

## 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

|              |   |
|--------------|---|
| 2008-present | Affiliated Scientist, Foundation for Research and Technology, Greece    |
| 2008-present | Associate Professor, Georgia Institute of Technology                    |
| 2002-2008    | Assistant Professor, Georgia Institute of Technology                    |
| 2004-2007    | Blanchard-Milliken Young Faculty Chair, Georgia Institute of Technology |

### Honors/ Recognitions

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

1. Karydis, V.A., Tsimpidi, A.P., Fountoukis, C., Nenes, A., Zavala, M., Lei, W., Molina, L.T., Pandis, S.N. (2009) Simulating the fine and coarse inorganic particulate matter concentrations in a polluted Megacity, *Atmos.Env.*, in press
2. Kumar, P., Nenes, A. and Sokolik, I. (2009) The importance of adsorption for CCN activity and hygroscopic properties of mineral dust aerosol, *Geoph.Res.Let.*, in press
3. Sud, Y.C., Lau, W., Wilcox, E., Walker, G.K., Liu, X.H., Nenes, A., Lee, D., Kim, K.M., Zhou, Y., and Bhattacharjee, P.S. (2009) Sensitivity of Boreal-Summer Circulation and Precipitation to Atmospheric Aerosols in selected Regions of Northern Tropics and Subtropics, *Ann.Geoph.*, **27**, 3989-4007
4. Sorooshian, A., Padró, L.T., Nenes, A., Feingold, G., McComiskey, A., Hersey, S.P., Gates, H., Jonsson, H.H., Miller, S.D., Stephens, G.L., Flagan, R.C., Seinfeld, J.H. (2009) On the Link Between Ocean Biota Emissions, Aerosol, and Maritime Clouds: Airborne, Ground, and Satellite Measurements off the Coast of California, *Glob.Biog.Cyc.*, **23**, GB4007, doi:10.1029/2009GB003464
5. Moore, R.H. and Nenes, A. (2009) Scanning Flow CCN Analysis - A Method for Fast Measurements of CCN Spectra, *Aeros.Sci.Tech.*, **43**, 1192-1207
6. Bougiatioti, A., Fountoukis, C., Kalivitis, N., Pandis, S.N., Nenes, A. and Mihalopoulos, N. (2009) Cloud Condensation Nuclei Measurements in the Marine Boundary Layer of the Eastern Mediterranean: CCN closure and droplet growth kinetics, *Atmos.Chem.Phys.*, **9**, 7053–7066
7. Ruehl, C.R., Chuang, P.Y. and Nenes, A. (2009) Distinct CCN activation kinetics above the marine boundary layer along the California coast, *Geoph.Res.Let.*, **36**, L15814, doi:10.1029/2009GL038839
8. Barahona, D. and Nenes, A. (2009) Parameterizing the Competition between Homogeneous and Heterogeneous Freezing in Ice Cloud Formation - Polydisperse Ice Nuclei, *Atmos.Chem.Phys.*, **9**, 5933-5948

