. Bates (2014). Light-enhanced Primary Marine Aerosol Production from Biologically Productive Seawater. *Geophysical Research Letters*, 41: 2661–2670, doi10.1002/2014GL059436.

J. C. Schroder, S. J. Hanna, R. L. Modini, A. L. Corrigan, A. M. Macdonald, K. J. Noone, L. M. Russell, W. R. Leaitch, and A. K. Bertram (2014). Size-resolved observations of refractory black carbon particles in cloud droplets at a marine boundary layer site. *Atmos. Chem. Phys. Discuss.*, 14: 11447-11491.

S. H. Budisulistiorini, M. R. Canagaratna, P. L. Croteau, K. Baumann, E. S. Edgerton, M. S. Kollman, N. L. Ng, V. Verma, S. L. Shaw, E. M. Knipping, D. R. Worsnop, J. T. Jayne, R.J. Weber, and J. D. Surratt (2014). Intercomparison of an Aerosol Chemical Speciation Monitor (ACSM) with ambient fine aerosol measurements in downtown Atlanta, Georgia. *Atmos. Meas. Tech.*, 7:1929-1941, www.atmosmeastech.net/7/1929/2014/ doi:10.5194/amt-7-1929-2014.*

Haofei Zhang, Zhenfa Zhang, Tianqu Cui, Ying-Hsuan Lin, Neil A. Bhathela, John Ortega, David R. Worton, Allen H. Goldstein, Alex Guenther, Jose L. Jimenez, Avram Gold, and Jason D. Surratt (2014). Secondary Organic Aerosol Formation via 2-Methyl-3-buten-2-ol Photooxidation: Evidence of Acid-Catalyzed Reactive Uptake of Epoxides. *Environ. Sci. Technol. Lett.* 1: 242–247, dx.doi.org/10.1021/ez500055f.*

Lawler, M. J., J. Whitehead, C. D. O'Dowd, C. Monahan, G. McFiggans and J. N. Smith (2014). Composition of 15–80 nm particles in marine air. *Atmos. Chem. Phys. Discuss.*, 14: 2087-2111, doi:10.5194/acpd-14-2087-2014.

K. P. Wyche, A. C. Ryan, C. N. Hewitt, M. R. Alfarra, G. McFiggans, T. Carr, P. S. Monks, K. L. Smallbone, G. Capes, J. F. Hamilton, T. A. M. Pugh, and A. R. MacKenzie (2014). Emissions of biogenic volatile organic compounds and subsequent photochemical production of secondary organic aerosol in mesocosm studies of temperate and tropical plant species. *Atmos. Chem. Phys.*, 14: 14291-14349, doi:10.5194/acpd-14-14291-2014.

R. Modini, L.M. Russell, G.B. Deane, and M.D. Stokes (2013). Effect of Soluble Surfactant on Bubble Persistence and Bubble-Produced Aerosol Particles. *Journal of Geophysical Research Atmospheres*, 118: 1–13, doi10.1002/jgrd.50186.

S. Liu, L.M. Russell, D.T. Sueper, and T.B. Onasch (2013). Organic Particle Types by Single-Particle Measurements using a Time-of-Flight Aerosol Mass Spectrometer coupled with a Light Scattering Module. *Atmospheric Measurement Techniques*, 6: 187-197, doi10.5194/amt-6-187-2013.

Lynn M. Russell, Armin Sorooshian, John H. Seinfeld, Bruce A. Albrecht, Athanasios Nenes, Lars Ahlm, Yi-Chun Chen, Matthew Coggon, Jill S. Craven, Richard C. Flagan, Amanda A. Frossard, Hafliði Jonsson, Eunsil Jung, Jack J. Lin, Andrew R. Metcalf, Robin Modini, Johannes Mülmenstädt, Greg Roberts, Taylor Shingler, Siwon Song, Zhen Wang, and Anna Wonaschütz (2013). Eastern Pacific Emitted Aerosol Cloud Experiment. *Bull. Amer. Meteor. Soc.*, 94: 709–729, doi: http://dx.doi.org/10.1175/BAMS-D-12-00015.1. *

Sri Hapsari Budisulistiorini, Manjula R. Canagaratna, Philip L. Croteau, Wendy J. Marth, Karsten Baumann, Eric S. Edgerton, Stephanie L. Shaw, Eladio M. Knipping, Douglas R. Worsnop, John T. Jayne, Avram Gold, and Jason D. Surratt (2013). Real-Time Continuous Characterization of Secondary Organic Aerosol Derived from Isoprene Epoxydiols in Downtown Atlanta, Georgia, Using the Aerodyne Aerosol Chemical Speciation Monitor. *Environ. Sci. Technol.*, 47:11, 5686–5694, DOI: 10.1021/es400023n. *

