

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	2003	California Institute of Technology

Appointments/Affiliations

2018-present	Professor of Atmospheric Processes, Ecole Polytechnique Fédérale de Lausanne, Switzerland
2008-present	Affiliated Scientist, Foundation for Research and Technology, Greece
2015-present	Affiliated Scientist, National Observatory of Athens, Greece
2018-present	Adjunct Professor, Georgia Institute of Technology, USA
2015-2016	Visiting Professor, California Institute of Technology; University of Athens, Greece; National Technical University of Athens, Greece
2011-2018	Professor, Georgia Institute of Technology, USA
2008-2011	Associate Professor, Georgia Institute of Technology, USA
2002-2008	Assistant Professor, Georgia Institute of Technology, USA

Areas of research interests

- Air Quality and Health Impacts of Airborne Pollutants
- Biogeochemical Cycling of Trace Nutrients
- Aerosol-Cloud-Climate Interactions
- Modeling of Aerosols and Clouds
- Aerosol and Cloud Instrumentation
- Development of advanced sensitivity and data mining tools for air quality and climate models.

Honors/Recognitions

US EPA Scientific and Technological Achievement Award Honorable Mention, 2019; Group Achievement Award, NASA, 2019; 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.

Committees - Service

2020-pres.	Swiss Academy of Sciences, co-Chair for Atmospheric Science Research Infrastructure
2019-pres.	President of Atmospheric Sciences Section, European Geophysical Union.
2018-pres.	Science Board, Greek Institute for Research and Development
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)
2018-2019	Deputy President of Atmospheric Sciences Section, European Geophysical Union.
2014-2016	National Research Council, Committee on the Future of Atmospheric Chemistry Research, National Academy of Sciences
2012-2016	Secretary of Aerosols & Clouds, Atmospheric Sciences, American Geophysical Union.

2014-2018	ETH BACCHUS Scientific Advisory Board
2006-2011	Pacific Northwest National Lab Aerosol-Climate Initiative External Advisory Board
2007-2011	DOE Atmospheric Radiation Measurement Climate Research Facility Science Board
2013-2016	Research Institute Evaluator, General Secretariat for Research and Technology, Greece
2014-2017	Board of Directors, American Association for Aerosol Research
2013-pres.	Committee on Nucleation and Atmospheric Aerosols, Member.
2004-pres.	Editor, Atmospheric Chemistry and Physics
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

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
- Kanakidou, M., Myriokefalitakis, S., Papadimitriou, V.C., Nenes, A. (2020), Aerosol impacts on atmospheric chemistry and composition of deposition, In Dulac, F., and Sauvage, S., *Atmospheric Chemistry and its Impacts in the Mediterranean Region*, Springer

Refereed Publications – Published/In press (Google Scholar citations: 22558, h-index: 81)