9. Murphy, S.M., Agrawal, H., Sorooshian, A., Padró, L.T., Gates, H., Hersey, S., Welch, W.A., Jung, H., Miller, J.W., Cocker, D.R., Nenes, A., Jonsson, H., Flagan, R.C., and J.H. Seinfeld (2009) Comprehensive Simultaneous Shipboard and Airborne Characterization of Exhaust from a Modern Container Ship at Sea, *Env.Sci.Tech.*, **43**, 4626-4640
10. Lance, S., A.Nenes, C. Mazzoleni, M. Dubey, H. Gates, V. Varutbangkul, T. A. Rissman, S. M. Murphy, A. Sorooshian, F. Brechtel, R.C. Flagan, J.H. Seinfeld, G. Feingold, and H. Jonsson (2009) CCN Activity, Closure and Droplet Growth Kinetics of Houston Aerosol During the Gulf of Mexico Atmospheric Composition and Climate Study (GoMACCS), *J.Geoph.Res.*, **114**, D00F15, doi:10.1029/2008JD011699
11. Hsieh, W.C., Nenes, A., Flagan, R. C., Seinfeld, J.H., Buzorius, G., and Jonsson, H. (2009) Parameterization of cloud droplet size distributions: comparison with parcel models and observations, *J.Geoph.Res.*, **114**, D11205, doi:10.1029/2008JD011387
12. Hennigan, C., Bergin, M., Russell, A., Nenes, A., and Weber, R. (2009) The gas/particle partitioning of water-soluble organic aerosol in Atlanta, *Atmos.Chem.Phys.*, **9**, 3613–3628
13. Kumar, P., Sokolik, I.N., and Nenes, A. (2009) Parameterization of Cloud Droplet Formation for Global and Regional models: Including Adsorption Activation from Insoluble CCN, *Atmos.Chem.Phys.*, **9**, 2517-2532
14. Hsieh, W.C., H. Jonsson, L.-P. Wang, G. Buzorius, R. C. Flagan, J. H. Seinfeld, and A. Nenes (2009) On the representation of droplet coalescence and autoconversion: Evaluation using ambient cloud droplet size distributions, *J.Geoph.Res.* , **114**, D07201, doi:10.1029/2008JD010502
15. Fountoukis, C., Nenes, A., Sullivan, A., Weber, R., VanReken, T. , Fischer, M., Matías, E., Moya, M. Farmer, D., and Cohen, R. (2009) Thermodynamic characterization of Mexico City Aerosol during MILAGRO 2006, *Atmos.Chem.Phys.*, **9**, 2141-2156
16. Asa-Awuku, A., Engelhart, G.J., Lee, B.H., Pandis, S.N., and Nenes, A. (2009) Relating CCN activity, volatility, and droplet growth kinetics of  $\beta$ -caryophyllene secondary organic aerosol, *Atmos.Chem.Phys.*, **9**, 795–812
17. VanReken, T.M. and Nenes, A. (2009) Cloud Formation in the Plumes of Solar Chimney Power Generation Facilities: A Modeling Study, *J.Sol.En.Eng.*, **131**, 011009
18. Barahona, D. and A. Nenes (2009) Parameterizing the competition between homogeneous and heterogeneous freezing in cirrus cloud formation. Part I: Monodisperse ice nuclei, *Atmos.Chem.Phys.*, **9**, 369-381
19. Sorooshian, A., Murphy, S., Hersey, S., Gates, H., Padro, L., Nenes, A., Brechtel, F., Jonsson, H., Flagan, R., and J. Seinfeld (2008) Comprehensive airborne characterization of aerosol from a major bovine source, *Atmos.Chem.Phys.*, **8**, 5489-5520
20. Engelhart, G.J., Asa-Awuku, A., Nenes, A., and Pandis, S.N. (2008) CCN activity and droplet growth kinetics of fresh and aged monoterpene secondary organic aerosol, *Atmos.Chem.Phys.*, **8**, 3937-3949
21. Hennigan, C.J., Sullivan, A.P., Fountoukis, C.I., Nenes, A, Hecobian, A., Vargas, O., Case, A.T., Hanks, L., Huey, G., Lefer, B.L., and Weber, R.J. (2008) On the Volatility and Production Mechanisms of Newly Formed Nitrate and Water Soluble Organic Aerosol in Mexico City, *Atmos.Chem.Phys.*, **8**, 3761-3768
22. Barahona, D. and Nenes, A. (2008) Parameterization of Cirrus Cloud Formation in Large Scale Models: Homogeneous Nucleation., *J. Geoph.Res*, **112**, D16206, doi:10.1029/2007JD008473
23. Moore, R.H, Ingall, E.D., Sorooshian, A., and Nenes, A. (2008) Molar Mass, Surface Tension, and Droplet Growth Kinetics of Marine Organics from Measurements of CCN Activity, *Geoph.Res.Let.*, **35**, doi:10.1029/2008GL033350
24. Ruehl, C.R., Chuang, P.Y., and Nenes, A. (2008) How quickly do cloud droplets form on atmospheric particles, *Atmos.Chem.Phys.*, **8**, 1043-1055

