

ATHANASIOS NENES

Contact information

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Professional Preparation

Diploma	Chemical Engineering	1993	National Technical University of Athens, Greece
M.S.	Atmospheric Chemistry	1997	University of Miami
Ph.D.	Chemical Engineering	2002	California Institute of Technology

Appointments/Affiliations

2015-present	Visiting Professor, California Institute of Technology
2015-present	Visiting Professor, University of Athens, Greece
2015-present	Affiliated Scientist, National Observatory of Athens, Greece
2014-present	Cullen-Peck Fellow, Georgia Institute of Technology
2011-present	Georgia Power Faculty Scholar, Georgia Institute of Technology
2011-present	Professor, Georgia Institute of Technology
2008-present	Affiliated Scientist, Foundation for Research and Technology, Greece
2008-2011	Associate Professor, Georgia Institute of Technology
2004-2007	Blanchard-Milliken Young Faculty Chair, Georgia Institute of Technology
2002-2008	Assistant Professor, Georgia Institute of Technology

Areas of research interests

- Aerosol-cloud interactions and their impacts on the hydrological cycle and climate.
- Parameterization of cloud microphysical processes and their representation in models.
- Thermodynamic modeling of tropospheric aerosols.
- Instrumentation and techniques for characterizing volatility, hygroscopicity, Cloud Condensation Nuclei (CCN) and Ice Nuclei (IN) activity of aerosols.
- Laboratory and field studies on CCN/IN activity and aerosol-cloud interactions.
- Development of advanced sensitivity tools for use in air quality and climate models.
- Impacts of aerosol on extreme weather events and cyclogenesis.
- Biomass Burning Aerosols: detection and properties.
- Aerosol impacts on marine productivity, biogeochemical cycling of nutrients and the carbon cycle.
- Bioaerosols, their atmospheric lifecycle and properties
- Land use/land change modeling and land-atmosphere dynamic coupling

Honors/Recognitions

Faces of Inclusive Excellence, Georgia Institute of Technology, 2015; Cullen-Peck Fellow, College of Sciences, Georgia Institute of Technology, 2014; Dreyfus Foundation Postdoctoral Award in Environmental Chemistry, 2014; Vaughan Lectureship in Chemical Engineering, California Institute of Technology, 2014; Atmospheric Sciences Section Ascent Award, American Geophysical Union, 2012; Outstanding Faculty Research Author, Georgia Institute of Technology, 2012; Kenneth T. Whitby Award, American Association for Aerosol Research, 2011; Georgia Power Faculty Scholar, Georgia Institute of Technology, 2011; Group Achievement Award, NASA, 2010; Dean's Distinguished Lecture, College of Engineering, Columbia University, 2010; Group Achievement Award, NASA, 2009; Henry G. Houghton Award, American Meteorological Society, 2009; Sigma Xi Young Faculty Award, Georgia Institute of Technology, 2007; Sheldon K Friedlander Award, American Association for Aerosol Research, 2005; Blanchard-Milliken Young Faculty Fellowship, Georgia Institute of Technology, 2004; NASA New Investigator Program Award, 2004; National Science Foundation CAREER Award, 2004; ACCESS Colloquium Participation, 2003; Dean's Prize, Rosenstiel School of Marine and Atmospheric Sciences, 1998; Best Diploma Thesis Award in Chemical Engineering, Chamber of Engineers (Greece), 1996.

Refereed Publications – Published/In press (ISI Web of Science citations: 7398, h-index: 43)

1. Zhang, W., Trail, M., Hu, Y., Nenes, A., Russell, A.G. (2015) Use of High-Order Sensitivity Analysis and Reduced-Form Modeling to Quantify Uncertainty in Particulate Matter Simulations in the