1. Zhao, S., Russell, M. G., Hakami, A., Capps, S. L., Turner, M. D., Henze, D. K., Percell, P. B., Resler, J., Shen, H., Russell, A. G., Nenes, A., Pappin, A. J., Napelenok, S. L., Bash, J. O., Fahey, K. M., Carmichael, G. R., Stanier, C. O., and Chai, T. (2020) A Multiphase CMAQ Adjoint, *Geosci. Model Dev.*, 13, 2925–2944, <https://doi.org/10.5194/gmd-13-2925-2020>
2. Wong, J., Yang, Y., Mulholland, J., Russell, A., Sarnat, S., Nenes, A., Weber, R. (2020) Fine Particle Iron in Soils and Road Dust is Modulated by Coal-Fired Power Plant Sulfur, *Env.Sci.Tech.*, published ASAP, <https://dx.doi.org/10.1021/acs.est.0c00483>
3. Methymaki, G., Bossioli, E., Kalogiros, J., Kouvarakis, G., Mihalopoulos, N., Nenes, A., Tombrou, M. (2020) Aerosol absorption over the Aegean Sea under northern summer winds, *Atmos.Env.*, doi: <https://doi.org/10.1016/j.atmosenv.2020.117533>
4. Pye, H. O. T., Nenes, A., Alexander, B., Ault, A. P., Barth, M. C., Clegg, S. L., Collett Jr., J. L., Fahey, K. M., Hennigan, C. J., Herrmann, H., Kanakidou, M., Kelly, J. T., Ku, I.-T., McNeill, V. F., Riemer, N., Schaefer, T., Shi, G., Tilgner, A., Walker, J. T., Wang, T., Weber, R., Xing, J., Zaveri, R. A., and Zuend, A.: (2020) The Acidity of Atmospheric Particles and Clouds, *Atmos.Chem.Phys.*, 20, 4809–4888
5. Nenes, A., Pandis, S. N., Weber, R. J., and Russell, A. (2020) Aerosol pH and liquid water content determine when particulate matter is sensitive to ammonia and nitrate availability, *Atmos. Chem. Phys.*, 20, 3249–3258
6. Kacarab, M., Thornhill, K.L., Dobracki, A., Howell, S.G., O'Brien, J.R., Freitag S., Poellot, M.R., Wood, R., Zuidema, P., Redemann, J., Nenes, A. (2020) Biomass Burning Aerosol as a Modulator of Droplet Number in the Southeast Atlantic Region, *Atmos.Chem.Phys.*, 20, 3029–3040
7. Negron, A., DeLeon-Rodriguez, N., Waters, S. M., Ziemba, L. D., Anderson, B., Bergin, M., Konstantinidis, K. T., and Nenes, A. (2020) Using flow cytometry and light-induced fluorescence technique to characterize the variability and characteristics of bioaerosols in springtime at Metro Atlanta, Georgia, *Atmos. Chem. Phys.*, 20, 1817–1838
8. Sotiropoulou, G., Sullivan, S., Savre, J., Lloyd, G., Lachlan-Cope, T., Ekman, A., Nenes, A. (2020) The impact of Secondary Ice Production on Arctic Stratocumulus, *Atmos.Chem.Phys.*, 20, 1301–1316.

