Peter F Decarlo

List of Publications by Year
in descending order

113 papers	27,273 citations	16451 64 h-index	20961 115 g-index
177 all docs	177 docs citations	177 times ranked	10015 citing authors

#	Article	IF	Citations
1	Evolution of Organic Aerosols in the Atmosphere. Science, 2009, 326, 1525-1529.	12.6	3,374
2	Field-Deployable, High-Resolution, Time-of-Flight Aerosol Mass Spectrometer. Analytical Chemistry, 2006, 78, 8281-8289.	6.5	1,968
3	Ubiquity and dominance of oxygenated species in organic aerosols in anthropogenicallyâ€influenced Northern Hemisphere midlatitudes. Geophysical Research Letters, 2007, 34, .	4.0	1,773
4	Chemical and microphysical characterization of ambient aerosols with the aerodyne aerosol mass spectrometer. Mass Spectrometry Reviews, 2007, 26, 185-222.	5.4	1,708
5	O/C and OM/OC Ratios of Primary, Secondary, and Ambient Organic Aerosols with High-Resolution Time-of-Flight Aerosol Mass Spectrometry. Environmental Science & Technology, 2008, 42, 4478-4485.	10.0	1,524
6	Organic aerosol components observed in Northern Hemispheric datasets from Aerosol Mass Spectrometry. Atmospheric Chemistry and Physics, 2010, 10, 4625-4641.	4.9	908
7	Particle Morphology and Density Characterization by Combined Mobility and Aerodynamic Diameter Measurements. Part 1: Theory. Aerosol Science and Technology, 2004, 38, 1185-1205.	3.1	811
8	A New Time-of-Flight Aerosol Mass Spectrometer (TOF-AMS)â€”Instrument Description and First Field Deployment. Aerosol Science and Technology, 2005, 39, 637-658.	3.1	719
9	Absorption Angstrom Exponent in AERONET and related data as an indicator of aerosol composition. Atmospheric Chemistry and Physics, 2010, 10, 1155-1169.	4.9	554
10	Mexico City aerosol analysis during MILAGRO using high resolution aerosol mass spectrometry at the urban supersite (T0) â€“ Part 1: Fine particle composition and organic source apportionment. Atmospheric Chemistry and Physics, 2009, 9, 6633-6653.	4.9	525
11	Elemental Analysis of Organic Species with Electron Ionization High-Resolution Mass Spectrometry. Analytical Chemistry, 2007, 79, 8350-8358.	6.5	490
12	Identification and quantification of organic aerosol from cooking and other sources in Barcelona using aerosol mass spectrometer data. Atmospheric Chemistry and Physics, 2012, 12, 1649-1665.	4.9	449
13	Emissions from biomass burning in the Yucatan. Atmospheric Chemistry and Physics, 2009, 9, 5785-5812.	4.9	433
14	A simplified description of the evolution of organic aerosol composition in the atmosphere. Geophysical Research Letters, 2010, 37, .	4.0	412
15	Fast airborne aerosol size and chemistry measurements above Mexico City and Central Mexico during the MILAGRO campaign. Atmospheric Chemistry and Physics, 2008, 8, 4027-4048.	4.9	411
16	Pollutant Emissions and Energy Efficiency under Controlled Conditions for Household Biomass Cookstoves and Implications for Metrics Useful in Setting International Test Standards. Environmental Science & Technology, 2012, 46, 10827-10834.	10.0	404
17	Wintertime aerosol chemical composition and source apportionment of the organic fraction in the metropolitan area of Paris. Atmospheric Chemistry and Physics, 2013, 13, 961-981.	4.9	391
18	Characterization of ambient aerosols in Mexico City during the MCMA-2003 campaign with Aerosol Mass Spectrometry: results from the CENICA Supersite. Atmospheric Chemistry and Physics, 2006, 6, 925-946.	4.9	341

