

ATHANASIOS NENES

Contact information

Earth & Atmospheric Sciences, Chemical & Biomolecular Engineering, Georgia Institute of Technology
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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	2003	California Institute of Technology

Appointments/Affiliations

2015-2016	Visiting Professor, California Institute of Technology; University of Athens, Greece; National Technical University of Athens, Greece
2015-present	Affiliated Scientist, National Observatory of Athens, Greece
2008-present	Affiliated Scientist, Foundation for Research and Technology, Greece
2011-present	Professor, Georgia Institute of Technology
2008-2011	Associate Professor, Georgia Institute of Technology
2002-2008	Assistant Professor, Georgia Institute of Technology

Areas of research interests

- Biomass Burning Aerosols: detection, properties and impacts.
- Aerosol impacts on marine productivity, biogeochemical cycling of nutrients and the carbon cycle.
- Bioaerosols, their atmospheric lifecycle and properties
- Aerosol-cloud interactions and their impacts on the hydrological cycle, climate and storm formation.
- 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 and network analysis tools for air quality and climate models.
- Land use/land change modeling and land-atmosphere dynamic coupling

Honors/Recognitions

European Research Council, Consolidator Grant, 2016; Johnson Faculty Fellow, Georgia Institute of Technology (GIT), 2016; Faces of Inclusive Excellence, GIT, 2015; Cullen-Peck Fellow, GIT, 2014; Dreyfus Foundation Postdoctoral Mentor 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, GIT, 2012; Kenneth T. Whitby Award, American Association for Aerosol Research, 2011; Georgia Power Faculty Scholar, GIT, 2011; Group Achievement Award, NASA, 2009, 2010; Dean's Distinguished Lecture, College of Engineering, Columbia University, 2010; Henry G. Houghton Award, American Meteorological Society, 2009; Sigma Xi Young Faculty Award, GIT, 2007; Sheldon K Friedlander Award, American Association for Aerosol Research, 2005; Blanchard-Milliken Young Faculty Fellowship, GIT, 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.

Books/Book chapters/Reports:

National Academies of Sciences, Engineering, and Medicine (2016) *The Future of Atmospheric Chemistry Research: Remembering Yesterday, Understanding Today, Anticipating Tomorrow*. Washington, DC: The National Academies Press. DOI: 10.17226/235730

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

Refereed Publications – Published/In press (ISI Web of Science citations: 9928, h-index: 51)