9. Masiol, M., Squizzato, S., Formentond, G., Badiuzzaman Khan, M., Hopke, P.K., Nenes, A., Pandis, S.N., Tosittik, L., Visinc, F., Pavonic, B. (2020) Hybrid multiple-site mass closure and source apportionment of PM_{2.5} and aerosol acidity at major cities in the Po Valley, *Sci.Tot.Env.*, doi: 10.1016/j.scitotenv.2019.135287
10. Battaglia, M. A. Jr., Weber, R.J., Nenes, A., Hennigan, C.J. (2019) Effects of Water-soluble Organic Carbon on Aerosol pH, *Atmos.Chem.Phys.*, 19, 14607–14620
11. Song, S., Nenes, A., Gao, M., Zhang, Y., Liu, P., Shao, J., Ye, D., Xu, W., Sun, Y., Liu, B., Wang, S., McElroy, M.B. (2019) Recent Declines in Water Uptake and Acidity of Inorganic Aerosols during Beijing Winter Haze Events, *Env.Sci.Tech.Let.*, 6, 12, 752-760
12. Marinou, E., Tesche, M., Nenes, A., Ansmann, A., Schrod, J., Mamali, D., Tsekeri, A., Pikridas, M., Baars, H., Engelmann, R., Voudouri, K.-A., Solomos, S., Sciare, J., Groß, S., Ewald, F., and Amiridis, V. (2019) Retrieval of ice-nucleating particle concentrations from lidar observations and comparison with UAV in situ measurements, *Atmos. Chem. Phys.*, 19, 11315–11342, <https://doi.org/10.5194/acp-19-11315-2019>
13. Peng, X., Vasilakos, P., Nenes, A., Shi, G., Qian, Y., Shi, X., Xiao, Z., Chen, K., Feng, Y., Russell, A.G. (2019) A detailed analysis of estimated pH, activity coefficients and ion concentrations between the three aerosol thermodynamic models, *Env.Sci.Tech.*, 53, 8903–8913, DOI: 10.1021/acs.est.9b00181
14. Fanourgakis, G. S., Kanakidou, M., Nenes, A., Bauer, S. E., Bergman, T., Carslaw, K. S., Grini, A., Hamilton, D. S., Johnson, J. S., Karydis, V. A., Kirkevåg, A., Kodros, J. K., Lohmann, U., Luo, G., Makkonen, R., Matsui, H., Neubauer, D., Pierce, J. R., Schmale, J., Stier, P., Tsigaridis, K., van Noije, T., Wang, H., Watson-Parris, D., Westervelt, D. M., Yang, Y., Yoshioka, M., Daskalakis, N., Decesari, S., Gysel Beer, M., Kalivitis, N., Liu, X., Mahowald, N. M., Myriokefalitakis, S., Schrödner, R., Sfakianaki, M., Tsimpidi, A. P., Wu, M., and Yu, F. (2019) Evaluation of global simulations of aerosol particle number and cloud condensation nuclei, and implications for cloud droplet formation, *Atmos. Chem. Phys.*, 19, 8591-8617
15. Wong, J.P.S., Tsagaraki, M., Tsiodra, I., Mihalopoulos, N., Violaki, K., Kanakidou, M., Sciare, J., Nenes, A., and Weber, R.J. (2019) Effects of Atmospheric Processing on the Oxidative Potential of Biomass Burning Organic Aerosols, *Env.Sci.Tech.*, 53 (12), 6747-6756, doi:10.1021/acs.est.9b01034