Ying-Hsuan Lina, Haofei Zhanga, Havala O. T. Pyeb, Zhenfa Zhanga, Wendy J. Martha, Sarah Parka, Maiko Arashiroa, Tianqu Cuia, Sri Hapsari Budisulistiorinia, Kenneth G. Sextona, William Vizuetea, Ying Xieb, Deborah J. Lueckenb, Ivan R. Pileticb, Edward O. Edneyb, Libero J. Bartolottic, Avram Golda, and Jason D. Surratt (2013). Epoxide as a precursor to secondary organic aerosol formation from isoprene photooxidation in the presence of nitrogen oxides, www.pnas.org/cgi/doi/10.1073/pnas.1221150110. *

Wonaschütz, A., M. Coggon, A. Sorooshian, R. Modini, A. A. Frossard, L. Ahlm, J. Mülmenstädt, G. C. Roberts, L. M. Russell, S. Dey, F. J. Brechtel, and J. H. Seinfeld (2013). Hygroscopic properties of organic aerosol particles emitted in the marine atmosphere. *Atmos. Chem. Phys.*, 13: 9819–9835, doi:10.5194/acp-13-9819-2013. *

Hamilton, J. F., M. R. Alfarra, N. Robinson, M. W. Ward, A. C. Lewis, G. B. McFiggans, H. Coe, and J. D. Allan (2013). Linking biogenic hydrocarbons to biogenic aerosol in the Borneo rainforest. *Atmos. Chem. Phys.*, 13: 11295-11305, doi:10.5194/acp-13-11295-2013.

G. Jaramillo, C. Buffa, M. Li, F.J. Brechtel, G. Langfelder, D.A. Horsley (2013). MEMS Electrometer with fem toampere resolution for aerosol particulate measurements, *IEEE Sensors Journal*, 13,8, doi:10.1109/JSEN.:2013.2266335.

Sorooshian, A., J. Csavina, T. Shingler, S. Dey, F. Brechtel, E. Sáez, and E. A. Betterton (2012). Hygroscopic and chemical properties of aerosols collected near a copper smelter: Implications for public and environmental health. *Environ. Sci. Technol.*, 46: 9473-9480. *

Hamilton, J. F., M. R. Alfarra, K. P. Wyche, M. W. Ward, A. C. Lewis, G. B. McFiggans, N. Good, P. S. Monks, T. Carr, I. R. White and R. P. Purvis (2011). Investigating the use of secondary organic aerosol as seed particles in simulation chamber experiments, *Atmos. Chem. Phys.*, 11: 5917-5929, doi:10.5194/acp-11-5917-2011.

J. D. Allan, D. O. Topping, N. Good, M. Irwin, M. Flynn, P. I. Williams, H. Coe, A. R. Baker, M. Martino, N. Niedermeier, A. Wiedensohler, S. Lehmann, K. Muller, H. Herrmann and G. McFiggans (2009). Composition and properties of atmospheric particles in the eastern Atlantic and impacts on gas phase uptake rates. *Atmos. Chem. Phys.*, 9: 9299-9314, doi:10.5194/acp-9-9299-2009.

A. Sorooshian, S. Hersey, F. J. Brechtel, A. Corless, R. C. Flagan, and J. H. Seinfeld (2008). Rapid, Size-Resolved Aerosol Hygroscopic Growth Measurements: Differential Aerosol Sizing and Hygroscopicity Spectrometer Probe (DASH-SP), *Aerosol Sci. & Tech.*, 42, 445-464.

J. Kim, C. H. Jung, B. C. Choi, S. N. Oh, F. Brechtel, S.C. Yoon, and S.W. Kim (2007). Number size distribution of atmospheric aerosols during ACE-Asia dust and precipitation events. *Atmos. Env.*, 41: 4841-4855.

L. I. Kleinman, P. H. Daum, Yin-Nan Lee, G. Senum, S. R. Springston, J. Wang, C. Berkowitz, J. Hubbe, R. A. Zaveri, F. J. Brechtel, J. Jayne, T. B. Onash, and D. Worsnop (2007). Aircraft observations of aerosol composition and ageing in New England and Mid-Atlantic States during the Summer 2002 NEAQS Field Campaign, *J. Geophys. Res.*, 112:D09310, doi:10.1029/2006JD007786.