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19	Modeling organic aerosols in a megacity: potential contribution of semi-volatile and intermediate volatility primary organic compounds to secondary organic aerosol formation. Atmospheric Chemistry and Physics, 2010, 10, 5491-5514.	4.9	340
20	Relating hygroscopicity and composition of organic aerosol particulate matter. Atmospheric Chemistry and Physics, 2011, 11, 1155-1165.	4.9	326
21	Investigation of the sources and processing of organic aerosol over the Central Mexican Plateau from aircraft measurements during MILAGRO. Atmospheric Chemistry and Physics, 2010, 10, 5257-5280.	4.9	325
22	Organic aerosol components derived from 25 AMS data sets across Europe using a consistent ME-2 based source apportionment approach. Atmospheric Chemistry and Physics, 2014, 14, 6159-6176.	4.9	308
23	Chemically-resolved aerosol volatility measurements from two megacity field studies. Atmospheric Chemistry and Physics, 2009, 9, 7161-7182.	4.9	289
24	Apportionment of Primary and Secondary Organic Aerosols in Southern California during the 2005 Study of Organic Aerosols in Riverside (SOAR-1). Environmental Science & Technology, 2008, 42, 7655-7662.	10.0	273
25	Loading-dependent elemental composition of Î±-pinene SOA particles. Atmospheric Chemistry and Physics, 2009, 9, 771-782.	4.9	272
26	Importance of secondary sources in the atmospheric budgets of formic and acetic acids. Atmospheric Chemistry and Physics, 2011, 11, 1989-2013.	4.9	266
27	Characterization of aerosol chemical composition with aerosol mass spectrometry in Central Europe: an overview. Atmospheric Chemistry and Physics, 2010, 10, 10453-10471.	4.9	261
28	Particle Morphology and Density Characterization by Combined Mobility and Aerodynamic Diameter Measurements. Part 1: Theory. Aerosol Science and Technology, 2004, 38, 1185-1205.	3.1	254
29	Aging of biogenic secondary organic aerosol via gas-phase OH radical reactions. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 13503-13508.	7.1	251
30	Exploring the vertical profile of atmospheric organic aerosol: comparing 17 aircraft field campaigns with a global model. Atmospheric Chemistry and Physics, 2011, 11, 12673-12696.	4.9	240
31	Organic aerosol formation in urban and industrial plumes near Houston and Dallas, Texas. Journal of Geophysical Research, 2009, 114, .	3.3	230
32	Investigations of primary and secondary particulate matter of different wood combustion appliances with a high-resolution time-of-flight aerosol mass spectrometer. Atmospheric Chemistry and Physics, 2011, 11, 5945-5957.	4.9	215
33	Particle Morphology and Density Characterization by Combined Mobility and Aerodynamic Diameter Measurements. Part 2: Application to Combustion-Generated Soot Aerosols as a Function of Fuel Equivalence Ratio. Aerosol Science and Technology, 2004, 38, 1206-1222.	3.1	212
34	Mexico city aerosol analysis during MILAGRO using high resolution aerosol mass spectrometry at the urban supersite (T0) â€“ Part 2: Analysis of the biomass burning contribution and the non-fossil carbon fraction. Atmospheric Chemistry and Physics, 2010, 10, 5315-5341.	4.9	182
35	Ubiquity of organic nitrates from nighttime chemistry in the European submicron aerosol. Geophysical Research Letters, 2016, 43, 7735-7744.	4.0	182
36	Impact of aftertreatment devices on primary emissions and secondary organic aerosol formation potential from in-use diesel vehicles: results from smog chamber experiments. Atmospheric Chemistry and Physics, 2010, 10, 11545-11563.	4.9	178