25. Asa-Awuku, A., Nenes, A., Sullivan, A.P., Hennigan, C.J. and Weber, R.J. (2008) Investigation of molar volume and surfactant characteristics of water-soluble organic compounds in biomass burning aerosol, *Atmos.Chem.Phys.*, **8**, 799-812
26. Asa-Awuku, A., and Nenes, A. (2007) The Effect of Solute Dissolution Kinetics on Cloud Droplet Formation: Extended Köhler theory, *J.Geoph.Res.*, **112**, D22201, doi:10.1029/2005JD006934
27. Padró, L.T., Asa-Awuku, A., Morrison, R., and A. Nenes (2007) Inferring thermodynamic properties from CCN activation experiments: single-component and binary aerosols, *Atmos.Chem.Phys.*, **7**, 5263-5274
28. Fountoukis, C. and Nenes, A. (2007) ISORROPIA II: A Computationally Efficient Aerosol Thermodynamic Equilibrium Model for  $K^+ - Ca^{2+} - Mg^{2+} - NH_4^+ - Na^+ - SO_4^{2-} - NO_3^- - Cl^- - H_2O$  Aerosols, *Atmos.Chem.Phys.*, **7**, 4639–4659
29. Barahona, D. and Nenes, A. (2007) Parameterization of cloud droplet formation in large scale models: including effects of entrainment, *J.Geoph.Res.*, **112**(D16), D16206, doi:10.1029/2007JD008473
30. Sotiropoulou, R.E.P, Nenes A., Adams, P.J., and Seinfeld, J.H. (2007) Cloud condensation nuclei prediction error from application of Köhler theory: Importance for the aerosol indirect effect, *J.Geoph.Res.*, **112**(D12), D12202, doi:10.1029/2006JD007834
31. Meskhidze, N., Nenes, A., Chameides, W.L., Luo, C., Mahowald, N. (2007) Southern Ocean Productivity: Iron Fertilization From Below, *Global Biog.Cycle*, **21**(2), 10.1029/2006GB002711
32. Fountoukis, C., Nenes, A., Meskhidze, N., Bahreini, R., Brechtel, F., Conant, W.C., Jonsson, H., Murphy, S., Sorooshian, A., Varutbangkul, V., Flagan, R.C. and J.H. Seinfeld (2007) Aerosol–cloud drop concentration closure for clouds sampled during ICARTT, *J.Geoph.Res.*, **112**, D10S30, doi:10.1029/2006JD007272
33. Medina, J., Nenes, A., Sotiropoulou, R.E., Cottrell, L.D. , Ziemba, L.D., Beckman, P.J., and Griffin, R.J. (2007) Cloud Condensation Nuclei (CCN) closure during the ICARTT 2004 campaign: a) effects of size-resolved composition, *J. Geoph.Res.*, **112**, D10S31, doi:10.1029/2006JD007588
34. Ervens, B., Cubison, M., Andrews, B., Feingold, G., Ogren, J.A., Jimenez, J.L., and Nenes, A. (2007) Prediction of CCN number concentration using Measurements of Aerosol Size Distributions and Composition and Light Scattering Enhancement due to Humidity, *J.Geoph.Res.*, **112**, D10S32, doi:10.1029/2006JD007426
35. Stroud, C.A., Nenes, A., Jimenez, J.L, DeCarlo, P.F., Huffman, J.A., Brientjes, R., Nemitz, E., Delia, A.E., Toohey, D.W., Guenther, A.B., Nandi, S., (2007) Cloud Activating Properties of Aerosol Observed during CELTIC, *J.Atmos.Sci.*, **64**, 441-459
36. Meskhidze, N. and Nenes, A., (2006) Phytoplankton and Cloudiness in the Southern Ocean, *Science*, **314** , 1419-1423
37. J.B. Nowak, L.G. Huey, A.G. Russell, J. A. Neuman, D. Orsini, S.J. Sjostedt, A.P. Sullivan, D.J. Tanner, R.J. Weber, A. Nenes, E. Edgerton, and F.C. Fehsenfeld, (2006) Analysis of Urban Gas-phase Ammonia Measurements from the 2002 Atlanta Aerosol Nucleation and Real-time Characterization Experiment (ANARChE), *J.Geoph.Res.*, **111**, D17308, doi:10.1029/2006JD007113.
38. Lance, S., Medina, J., Smith, J.N., Nenes, A., (2006) Mapping the Operation of the DMT Continuous Flow CCN Counter, *Aeros.Sci.Tech.*, **40**, 242–254
39. Zhu, L., Nenes, A., Wine, P., Nicovich, J.M., (2006) Effects of Aqueous Organo-Sulfur Chemistry on Speciation and Particulate MS-to-NSS Ratios, *J.Geoph.Res.*, **111**, D05316, doi:10.1029/2005JD006326
40. Sotiropoulou, R.E.P, Medina, J., Nenes A., (2006) CCN predictions: is theory sufficient for assessments of the indirect effect?, *Geoph.Res.Lett.*, **33**, L05816, doi:10.1029/2005GL025148
41. Barth, M, McFadden, J., Sun, J., Wiedinmyer, C., Chuang, P., Collins, D., Griffin, R., Hannigan, M., Karl, T., Kim, S., Lasher-Trapp, S., Levis, S., Litvak, M., Mahowald, N., Moore, K., Nandi, S., Nemitz, E., Nenes, A., Potosnak, M., Raymond, T.M., Smith, J., Stroud, C. and Still, C., (2005) The coupling between land ecosystems and the atmospheric hydrological cycle, *BAMS*, **86**(12), 1738-1742