1. Carlton, A.G., de Gouw, J., Jimenez, J.L., Ambrose, J.L., Brown, S., Baker, K.R., Brock, C., Cohen, R.C., Edgerton, S., Farkas, C., Farmer, D., Goldstein, A.H., Gratz, L., Guenther, A., Hunt, S., Jaegle, L., Jaffe, D.A., Mak, J., McClure, C., Nenes, A., Nguyen, T.K., Pierce, J.R., Selin, N.E., Shah, V., Shaw, S., Shepson, P.B., Song, S., Stutz, J., Surratt, J., Turpin, B.J., Warneke, C., Washenfelder, R.A., Wennberg, P.O., Zhou, X. (2017) The Southeast Atmosphere Studies (SAS): Coordinated investigation and discovery to answer critical questions about fundamental atmospheric processes, *Bull.Am.Met.Soc.*, in press
2. Bracco, A., Falasca, F., Nenes, A., Fountalis, I., Dovrolis, C. (2017) Advancing Climate Science with Knowledge-Discovery through Data mining, *npj Clim.Atmos.Sci.*, in press
3. Sullivan, S.C., Hoose, C., and A. Nenes (2017) Investigating the relative contributions of secondary ice formation processes to ice crystal number concentrations, *J.Geoph.Res.*, in press
4. Wong, J.P.S., Nenes, A., Weber, R.J. (2017) Changes in Light Absorptivity of Molecular Weight Separated Brown Carbon due to Photolytic Aging, *Env.Sci.Tech.*, **51**, 8414–8421
5. Yahya, K., Glotfelty, T., Wang, K., Zhang, Y., and A. Nenes (2017) Modeling Regional Air Quality and Climate: Improving Organic Aerosol and Aerosol Activation Processes in WRF/Chem version 3.7.1, *Geosci.Mod.Dev.*, **10**, 2333–2363, doi:10.5194/gmd-10-2333-2017
6. Zieger, P., O. Vaisanen, J. Corbin, D. Partridge, S. Bastelberger, M. Mousavi-Fard, B. Rosati, M. Gysel, U.K. Krieger, C. Leck, A. Nenes, I. Riipinen, A. Virtanen, and M. E. Salter (2017) Revising the hygroscopicity of inorganic sea salt aerosol, *Nature Comm.*, **8**, 15883, doi:10.1038/ncomms15883
7. Bougiatioti, A., Argyrouli, A., Solomos, S., Vratolis, S., Eleftheriadis, K., Papayannis, A. and Nenes, A. (2017) CCN activity, variability and influence on droplet formation during the HygrA-CD campaign in Athens, *Atmosphere*, **8**, 108, doi:10.3390/atmos8060108
8. Zhang, Y., Forrister, H., Liu, J., Dibb, J., Anderson, B., Schwarz, J.P., Perring, A.E., Jimenez, J.L., Campuzano-Jost, P., Wang, Y., Nenes, A., Weber, R.J. (2017) Convection Transports Brown Carbon to the Upper Troposphere Affecting Top of Atmosphere Radiative Forcing, *Nature Geosci.*, doi:10.1038/ngeo2960
9. Rastak, N., A. Pajunoja, J. C. Acosta Navarro, J. Ma, M. Song, D. G. Partridge, A. Kirkevåg, Y. Leong, W. W. Hu, N. F. Taylor, A. Lambe, K. Cerully, A. Bougiatioti, P. Liu, R. Krejci, T. Petäjä, C. Percival, P. Davidovits, D. R. Worsnop, A. M. L. Ekman, A. Nenes, S. Martin, J. L. Jimenez, D. R. Collins, D. O. Topping, A. K. Bertram, A. Zuend, A. Virtanen, and I. Riipinen (2017) Microphysical explanation of the RH-dependent water-affinity of biogenic organic aerosol and its importance for climate, *Geoph.Res.Let.*, **44**, doi:10.1002/2017GL073056
10. Guo, H., Liu, J., Ellis, R.A., Murphy, J.G., Froyd, K.D., Roberts, J.M., Veres, P.R., Hayes, P.L., Jimenez, J.L., Nenes, A., and Weber, R.J. (2017) Fine particle pH and gas-particle phase partitioning of inorganic species in Pasadena, California, during the 2010 CalNex campaign, *Atmos.Chem.Phys.*, **17**, 5703–5719
11. Karydis, V.A., A.P. Tsimpidi, A. Nenes and J. Lelieveld (2017) The global impact of mineral dust on cloud droplet number concentration, *Atmos.Chem.Phys.*, **17**, 5601–5621
12. Reddington, C. L., K. S. Carslaw, P. Stier, N. Schutgens, H. Coe, D. Liu, J. Allan, J. Browse, K. J. Pringle, L. A. Lee, M. Yoshioka, J. S. Johnson, L. A. Regayre, D. V. Spracklen, G. W. Mann, A. Clarke, M. Hermann, S. Henning, H. Wex, T. B. Kristensen, W. R. Leitch, U. Pöschl, D. Rose, M. O. Andreae, J. Schmale, Y. Kondo, N. Oshima, J. P. Schwarz, A. Nenes, B. Anderson, G. C. Roberts, J. R. Snider, C. Leck, P. K. Quinn, X. Chi, A. Ding, J. L. Jimenez, Q. Zhang (2017) The global aerosol synthesis and science project (GASSP)-Measurements and modelling to reduce uncertainty, *Bull.Am.Meteor.Soc.*, Early Online Release, doi: 10.1175/BAMS-D-15-00317.1
13. Budisulistiorini, S., A. Nenes, A.G. Carlton, J.D. Surratt, V.F. McNeill, H.O. T. Pye (2017) Simulating Aqueous-Phase Isoprene-Epoxydiol (IEPOX) Secondary Organic Aerosol Production During the 2013 Southern Oxidant and Aerosol Study (SOAS), *Env.Sci.Tech.*, just accepted, doi: 10.1021/acs.est.6b05750
14. Field P., Lawson P., Brown P., Lloyd G, Westbrook C., Moisseev D., Miltenberger A., Nenes A., Blyth A., Choularton T., Connolly P., Buehl J., Crosier J., Cui, Z., Dearden C., DeMott P., Flossmann A., Heymsfield A., Huang Y., Kalesse H., Kanji Z. A., Korolev A., Kirchgassner A., Lasher-Trapp S., Leisner T., McFarquhar G., Murray B., Phillips V., Stith J. (2017) Chapter 7. Secondary Ice Production – current state of the science and recommendations for the future, *AMS Monograph Series*,

