

## **NGA LEE NG**

Associate Professor and Tanner Faculty Fellow

Schools of Earth & Atmospheric Sciences and Chemical & Biomolecular Engineering

Georgia Institute of Technology

Atlanta, GA, USA

### **NARRATIVE OF RESEARCH EXPERIENCE**

Dr. Ng's research focuses on the fundamental understanding of the underlying chemical mechanisms of aerosol formation and composition, as well as the health effects of aerosols. Her group uses a synergistic approach in studying aerosols by performing both laboratory chamber experiments and ambient field measurements using advanced mass spectrometry techniques.

### **EDUCATION**

2002	B. Eng. Chemical and Environmental Engineering, Hong Kong University of Science and Technology, Hong Kong
2004	M.S. Chemical Engineering, California Institute of Technology
2007	Ph. D. Chemical Engineering, California Institute of Technology

### **EXPERIENCE**

2017-present	Associate Professor, School of Chemical and Biomolecular Engineering, School of Earth and Atmospheric Sciences, Georgia Institute of Technology
2011-2017	Assistant Professor, School of Chemical and Biomolecular Engineering, School of Earth and Atmospheric Sciences, Georgia Institute of Technology
2010-2011	Senior Scientist, Center for Aerosol and Cloud Chemistry, Aerodyne Research Inc.
2008-2010	Postdoctoral Scientist, Center for Aerosol and Cloud Chemistry, Aerodyne Research
2007-2008	Postdoctoral Scholar, Chemical Engineering, California Institute of Technology

### **SELECTED AWARDS AND HONORS**

- Highly Cited Researcher (Geosciences), Clarivate Analytics, 2019
- Outstanding Achievement in Early Career Research, Georgia Tech, 2019
- Highly Cited Researcher (Geosciences), Clarivate Analytics, 2018
- Highly Cited Researcher (Geosciences), Clarivate Analytics, 2017
- Dreyfus Foundation Fellowship in Environmental Chemistry, 2017
- Kenneth T. Whitby Award, American Association for Aerosol Research, 2016
- Sigma Xi Young Faculty Award, Georgia Tech, 2016
- CAREER Award, National Science Foundation, 2015
- Walter A. Rosenblith New Investigator Award, Health Effects Institute, 2013
- Early Career Award, Environmental Protection Agency, 2013
- Sheldon K. Friedlander Award, American Association for Aerosol Research, 2010
- ACCESS Invitee: Atmospheric Chemistry Colloquium for Emerging Senior Scientists, 2007

### **SHORT LIST OF PUBLICATIONS (Total 120 publications; h-index 59; > 17000 citations)**

1. Takeuchi, M. and Ng, N. L.: Chemical composition and hydrolysis of organic nitrate aerosol formed from hydroxyl and nitrate radical oxidation of  $\alpha$ -pinene and  $\beta$ -pinene, *Atmos. Chem. Phys.*, 19, 12749–12766, <https://doi.org/10.5194/acp-19-12749-2019>, 2019.