42. Meskhidze, N., Nenes, A., Conant, W., and Seinfeld, J.H. (2005) Evaluation of a new cloud droplet activation parameterization with in-situ data from CRYSTAL-FACE and CSTRIFE, *J.Geoph.Res.*, **110**, D16202, doi:10.1029/2004JD005703
43. Fountoukis, C., and Nenes, A. (2005) Continued Development of a Cloud Droplet Formation Parameterization for Global Climate Models, *J.Geoph.Res.*, **110**, D11212, doi:10.1029/2004JD005591
44. Roberts, G., and Nenes, A. (2005) A Continuous-Flow Longitudinal Thermal-Gradient CCN Chamber for Atmospheric Measurements, *Aeros.Sci.Tech.*, **39**, 206–221, doi:10.1080/027868290913988
45. M. Kanakidou, J. H. Seinfeld, S. Pandis, I. Barnes, F. J. Dentener, M. C. Facchini, R. van Dingenen, B. Ervens, A. Nenes, C. J. Nielsen, E. Swietlicki, J.P. Putaud, Y. Balkanski, C. E., Lund Myhre, K. Tsigaridis, E. Vignati, E. Stephanou, J. Wilson (2005) Organic aerosol and climate modelling: A review, *Atmos.Chem.Phys.*, 1053-1123, SRef-ID: 1680-7324/acp/2005-5-1053
46. Yu, S., Dennis, R., Roselle, S., Nenes, A., Walker, J.T., Eder, B., Schere, K., Swall, J. and Robarge, W. (2005) An assessment of the ability of 3-D air quality models with current thermodynamic equilibrium models to predict aerosol  $\text{NO}_3^-$ , *J.Geoph.Res.*, **110**, D07S13, doi:10.1029/2004JD004718
47. Meskhidze, N, Chameides, W., Nenes, A. (2005) Dust and pollution: A Recipe for Ocean Fertilization?, *J.Geoph.Res.*, **110**, D03301, doi:10.1029/2004JD005082
48. Lance, S., Nenes, A. and Rissman, T. (2004) Chemical and Dynamical Effects on Cloud Droplet Number: Implications for Current and Future Estimates of Aerosol Indirect Forcing, *J.Geoph.Res.*, **109**, D22208, doi:10.1029/2004JD004596
49. Gao, S., Nga L. N., Keywood, M., Varutbangkul, V., Bahreini, R., Nenes, A., He, J., Kee Y., Beauchamp, J.L., Hodyss, R.P., Flagan, R.C., Seinfeld, J.H. (2004) Particle Phase Acidity and Oligomer Formation in Secondary Organic Aerosol, *Env.Sci.Tech.*, **38**, 6582-6589, doi: 10.1021/es049125k
50. Medina, J. and Nenes, A. (2004) Effects of Film Forming Compounds on the growth of Giant CCN: Implications for cloud microphysics and the aerosol indirect effect., *J.Geoph.Res.*, **109**, D20207, doi:10.1029/2004JD004666
51. Conant, W., Vanreken, T., Rissman, T., Varutbangkul, V., Jimenez, J., Delia, A., Bahreini, R., Roberts, G., Nenes, A., Jonsson, H., Flagan, R.C., Seinfeld, J.H. (2004) Aerosol-cloud drop concentration closure in warm cumulus, *J.Geoph.Res.*, **109**, D13204, doi:10.1029/2003JD004324
52. VanReken T., Nenes, A., Flagan, R.C. and Seinfeld, J.H. (2004) Design for a New Cloud Condensation Nucleus (CCN) Spectrometer, *Aeros.Sci Tech.*, **38**, 639-654
53. Rissman, T., Nenes, A. and Seinfeld, J.H. (2004) Chemical amplification (or dampening) of the Twomey effect: Conditions derived from droplet activation theory, *J.Atmos.Sci.*, **61**(8), 919-930
54. Zhang, Y., Pun, B., Vijayaraghavan, K., Wu, S., Seigneur, C., Pandis, S., Jacobson, M., Nenes, A., Seinfeld, J.H. (2004) Development and Application of the Model of Aerosol Dynamics, Reaction, Ionization and Dissolution (MADRID), *J.Geoph.Res.*, **109**, doi: 10.1029/2003JD003501
55. Meskhidze, N, Chameides, W., Nenes, A., and Chen, G (2003) Iron Mobilization in Mineral Dust: Can Anthropogenic  $\text{SO}_2$  Emissions Affect Ocean Productivity?, *Geoph.Res.Let.*, **30**(21), 2085, doi:10.1029/2003GL018035
56. Nenes, A. and Seinfeld, J.H. (2003) Parameterization of cloud droplet formation in global climate models, *J.Geoph.Res.*, **108**, 4415, doi: 10.1029/2002JD002911
57. Makar, P.A., Bouchet, V.S., and Nenes, A. (2003) Inorganic Chemistry Calculations using HETV – A Vectorized Solver for the  $\text{SO}_4$ - $\text{NO}_3$ - $\text{NH}_4$  System Based on the ISORROPIA Algorithms, *Atmos.Env.*, **37**, 2279-2294
58. Kreidenweis, S.M., Walcek, C.J., Feingold, G., Gong, W., Jacobson, M.Z., Kim, C., Liu, X, Penner, J.E., Nenes, A. and Seinfeld, J.H. (2003) Modification of Aerosol Mass and Size Distribution Due to Aqueous Phase  $\text{SO}_2$  Oxidation in Clouds: Comparisons of Several Models. *J.Geoph.Res.*, **108**, 4213, doi:10.1029/2002JD002697
59. Roberts, G., Nenes, A., Andreae, M.O., Seinfeld, J.H. (2003) Impact of CCN Spectra on Cloud Properties in the Amazon Basin, *J. Geophys. Res.*, **108**, doi: 10.1029/2001JD000985.