vol.58, doi: 10.1175/AMSMONOGRAPHS-D-16-0014.1

15. Fang, T., Guo, H., Zeng, L., Verma, V., Nenes, A., Weber, R.J. (2017) Highly acidic ambient particles, soluble metals and oxidative potential: A link between sulfate and aerosol toxicity, *Env.Sci.Tech.*, **51** (5), 2611–2620, doi:10.1021/acs.est.6b06151
16. Shi, G., Xu, J., Peng, X., Sun, R., Chen, K., Tian, Y. Guan, X., Feng, Y., Yu, H., Nenes, A., Russell, A.G. (2017) pH of Aerosols in a Polluted Atmosphere: Source Contributions to Highly Acidic Aerosol, *Env.Sci.Tech.*, doi: 10.1021/acs.est.6b05736
17. Li, W., Xu, L., Liu, X., Zhang, J., Lin, Y., Yao, X., Gao, H., Zhang, D., Chen, J., Wang, W., Harrison, R., Zhang, X., Shao, L., Fu, P., Nenes, A., Shi, Z. (2017) Air pollution - aerosol interactions produce more bioavailable iron for ocean ecosystems, *Sci. Advances*, **3**, e1601749
18. Schmale, J., Henning S., Bas Henzing, J.S., Keskinen H., Sellegri K., Ovadnevaite J., Bougiatioti A., Kalivitis N., Jefferson, A., Park M., Schlag, P., Kristensson, A., Yoshioka, M., Reddington, C., Pringle K., Aalto, P., Äijälä M., Baltensperger, U., Birmili W., Bukowiecki N., Fjærraa A.M., Fiebig, M., Frank, G., Fröhlich, R., Frumau, A., Hammer, E., Heikkinen, L., Herrmann, E., Holzinger, R., Kanakidou, M., Kiendler-Scharr, A., Kos, G., Kulmala, M., Mihalopoulos, N., Motos G., Nenes, A., O’Dowd, C., Paramonov, M., Petäjä, T., Picard, D., Poulain, L., Sonntag, A., Swietlicki, E., Svenningsson, B., Wiedensohler, A., Wittbom, C., Ogren, J., Yum, S., Lund Myhre, C., Carslaw, K., Stratmann, F., Gysel M. (2017) Multi-year, multi-site dataset of collocated cloud condensation nuclei, aerosol size distribution and chemical composition observations, *Sci.Dat.*, 4:170003 doi: 10.1038/sdata.2017.3
19. Pye, H. O. T., B. N. Murphy, L. Xu, N. L. Ng, A. G. Carlton, H. Guo, R. J. Weber, P. Vasilakos, K. W. Appel, S. H. Budisulistiorini, J. D. Surratt, A. Nenes, W. Hu, J. L. Jimenez, G. Isaacman-VanWertz, P. K. Misztal, and A. H. Goldstein (2017) On the implications of aerosol liquid water and phase separation for organic aerosol mass, *Atm.Chem.Phys.*, **17**, 343-369.
20. Tsekeri, A., Amiridis, V., Marengo, F., Marinou, E., Solomos, S., Rosenberg, P., Nenes, A., Trembath, J., Nott, G., Allan, J., Le Breton, M., Bacak, A., Coe, H., Percival, C., and Mihalopoulos, N., (2017) Profiling aerosol optical, microphysical and hygroscopic properties in ambient conditions by combining in-situ and remote sensing, *Atmos.Meas.Tech*, **10**, 83-107.
21. Kalkavouras P., Bossioli E., Bezantakos S., Bougiatioti A., Kalivitis N., Stavroulas I., Kouvarakis G., Protonotariou A. P., Dandou A., Biskos G., Mihalopoulos N., Nenes A., Tombrou M. (2017) New Particle Formation in the South Aegean Sea during the Etesians: importance for CCN production and cloud droplet number, *Atmos.Chem.Phys.*, **17**, 175–192.