Presence of Uncertain Emissions Rates, *Atmos. Env.*, **122**, 103-113

2. Kalivitis, N., Kerminen, V.-M., Kouvarakis, G., Stavroulas, I., Bougiatioti, A., Nenes, A., Manninen, H.E., Petäjä, T., Kulmala, M. and N. Mihalopoulos (2015) Atmospheric new-particle formation as source of CCN in the Eastern Mediterranean marine boundary layer, *Atmos.Chem.Phys.*, **15**, 9203-9215
3. Kerl, P., Zhang, W., Moreno-Cruz, J., Nenes, A., Realff, M., Russell, A., Sokol, J., Thomas, V.M. (2015) A New Approach for Optimal Electricity Planning and Dispatching with Hourly Time-Scale Air Quality and Health Considerations, *Proc.Nat.Acad.Sci.*, **112**, 10884-10889, doi:10.1073/pnas.1413143112
4. Budisulistiorini, S.H., Li, X., Bairai, S.T., Renfro, J., Liu, Y., Liu, Y.J., McKinney, K.A., Martin, S.T., McNeill, V.F., Pye, H.O.T., Nenes, A., Neff, M.E., Stone, E.A., Mueller, S., Knote, C., Shaw, S.L., Zhang, Z., Gold, A., and J. D. Surratt (2015) Examining the Effects of Anthropogenic Emissions on Isoprene-Derived Secondary Organic Aerosol Formation During the 2013 Southern Oxidant and Aerosol Study (SOAS) at the Look Rock, Tennessee, Ground Site, *Atmos.Chem.Phys.*, **15**, 8871–8888
5. Cerully, K., Bougiatioti, A., Guo, H., Xu, L., Hite, J.R., Ng, N.L., Weber, R., Nenes, A. (2015) On The Link Between Hygroscopicity, Volatility, And Oxidation State Of Ambient and Water-Soluble Aerosol In The Southeastern United States, *Atmos.Chem.Phys.*, **15**, 8679–8694
6. Hildebrandt Ruiz, L., Paciga, A., Cerully, K., Nenes, A., Donahue, N.M., Pandis, S.N. (2015) Aging of Secondary Organic Aerosol from Small Aromatic VOCs: Changes in Chemical Composition, Mass Yield, Volatility and Hygroscopicity, *Atmos.Chem.Phys.*, **15**, 8301–8313
7. Zhang, Y., Zhang, X., Wang, K., He, J., Fan, J., Leung, L.R., and Nenes, A. (2015) Incorporation of an Advanced Aerosol Activation Parameterization into WRF-CAM5: Parameterization Intercomparison and Impacts on Aerosol Indirect Effects, *J.Geoph.Res.*, **120**, doi:10.1002/2014JD023051
8. Shinozuka, Y., Clarke, A.D., Nenes, A., Jefferson, A., Wood, R., Redemann, J., McNaughton, C.S., Strom, J., Tunved, P., Thornhill, K.L., Moore, R.H., Latham, T.L., Yoon, Y.J. (2015) The relationship between cloud condensation nuclei (CCN) concentration and light extinction of dried particles: indications of underlying aerosol processes and implications for satellite-based CCN estimates, *Atmos.Chem.Phys.*, **15**, 7585–7604
9. Trail, M.A., Tsimpidi, A.P., Liu, P., Tsigaridis, K., Hu, Y., Nenes, A., Stone, B., Russell, A. G. (2015) Reforestation And Crop Land Conversion Impacts On Future Regional Air Quality In The Southeastern U.S., *Agric.For.Meteor.*, **209–210**, 78–86
10. Myriokefalitakis, S., Daskalakis, N., Mihalopoulos, N., Baker, A., Nenes, A., and Kanakidou, M. (2015) Changes In Dissolved Iron Deposition To The Oceans Driven By Human Activity: A 3-D Global Modelling Study, *Biogeosci.*, **12**, 3973–3992
11. Forrister, H., Liu, J., Scheuer, E., Dibb, J., Ziemba, L., Thornhill, K.L., Anderson, B., Diskin, G., Perring, A., Shwarz, J., Campuzano-Jost, P., Jimenez, J.L., Nenes, S., Weber, R.J. (2015) Evolution of Brown Carbon in a Wildfire Plume, *Geoph.Res.Let.*, **42**, doi:10.1002/2015GL063897
12. Modini, R. L., Frossard, A. A., Ahlm, L., Russell, L.M., Corrigan, C., Roberts, G. C., Hawkins, L. N., Schroder, J. C., Bertram, A. K., Zhao, R., Lee, A. K. Y., Abbatt, J. P. D., Lin, J., Nenes, A., Wang, Z., Wonaschütz, A., Sorooshian, A., Noone, K. J., Jonsson, H., Seinfeld, J. H., Toom-Saunty, D., Macdonald, A. M., and W. R. Leitch (2015) Sea-spray-aerosol-cloud interactions off the coast of California, *J.Geoph.Res.*, **120**, doi:10.1002/2014JD022963
13. Guo, H., Xu, L., Bougiatioti, K., Cerully, K., Capps, S., Carlton, A., Lee, S., Ng, N.L., Bergin, M., Nenes, A., Weber, R. (2015) Particle water and pH in the southeast United States, *Atmos.Chem.Phys.*, **15**, 5211–5228
14. Trail, M.A., Tsimpidi, A.P., Liu, P., Tsigaridis, K., Hu, Y., Rudokas, J., Miller, P., Nenes, A., Russell, A. G. (2015) Impacts of potential CO₂-reduction policies on air quality in the United States, *Env. Sci. Tech.*, **49**, doi:10.1021/acs.est.5b00473
15. Turner, M., Henze, D., Hakami, A., Zhao, S., Resler, J., Carmichael, G., Stanier, C., Baek, J., Sandu, A., Russell, A., Nenes, A., Jeong, G., Capps, S., Percell, P., Pinder, R., Napelenok, S., Bash, J., Chai, T. (2015) Differences Between Magnitudes and Health Impacts of BC Emissions Across the US Using 12km Scale Seasonal Source Apportionment, *Env.Sci.Tech.*, **49**, 4362–4371, doi:10.1021/es505968b