60. Nenes, A., Conant, W., and Seinfeld, J.H. (2002) Black Carbon Radiative Heating Effects on Cloud Microphysics and Implications for the Aerosol Indirect Effect: 2. Cloud Microphysics, *J. Geophys. Res.*, **107**, doi: 10.1029/2002JD002101.
61. Conant, W, Nenes, A., and Seinfeld, J.H. (2002) Black Carbon Radiative Heating Effects on Cloud Microphysics and Implications for the Aerosol Indirect Effect: 1. Extended Köhler theory, *J. Geophys. Res.*, **107**, doi: 10.1029/2002JD002094.
62. Nenes, A. Charlson, R. J., Facchini, M. C., Kulmala, M., Laaksonen, A., Seinfeld, J.H. (2002) Can Chemical Effects on Cloud Droplet Number Rival the First Indirect Effect?, *Geoph.Res.Lett.*, **29**(17), 1848, doi: 10.1029/2002GL015295
63. R. J. Charlson, J. H. Seinfeld, A. Nenes, M. Kulmala, A. Laaksonen, M. C. Facchini (2001) Reshaping the Theory of Cloud Formation, *Science*, **292**, 2025-2026
64. 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**
65. 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
66. Collins, D.R., Nenes, A., Flagan, R.C, and Seinfeld, J.H. (2000) The Scanning Flow DMA, *J.Aerosol.Sci.*, **31**, 1129-1144
67. Chuang, P.Y., Nenes A., Smith, J.N., Flagan, R., and Seinfeld, J.H. (2000) Design of a CCN Spectrometer for Airbourne Measurement, *J.Atmosph.Ocean.Tech.*, **17**, 1005-1019
68. 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
69. 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
70. 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
71. Nenes, A., Pilinis, C., Pandis, S.N. (1998) ISORROPIA: A New Thermodynamic Model for Multiphase Multicomponent Inorganic Aerosols, *Aquat. Geochem.*, **4**, 123-152
72. 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
73. 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
74. Nenes, A., Assimacopoulos, D., Markatos, N., Mitsoulis, E. (1996) Simulation of Airlift Pumps for Deep Water Wells, *Can. J. Chem. Eng.*, **74**, 448-456
75. Nenes, A., Assimacopoulos, D., Markatos, N., Karidakis, G. (1996) Simulation of Airlift Pumps for Moderate-Depth Water Wells, *Technika Chronika*, **14**, 1-20