22. Papayannis, A., Argyrouli, A., Bougiatioti, A., Remoundaki, E., Vratolis, S., Nenes, A., Van de Hey, J., Komppula, M., Solomos, S., Kazadzis, S., Banks, R., Labzovskii, L., Kalogiros, I., Tzanis, C. G., Biniotoglou, I., Giannakaki, E., and Zerefos, C. S. (2017) From hygroscopic aerosols to cloud droplets: the HygrA-CD Campaign in the Athens basin – An overview, *Sci.Tot.Env.*, **574**, 216–233
23. Kokkalis, P., Amiridis, V., Allan, J.D., Papayannis, A., Solomos, S., Biniotoglou, I., Bougiatioti, A., Tsekeri, A., Nenes, A., Rosenberg, P.D., Marengo, F., Marinou, E., Vasilescu, J., Nicolae, D., Coe, H., Bacak, A., Chaikovskyn, A. (2017) Validation of LIRIC aerosol concentration retrievals using airborne measurements during a biomass burning episode over Athens, *Atmos.Res.* **183**, 255–267
24. 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. (2016) New Insights on Isoprene Suppression of New Particle Formation, *J.Geoph.Res.*, **121**, doi:10.1002/2016JD024844
25. Myriokefalitakis, S., Nenes, A., Baker, A.R., Mihalopoulos, A. and Kanakidou, M. (2016) Bioavailable atmospheric phosphorous supply to the global ocean: a 3-D global modelling study, *Biogeosciences*, **13**, 6519-6543.
26. Stockdale, A., Krom, M.D., Mortimer, R.J.G., Benning, L.G., Carslaw, K., Herbert, R., Shi, Z., Myriokefalitakis, S., Kanakidou, M., and Nenes, A. (2016) Supply of bioavailable phosphorus to the oceans: understanding the nature of atmospheric acid processing of mineral dusts, *Proc.Nat.Acad.Sci.*, doi:10.1073/pnas.1608136113
27. 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. (2016) Global atmospheric particle formation from CERN CLOUD measurements, *Science*, doi:10.1126/science.aaf2649.
28. Guo, H., Sullivan, A.P., Campuzano-Jost, P., Schroder, J.C., Lopez-Hilfiger, F.D., Dibb, J.E., Jimenez, J.L., Thornton, J.A., Brown, S.S., Nenes, A., and Weber, R.J. (2016) Fine particle pH and the partitioning of nitric acid during winter in the northeastern United States, *J.Geoph.Res.*, **121**, 10,355–10,376, doi:10.1002/2016JD025311
29. Xu, L., Middlebrook, A.M., Liao, J., deGouw, J., Guo, H., Weber, R.J., Nenes, A., Lee, B.H., Thornton, J.A., Brock, C., Trainer, M.K., Neuman, J.A., Nowak, J.B., Pollack, I.B., Ryerson, T.B., Hanisco, T.F., Wennberg, P.O., Schwarz, J.P., Welti, A., Holloway, J.S., Gilman, J.B., Lerner, B.M., Graus, M., Warneke, C., Ng, N.L. (2016) Enhanced formation of Isoprene-derived Organic Aerosol in Power Plant Plumes during Southeast Nexus (SENEX), *J.Geoph.Res.*, **121**, doi:10.1002/2016JD025156
30. Longo, A.F., Feng, Y., Lai, B., Landing, W.M., Shelley R.U., Nenes, A., Mihalopoulos, N., Violaki, K., Ingall, E.D. (2016) Influence of Atmospheric Processes on the Solubility and Composition of Iron in Saharan Dust, *Env.Sci.Tech.*, **50**, 6912–6920, doi:10.1021/acs.est.6b02605
31. Violaki, K., Fang, T., Mihalopoulos, N., Weber, R., and Nenes, A. (2016) Real-Time, Online Automated System for Measurement of Water-Soluble Reactive Phosphate Ions in Atmospheric Particles, *Anal. Chem.*, **88**, 7163–7170, doi: 10.1021/acs.analchem.6b01264