16. Sheyko, B., Morales, R., Capps, S., Barahona, D., and Nenes, A. (2015) The development and application of the adjoint of a physically-based cirrus formation parameterization within CAM 5.1, *J.Geoph.Res.*, **120**, doi:10.1002/2014JD022457
17. Hennigan, C.J., Izumi, J., Sullivan, A.P., Weber, R.J. and Nenes, A. (2015) A Critical Evaluation of Proxy Methods used to Estimate the Acidity of Atmospheric Particles, *Atmos.Chem.Phys.*, **15**, 2775-2790
18. Xu, L., Guo, H., Boyd, C., Bougiatioti, A., Cerully, K., Hite, J., Isaacman, G., Olson, K., Goldstein, A., Kosse, A., Gouw, J.D., Baumann, K., Knote, C., Lee, S., Weber, R., Nenes, A., Ng, N.L. (2015) Effects of Anthropogenic Emissions on Aerosol Formation from Isoprene and Monoterpenes in the Southeastern United States: Insights from SOAS and Beyond, *Proc.Nat.Acad.Sci.*, **112**, 37-42, doi: 10.1073/pnas.1417609112
19. Wong, J. P. S., J. Liggio, S.-M. Li, A. Nenes, Abbatt, J. P. D. (2014) Suppression in Droplet Growth Kinetics by the Addition of Organics to Sulfate Particles, *J.Geoph.Res.*, **119**, 12,222–12,232, doi:10.1002/2014JD021689
20. You, Y., Kanawade, V.P., de Gouw, J.A., Guenther, A.B., Madronich, S., Sierra-Hernandez, M.R., Lawler, M., Smith, J.N., Takahama, S., Koss, A., Baumann, K., Weber, R.J., Nenes, A., Giulia, R., Guo, H., Edgerton, E.S., Porcelli, L., Brune, W.H., Goldstein, A.H., Olson, K., and Lee, S.-H. (2014) Atmospheric Amines and Ammonia Measured with a Chemical Ionization Mass Spectrometer (CIMS), *Atmos.Chem.Phys.*, **14**, 12181-12194
21. Morales Betancourt, R., and Nenes, A. (2014) Aerosol Activation Parameterization: The population splitting concept revisited, *Geosci.Mod.Dev.*, **7**, 2345–2357
22. Barahona, D., Molod, A., Bacmeister, J., Nenes, A., Gettelman, A., Morrison, H., Phillips, V., and Eichmann, A. (2014) Development of Two-Moment Cloud Microphysics for Liquid and Ice within the NASA Goddard Earth Observing System Model (GEOS-5), *Geosci.Mod.Dev.*, **7**, 1733-1766
23. Gantt, B., He, J., Zhang, X., Zhang, Y., and Nenes, A. (2014) Incorporation of Advanced Aerosol Activation Treatments into CESM/CAM5: Model Evaluation and Impacts on Aerosol Indirect Effects, *Atmos.Chem.Phys.*, **14**, 7485-7497
24. Coggon, M.M., Sorooshian, A., Wang, Z., Metcalf, A.R., Lin, J.J., Nenes, A., Jonsson, H.H., Flagan, R.C., Seinfeld, J.H. (2014) Impacts of continental biogenic aerosol on marine stratocumulus off the coast of California, *J. Geoph. Res.*, **119**, doi:10.1002/2013JD021228
25. Longo, A.F., Ingall, E.D., Diaz, J.M., Oakes, M., King, L.E., Nenes, A., Mihalopoulos, N., Violaki, K., Avila, A., Benitez-Nelson, C.R., Brandes, J., McNulty, I., and Vine, D.J. (2014) P-NEXFS Analysis of Aerosol Phosphorus Delivered to the Mediterranean Sea, *Geoph.Res.Let.*, **41**, doi:10.1002/2014GL060555
26. Trail, M., Tsimpidi, A.P., Liu, P., Tsigaridis, K., Hu, Y., Rodukus, J., Nenes, A. and Russell, A.G (2014) Sensitivity of air quality to potential future climate change and emissions in the United States and major cities, *Atm. Environ.*, **94**, 552-563
27. Drozd, G., Woo, J., Häkkinen, S.A.K., Nenes, A, McNeill, V.F. (2014) Inorganic salts interact with oxalic acid in sub-micron particles to form material with low hygroscopicity and volatility, *Atmos.Chem.Phys.*, **14**, 5205-5215
28. Romakkaniemi, S., Jaatinen, A., Laaksonen, A., Nenes, A., Raatikainen, T. (2014) Effect of phase partitioning of semivolatile aerosol compounds on particles CCN-activity, *Atmos.Meas.Tech.*, **7**, 1377–1384.
29. Morales Betancourt, R., and Nenes, A. (2014) Understanding the contributions of aerosol properties and parameterization discrepancies to droplet number variability in a Global Climate Model, *Atmos.Chem.Phys.*, **14**, 4809–4826.
30. Bougiatioti, A., Stavroulas, I., Kostenidou, E., Zarmas, P., Theodosi, C., Kouvarakis, G., Canonaco, F., Prévôt, A.S.H., Nenes, A., Pandis, S.N., and Mihalopoulos, N. (2014) Processing of biomass burning aerosol in the Eastern Mediterranean during summertime, *Atmos.Chem.Phys.*, **14**, 4793–4807.
31. Raatikainen, T., Lin, J.J, Cerully, K., Latham, T.L., Moore, R.H. and Nenes, A. (2014) CCN data interpretation under dynamic operation conditions, *Aeros.Sci.Tech.*, **48**, doi:10.1080/02786826.2014.899429

