# Paul Martin Winkler

## List of Publications by Citations



| | | | |
|---|---|---|---|
| 69 papers | 4,097 citations | 26 h-index | 64 g-index |
| 74 ext. papers | 4,956 ext. citations | 11.1 avg, IF | 4.28 L-index |

| # | Paper | IF | Citations |
|---|---|---|---|
| 69 | Role of sulphuric acid, ammonia and galactic cosmic rays in atmospheric aerosol nucleation. *Nature*, **2011**, 476, 429-33 | 50.4 | 863 |
| 68 | The role of low-volatility organic compounds in initial particle growth in the atmosphere. *Nature*, **2016**, 533, 527-31 | 50.4 | 388 |
| 67 | Ion-induced nucleation of pure biogenic particles. *Nature*, **2016**, 533, 521-6 | 50.4 | 377 |
| 66 | Heterogeneous nucleation experiments bridging the scale from molecular ion clusters to nanoparticles. *Science*, **2008**, 319, 1374-7 | 33.3 | 209 |
| 65 | Global atmospheric particle formation from CERN CLOUD measurements. *Science*, **2016**, 354, 1119-1124 | 33.3 | 207 |
| 64 | On quantitative determination of volatile organic compound concentrations using proton transfer reaction time-of-flight mass spectrometry. *Environmental Science & Technology*, **2012**, 46, 2283-90 | 10.3 | 190 |
| 63 | Neutral molecular cluster formation of sulfuric acid-dimethylamine observed in real time under atmospheric conditions. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 15019-24 | 11.5 | 155 |
| 62 | Secondary organic aerosol formation and organic nitrate yield from NO3 oxidation of biogenic hydrocarbons. *Environmental Science & Technology*, **2014**, 48, 11944-53 | 10.3 | 134 |
| 61 | The condensation particle counter battery (CPCB): A new tool to investigate the activation properties of nanoparticles. *Journal of Aerosol Science*, **2007**, 38, 289-304 | 4.3 | 126 |
| 60 | Causes and importance of new particle formation in the present-day and preindustrial atmospheres. *Journal of Geophysical Research D: Atmospheres*, **2017**, 122, 8739-8760 | 4.4 | 119 |
| 59 | Multicomponent new particle formation from sulfuric acid, ammonia, and biogenic vapors. *Science Advances*, **2018**, 4, eaau5363 | 14.3 | 105 |
| 58 | Mass and thermal accommodation during gas-liquid condensation of water. *Physical Review Letters*, **2004**, 93, 075701 | 7.4 | 90 |
| 57 | The effect of acid-base clustering and ions on the growth of atmospheric nano-particles. *Nature Communications*, **2016**, 7, 11594 | 17.4 | 88 |
| 56 | Reduced anthropogenic aerosol radiative forcing caused by biogenic new particle formation. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 12053-12058 | 11.5 | 79 |
| 55 | Rapid growth of organic aerosol nanoparticles over a wide tropospheric temperature range. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 9122-9127 | 11.5 | 73 |
| 54 | Rapid growth of new atmospheric particles by nitric acid and ammonia condensation. *Nature*, **2020**, 581, 184-189 | 50.4 | 72 |
| 53 | Near-unity mass accommodation coefficient of organic molecules of varying structure. *Environmental Science & Technology*, **2014**, 48, 12083-9 | 10.3 | 65 |