16. Falasca, F., Bracco, A., Nenes, A., Fountalis, I. (2019) Dimensionality reduction and network inference for climate data using δ -MAPS: application to the CESM Large Ensemble sea surface temperature, *J.Adv.Mod.Earth Sys.*, 11. <https://doi.org/10.1029/2019MS001654>
17. Wong, J.P.S., Tsagaraki, M., Tsiodra, I., Mihalopoulos, N., Violaki, K., Kanakidou, M., Sciare, J., Nenes, A., and Weber, R.J. (2019) Atmospheric Evolution of Molecular Weight Separated Brown Carbon from Biomass Burning, *Atmos. Chem. Phys.*, 19, 7319–7334
18. Dall'Osto, M., Airs, R.L., Beale, R., Cree, C., Fitzsimons, M. F., Beddows, D., Harrison, R. M., Ceburnis, D., O'Dowd, C., Nenes, A., Rinaldi, M., Paglione, M., Decesari, S. and Simó, R. (2019) Simultaneous detection of alkylamines in the surface ocean and atmosphere of the Antarctic Sympagic Environment, *ACS Earth and Space Chemistry*, 3, 854–862
19. Kalkavouras, P., Bougiatioti, A., Kalivitis, N., Tombrou, M., Nenes, A., and Mihalopoulos, N. (2019) Regional New Particle Formation as Modulators of Cloud Condensation Nuclei and Cloud Droplet Number in the Eastern Mediterranean, *Atmos. Chem. Phys.*, 19, 6185-6203, <https://doi.org/10.5194/acp-19-6185-2019>
20. Ito, A., Myriokefalitakis, S., Kanakidou, M., Mahowald, N.M., Scanza, R.A., Hamilton, D.S., Baker, A.R., Jickells, T., Sarin, M., Bikkina, S., Gao, Y., Shelley, R.U., Buck, C.S., Landing, W.M., Bowie, A.R., Perron, M.M.G., Guieu, C., Meskhidze, N., Johnson, M.S., Feng, Y., Kok, J.F., Nenes, A., Duce, R.A. (2019) Pyrogenic iron: The missing link to high iron solubility in aerosols, *Sci.Adv.*, 5(5), doi: 10.1126/sciadv.aau7671
21. Prisle, N.L., Lin, J.J., Purdue, S., Lin, H., Meredith, J. C., and Nenes, A. (2019) CCN activity of six pollenkits and the influence of their surface activity, *Atmos.Chem.Phys.*, 19, 4741-4761
22. Paraskevopoulou, D., Bougiatioti, A., Stavroulas, I., Fang, T., Lianou, M., Liakakou, E., Gerasopoulos E., Weber, R., Nenes, A., Mihalopoulos, N. (2019) Yearlong variability of oxidative potential of particulate matter in an urban Mediterranean environment., *Atmos. Env.*, 206, 183-196
23. Shi, X., Nenes, A., Xiao, Z., Song, S., Yu, H., Shi, G., Zhao, Q., Chen, K., Feng, Y., Russell, A.G. (2019) High-resolution datasets unravel the effects of sources and meteorological conditions on nitrate and its gas-particle partitioning, *Env.Sci.Tech.*, 53 (6), pp 3048–3057