32. Cerully, K., Hite, J., McLaughlin, M., and Nenes, A. (2014) Toward the Determination of Joint Volatility-Hygroscopicity Distributions: Development and Response Characterization for Single-Component Aerosol, *Aer.Sci.Tech.*, **48**, doi:10.1080/02786826.2013.870326
33. Trail, M., Tsimpidi, A.P., Liu, P., Tsigaridis, K., Hu, Y., Nenes, A. Stone, B., and Russell, A.G. (2013) Potential impact of land use change on future regional climate in the Southeastern U.S.: Reforestation and crop land conversion, *J.Geoph.Res.*, **118**, doi:10.1002/jgrd.50331
34. Trail, M., Tsimpidi, A.P., Liu, P., Tsigaridis, K., Hu, Y., Nenes, A. and Russell, A.G. (2013) Downscaling a Global Climate Model to Simulate Climate Change Impacts on U.S. Regional and Urban Air Quality, *Geosci.Mod.Dev.*, **6**, 1429–1445
35. Ryerson, T.B., Andrews, A.E., Angevine, W.M., Bates, T.S., Brock, C.A., Cairns, B., Cohen, R.C., Cooper, O.R., de Gouw, J.A., Fehsenfeld, F.C., Ferrare, R.A., Fischer, M.L., Flagan, R.C., Goldstein, A.H., Hair, J.W., Hardesty, R.M., Hostetler, C.A., Jimenez, J.L., Langford, A.O., McCauley, E., McKeen, S.A., Molina, L.T., Nenes, A., Oltmans, S.J., Parrish, D.D., Pederson, J.R., Pierce, R.B., Prather, K., Quinn, P.K., Seinfeld, J.H., Senff, C.J., Sorooshian, A., Stutz, J., Surratt, J.D., Trainer, M., Volkamer, R., Williams, E.J., and Wofsy, S.C. (2013) The 2010 California Research at the Nexus of Air Quality and Climate Change (CalNex) field study, *J.Geoph.Res.*, **118**, doi:10.1002/jgrd.50331
36. Russell, L.M., Sorooshian, A., Seinfeld, J.H., Albrecht, B.A., Nenes, A., Ahlm, L., Chen, Y.C., Coggon, M., Craven, J.S., Flagan, R.C., Frossard, A.A., Jonsson, H., Jung, E., Lin, J.J., Metcalf, A.R., Modini, R., Mulmenstadt, J., Roberts, G.C., Shingler, T., Song, S., Wang, Z., Wonaschutz, A. (2013) Eastern Pacific Emitted Aerosol Cloud Experiment (E-PEACE), *Bull.Amer.Met.Soc.*, **94**, 709–729, doi: <http://dx.doi.org/10.1175/BAMS-D-12-00015.1>
37. Lance, S., Raatikainen, T., Onasch, T., Worsnop, D. R., Yu, X.-Y., Alexander, M. L., Stolzenburg, M. R., McMurry, P. H., Smith, J. N., and A. Nenes (2013) Aerosol mixing-state, hygroscopic growth and cloud activation efficiency during MIRAGE 2006, *Atmos.Chem.Phys.*, **13**, 5049–5062
38. DeLeon-Rodriguez, N., Lathem, T.L., Rodriguez, L.M., Barazesh, J.M., Anderson, B.E., Beyersdorf, A.J., Ziemba, L.D., Bergin, M., Nenes, A., Konstantinidis, K.T. (2013) Reply to Smith and Griffin: Methods, air flows, and conclusions are robust in the DeLeon-Rodriguez et al. study, *Proc.Nat.Acad.Sci.*, doi: 10.1073/pnas.1304466110
39. Moore, R.H., Karydis, V.L., Capps, S.L., Lathem, T.L. and Nenes, A. (2013) Droplet Number Prediction Uncertainties From CCN: An Integrated Assessment Using Observations and a Global Model Adjoint, *Atmos.Chem.Phys.*, **13**, 4235–4251
40. Hersey, S., Craven, J., Metcalf, A., Lin, J., Lathem, T., Suski, K., Cahill, J., Duong, H., Sorooshian, A., Jonsson, H., Nenes, A., Prather, K., Flagan, R., Seinfeld, J. (2013) Composition and Hygroscopicity of the Los Angeles Aerosol: CalNex, *J. Geoph. Res.*, **117**, doi:10.1002/jgrd.50307
41. Lathem, T.L., Beyersdorf A.J., Thornhill K.L., Winstead E.L., Cubison M.J., Hecobian A., Jimenez J.L., Weber R.J., Anderson B.E., and Nenes A. (2013) Analysis of CCN activity of Arctic aerosol and Canadian biomass burning during summer 2008, *Atmos.Chem.Phys.*, **13**, 2735-2756
42. Frosch, M., Bilde, M., Nenes, A., Praplan, A.P., Jurányi, Z., Dommen, J., Gysel, M., Weingartner, E., and Baltensperger, U. (2013) CCN activity and volatility of β -caryophyllene secondary organic aerosol, *Atmos.Chem.Phys.*, **13**, 2283–2297
43. Storelvmo, T., Kristjánsson, J.E., Muri, H., Pfeffer, M., Barahona, B., and Nenes, A. (2013) Cirrus Cloud Seeding has Potential to Cool Climate, *Geoph.Res.Let.*, **40**, doi:10.1029/2012GL054201
44. Raatikainen, T., Nenes, A., Seinfeld, J. H., Morales, R., Moore, R. H., Lathem, T. L., Lance, S., Padro, L. T., Lin, J. J., Cerully, K., Bougiatioti, A., Cozic, J., Ruehl, C., Chuang, P. Y., Anderson, B., Flagan, R.C., Jonsson, H., Mihalopoulos, N., and J. N. Smith (2013) Worldwide data sets constrain the water vapor uptake coefficient in cloud formation, *Proc.Nat.Acad.Sci.*, 10.1073/pnas.1219591110
45. Sareen, N., Schwier, A.N., Lathem, T., Nenes, A. and V. F. McNeill (2013) Surfactants from the gas phase may enhance aerosol cloud nucleation, *Proc.Nat.Acad.Sci.*, doi: 10.1073/pnas. 1204838110
46. DeLeon-Rodriguez, N., Lathem, T.L., Rodriguez, L.M., Barazesh, J.M., Anderson, B.E., Beyersdorf, A.J., Ziemba, L.D., Bergin, M., Nenes, A., Konstantinidis, K.T. (2013) The microbiome of the upper troposphere: species composition and prevalence, effects of tropical storms, and atmospheric implications, *Proc.Nat.Acad.Sci.*, doi: 10.1073/pnas.1212089110