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37	Black carbon physical properties and mixing state in the European megacity Paris. Atmospheric Chemistry and Physics, 2013, 13, 5831-5856.	4.9	174
38	A missing source of aerosols in Antarctica â€“ beyond long-range transport, phytoplankton, and photochemistry. Atmospheric Chemistry and Physics, 2017, 17, 1-20.	4.9	173
39	Evolution of Asian aerosols during transpacific transport in INTEX-B. Atmospheric Chemistry and Physics, 2009, 9, 7257-7287.	4.9	170
40	Identification of marine and continental aerosol sources in Paris using high resolution aerosol mass spectrometry. Journal of Geophysical Research D: Atmospheres, 2013, 118, 1950-1963.	3.3	142
41	Overview of HOMEChem: House Observations of Microbial and Environmental Chemistry. Environmental Sciences: Processes and Impacts, 2019, 21, 1280-1300.	3.5	140
42	Evaluating simulated primary anthropogenic and biomass burning organic aerosols during MILAGRO: implications for assessing treatments of secondary organic aerosols. Atmospheric Chemistry and Physics, 2009, 9, 6191-6215.	4.9	138
43	Biomass burning and urban air pollution over the Central Mexican Plateau. Atmospheric Chemistry and Physics, 2009, 9, 4929-4944.	4.9	138
44	Changes of hygroscopicity and morphology during ageing of diesel soot. Environmental Research Letters, 2011, 6, 034026.	5.2	138
45	Aged organic aerosol in the Eastern Mediterranean: the Finokalia Aerosol Measurement Experiment â€“ 2008. Atmospheric Chemistry and Physics, 2010, 10, 4167-4186.	4.9	132
46	Nepal Ambient Monitoring and Source Testing Experiment (NAMaSTE): emissions of trace gases and light-absorbing carbon from wood and dung cooking fires, garbage and crop residue burning, brick kilns, and other sources. Atmospheric Chemistry and Physics, 2016, 16, 11043-11081.	4.9	131
47	The 2005 Study of Organic Aerosols at Riverside (SOAR-1): instrumental intercomparisons and fine particle composition. Atmospheric Chemistry and Physics, 2011, 11, 12387-12420.	4.9	129
48	Indoor Particulate Matter during HOMEChem: Concentrations, Size Distributions, and Exposures. Environmental Science & Technology, 2020, 54, 7107-7116.	10.0	127
49	Design and Operation of a Pressure-Controlled Inlet for Airborne Sampling with an Aerodynamic Aerosol Lens. Aerosol Science and Technology, 2008, 42, 465-471.	3.1	122
50	Prediction of cloud condensation nucleus number concentration using measurements of aerosol size distributions and composition and light scattering enhancement due to humidity. Journal of Geophysical Research, 2007, 112, .	3.3	119
51	Volatility and hygroscopicity of aging secondary organic aerosol in a smog chamber. Atmospheric Chemistry and Physics, 2011, 11, 11477-11496.	4.9	119
52	OH clock determination by proton transfer reaction mass spectrometry at an environmental chamber. Atmospheric Measurement Techniques, 2012, 5, 647-656.	3.1	114
53	Investigation of the correlation between odd oxygen and secondary organic aerosol in Mexico City and Houston. Atmospheric Chemistry and Physics, 2010, 10, 8947-8968.	4.9	107
54	Nepal Ambient Monitoring and Source Testing Experiment (NAMaSTE): emissions of particulate matter from wood- and dung-fueled cooking fires, garbage and crop residue burning, brick kilns, and other sources. Atmospheric Chemistry and Physics, 2018, 18, 2259-2286.	4.9	106

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55	Surface reservoirs dominate dynamic gas-surface partitioning of many indoor air constituents. Science Advances, 2020, 6, eaay8973.	10.3	105
56	Measured and modelled cloud condensation nuclei number concentration at the high alpine site Jungfraujoch. Atmospheric Chemistry and Physics, 2010, 10, 7891-7906.	4.9	104
57	Observations of heterogeneous reactions between Asian pollution and mineral dust over the Eastern North Pacific during INTEX-B. Atmospheric Chemistry and Physics, 2009, 9, 8283-8308.	4.9	99
58	Primary and secondary organic aerosol origin by combined gas-particle phase source apportionment. Atmospheric Chemistry and Physics, 2013, 13, 8411-8426.	4.9	96
59	Total observed organic carbon (TOOC) in the atmosphere: a synthesis of North American observations. Atmospheric Chemistry and Physics, 2008, 8, 2007-2025.	4.9	94
60	Measured and predicted aerosol light scattering enhancement factors at the high alpine site Jungfraujoch. Atmospheric Chemistry and Physics, 2010, 10, 2319-2333.	4.9	92
61	Airborne cloud condensation nuclei measurements during the 2006 Texas Air Quality Study. Journal of Geophysical Research, 2011, 116, .	3.3	91
62	Modeling the Multiday Evolution and Aging of Secondary Organic Aerosol During MILAGRO 2006. Environmental Science & Technology, 2011, 45, 3496-3503.	10.0	90
63	Source apportionment of size and time resolved trace elements and organic aerosols from an urban courtyard site in Switzerland. Atmospheric Chemistry and Physics, 2011, 11, 8945-8963.	4.9	90
64	Multiphase Chemistry Controls Inorganic Chlorinated and Nitrogenated Compounds in Indoor Air during Bleach Cleaning. Environmental Science & Technology, 2020, 54, 1730-1739.	10.0	87
65	Impact of Mexico City emissions on regional air quality from MOZART-4 simulations. Atmospheric Chemistry and Physics, 2010, 10, 6195-6212.	4.9	82
66	Cloud Activating Properties of Aerosol Observed during CELTIC. Journals of the Atmospheric Sciences, 2007, 64, 441-459.	1.7	81
67	Measurement of the ambient organic aerosol volatility distribution: application during the Finokalia Aerosol Measurement Experiment (FAME-2008). Atmospheric Chemistry and Physics, 2010, 10, 12149-12160.	4.9	81
68	Aerosol optical properties relevant to regional remote sensing of CCN activity and links to their organic mass fraction: airborne observations over Central Mexico and the US West Coast during MILAGRO/INTEX-B. Atmospheric Chemistry and Physics, 2009, 9, 6727-6742.	4.9	76
69	Aerosol and trace gas vehicle emission factors measured in a tunnel using anÂAerosol Mass Spectrometer and other on-line instrumentation. Atmospheric Environment, 2011, 45, 2182-2192.	4.1	73
70	Thirdhand smoke uptake to aerosol particles in the indoor environment. Science Advances, 2018, 4, eaap8368.	10.3	69
71	Evaluation of the particle measurement programme (PMP) protocol to remove the vehicles' exhaust aerosol volatile phase. Science of the Total Environment, 2010, 408, 5106-5116.	8.0	65
72	Oxidative Potential of Logwood and Pellet Burning Particles Assessed by a Novel Profluorescent Nitroxide Probe. Environmental Science & Technology, 2010, 44, 6601-6607.	10.0	63