24. Solomos, S., Bougiatioti, A., Soupiona, O., Papayannis, A., Mylonaki, M., Papanikolaou, C.A., Argyrouli, A., Nenes, A. (2019) Effects of regional and local atmospheric dynamics on the aerosol and CCN load over Athens, *Atmos.Env.*, **197**, 53-65
25. Wang, H., Ding, J., Xu, J., Wen, J., Han, J., Wang, K., Feng, Y., Ivey, C.E., Wang, Y., Nenes, A., Zhao, Q., Russell, A.G. (2019) Effects of Aerosol Acidity, Gaseous Precursors, and Meteorological Conditions on the Formation of Secondary Inorganic PM_{2.5} Aerosol in an Arid Atmosphere, *Sci.Tot.Env.*, **646**, 564-572
26. Liu, J., Russell, L.M., Ruggeri, G., Takahama, S., Claflin, M., Ziemann, P.J., Pye, H.O.T., Murphy, B.N., Xu, L., Ng, N.L., McKinney, M., Budisulistiorini, S.H., Bertram, T.H., Nenes, A. and Surratt, J.D. (2018) Regional Similarities and NO_x-related Increases in Biogenic Secondary Organic Aerosol in Summertime Southeastern U.S., *J.Geoph.Res.*, **123**, 10,620–10,636
27. Guo, H., Nenes, A., Weber, R.J. (2018) The underappreciated role of nonvolatile cations on aerosol ammonium-sulfate molar ratios, *Atmos.Chem.Phys.*, **18**, 17307–17323
28. Myriokefalitakis, S., Ito, A., Kanakidou, M., Nenes, A., Krol, M.C., Mahowald, N.M., Scanza, R.A., Hamilton, D.S., Johnson, M.S., Meskhidze, N., Kok, J.F., Guieu, C., Baker, A.R., Jickells, T.D., Sarin, M.M., Srinivas, B., Perron, M. and Duce, R.A. (2018) The GESAMP atmospheric iron deposition model intercomparison study, *Biogeosciences*, **15**, 6659-6684
29. Sullivan, S.C., Barthlott, C., Crosier, J., Nenes, A., and Hoose, C. (2018) The effect of secondary ice production parameterization on the simulation of a cold frontal rainband, *Atmos.Chem.Phys.*, **18**, 16461-16480
30. Vasilakos, P., Russell, A., Weber, R., and Nenes, A. (2018) Understanding nitrate formation in a world with less sulfate, *Atmos.Chem.Phys.*, **18**, 12765-12775
31. A. Sorooshian, A.B. MacDonald, H. Dadashazar, K.H. Bates, M.M. Coggon, J.S. Craven, E. Crosbie, S.P. Hersey, N. Hodas, J.J. Lin, A. Negron Marty, L.C. Maudlin, A.R. Metcalf, S.M. Murphy, L.T. Padro, G. Prabhakar, T.A. Rissman, T. Shingler, V. Varutbangkul, Z. Wang, R.K. Woods, P.Y. Chuang, A. Nenes, H.H. Jonsson, R.C. Flagan, J.H. Seinfeld (2018) A Multi-Year Data Set on Aerosol-Cloud-Precipitation-Meteorology Interactions for Marine Stratocumulus Clouds, *Sci.Dat.*, **5**, 180026
32. Bacer, S., Sullivan, S., Karydis, V.A., Barahona, D., Nenes, A., Tost, H., Tsimpidi, A.P., Lelieveld, J., and Pozzer, A. (2018) Implementation of a comprehensive ice crystal formation parameterization for cirrus and mixed-phase clouds into the EMAC model (based on MESSy 2.53), *Geosci.Mod.Dev.*, **11**(10), 4021-4041
33. Qin, M., Wang, X., Hu, Y., Ding, X., Song, Y., Li, M., Vasilakos, P., Nenes, A., and Russell, A.G. (2018). Simulating biogenic secondary organic aerosol during summertime in China. *J.Geoph.Res.*, **123**, 11,100–11,119. <https://doi.org/10.1029/2018JD029185>
34. Lawal, A.S., Guan, X., Liu, C., Henneman, L.F., Vasilakos, P., Bhogineni, P., Weber, R.J., Nenes, A. and Russell, A.G. (2018) Linked Response of aerosol acidity and Ammonia to SO₂ and NO_x Emissions Reductions in the US, *Env.Sci.Tech.*, **52**(17), 9861-9873
35. Bacer, S., Sullivan, S. C., Karydis, V. A., Barahona, D., Krämer, M., Nenes, A., Tost, H., Tsimpidi, A. P., Lelieveld, J., and Pozzer, A. (2018) Implementation of a comprehensive ice crystal formation parameterization for cirrus and mixed-phase clouds in the EMAC model (based on MESSy 2.53), *Geosci. Model Dev.*, **11**, 4021-4041, <https://doi.org/10.5194/gmd-11-4021-2018>.
36. Guo, H., Otjes, R., Schlag, P., Kiendler-Scharr, A., Nenes, A., Weber, R.J. (2018) Effectiveness of Ammonia Reduction on Control of Fine Particle Nitrate, *Atmos.Chem.Phys.*, **18**, 12241-12256, <https://doi.org/10.5194/acp-18-12241-2018>
37. Nah, T., Guo, H., Sullivan, A.P., Chen, Y., Tanner, D. J., Nenes, A., Russell, A., Ng, N. L., Huey, L. G. and R. J. Weber (2018) Characterization of Aerosol Composition, Aerosol Acidity and Organic Acid Partitioning at an Agriculture-Intensive Rural Southeastern U.S. Site, *Atmos.Chem.Phys.* **18**, 11471-11491, <https://doi.org/10.5194/acp-18-11471-2018>
38. 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. (2018) The Southeast Atmosphere Studies (SAS): Coordinated investigation and discovery to answer critical questions about fundamental atmospheric processes, *Bull.Am.Met.Soc.*, DOI:10.1175/BAMS-D-16-0048.1