47. Sud, Y.C, Lee, D., Oreopoulos, L., Barahona, D., Nenes, A. and M.J. Suarez (2013) Performance of McRAS-AC in the GEOS-5 AGCM: Part 1, Aerosol-activated Cloud Microphysics, Precipitation, Radiative Effects, and Circulation, *Geos.Mod.Dev.*, **6**, 57–79
48. Liu, X., Shi, X., Zhang, K., Jensen, E.J., Gettelman, A., Barahona, D., Nenes, A. and P. Lawson (2012) Sensitivity Studies of Dust Ice Nuclei Effect on Cirrus Clouds with the Community Atmosphere Model CAM5, *Atmos.Chem.Phys.*, **12**, 12061–12079
49. Karydis, V.A., Capps, S.L., Moore, R.H., Russell, A., Henze, D.K. and A. Nenes (2012) Using a global aerosol model adjoint to unravel the footprint of spatially-distributed emissions on cloud droplet number and cloud albedo, *Geoph.Res.Let.*, **39**, L24804, doi:10.1029/2012GL053346
50. Ruehl, C., Chuang, P.Y., Nenes, A., Cappa, C., and Kolesar, K. (2012) Strong Evidence of Surface Tension Reduction in Microscopic Aqueous Droplets, *Geoph.Res.Let.*, **39**, L23801, doi:10.1029/2012GL053706
51. Morales, R., Lee, D., Oreopoulos, L., Sud, Y., Barahona, D. and Nenes, A. (2012) Sensitivity of Cirrus and Mixed-Phase Clouds to the Ice Nuclei Spectra in McRAS-AC: Single Column Model simulations, *Atmos.Chem.Phys.*, **12**, 10679–10692, doi:10.5194/acp-12-10679-2012
52. Padró, L.T., Moore, R.H., Zhang, X., Rastogi, N., Weber, R.J., and A. Nenes (2012) Mixing State and Compositional Effects on CCN Activity, and Droplet Activation Kinetics of Size-Resolved CCN in an Urban Environment, *Atmos.Chem.Phys.*, **12**, 10239-10255, doi:10.5194/acp-12-10239-2012
53. Wang, K., Zhang, Y., Nenes, A., and Fountoukis, C. (2012) Implementation of Dust Emission and Chemistry into the Community Multiscale Air Quality Modeling System and Initial Application to an Asian Dust Storm Episode, *Atmos.Chem.Phys.*, **12**, 10209-10237, doi:10.5194/acp-12-10209-2012
54. Zhang, Y., Karamchandani, P., Glotfelty, T., Streets, D.G., Skamarock, W.C., Grell, G., Nenes, A., Yu, F., and Bennartz, R. (2012) Development and Initial Application of the Global-Through-Urban Weather Research and Forecasting Model with Chemistry (GU-WRF/Chem), *J. Geoph. Res.*, **117**, D20206, doi:10.1029/2012JD017966
55. Karydis, V.S., Capps, S.L., Russell, A.G. and Nenes, A. (2012) Adjoint sensitivity of global cloud droplet number to aerosol and dynamical parameters, *Atmos.Chem.Phys.*, **12**, 9041–9055
56. Tsimpidi, A.P., Trail, M., Hu, Y., Nenes, A. and Russell, A.G. (2012) Modeling an air pollution episode in northwestern United States: Identifying the impact of nitrogen oxide and volatile organic compound sources on air pollutants formation using direct sensitivity analysis, *A.W.M.A.*, **62**(10), 1150-1165
57. Coggon, M.M., Sorooshian, A., Wang, Z., Metcalf, A.R., Frossard, A.A., Lin, J.J., Craven, J.S., Nenes, A., Jonsson, H.H., Russell, L.M., Flagan, R.C., and Seinfeld, J.H. (2012) Ship Impacts on the Marine Atmosphere: Insights into the Contribution of Shipping Emissions to the Properties of Marine Aerosol and Clouds, *Atmos.Chem.Phys.*, **12**, 8439-8458
58. Gantt, B., Xu, J., Meskhidze, N., Zhang, Y., Nenes, A., Ghan, S.J., Liu, X., Easter, R., and Zaveri, R. (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
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60. Raatikainen, T. , Moore, R. H., Latham, T. L. and A. Nenes (2012) A coupled observation–modeling approach for studying activation kinetics from measurements of CCN activity, *Atmos.Chem.Phys.*, **12**, 4227-4243, doi:10.5194/acp-12-4227-2012
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62. Bahadur, R., Russell, L.M., Jacobson, M.Z., Prather, K., Nenes, A., Adams, P.J., and Seinfeld, J.H. (2012) Importance of Composition and Hygroscopicity of BC Particles to the Effect of BC Mitigation on Cloud Properties : Application to California Conditions, *J.Geoph.Res.*, **117**, D09204,

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64. Liu, P., Tsimpidi, A.P., Hu, Y., Stone, B., Russell, A.G., and Nenes, A. (2012) Differences between Downscaling with Spectral and Grid Nudging Using WRF, *Atmos.Chem.Phys.*, **12**, 3601-3610
65. Leibensperger, E. M., Mickley, L. J., Jacob, D. J., Chen, W. T., Nenes, A., Adams, P. J., Seinfeld, J. H., and Kumar, N. (2012) Climate Response to 1950-2050 US Aerosol Trends: Part 2: Climate Response, *Atmos.Chem.Phys.*, **12**, 3349-3362
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174. Collins, D.R., Nenes, A., Flagan, R.C, and Seinfeld, J.H. (2000) The Scanning Flow DMA, *J. Aerosol. Sci.*, **31**, 1129-1144
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176. Pilinis, C., Capaldo, K.P., Nenes, A., Pandis, S.N. (2000) MADM - A New Multicomponent Aerosol Dynamics Model, *Aerosol Sci. Tech.*, **32(5)**, 482-502
177. Katoshevski, D., Nenes, A., Seinfeld, J.H. (1999) A Study of Processes that Govern the Maintenance of Aerosols in the Marine Boundary Layer, *J. Aeros. Sci.*, **30**, 503-532
178. Nenes, A., Pilinis, C., Pandis, S.N. (1999) Continued Development and Testing of a New Thermodynamic Aerosol Module for Urban and Regional Air Quality Models, *Atmos. Environ.*, **33**, 1553-1560
179. Nenes, A., Pilinis, C., Pandis, S.N. (1998) ISORROPIA: A New Thermodynamic Model for Multiphase Multicomponent Inorganic Aerosols, *Aquat. Geochem.*, **4**, 123-152
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182. Nenes, A., Assimacopoulos, D., Markatos, N., Mitsoulis, E. (1996) Simulation of Airlift Pumps for Deep Water Wells, *Can. J. Chem. Eng.*, **74**, 448-456
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Refereed Publications – In review