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73	Realâ€time transformation of outdoor aerosol components upon transport indoors measured with aerosol mass spectrometry. Indoor Air, 2017, 27, 230-240.	4.3	60
74	Secondary organic aerosols from anthropogenic volatile organic compounds contribute substantially to air pollution mortality. Atmospheric Chemistry and Physics, 2021, 21, 11201-11224.	4.9	60
75	Aqueous phase processing of secondary organic aerosol from isoprene photooxidation. Atmospheric Chemistry and Physics, 2012, 12, 5879-5895.	4.9	59
76	Observations and Contributions of Real-Time Indoor Ammonia Concentrations during HOMEChem. Environmental Science & Technology, 2019, 53, 8591-8598.	10.0	59
77	Spatial variation of chemical composition and sources of submicron aerosol in Zurich during wintertime using mobile aerosol mass spectrometer data. Atmospheric Chemistry and Physics, 2011, 11, 7465-7482.	4.9	58
78	Relating cloud condensation nuclei activity and oxidation level ofÎ±-pinene secondary organic aerosols. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	57
79	Time-Resolved Characterization of Primary Emissions from Residential Wood Combustion Appliances. Environmental Science & Technology, 2012, 46, 11418-11425.	10.0	57
80	Atmospheric Emission Characterization of Marcellus Shale Natural Gas Development Sites. Environmental Science & Technology, 2015, 49, 7012-7020.	10.0	57
81	Organic molecular markers and signature from wood combustion particles in winter ambient aerosols: aerosol mass spectrometer (AMS) and high time-resolved GC-MS measurements in Augsburg, Germany. Atmospheric Chemistry and Physics, 2012, 12, 6113-6128.	4.9	52
82	Demonstration of a VUV Lamp Photoionization Source for Improved Organic Speciation in an Aerosol Mass Spectrometer. Aerosol Science and Technology, 2007, 41, 828-839.	3.1	50
83	Surface Emissions Modulate Indoor SVOC Concentrations through Volatility-Dependent Partitioning. Environmental Science & Technology, 2020, 54, 6751-6760.	10.0	43
84	Ambient air quality in the Kathmandu Valley, Nepal, during the pre-monsoon: concentrations and sources of particulate matter and trace gases. Atmospheric Chemistry and Physics, 2020, 20, 2927-2951.	4.9	40
85	Online characterization of regulated and unregulated gaseous and particulate exhaust emissions from two-stroke mopeds: A chemometric approach. Analytica Chimica Acta, 2012, 717, 28-38.	5.4	39
86	Speciated online PM₁ from South Asian combustion sources â€“ PartÂ1: Fuel-based emission factors and size distributions. Atmospheric Chemistry and Physics, 2018, 18, 14653-14679.	4.9	38
87	Seasonal variation in aerosol composition and concentration upon transport from the outdoor to indoor environment. Environmental Sciences: Processes and Impacts, 2019, 21, 528-547.	3.5	36
88	Dark Chemistry during Bleach Cleaning Enhances Oxidation of Organics and Secondary Organic Aerosol Production Indoors. Environmental Science and Technology Letters, 2020, 7, 795-801.	8.7	35
89	A new method to discriminate secondary organic aerosols from different sources using high-resolution aerosol mass spectra. Atmospheric Chemistry and Physics, 2012, 12, 2189-2203.	4.9	32
90	Human occupant contribution to secondary aerosol mass in the indoor environment. Environmental Sciences: Processes and Impacts, 2019, 21, 1301-1312.	3.5	32