39. Ingall, E.D., Feng, Y., Longo, A.F., Lai, B., Shelley, R.U., Landing, W.M., Morton, P.L., Nenes, A., Mihalopoulos, N., Violaki, K., Gao, Y., Sahai, S., and Castorina, E. (2018) Enhanced Iron Solubility at Low pH in Global Aerosols, *Atmosphere*, 9, 201; doi:10.3390/atmos9050201
40. Vasilakos, P., Kim, Y.H., Pierce, J., Yiacoumi, S., Tsouris, C., and Nenes, A. (2018) Studying the Impact of Radioactive Charging on the Microphysical Evolution and Transport of Radioactive Aerosols with the TOMAS-RC v1 framework, *J. Env. Rad.*, 192, 150-159
41. Hettiyadura, A.P.S., Xu, L., Jayarathna, T., Skog, K., Guo, H., Weber, R.J., Nenes, A., Keutsch, F., Ng, N.L., Stone, E.A. (2018) Source apportionment of organic carbon in Centreville, AL using organosulfates in organic tracer-based positive matrix factorization, *Atmos. Env.*, 186, 74–88, <https://doi.org/10.1016/j.atmosenv.2018.05.007>
42. Qin, M., Hu, Y., Wang, X., Vasilakos, P., Boyd, C.M., Xu, L., Song, Y., Ng, N.L., Nenes, A., Russell, A.G., Modeling biogenic secondary organic aerosol (BSOA) formation from monoterpene reactions with NO₃: A case study of the SOAS campaign using CMAQ, *Atmos. Env.*, **184**, 46-155
43. Kostenidou, E., Karnezi, E., Hite, J. R., Bougiatioti, A., Cerully, K., Xu, L., Ng, N. L., Nenes, A. and Pandis, S. N. (2018) Organic aerosol in the summertime Southeastern United States: Components and their link to volatility distribution, oxidation state and hygroscopicity, *Atmos.Chem.Phys.*, **18**, 5799–5819
44. Schmale, J., Henning, S., Decesari, S., Henzing, B., Keskinen, H., Paramonov, M., Sellegri, K., Ovadnevaite, J., Pohlker, M., Brito, J., Bougiatioti, A., Kristensson, A., Kalivitis, N., Stavroulas, I., Carbone, S., Jefferson, A., Park, M., Schlag, P., Iwamoto, Y., Aalto, P., Aijala, M., Bukowiecki, N., Ehn, M., Frank, G., Frohlich, R., Frumau, A., Herrmann, A., Herrmann, H., Holzinger, R., Kos, R., Kulmala, M., Mihalopoulos, N., Nenes, A., O'Dowd, C., Petaja, T., Picard, D., Pohlker, D., Pochl, U., Poulain, L., Prevot, A.S.H., Swietlicki, E., Andreae, M.O., Artaxo, P., Wiedensohler, A., Ogren, J., Matsuki, A., Yum, S.S., Stratmann, F., Baltensperger, U., and Gysel, M. (2018) What do we learn from long-term cloud condensation nuclei number concentration, particle number size distribution, and chemical composition measurements at regionally representative observatories?, *Atmos.Chem.Phys.*, **18**, 2853-2881
45. Psichoudaki, M., Nenes, A., Florou, K., Kaltsonoudis, C., Pandis, S.N. (2018) Hygroscopic properties of atmospheric particles emitted during wintertime biomass burning episodes in Athens, *Atmos.Env.*, **178**, 66–72
46. Sullivan, S.C., Kiselev, A., Leisner, T., Hoose, C., Nenes, A. (2018) Initiation of secondary ice nucleation in clouds, *Atmos.Chem.Phys.*, **18**, 1593-1610
47. Vratolis, S., Fetfatzis, P., Argyrouli, A., Papayannis, A., Muller, D., Veselovskii, I., Bougiatioti, A., Nenes, A., Remoundaki, E., Diapouli, E., Manousakas, M., Mylonaki, M., Eleftheriadis, K. (2018) A new method for the retrieval of the equivalent refractive index of atmospheric aerosols, *Atmos.Env.*, **117**, 54–62
48. Bracco, A., Falasca, F., Nenes, A., Fountalis, I., Dovrolis, C. (2018) Advancing Climate Science with Knowledge-Discovery through Data mining, *npj Clim.Atmos.Sci.*, **1**, doi:10.1038/s41612-017-0006-4
49. Giannaros, C., Nenes, A., Giannaros, T.M., Kourtidis, K. and Melas, D. (2018) A comprehensive approach for the simulation of Urban Heat Island effect with the WRF/SLUCM modeling system: The case of Athens (Greece), *Atmos.Res.*, **201**, 86-101
50. Kim, Y.H., Yiacoumi, S., Nenes, A., and C. Tsouris (2017) Incorporating Radioactive Decay into Charging and Coagulation of Multicomponent Radioactive Aerosols, *J.Aer.Sci.*, **114**, 283–300
51. Guo, H., Weber, R.J., Nenes, A. (2017) High levels of ammonia do not raise fine particle pH sufficiently to yield nitrogen oxide-dominated sulfate production, *Sci.Rep.*, **7**, 12109, doi:10.1038/s41598-017-11704-0
52. 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.*, **122**, doi:10.1002/2017JD026546
53. 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
54. 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