1. Asa-Awuku, A., Sorooshian, A., Flagan, R.C., Seinfeld, J.H. and Nenes, A., CCN Properties of Organic Aerosol Collected Below and Within Marine Stratocumulus Clouds near Monterey California, *Atmosphere*
2. Zhu, S., Sartelet, K.N., Zhang, Y., Nenes, A., Three-dimensional modelling of the mixing state of particles over Greater Paris, *J. Geophys. Res.*
3. Dunne, E.M., Gordon, H., Kurten, A., Almeida, J., Williamson, C., Ortega, I.K., Pringle, K.J., Adamov, A., Baltensperger, U., Barmet, P., Benduhn, F., Bianchi, F., Breitenlechner, M., Clarke, A.,

- Curtius, J., Dommen, J., Donahue, N.M., Duplissy, J., Ehrhart, S., Flagan, R.C., Franchin, A., Hansel, A., Kangasluoma, J., Kirkby, J., Kulmala, M., Kupc, A., Lehtipalo, K., Makhmutov, V., Nenes, A., Onnela, A., Rap, A. Reddington, C.L.S., Riccobono, F., Richards, N.A.D., Rissanen, M.P., Schobesberger, S., Sengupta, K., Simon, M., Stozkhov, Y., Tome, A., Trostl, J., Wagner, P.E., Winkler, P.M., Worsnop, D.R., and Carslaw, K.S., Global ternary neutral and ion-induced particle formation, *Science*
4. Zamora, L.M., Kahn, R.A., Cubison, M.J., Diskin, G.S., Jimenez, J.L., Kondo, Y., McFarquhar, G.M., Nenes, A., Thornhill, K.L., Wisthaler, A., Zelenyuk, A., and Ziemba, L.D., Aircraft-measured indirect cloud effects from biomass burning smoke in the Arctic and subarctic, *Atmos.Chem.Phys.*
 5. Turner, M., Henze, D., Hakami, A., Capps, S., Zhao, S-L., Resler, J., Carmichael, G., Stanier, C., Baek, J., Sandu, A., Russell, A., Nenes, A., Pinder, R., Napelenok, S., Bash, J., Percell, P., Chai, T., Sector-specific health impacts of BC emissions in six urban US regions, *Env. Res. Let.*
 6. Bougiatioti, A., Bezantakos, S., Stavroulas, I., Kokkalis, P., Biskos, G., Mihalopoulos, N., Papayannis, A., Nenes, A., Contribution of biomass burning to CCN number and hygroscopicity during summertime in the Eastern Mediterranean, *Atmos.Chem.Phys.*
 7. Sullivan, S., Sheyko, B., Morales-Betancourt, R., Barahona, D., and Nenes, A., Sources of variability for the ice crystal number concentration in cirrus clouds, *Atmos.Chem.Phys.*
 8. Lee, S.H., Uin, J., Guenther, A.B., de Gouw, J.A., Goldstein A.H., Nadykto, A.B., Yu, F., Herb, J., Ng, N.L., Koss, A., Isaacman-VanWertz, G., Yee, L.D., Olson, K., Sanchez, J., Xu, L., Brune, W.H., Baumann, K., Kanawade, V.P., Keutsch, F.N., Millet, D.B., and Nenes, A., New Insights on Isoprene Suppression of New Particle Formation, *Proc.Nat.Acad.Sci.*
 9. M. Paramonov, V.-M. Kerminen, M. Gysel, P. P. Aalto, M. O. Andreae, E. Asmi, U. Baltensperger, A. Bougiatioti, D. Brus, G. Frank, N. Good, S. S. Gunthe, L. Hao, M. Irwin, A. Jaatinen, Z. Jurányi, S. M. King, A. Kortelainen, A. Kristensson, H. Lihavainen, M. Kulmala, U. Lohmann, S. T. Martin, G. McFiggans, N. Mihalopoulos, A. Nenes, C. D. O'Dowd, J. Ovadnevaite, T. Petäjä, U. Pöschl, G. C. Roberts, D. Rose, B. Svenningsson, E. Swietlicki, E. Weingartner, J. Whitehead, A. Wiedensohler, C. Wittbom, and B. Sierau, A synthesis of cloud condensation nuclei counter (CCNC) measurements within the EUCAARI network, *Atmos.Chem.Phys.*
 10. Zhang, W., Tullios, E.E., Hu, Y., Nenes, A., Russell, A.G., Impact of Flare Emissions at Variable Operating Conditions on Regional Air Quality in the Houston Region, *Atmos.Env.*
 11. Weber, R.J., Guo, H., Russell, A.G., Nenes, A., Ambient aerosols remain highly acidic despite dramatic sulfate reductions, *Nature Geosci.*
 12. Kim, Y.H., Yiacomou, S., Nenes, A. and Tsouris, C., Modeling of Surface Charging and Aggregation Kinetics of Atmospheric Particles, *Atmos.Chem.Phys.*
 13. Liu, P., Hu, Y., Stone, B., Ivey, C., Nenes, A., Russell, A.G., Development of a sub-grid approach for the Noah land surface model and evaluation of modeled sub-grid surface temperature with MODIS derived land surface temperature, *J.Geoph.Res.*
 14. Latham, T. L., Nenes, A., Rosenfeld, D., Deng, Y., Zhang, H., Anderson, B. E., Crumeyrolle, S., Beyersdorf, A. J., Ziemba, L. D., Thornhill, K. L., Winstead, E. L., Black, R. A., Murillo, S. T., Blowing salt into the eye infuriates hurricanes, *Proc.Nat.Acad.Sci.*

Books/Book Chapters:

- Nenes, A., Murray, B., Bougiatioti, A. (2014) Mineral Dust and Its Microphysical Interactions with Clouds, In Knippertz, P., and Stuut, J.B., *Mineral Dust: A Key Player in the Earth System*, pp. 287-325, Springer, ISBN 978-94-017-8977-6

Other Publications:

- Roberts, G., and Nenes, A., "Stream-Wise Thermal Gradient Cloud Condensation Nuclei Chamber.", US Patent No. 7,656,510 (issued 2 February, 2010).
- Nenes, A. and Moore, R., "Scanning Flow CCN Analysis (SFCA)", US Provisional Patent No. 61/242,601 (filed September 15, 2009).