2. **Joo, T., Rivera-Rios, J. C., Takeuchi, M.**, Alvarado, M. J., and **Ng, N. L.**: Secondary Organic Aerosol Formation from Reaction of 3-Methylfuran with Nitrate Radicals, *ACS Earth and Space Chemistry*, 10.1021/acsearthspacechem.9b00068, 2019.
3. **Chen, Y., Xu, L.**, Humphry, T., Hettiyadura, A. P. S., Ovadnevaite, J., Huang, S., Poulain, L., Schroder, J. C., Campuzano-Jost, P., Jimenez, J. L., Herrmann, H., O'Dowd, C., Stone, E. A., and **Ng, N. L.**: Response of the Aerodyne Aerosol Mass Spectrometer to Inorganic Sulfates and Organosulfur Compounds: Applications in Field and Laboratory Measurements, *Environ. Sci. Technol.*, 53, 5176-5186, 10.1021/acs.est.9b00884, 2019.
4. **Tuet, W. Y., Liu, F.**, de Oliveira Alves, N., **Fok, S.**, Artaxo, P., Vasconcellos, P., Champion, J. A., and **Ng, N. L.**: Chemical Oxidative Potential and Cellular Oxidative Stress from Open Biomass Burning Aerosol, *Environmental Science & Technology Letters*, 10.1021/acs.estlett.9b00060, 2019.
5. **Xu, L.**, Pye, H. O. T., He, J., **Chen, Y.**, Murphy, B. N., and **Ng, N. L.**: Experimental and model estimates of the contributions from biogenic monoterpenes and sesquiterpenes to secondary organic aerosol in the southeastern United States, *Atmos. Chem. Phys.*, 18, 12613-12637, 10.5194/acp-18-12613-2018, 2018.
6. **Ng, N. L.**, Brown, S. S., Archibald, A. T. et al.: Nitrate radicals and biogenic volatile organic compounds: oxidation, mechanisms, and organic aerosol, *Atmos. Chem. Phys.*, 17, 2103-2162, doi:10.5194/acp-17-2103-2017, 2017.
7. **Xu, L.**, Guo, H., **Boyd, C. M.**, Klein, M., Bougiatioti, A., Cerully, K. M., Hite, J. R., Isaacman-VanWertz, G., Kreisberg, N. M., Knotek, C., Olson, K., Koss, A., Goldstein, A. H., Hering, S. V., Gouw, J. D., Baumann, K., Lee, S. H., Nenes, A., Weber, R. J., and **Ng, N. L.**: Effects of Anthropogenic Emissions on Aerosol Formation from Isoprene and Monoterpenes in the Southeastern United States, *Proceedings of the National Academy of Sciences*, doi: 10.1073/pnas.1417609112, 2015.
8. **Xu, L.**, Middlebrook, A. M., de Gouw, J. A., Guo, H., Weber, R. J., Nenes, A., Lopez-Hilfiker, F. D., Thornton, J. A., Brock, C. A., Neuman, A., Nowak, J. B., Pollack, I. B., Welti, A., Graus, M., Warneke, C., **Ng, N. L.**: Enhanced formation of Isoprene-derived Organic Aerosol in Sulfur-rich Power Plant Plumes during Southeast Nexus, *J. Geophys. Res.-Atmos.*, 121, 11,137–11,153, doi:10.1002/2016JD025156, 2016.
9. **Nah, T., Sanchez, J., Boyd, C. M.**, and **Ng, N. L.**: Photochemical Aging of alpha-pinene and beta-pinene Secondary Organic Aerosol formed from Nitrate Radical Oxidation, *Environ. Sci. Technol.*, 50, 222-231, 10.1021/acs.est.5b04594, 2016.
10. **Xu, L., Suresh, S.**, Guo, H., Weber, R. J., and **Ng, N. L.**: Aerosol characterization over the southeastern United States using high-resolution aerosol mass spectrometry: spatial and seasonal variation of aerosol composition and sources with a focus on organic nitrates, *Atmos. Chem. Phys.*, 15, 7307-7336, 10.5194/acp-15-7307-2015, 2015.
11. **Boyd, C. M., Sanchez, J., Xu, L.**, Eugene, A. J., **Nah, T., Tuet, W. Y.**, Guzman, M. I., and **Ng, N. L.**: Secondary organic aerosol formation from the beta-pinene+NO<sub>3</sub> system: effect of humidity and peroxy radical fate, *Atmos. Chem. Phys.*, 15, 7497-7522, 10.5194/acp-15-7497-2015, 2015.
12. **Ng, N. L.**, Canagaratna, M. R., Zhang, Q., Jimenez, J. L., Tian, J., Ulbrich, I. M., Kroll, J. H., Docherty, K. S., Chhabra, P. S., Bahreini, R., Murphy, S. M., Seinfeld, J. H., Donahue, N. M., Hildebrandt, L., Decarlo, P. F., Lanz, V. A., Prevot, A. S. H., Dinar, E., Rudich, Y., and Worsnop, D. R.: Organic aerosol components observed in Northern Hemispheric datasets from Aerosol Mass Spectrometry, *Atmos. Chem. Phys.*, 10, 4625-4641, 2010.

#### PROFESSIONAL SOCIETY MEMBERSHIPS

- American Geophysical Union (AGU); American Association for Aerosol Research (AAAR); American Institute of Chemical Engineers (AIChE); American Chemical Society (ACS); European Geophysical Union (EGU)