55. 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
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9. Kodros, J.K., Papanastasiou, D., Paglione, M., Masiol, M., Squizzato, S., Florou, K., Skyllakou, K., Kaltsonoudis, C., Nenes, A., Pandis, S.N.P., Rapid dark aging of biomass burning as an overlooked source of oxidized organic aerosol, *Proc.Nat.Acad Sci.*, in review
10. Quaas, J., Arola, A., Cairns, B., Christensen, M., Deneke, H., Ekman, A. M. L., Feingold, G., Fridlind, A., Gryspeerdt, E., Hasekamp, O., Li, Z., Lipponen, A., Ma, P.-L., Mülmenstädt, J., Nenes, A., Penner, J., Rosenfeld, D., Schrödner, R., Sinclair, K., Sourdeval, O., Stier, P., Tesche, M., van Diedenhoven, B., and Wendisch, M.: Constraining the Twomey effect from satellite observations: Issues and perspectives, *Atmos. Chem. Phys. Discuss.*, <https://doi.org/10.5194/acp-2020-279>, in review
11. Baker, A., Kanakidou, M., Nenes, A., Croot, P.L., Ito, A., Duce, R.A., Gao, Y., Guieu, C., Jickells, T.D., Mahowald, N.M., Middag, R., Myriokefalitakis, S., Sarin, M.M., Shelley, R., Perron, M. and Turner, D.R., Changing atmospheric acidity as a modulator of ocean biogeochemistry, *Proc.Nat.Acad Sci.*, in review
12. Redemann, J., R. Wood, P. Zuidema, S. J. Doherty, B. Luna, S. E. LeBlanc, M. S. Diamond, Y. Shinozuka, I. Y. Chang, R. Ueyama, L. Pfister, J.-M. Ryoo, A. N. Dobracki, A. M. da Silva, K. M. Longo, M. S. Kacenelenbogen, C. J. Flynn, K. Pistone, N. M. Knox, S. J. Piketh, J. M. Haywood, Formenti, M. Mallet, P. Stier, A. S. Ackerman, S. E. Bauer, A. M. Fridlind, G. R. Carmichael, P. E. Saide, G. A. Ferrada, S. G. Howell, S. Freitag, B. Cairns, B. Holben, K. D. Knobelspiesse, S. Tanelli, T. S. L'Ecuyer, A. M. Dzambo, O. O. Sy, G. M. McFarquhar, M. R. Poellot, S. Gupta, J. R. O'Brien, A. Nenes, M. Kacarab, J. P. S. Wong, J. D. Small-Griswold, K. L. Thornhill, D. Noone, J. R. Podolske, K. S. Schmidt, P. Pilewskie, H. Chen, S. P. Cochrane, A. J. Sedlacek, T. J. Lang, E. Stith, M. Segal-Rozenhaimer, R. A. Ferrare, S. P. Burton, C. A. Hostetler, D. J. Diner, S. Platnick, J. S. Myers, K. Meyer, D. A. Spangenberg, H. Maring, and L. Gao, An overview of the ORACLES (ObseRvations of Aerosols above CLouds and their intERactionS) project: aerosol-cloud-radiation interactions in the Southeast Atlantic basin, *Atmos.Chem.Phys.*, in review
13. Chen, L., Peng, C., Nenes, A., Gu, W., Fu, H., Jian, X., Zhang, H., Zhang, G., Zhu, J., Wang, X., and Tang M., On mineral dust aerosol hygroscopicity, *Atmos.Chem.Phys.*, in review
14. Chen, Y., Shen, H., Kaiser, J., Hu, Y., Capps, S.L., Zhao, S., Hakami, A., Shih, J.-S., Pavur, G.K., Turner, M.D., Henze, D.K., Resler, J., Nenes, A., Napelenok, S.L., Bash, J.O., Fahey, K.M., Carmichael, G.R., Chai, T., Clarisse, K., Coheur, P.F., Van Damme, M., and A.G. Russell, High-resolution Hybrid Inversion of IASI Ammonia Columns to Constrain U.S. Ammonia Emissions Using the CMAQ Adjoint Model, *Atmos.Chem.Phys.*, in review
15. Paglione, M., Decesari, S., Rinaldi, M., Tarozzi, L., Manarini, F., Gilardoni, S., Facchini, M.C., Fuzzi, S., Bacco, D., Trentini, A., Pandis, S.N., Nenes, A., Historical changes in seasonal aerosol acidity in the Po Valley (Italy) as inferred from fog water and aerosol measurements, *Env.Sci.Tech*, in review
16. Ibikunle, I., Allen, H., Beyersdorf, A., Campuzano-Jost, P., Corr., C., Crounse, J., Dibb, J., Diskin, G., Huey, L.G., Jimenez, J.L., Scheuer, E., Kim, M., Teng, A., Wennberg, P., Anderson, B., Crawford, J., Weber, R., Nenes, A., pH and PM sensitivity fine particles to NH₃ and HNO₃ over summertime South Korea during KORUS-AQ, *Atmos.Chem.Phys.*, in review
17. Shahpoury, P., Zhang, Z.W., Arangio, A., Celio, V., Dabek-Zlotorzynska, E., Harner, T., Nenes, A., Oxidative potential of fine particulate matter – implication of emission source sectors and particle chemical composition, *Env. Int.*, in review
18. Chatwin-Davies, R., Alhusban, A., Oztaner, B., Zhao, S., Soltanzadeh, M., Fillingham, M., Hakami, A., Pappin, A.J., Kheirbek, A., Ito, K., Haney, J., Douglas, S., Capps, S.L., Henze, D.K., Percell, P.B., Resler, J., Russell, A.G., Nenes, A., Carmichael, G.R., Adjoint Sensitivity Analysis for Development of Coordinated Environmental Justice and Population Health Policies in New York, in review