32. Ito, T., Nenes, A., Johnson, M. S., Meskhidze, N., Valett, J., and Deutsch, C. (2016) Late 20th century deoxygenation of the tropical Pacific enhanced by aerosol pollutants, *Nature Geosci.*, doi:10.1038/ngeo2717
33. Laaksonen, A., Malila, J., Nenes, A., Hung, H.M., Chen, J.P. (2016) Surface fractal dimension, water adsorption efficiency, and cloud nucleation activity of insoluble aerosol, *Sci.Rep.*, **6**, 25504, doi:10.1038/srep25504
34. Sullivan, S.C., Lee, D., Oreopoulos, L., and Nenes, A (2016) The role of updraft velocity in temporal variability of cloud hydrometeor number, *Proc.Nat.Acad.Sci*, **113**, 21, doi: 10.1073/pnas.1514039113
35. Seinfeld, J.H., Bretherton, C.S., Carslaw, K.S., Coe, H., DeMott, P.J., Dunlea, E.J., Feingold, G., Ghan, S.J., Guenther, A.B., Kahn, R.A., Kracunas, I.P., Kreidenweis, S.M., Molina, M.J., Nenes, A., Penner, J.E., Prather, K.A., Ramanathan, V., Ramaswamy, V., Rasch, P.J., Ravishankara, A.R., Rosenfeld, D., Stephens, G., Wood R. (2016) Improving Our Fundamental Understanding of the Role of Aerosol-Cloud Interactions in the Climate System, *Proc.Nat.Acad.Sci*, **113**, 21, 5781-5790, doi: 10.1073/pnas.1514043113
36. Weber, R.J., Guo, H., Russell, A.G., Nenes, A. (2016) High aerosol acidity despite declining atmospheric sulfate concentrations over the past 15 years, *Nature Geosci.*, doi:10.1038/ngeo2665
37. Warneke C., M. Trainer, J.A. de Gouw, D. Parrish, D. Fahey, D. Murphy, A.R. Ravishankara, A. Middlebrook, C. Brock, J. Roberts, S. Brown, A. Neuman, B. Lerner, D. Lack, D. Law, G. Hubler, I. Pollack, T. Ryerson, J. Gilman, J. Liao, J. Holloway, J. Peischl, J. Nowak, K. Aikin, K.-E. Min, R. Washenfelder, M. Graus, M. Richardson, M. Markovic, N. Wagner, A. Welti, P. Veres, P. Edwards, J. Schwarz, T. Gordon, B. Dube, S. Mc Keen, J. Brioude, R. Ahmadov, K. Bougiatioti, J. Lin, A. Nenes, G. Wolfe, T. Hanisco, B. Lee, F. Lopez-Hilfiger, J. Thornton, F. Keutsch, J. Kaiser, J. Mao, C. Hatch (2016) Instrumentation and Measurement Strategy for the NOAA SENEX Aircraft Campaign as Part of the Southeast Atmosphere Study 2013, *Atm.Meas.Tech.*, **9**, 3063-3093
38. Bougiatioti, A., Bezantakos, S., Stavroulas, I., Kokkalis, P., Biskos, G., Mihalopoulos, N., Papayannis, A., Nenes, A. (2016) Contribution of biomass burning to CCN number and hygroscopicity during summertime in the Eastern Mediterranean, *Atmos.Chem.Phys.*, **16**, 7389-7409
39. Metzger, S., Steil, B., Abdelkader, M., Klingmuler, K., Xu, L., Fountoukis, C., Nenes, A., Penner, J., and Lelieveld, J. (2016) Aerosol Water Parameterization: A single parameter framework, *Atm.Chem.Phys.*, **16**, 7213-7237
40. Zhu, S., Sartelet, K.N., Zhang, Y., Nenes, A. (2016) Three-dimensional modelling of the mixing state of particles over Greater Paris, *J. Geoph.Res.*, **121**, doi:10.1002/2015JD024241
41. Sanchez, K.J., Modini, R.L., Frossard, A.A., Ahlm, L., Russell, L.M., Corrigan, C.E., 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., Wonaschutz, A., Sorooshian, A., Noone, K.J., Jonsson, H., Albrecht, B.A., Toom-