| | | | |
|---|---|---|---|
| 52 | BAECC: A Field Campaign to Elucidate the Impact of Biogenic Aerosols on Clouds and Climate. *Bulletin of the American Meteorological Society*, **2016**, 97, 1909-1928 | 6.1 | 57 |
| 51 | Identification of the biogenic compounds responsible for size-dependent nanoparticle growth. *Geophysical Research Letters*, **2012**, 39, | 4.9 | 50 |
| 50 | Observation of viscosity transition in <i></i>-pinene secondary organic aerosol. *Atmospheric Chemistry and Physics*, **2016**, 16, 4423-4438 | 6.8 | 47 |
| 49 | Insight into acid-base nucleation experiments by comparison of the chemical composition of positive, negative, and neutral clusters. *Environmental Science & Technology*, **2014**, 48, 13675-84 | 10.3 | 40 |
| 48 | Influence of temperature on the molecular composition of ions and charged clusters during pure biogenic nucleation. *Atmospheric Chemistry and Physics*, **2018**, 18, 65-79 | 6.8 | 39 |
| 47 | The role of ions in new particle formation in the CLOUD chamber. *Atmospheric Chemistry and Physics*, **2017**, 17, 15181-15197 | 6.8 | 32 |
| 46 | Molecular understanding of new-particle formation from <i></i>-pinene between  and +25 °C. *Atmospheric Chemistry and Physics*, **2020**, 20, 9183-9207 | 6.8 | 32 |
| 45 | Role of iodine oxoacids in atmospheric aerosol nucleation. *Science*, **2021**, 371, 589-595 | 33.3 | 31 |
| 44 | A DMA-train for precision measurement of sub-10 nm aerosol dynamics. *Atmospheric Measurement Techniques*, **2017**, 10, 1639-1651 | 4 | 30 |
| 43 | Photo-oxidation of Aromatic Hydrocarbons Produces Low-Volatility Organic Compounds. *Environmental Science & Technology*, **2020**, 54, 7911-7921 | 10.3 | 26 |
| 42 | Heterogeneous multicomponent nucleation theorems for the analysis of nanoclusters. *Journal of Chemical Physics*, **2007**, 126, 174707 | 3.9 | 26 |
| 41 | Quantitative characterization of critical nanoclusters nucleated on large single molecules. *Physical Review Letters*, **2012**, 108, 085701 | 7.4 | 24 |
| 40 | Enhanced growth rate of atmospheric particles from sulfuric acid. *Atmospheric Chemistry and Physics*, **2020**, 20, 7359-7372 | 6.8 | 21 |
| 39 | Effects of seed particle size and composition on heterogeneous nucleation of n-nonane. *Atmospheric Research*, **2008**, 90, 187-194 | 5.4 | 21 |
| 38 | Heterogeneous Nucleation onto Monoatomic Ions: Support for the Kelvin-Thomson Theory. *ChemPhysChem*, **2018**, 19, 3144-3149 | 3.2 | 21 |
| 37 | In-situ aerosol nanoparticle characterization by small angle X-ray scattering at ultra-low volume fraction. *Nature Communications*, **2019**, 10, 1122 | 17.4 | 19 |
| 36 | Condensation particle counting below 2 nm seed particle diameter and the transition from heterogeneous to homogeneous nucleation. *Atmospheric Research*, **2008**, 90, 125-131 | 5.4 | 19 |
| 35 | Unexpectedly acidic nanoparticles formed in dimethylamine–ammonia–sulfuric-acid nucleation experiments at CLOUD. *Atmospheric Chemistry and Physics*, **2016**, 16, 13601-13618 | 6.8 | 18 |

| | | | |
|---|---|---|---|
| 34 | Unusual Temperature Dependence of Heterogeneous Nucleation of Water Vapor on Ag Particles. *Aerosol Science and Technology*, **2013**, 47, i-iv | 3.4 | 16 |
| 33 | Molecular understanding of the suppression of new-particle formation by isoprene. *Atmospheric Chemistry and Physics*, **2020**, 20, 11809-11821 | 6.8 | 16 |
| 32 | Resolving nanoparticle growth mechanisms from size- and time-dependent growth rate analysis. *Atmospheric Chemistry and Physics*, **2018**, 18, 1307-1323 | 6.8 | 15 |
| 31 | Experiments on the temperature dependence of heterogeneous nucleation on nanometer-sized NaCl and Ag particles. *ChemPhysChem*, **2010**, 11, 3874-82 | 3.2 | 15 |
| 30 | Molecular Composition and Volatility of Nucleated Particles from Pinene Oxidation between -50 C and +25 C. *Environmental Science & Technology*, **2019**, 53, 12357-12365 | 10.3 | 14 |
| 29 | Humidity effects on the detection of soluble and insoluble nanoparticles in butanol operated condensation particle counters. *Atmospheric Measurement Techniques*, **2019**, 12, 3659-3671 | 4 | 12 |
| 28 | Counting on chemistry: laboratory evaluation of seed-material-dependent detection efficiencies of ultrafine condensation particle counters. *Atmospheric Measurement Techniques*, **2020**, 13, 3787-3798 | 4 | 12 |
| 27 | Light scattering from droplets with inclusions and the impact on optical measurement of aerosols. *Journal of Aerosol Science*, **2004**, 35, 1173-1188 | 4.3 | 9 |
| 26 | Determination of the collision rate coefficient between charged iodic acid clusters and iodic acid using the appearance time method. *Aerosol Science and Technology*, **2021**, 55, 231-242 | 3.4 | 8 |
| 25 | Robust metric for quantifying the importance of stochastic effects on nanoparticle growth. *Scientific Reports*, **2018**, 8, 14160 | 4.9 | 8 |
| 24 | The driving factors of new particle formation and growth in the polluted boundary layer. *Atmospheric Chemistry and Physics*, **2021**, 21, 14275-14291 | 6.8 | 8 |
| 23 | The versatile size analyzing nuclei counter (vSANC). *Aerosol Science and Technology*, **2016**, 50, 947-958 | 3.4 | 7 |
| 22 | Overview of the biosphere-aerosol-cloud-climate interactions (BACCI) studies. *Tellus, Series B: Chemical and Physical Meteorology*, **2008**, 60, 300-317 | 3.3 | 7 |
| 21 | New particle formation and sub-10 nm size distribution measurements during the A-LIFE field experiment in Paphos, Cyprus. *Atmospheric Chemistry and Physics*, **2020**, 20, 5645-5656 | 6.8 | 7 |
| 20 | Precision characterization of three ultrafine condensation particle counters using singly charged salt clusters in the 1 nm size range generated by a bipolar electrospray source. *Aerosol Science and Technology*, **2020**, 54, 396-409 | 3.4 | 7 |
| 19 | Temperature Dependence in Heterogeneous Nucleation with Application to the Direct Determination of Cluster Energy on Nearly Molecular Scale. *Scientific Reports*, **2017**, 7, 16896 | 4.9 | 6 |
| 18 | Characterization techniques for heterogeneous nucleation from the gas phase. *Journal of Aerosol Science*, **2022**, 159, 105875 | 4.3 | 5 |
| 17 | Synergistic HNO-HSO-NH upper tropospheric particle formation.. *Nature*, **2022**, 605, 483-489 | 50.4 | 5 |