Membership in Professional and Honor Societies

American Chemical Society, American Institute of Chemical Engineers, American Meteorological Society, American Association for Aerosol Research, American Geophysical Union, European Geophysical Union, Hellenic Association for Aerosol Research, Earth System Scholars Forum, Technical Chamber of Engineers (Greece)

Graduate students advised: 20 PhD (8 current), 5 MS

PhD students graduated: Fountoukis, Christos (2007); Lance, Sara (2007); Asa-Awuku, Akua-Asabea (2008); Hsieh, Wei-Chun (2009); Padro, Luz-Tereza (2009); Barahona, Donifan (2010); Kumar, Prashant (2011); Moore, Richard (2011); Lathem, Terry (2012); Capps, Shannon (2012); Morales Betancourt, Ricardo (2013); Cerully, Kate (2013)

MSc students graduated: Williams, Robyn (2005); Sheyko, Benjamin (2014)

Committees - Service

2014-pres. National Research Council, Committee on the Future of Atmospheric Chemistry Research, National Academy of Sciences
2013-pres. Committee on Nucleation and Atmospheric Aerosols, Member.
2012-pres. Secretary of Aerosols & Clouds, Atmospheric Sciences, American Geophysical Union.
2014-pres. Board of Directors, American Association for Aerosol Research
2004-pres. Editor, Atmospheric Chemistry and Physics
2008-pres. NASA ACE Mission Scientific Committee
2015-pres. NASA CLOUD Mission Science Team
2014 Conference chair, American Association for Aerosol Research Annual Conference
2011 Conference Chair, International Aerosol Modeling Algorithms (IAMA) Conference
2013 Conference co-Chair, International Aerosol Modeling Algorithms (IAMA) Conference
2011-pres. Conference Organization Committee, American Association for Aerosol Research
2009 Student Liason Chair, American Association for Aerosol Research
2009 Tutorial Chair, American Association for Aerosol Research
2010 Education Outreach Chair, American Association for Aerosol Research
2006-2009 Student Liason Committee, American Association for Aerosol Research
2007-2010 Education Outreach Committee, American Association for Aerosol Research

Invited Seminars

Nutrient Cycling on the Modern and Ancient Earth, Plenary Speaker, University of Leeds, July 7, 2015
National Academy of Sciences, Sackler Symposium on Improving Our Fundamental Understanding of the Role of Aerosol-Cloud Interactions in the Climate System, Irvine, CA, June 23, 2015
ENV-VISION Conference, Crystal City, VA, May 14, 2015
Climate@Emory Day of Scholarship, Atlanta, GA, April 24, 2015
NOSA-FAAR Annual Assembly Plenary Speaker, Kuopio, Finland, March 12, 2015.
Electrical Power Research Institute, Env. Advisory Program Mtg, Charleston, SC, February 10, 2015.
Institute for Atmospheric and Climate Science in Zurich, Switzerland, January 14, 2015.
European Research Council, Brussels, Belgium, November 18, 2014.
Initial Training for Atmospheric Remote Sensing (ITARS Summer School), September 12, 2014.
Department of Chemical Engineering, National Technical University of Athens, Greece, June 10, 2014.
Plenary Talk, 12th International Conference on Meteorology, Climatology and Atmospheric Physics, Heraklion, Crete, Greece, May 29, 2014.
Vaughan Lectureship in Chemical Engineering, Division of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, CA, May 8, 2014
Physical Chemistry seminar, Department of Chemistry, University of Georgia, Athens, GA, April 8, 2014
American Meteorological Society, Annual Assembly, Atlanta, GA, February 7, 2014
NOAA Geophysical Research Laboratory, Princeton University, Princeton, NJ, December 5, 2013
NSF Workshop on the hydrometeorological implications of extensive urbanization, Department of Civil and Environmental Engineering, Princeton University, December 3, 2013
Tutorial Speaker, American Association for Aerosol Research, Portland, OR, September 30, 2013