- Saunty, D., Macdonald, A.M., Leitch, W.R., and Seinfeld, J.H. (2016) Meteorological and Aerosol Effects on Marine Cloud Microphysical Properties, *J.Geoph.Res.*, **121**, doi:10.1002/2015JD024595
42. Kanakidou, M., Myriokefalitakis, S., Daskalakis, N., Fanourgakis, G., Nenes, A., Baker, A., Tsigaridis, K., Mihalopoulos, N. (2016) Past, Present and Future Atmospheric Nitrogen Deposition, *J. Atmos.Sci.*, **73**, 2039–2047
 43. Bougiatioti, A., Nikolaou, P., I. Stavroulas, G. Kouvarakis, A. Nenes, R. Weber, M. Kanakidou, and N. Mihalopoulos (2016) Particle water and pH in the Eastern Mediterranean: Sources variability and implications for nutrients availability, *Atmos.Chem.Phys.*, **16**, 4579–4591
 44. Hoyle, C.R., Webster, C.S., Rieder, H.E., Nenes, A., Hammer, E., Herrmann, E., Gysel, M., Bukowiecki, N., Weingartner, E., Steinbacher, M., and U. Baltensperger (2016) Chemical and physical influences on aerosol activation in liquid clouds: a study based on observations from the Jungfrauoch, Switzerland, *Atmos.Chem.Phys.*, **16**, 4043–4061
 45. Kim, Y.H., Yiacomou, S., Nenes, A. and Tsouris, C. (2016) Modeling of Surface Charging and Aggregation Kinetics of Atmospheric Particles, *Atmos.Chem.Phys.*, **16**, 3449–3462
 46. Sullivan, S., Morales-Betancourt, R., Barahona, D., and Nenes, A. (2016) Understanding cirrus ice crystal number variability for different heterogeneous ice nucleation spectra, *Atmos.Chem.Phys.*, **16**, 2611–2629
 47. 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. (2016) Aircraft-measured indirect cloud effects from biomass burning smoke in the Arctic and subarctic, *Atmos.Chem.Phys.*, **16**, 715-738
 48. Asa-Awuku, A., Sorooshian, A., Flagan, R.C., Seinfeld, J.H. and Nenes, A. (2015) CCN Properties of Organic Aerosol Collected Below and Within Marine Stratocumulus Clouds near Monterey California, *Atmosphere.*, **6**, 1590-1607, doi:10.3390/atmos6111590
 49. 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. (2015) Sector-specific health impacts of BC emissions in six urban US regions, *Env. Res. Let.*, **10**, 114014
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 51. 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
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222. Nenes, A., Chuang, P.Y., Flagan, R., and Seinfeld, J.H. (2001) A Theoretical Analysis of Cloud Condensation Nucleus (CCN) Instruments, *J. Geophys. Res.*, 106 (D4), **3449-3474**
223. Nenes, A., Ghan, S., Abdul-Razzak, H., Chuang, P.Y., Seinfeld, J.H. (2001) Kinetic Limitations on Cloud Droplet Formation and Impact on Cloud Albedo, *Tellus*, **53B**, 133-149
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226. 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
227. 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
228. 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
229. Nenes, A., Pilinis, C., Pandis, S.N. (1998) ISORROPIA: A New Thermodynamic Model for Multiphase Multicomponent Inorganic Aerosols, *Aquat. Geochem.*, **4**, 123-152
230. West, J.J., Pilinis, C., Nenes, A., Pandis, S.N. (1998) Marginal Direct Climate Forcing by Atmospheric Aerosols, *Atmos. Environ.*, **32** (14-15), 2531-2542
231. Koloutsou-Vakakis, S., Rood, M.J., Nenes, A., Pilinis, C. (1998) Modeling of Aerosol Properties Related to Direct Climate Forcing, *J. Geophys. Res.*, **103** (D14), 17009-17032
232. 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. Guo, H., Nenes, A., Weber, R.J., The underappreciated role of nonvolatile cations on aerosol ammonium-sulfate molar ratios, *Atmos.Chem.Phys.*
2. Guo, H., Weber, R.J., Nenes, A., The sensitivity of particle pH to NH₃: Can high NH₃ cause London Fog conditions?, *Sci.Reports*
3. Bougiatioti, A., Nenes, A., Paraskevopoulou, D., Fourtziou, L., Stavroulas, I., Liakakou, E., Myriokefalitakis, S., Daskalakis, N., Weber, R., Kanakidou, M., Gerasopoulos, E., and Mihalopoulos, N., The unappreciated effects of biomass burning on fine aerosol acidity, *Proc.Nat.Acad.Sci.*
4. Sullivan, S.C., Kiselev, A., Leisner, T., Hoose, C., Nenes, A., Initiation of secondary ice nucleation in clouds, *Atmos.Chem.Phys.*
5. Waters, S., Purdue, S., DeLeon, N., Armstrong, R., Detres, Y., Nenes, A., and Konstantinidis, K. T., Metagenomic Investigation of African Dust Events in the Caribbean, *Appl.Env.Microb.*
6. Kim, Y.H., Yioumi, S., Nenes, A., and C. Tsouris, Incorporating Radioactive Decay into Charging and Coagulation of Multicomponent Radioactive Aerosols, *J.Aer.Sci.*
7. Vasilakos, P., Kim, Y.H., Pierce, J., Yioumi, S., Tsouris, C., and Nenes, A., Studying the Impact of Radioactive Charging on the Microphysical Evolution and Transport of Radioactive Aerosols with the TOMAS-RC v1 framework, *Geosci.Mod.Dev.*
8. Vasilakos, P., Russell, A., Weber, R., and Nenes, A., Understanding nitrate formation in a world with less sulfate, *Env.Sci.Tech.*