J. Kim, S.-C. Yoon, S.-W. Kim, F. Brechtel, A. Jefferson, E.G. Dutton, K.N. Bower, S. Cliff and J.J. Schauer (2006). Chemical apportionment of shortwave direct aerosol radiative forcing at the Gosan super-site, Korea during ACE-Asia. *Atmos. Env.*, 40: 6718-6729.

V. Varutbangkul, F. J. Brechtel, R. Bahreini, N. L. Ng, M. D. Keywood, J. H. Kroll, R. C. Flagan, J. H. Seinfeld, A. Lee, and A. H. Goldstein (2006). Hygroscopicity of secondary organic aerosols formed by oxidation of cycloalkenes, monoterpenes, sesquiterpenes, and related compounds. *Atmos. Chem. & Physics Discussions*, 6: 1121-1177.

S. R. Springston, L. I. Kleinman, F. J. Brechtel, Yin-Nan Lee, L. J. Nunnermacker, and J. Wang (2005). Chemical Evolution Of An Isolated Power Plant Plume During The TexAQS 2000 Study, *Atmos. Env.*, 39: 3431-3443.

G. Buzorius, C. S. McNaughton, A. D. Clarke, D. S. Covert, B. Blomquist, K. Nielsen, and F. J. Brechtel, (2004) Secondary aerosol formation in continental outflow conditions during ACE-Asia. *J. Geophys. Res.*, 109: D24203, doi:10.1029/2004JD004749.

J. H. Seinfeld, G. R. Carmichael, R. Arimoto, W. C. Conant, F. J. Brechtel, et al. (March 2004). Regional Climatic and Atmospheric Chemical Effects of Asian Dust and Pollution, *Bulletin of the American Meteorological Society*, 367-380.

R. Kahn, et al. (2004). Environmental Snapshots from ACE-Asia, *J. Geophys. Res.*, 109: D19S14, doi:10.1029/2003JD004339.

J. Wang, S. A. Christopher, F. Brechtel, J.-Y. Kim, B. Schmid, J. Redemann, P. B. Russell, P. Quinn, and B. Holben (2003). Geostationary Satellite Retrievals of Aerosol Optical Thickness during ACE-Asia, *J. Geophys. Res.*, 108: 8657, doi: 10.1029/2003JD003580.

C. S. McNaughton, et al. (2003), Spatial distribution and size evolution of particles in Asian outflow: Significance of primary and secondary particles during ACE-Asia and Trace-P, *J. Geophys. Res.*, 109, D19S06, doi:10.1029/2003/JD003528.

J. Wang, V. Faye McNeill, D. R. Collins, and R. C. Flagan (2002). Fast Mixing Condensation Nucleus Counter: Application to Rapid Scanning Differential Mobility Analyzer Measurements. *Aerosol Sci. & Tech.*, 36: 678-689. *

W. R. Leaitch, J. W. Bottenheim, T. A. Biesenthal, S. M. Li, P. S. K. Liu, K. Asalien, H. Dryfhout-Clark, F. Hopper, and F. J. Brechtel, (2000). A Case Study of Gas-to-Particle Conversion in an Eastern Canadian Forest. *J. Geophys. Res.*, 104, 8095-8111.

R. J. Weber, P. H. McMurry, T. S. Bates, A. D. Clarke, D. S. Covert, F. J. Brechtel, and G.L. Kok, (1999). Intercomparison of Airborne and Surface-Based Measurements of Condensation Nuclei in the Remote Marine Troposphere During ACE 1. *Journal of Geophysical Research*, 104, 21,673-21,683.

F.J. Brechtel, S. M. Kreidenweise, and H. B. Swan, Air Mass Characteristics, Total Particle Concentration and Size Distributions at Macquarie Island, Tasmania, During the First Aerosol Characterization Experiment (ACE 1) (1998). *Journal of Geophysical Research*, 103, 16,351-16,367.

R. J. Weber, R.H. McMurry, F. Eisele, L. Mauldin, D. Tanner, F.L. Eisele, F. J. Brechtel, S. M. Kreidenweis, G. L. Kok, R. D. Schillawski, and D. Baumgardner, (1998). A Study of New Particle Formation and Growth Involving Biogenic Trace Gas Species Measured During ACE 1. *Journal of Geophysical Research*, 103, 16,385-16,396.

D.M. Murphy, J.R. Anderson, P.K. Quinn, L. M. McInnes, F. J. Brechtel, S. M. Kreidenweis, A. M. Middlebrook, M. Posfai, D. S. Thompson, and P. R. Buseck (1998). Submicron Sea Salt Particles and Aerosol Radiative Properties in the Remote Southern Ocean Marine Boundary Layer. *Nature*, 392, 62-65.

[Publications followed by * relate directly to the MCPC.]