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91	Chemical transport models often underestimate inorganic aerosol acidity in remote regions of the atmosphere. Communications Earth & Environment, 2021, 2, .	6.8	32
92	Realâ€time organic aerosol chemical speciation in the indoor environment using extractive electrospray ionization mass spectrometry. Indoor Air, 2021, 31, 141-155.	4.3	29
93	Spatial and temporal scales of variability for indoor air constituents. Communications Chemistry, 2021, 4, .	4.5	26
94	Analysis of local-scale background concentrations of methane and other gas-phase species in the Marcellus Shale. Elementa, 2017, 5, .	3.2	25
95	Spatial Variation of Aerosol Chemical Composition and Organic Components Identified by Positive Matrix Factorization in the Barcelona Region. Environmental Science & Technology, 2015, 49, 10421-10430.	10.0	24
96	Application of Modern Online Instrumentation for Chemical Analysis of Gas and Particulate Phases of Exhaust at the European Commission Heavy-Duty Vehicle Emission Laboratory. Analytical Chemistry, 2011, 83, 67-76.	6.5	21
97	Chemical and Physical Characterization of 3D Printer Aerosol Emissions with and without a Filter Attachment. Environmental Science & Technology, 2020, 54, 947-954.	10.0	21
98	Indoor aerosol water content and phase state in U.S. residences: impacts of relative humidity, aerosol mass and composition, and mechanical system operation. Environmental Sciences: Processes and Impacts, 2020, 22, 2031-2057.	3.5	20
99	Quantification of cooking organic aerosol in the indoor environment using aerodyne aerosol mass spectrometers. Aerosol Science and Technology, 2021, 55, 1099-1114.	3.1	20
100	The importance of blowing snow to halogen-containing aerosol in coastal Antarctica: influence of source region versus wind speed. Atmospheric Chemistry and Physics, 2018, 18, 16689-16711.	4.9	19
101	Large Emissions of Low-Volatility Siloxanes during Residential Oven Use. Environmental Science and Technology Letters, 2021, 8, 519-524.	8.7	16
102	Source and Chemistry of Hydroxymethanesulfonate (HMS) in Fairbanks, Alaska. Environmental Science & Technology, 2022, 56, 7657-7667.	10.0	14
103	Contrasting Chemical Complexity and the Reactive Organic Carbon Budget of Indoor and Outdoor Air. Environmental Science & Technology, 2022, 56, 109-118.	10.0	13
104	Contribution of methane to aerosol carbon mass. Atmospheric Environment, 2016, 141, 41-47.	4.1	12
105	Emerging investigator series: chemical and physical properties of organic mixtures on indoor surfaces during HOMEChem. Environmental Sciences: Processes and Impacts, 2021, 23, 559-568.	3.5	12
106	Wintertime Air Quality in Lumbini, Nepal: Sources of Fine Particle Organic Carbon. ACS Earth and Space Chemistry, 2021, 5, 226-238.	2.7	11
107	Recent Developments in the Mass Spectrometry of Atmospheric Aerosols. European Journal of Mass Spectrometry, 2010, 16, 389-395.	1.0	10
108	Indoor black carbon and brown carbon concentrations from cooking and outdoor penetration: insights from the HOMEChem study. Environmental Sciences: Processes and Impacts, 2021, 23, 1476-1487.	3.5	10

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109	Improving Predictions of Indoor Aerosol Concentrations of Outdoor Origin by Considering the Phase Change of Semivolatile Material Driven by Temperature and Mass-Loading Gradients. Environmental Science & Technology, 2021, 55, 9000-9011.	10.0	10
110	Modeling the Removal of Water-Soluble Trace Gases from Indoor Air via Air Conditioner Condensate. Environmental Science & Technology, 2021, 55, 10987-10993.	10.0	8
111	Urban Emissions of Nitrogen Oxides, Carbon Monoxide, and Methane Determined from Ground-Based Measurements in Philadelphia. Environmental Science & Technology, 2021, 55, 4532-4541.	10.0	7
112	Pre-monsoon submicron aerosol composition and source contribution in the Kathmandu Valley, Nepal. Environmental Science Atmospheres, 2022, 2, 978-999.	2.4	4
113	CFC-11 measurements in China, Nepal, Pakistan, Saudi Arabia and South Korea (1998â€“2018): Urban, landfill fire and garbage burning sources. Environmental Chemistry, 2022, 18, 370-392.	1.5	0