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).

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); Latham, Terry (2012); Capps, Shannon (2012); Morales Betancourt, Ricardo (2013); Cerully, Kate (2013); Liu, Peng (2015); Lin, Jack (2016); Sullivan, Sylvia (2017)

MSc students graduated: Williams, Robyn (2005); Sheyko, Benjamin (2014); Negron, Arnaldo (2016); Purdue, Sara (2016)

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)

Committees - Service

- 2013-pres. Committee on Nucleation and Atmospheric Aerosols, Member.
- 2014-pres. Board of Directors, American Association for Aerosol Research
- 2014-pres. BACCHUS Scientific Advisory Board
- 2004-pres. Editor, Atmospheric Chemistry and Physics
- 2017-pres. Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) – Working Group 38 (Atmospheric input of chemicals to the ocean)
- 2014-2016 National Academy of Sciences, Committee on the Future of Atmospheric Chemistry Research
- 2012-2016 Secretary of Aerosols & Clouds, Atmospheric Sciences, American Geophysical Union.
- 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
- 2011-2015 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

Department of Chemistry, University of Crete, Heraklion, Greece, 19 July, 2017
Plenary Lecture, 28th International Lidar and Radar Conference, Bucharest, Romania, 26 June 2017
Department of Environmental Engineering, Ecole Polytechnique Federale de Lausanne, Switzerland, 24 June 2017
National Observatory of Athens, Palea Penteli, Greece, 8 June 2017
Summer School Lecturer on Atmospheric Aerosols and Clouds, Hellenic Association for Aerosol Research, Pylos, Greece, May 24, 2017
GESAMP Workshop on the impacts of changing Atmospheric and Oceanic Acidity, Norwich, UK, February 27, 2017
Institute for Atmospheric and Climate Science, ETH Zurich, January 9, 2017
Tutorial Speaker, American Association for Aerosol Research, Portland, OR, October 25, 2016.
35th ITM on Air Pollution Modelling and Applications, Chania, Greece, October 3, 2016
Department of Physics, Aristotelian University of Thessaloniki, Greece, June 2, 2016
Hellenic Association for Aerosol Research, Annual Assembly, Pylos, Greece, May 16, 2016
European Geophysical Union, General Assembly, Vienna, Austria, April 20, 2016
WMO workshop on reactive nitrogen deposition, York, UK, April 14, 2016
ESA-ACTRIS General Assembly, Rome, Italy, March 2, 2016
University of West Macedonia, Department of Env. Engineering, Kozani, Greece, January 19, 2016
Stockholm University, Department of Meteorology, Stockholm, Sweden, January 12, 2016
University of Patras, Department of Chemical Engineering, Patras, Greece, December 15, 2015
University of Athens, Department of Physics, Athens, Greece, December 11, 2015
Secondary Ice Multiplication Symposium, Manchester, UK, November 3, 2015
American Association of Aerosol Research, Annual Assembly, Minneapolis, MN, October 14, 2015
Department of Chemical Engineering, University of California, Berkeley, CA, October 13, 2015
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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