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).

Postdocs mentored: Nicholas Meskhidze (GIT; 2003-2006); Rafaella Sotiropoulou (GIT; 2005-2009); Vlassis Karydis (GIT; 2009-2011); Alexandra Tsimpidi (GIT; 2009-2011); Tomi Raatikainen (GIT; 2010-

2012); Aikaterini (Katerina) Bougiatioti (GIT; 2013-2014); Kalliopi Violaki (GIT; 2014-2015); Samantha Waters (GIT; 2014-2016); Mary Kacarab (GIT; 2016-2018); Pui Shan (Jenny) Wong (GIT; 2015-2019); Mauro Masiol (FORTH; 2018-2019); Marco Paglione (FORTH; 2018-2019); Stefania Squizzato (FORTH; 2018-2019); Georgia Sotiropoulou (2018-2020)

PhD students graduated: Fountoukis, Christos (GIT; 2007); Lance, Sara (GIT; 2007); Asa-Awuku, Akua-Asabea (GIT; 2008); Hsieh, Wei-Chun (GIT; 2009); Padro, Luz-Tereza (GIT; 2009); Barahona, Donifan (GIT; 2010); Kumar, Prashant (GIT; 2011); Moore, Richard (GIT; 2011); Lathem, Terry (GIT; 2012); Capps, Shannon (GIT; 2012); Morales Betancourt, Ricardo (GIT; 2013); Cerully, Kate (GIT; 2013); Liu, Peng (GIT; 2015); Lin, Jack (GIT; 2016); Sullivan, Sylvia (GIT; 2017); Vasilakos, Petros (GIT; 2018); Arnaldo Negron-Marty (GIT; 2019)

MSc students graduated: Williams, Robyn (GIT; 2005); Sheyko, Benjamin (GIT; 2014); Negron, Arnaldo (GIT; 2016); Purdue, Sara (GIT; 2016); Forrister, Haviland (GIT; 2017); Shi, Tianyu (GIT; 2018);

Invited Seminars

Plenary Lecture, Aerosol Acidity and Secondary Particles Workshop, Nankai University, China, December 6, 2019

Plenary Lecture, Annual Assembly of the PANhellenic infrastructure for Atmospheric Composition and climatE chAnge (PANACEA), Heraklion, Crete, September 23, 2019

Institute of Atmospheric Sciences and Climate, National Research Council, Bologna, Italy, July 2, 2019

Inaugural Lecture, Ecole Polytechnique federale de Lausanne, Switzerland, June 18, 2019

Summer School Lecturer on Atmospheric Aerosols and Clouds, Hellenic Association for Aerosol Research, Pylos, Greece, June 12, 2019

Atmospheric Acidity Workshop, US EPA- Research Triangle Park, Maryland, USA, May 31, 2019

Atmospheric Chemistry Group, Paul Scherer Institute, March 27, 2019

Quantifying & Reducing Uncertainty in Earth System Model projections, Leeds University, UK, January 9, 2019

Invited talk, EuroScience Open Forum, Toulouse, France, July 13, 2018

Keynote talk, Gordon Research Conference on Biogenic Hydrocarbons and the Atmosphere, Les Diablerets, Switzerland, June 10, 2018

Summer School Lecturer on Atmospheric Aerosols and Clouds, Hellenic Association for Aerosol Research, Pylos, Greece, June 8, 2018

Dow Chemical Company Keynote Address, 39th Annual ChEGSA Symposium, Carnegie Mellon University, Pittsburgh, PA, 26 October, 2017

Environmental Science & Engineering, Harvard University, Boston, MA, 15 September, 2017

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

Meteorological Institute, Stockholm University, Sweden, January 12, 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.

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)

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