#### Refereed Publications – In review

1. Padró, L.T. and Nenes, A., Cloud droplet activation: solubility revisited, *Atmos.Chem.Phys.*
2. Asa-Awuku, A., Nenes, A., Gao, S., Flagan, R.C., and Seinfeld, J.H., Alkene ozonolysis SOA: inferences of composition and droplet growth kinetics from Köhler theory analysis, *Atmos.Chem.Phys.*
3. Moya, M., C. Fountoukis, A. Nenes, E. Matías and M. Grutter, Predicting diurnal variability of fine inorganic aerosols and their gas-phase precursors near downtown Mexico City, *Atmos.Chem.Phys.*
4. Sotiropoulou, R.E.P., Meskhidze, N., Kouachou, J., Das, B., Oreopoulos, L., Rodriguez, J., Nenes, A., Aerosol - cloud interactions in the NASA GMI: Model development and indirect forcing assessments, *Atmos.Chem.Phys.*
5. Barahona, D., Sotiropoulou, R.E.P., and Nenes, A., Entrainment Effects on Cloud Droplet Formation: an exploratory GCM study, *J.Geoph.Res.*
6. Chen, W.T., Nenes, A., Liao, H., Adams, P., Seinfeld, J.H., Global Climate Response to

Anthropogenic Aerosol Indirect Effects: Present Day and Year 2100, *J.Geoph.Res.*

7. Asa-Awuku, A., Moore, R.H., Brock, C.A., Bahreini, R., Middlebrook, A.M., Schwarz, J.P., Spackman, J.R., Holloway, J.S., Stickel, R., Tanner, D.J., Huey, L.G., Nenes, A., Airborne Cloud Condensation Nuclei Measurements during the 2006 Texas Air Quality Study, *J.Geoph.Res.*
8. Sotiropoulou, R.E.P., N. Meskhidze, J. Kouatchou, L. Oreopoulos, J.M. Rodriguez, and A. Nenes, Aerosol - cloud interactions in the NASA GMI: Sensitivity of indirect effects to cloud formation parameterization and meteorological fields, *J.Geoph.Res.*
9. Ruehl, C., Chuang, P.Y., Nenes, A., Aerosol hygroscopicity at high (99 to 100%) relative humidities, *Atmos.Chem.Phys.*
10. Morales, R., Nenes, A., Characteristic updrafts for computing distribution-averaged cloud droplet number, autoconversion rate and effective radius, *J.Geoph.Res.*
11. Padró, L.T., Padró, L.T., Tkacik, D., Latham, T., Hennigan, C., Sullivan, A.P., Weber, R.J., Huey, L.G., and Nenes, A., Investigation of CCN relevant properties and droplet growth kinetics of water-soluble aerosol fraction in Mexico City, *J.Geoph.Res.*
12. Barahona, D., West, R.E.L., Stier, P., Romakkaniemi, S., Kokkola, H., and A. Nenes, Comprehensively Accounting for the Effect of Giant CCN in Cloud Activation Parameterizations, *Atmos.Chem.Phys.*
13. Nenes, A., Moore, R.H., Medina, J., Scanning Mobility CCN Analysis - A method for fast measurements of size-resolved CCN distributions and activation kinetics, *Aeros.Sci.Tech.*

#### **Other Publications:**

Roberts, G., and Nenes, A., "Stream-Wise Thermal Gradient Cloud Condensation Nuclei Chamber.", US Provisional Patent No. 60/411,688 (filed September 18, 2002)

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 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: 19**

#### **Professional Activities**

|               |   |
|---------------|---|
| 1993-1995     | Environmental consulting, HELIX Consulting Engineers (Athens, Greece)             |
| 2003, March   | NASA Radiation Sciences Program Panel Review, Washington DC (panel member)        |
| 2006, July    | NASA ACMAP Panel Review, Washington DC (panel member)                             |
| 2007, March   | NASA Radiation Panel Review, Washington DC (panel member)                         |
| 2007, August  | NASA Radiation Panel Review, Washington DC (panel member)                         |
| 2007, October | NSF VOCALS Panel Review, Washington DC (panel member)                             |
| 2006-present  | Pacific Northwest National Lab Aerosol-Climate Initiative External Advisory Board |
| 2007-present  | DOE Atmospheric Radiation Measurement Climate Research Facility Science Board     |
| 2004-present  | Editor, Atmospheric Chemistry and Physics   |

#### **Invited Seminars**

National Academy of Engineering, Japan-America Frontiers of Engineering Symposium, Irvine, 11 November, 2009.

Goldschmidt Conference, Davos Switzerland, 26 June 2009.

Georgia Institute of Technology, School of Chemical and Biomolecular Engineering, 2 April, 2009.

University of Manchester, United Kingdom, School of Earth, Atmospheric and Environmental Sciences, 8 January, 2009.

Columbia University, Department of Chemical Engineering, 25 November, 2008.

3<sup>rd</sup> 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, Canadian CAFC Network 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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