# List of Publications

| | | | |
|---|---|---|---|
| 16 | Unary and Binary Heterogeneous Nucleation of Organic Vapors on Monodisperse WOx Seed Particles with Diameters Down to 1.4 nm. *Aerosol Science and Technology*, **2011**, 45, 493-498 | 3.4 | 4 |
| 15 | A unifying identity for the work of cluster formation in heterogeneous and homogeneous nucleation theory. *Journal of Chemical Physics*, **2018**, 149, 084702 | 3.9 | 4 |
| 14 | A fast-scanning DMA train for precision quantification of early nanoparticle growth **2013**, | | 3 |
| 13 | Development of an ultraviolet constant angle Mie scattering detector toward the determination of aerosol growth kinetics in the transition and free molecular regime. *Aerosol Science and Technology*, **2020**, 54, 917-928 | 3.4 | 2 |
| 12 | Temperature dependence of heterogeneous nucleation of water vapor on Ag and NaCl particles **2013**, | | 2 |
| 11 | Characterization of a non-thermal plasma source for use as a mass specrometric calibration tool and non-radioactive aerosol charger. *Atmospheric Measurement Techniques*, **2020**, 13, 5993-6006 | 4 | 2 |
| 10 | Molecular characterization of ultrafine particles using extractive electrospray time-of-flight mass spectrometry. *Environmental Science Atmospheres*, **2021**, 1, 434-448 | | 2 |
| 9 | Unexpectedly acidic nanoparticles formed in dimethylamine-ammonia-sulfuric acid nucleation experiments at CLOUD **2016**, | | 1 |
| 8 | Molecular understanding of new-particle formation from alpha-pinene between −50 °C and 25 °C **2020**, | | 1 |
| 7 | Influence of temperature on the molecular composition of ions and charged clusters during pure biogenic nucleation **2017**, | | 1 |
| 6 | Chemical composition of nanoparticles from <i></i>-pinene nucleation and the influence of isoprene and relative humidity at low temperature. *Atmospheric Chemistry and Physics*, **2021**, 21, 17099-17114 | 6.8 | 1 |
| 5 | Size characterization and detection of aerosolized nanoplastics originating from evaporated thermoplastics. *Aerosol Science and Technology*,1-11 | 3.4 | 1 |
| 4 | Molecular understanding of the suppression of new-particle formation by isoprene **2020**, | | 1 |
| 3 | Enhanced growth rate of atmospheric particles from sulfuric acid **2019**, | | 1 |
| 2 | Towards a concentration closure of sub-6 nm aerosol particles and sub-3 nm atmospheric clusters. *Journal of Aerosol Science*, **2022**, 159, 105878 | 4.3 | 1 |
| 1 | Condensational Growth of n-Propanol and n-Nonane Droplets: Experiments and Model Calculations **2007**, 1028-1032 | | |