Initial Training for Atmospheric Remote Sensing (ITARS Summer School), September 24, 2013.
Goldschmidt Conference, Florence, Italy, August 30, 2013.
Pacific Northwest National Laboratory, Global Change Frontiers Seminar, Richland, WA, August 1, 2013
NASA Headquarters, Brownbag Seminar Series, Washington DC, March 21, 2013.
Environmental Sciences PhD program, Ball State University, Muncie, IN, March 12, 2013.
IGAC Open Science Conference "Atmospheric Chemistry in the Anthropocene", Beijing, China, September 20, 2012
Gordon Research Conference on Biogenic Hydrocarbons & the Atmosphere, Lewiston, ME, June 27, 2012.
Alpine Summer School on Climate, Aerosols and the Cryosphere, Valsavarenche, Italy, June 20-29, 2012.
7th Chemical Engineering Conference for Collaborative Research in Eastern Mediterranean Countries, Corfu, Greece, April 30, 2012.
84th Meeting of the Petroleum Environmental Research Forum, Bartlesville, OK, November 10, 2011.
International Aerosol Modeling Algorithms Conference, Davis, CA, December 2, 2011.
American Chemical Society, Fall SERMACS Assembly, Richmond, VI, October 26, 2011.
American Institute of Chemical Engineers, Annual Assembly, Minneapolis, MN, October 17, 2011.
Tutorial Speaker, American Association for Aerosol Research, Orlando, FL, October 4, 2011.
American Chemical Society, Fall General Assembly, Denver, CO, August 30, 2011.
Goldschmidt Conference, Prague Czech Republic, August 16, 2011.
Karlsruhe Institute of Technology, Germany, August 12, 2011.
Department of Physics, University of Athens, Greece, June 23, 2011.
Demokritos National Center of Scientific Research, Athens, Greece, June 24, 2011.
Plenary Lecture, DOE ASR Annual Science Meeting, San Antonio, TX, March 31, 2011.
American Geophysical Union, Fall Meeting, San Francisco, CA, December 15, 2010.
Department of Physics, University of Oxford, United Kingdom, November 23, 2010.
Institute of Climate and Atmospheric Science, University of Leeds, United Kingdom, November 17, 2010.
School of the Environment, University of Leeds, United Kingdom, November 15, 2010.
Tutorial Speaker, American Association for Aerosol Research, Portland, OR, October 25, 2010.
Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, GA, September 17, 2010.
Telluride Workshop on Cloud Physics, Telluride, CO, 2010.
Jet Propulsion Laboratory, Pasadena, CA, May 6, 2010.
Dean's Distinguished Lecture, College of Engineering, Columbia University, April 20, 2010.
Forum on Aerosols and Climate, Yale University, March 26, 2010.
American Meteorological Society, January 19, 2010.
International Aerosol Modeling Algorithms Conference, Davis, CA, December 12, 2009.
International Aerosol Modeling Algorithms Conference, Davis, CA, December 11, 2009.
University of Kuopio, Finland, Department of Physics, December 3, 2009.
University of Copenhagen, Denmark, Department of Chemistry, November 25, 2009.
National Academy of Engineering, Japan-America Frontiers of Engineering, Irvine, 11 November, 2009.
American Association for Aerosol Research, Minneapolis, MN, October 25, 2009.
Georgia Air Policy Symposium, Atlanta, GA, August 4, 2009.
Goldschmidt Conference, Davos Switzerland, 26 June 2009.
Georgia Institute of Technology, School of Chemical and Biomolecular Engineering, 2 April, 2009.
University of Manchester, UK, School of Earth, Atmospheric & Environmental Sciences, 8 January, 2009.
Columbia University, Department of Chemical Engineering, 25 November, 2008.
3rd International Dust Workshop, Leipzig, Germany, 17 September, 2008.
Telluride Summer Research Workshop on Organic Particles in the Atmosphere: Formation, Properties, Processing, and Impact, Telluride, CO, 5 August, 2008.
American Physical Society, Annual Meeting, New Orleans, LA, 13 March 2008.
Department of Chemical Engineering, Bucknell University, Lewisburgh, PA, March 25, 2008.
NASA Ames Research Center, Moffett Field, CA, February 27, 2008.
Atmospheric Sciences Center Seminar, UC-Berkeley, Berkeley, CA, February 26, 2008.
American Association for the Advancement of Science, Annual Meeting, Boston, MA, 2008.

NASA CERES Workshop on aerosol-cloud interactions, Victoria, BC, Canada, November 14, 2007.
 American Geophysical Union, Fall Meeting, San Francisco, CA, December 12, 2007.
 International Aerosol Modeling Algorithms Conference, Davis, CA, December, 2007
 Tutorial Speaker, American Association for Aerosol Research, Reno, NV, September, 2007.
 Gordon Research Conference in Atmospheric Chemistry, Big Sky, MT, August 2007
 School of Earth and Atmospheric Sciences, Georgia Institute of Technology, GA, August, 2007
 Gordon Research Conference in Radiation in Climate, Colby Sawyer College, NH, August 2007
 Institute of Chemical Engineering-University of Patras, Patras, Greece, June 2007
 NASA Goddard Institute of Space Studies, New York, May, 2007.
 INTROP/ESF meeting, Heraklion, Crete, Greece, April 2007
 American Chemical Society, Annual Meeting, Chicago, IL, 2007
 Atmospheric Sciences Seminar, Massachusetts Institute of Technology, Boston, MA, December 18, 2006.
 Southeastern Regional Meeting of the American Chemical Society, Augusta, GA, November 1, 2006.
 Department of Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA, October 8, 2006.
 Annual Congress of the Mexican Chemical Society, Mexico City, Mexico, September 28, 2006.
 Tutorial Speaker, International Aerosol Conference, Saint Paul, MN, September 10, 2006.
 2nd International Conference On Global Warming And The Next Ice Age And Aerosol Workshop On
 Climate Prediction Uncertainties, Santa Fe, NM, July 20, 2006.
 NASA-Goddard Space Flight Center, Greenbelt, MD, April 10, 2006.
 Universidad Autonoma de Aguascalientes, Aguascalientes, Mexico, March 27, 2006
 American Geophysical Union, Fall Meeting, San Francisco, CA, December 7, 2005.
 Department of Earth Sciences, University of California at Santa Cruz, CA, November 8, 2005.
 ACD Seminar, National Center for Atmospheric Research, Boulder, CO, June 25, 2005.
 NASA Jet Propulsion Laboratory, Pasadena, CA, February 18, 2005
 CDSNS Colloquium, School of Mathematics, Georgia Institute of Technology, January 10, 2005.
 American Geophysical Union, Fall Meeting, San Francisco, CA, December 17, 2004.
 Department of Earth and Atmospheric Sciences, Harvard University, December 10, 2004.
 Aspen Global Change Institute, "Aerosols and the Hydrological Cycle", 17 July 2004.
 NASA-Goddard Space Flight Center, Greenbelt, MD, June 9, 2004.
 Department of Chemical Engineering, National Technical University of Athens, Greece, May 13, 2004.
 Department of Marine, Earth and Atmospheric Sciences, North Carolina State University, April 26, 2004.
 Department of Chemistry, University of Crete, Greece, December 19, 2003.
 NOAA-Aeronomy Laboratory, Boulder, CO, May 28, 2003.
 NASA-Goddard Institute of Space Studies, New York City, NY, March 7, 2003.
 Center for Integrated Study of the Human Dimensions of Global Change, Carnegie Mellon University,
 Pittsburgh, PA, November 20, 2002.

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