Federico Bianchi

List of Publications by Year
in descending order

115 papers	9,955 citations	57719 44 h-index	38368 95 g-index
196 all docs	196 docs citations	196 times ranked	5098 citing authors

#	Article	IF	Citations
1	The SALTENA Experiment: Comprehensive Observations of Aerosol Sources, Formation, and Processes in the South American Andes. Bulletin of the American Meteorological Society, 2022, 103, E212-E229.	1.7	9
2	The impact of ammonium on the distillation of organic carbon in PM2.5. Science of the Total Environment, 2022, 803, 150012.	3.9	2
3	Molecular Composition of Oxygenated Organic Molecules and Their Contributions to Organic Aerosol in Beijing. Environmental Science & Technology, 2022, 56, 770-778.	4.6	16
4	Evolution of organic carbon during COVID-19 lockdown period: Possible contribution of nocturnal chemistry. Science of the Total Environment, 2022, 808, 152191.	3.9	21
5	Observed coupling between air mass history, secondary growth of nucleation mode particles and aerosol pollution levels in Beijing. Environmental Science Atmospheres, 2022, 2, 146-164.	0.9	6
6	Influence of organic aerosol molecular composition on particle absorptive properties in autumn Beijing. Atmospheric Chemistry and Physics, 2022, 22, 1251-1269.	1.9	8
7	Highly oxidized organic aerosols in Beijing: Possible contribution of aqueous-phase chemistry. Atmospheric Environment, 2022, 273, 118971.	1.9	3
8	Secondary organic aerosol formed by condensing anthropogenic vapours over Chinaâ€™s megacities. Nature Geoscience, 2022, 15, 255-261.	5.4	64
9	Overview: Recent advances in the understanding of the northern Eurasian environments and of the urban air quality in China â€“ a Pan-Eurasian Experiment (PEEX) programme perspective. Atmospheric Chemistry and Physics, 2022, 22, 4413-4469.	1.9	9
10	Influence of Aerosol Chemical Composition on Condensation Sink Efficiency and New Particle Formation in Beijing. Environmental Science and Technology Letters, 2022, 9, 375-382.	3.9	6
11	Terpene emissions from boreal wetlands can initiate stronger atmospheric new particle formation than boreal forests. Communications Earth & Environment, 2022, 3, .	2.6	8
12	Insufficient Condensable Organic Vapors Lead to Slow Growth of New Particles in an Urban Environment. Environmental Science & Technology, 2022, 56, 9936-9946.	4.6	19
13	Biogenic particles formed in the Himalaya as an important source of free tropospheric aerosols. Nature Geoscience, 2021, 14, 4-9.	5.4	40
14	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.	1.5	18
15	Is reducing new particle formation a plausible solution to mitigate particulate air pollution in Beijing and other Chinese megacities?. Faraday Discussions, 2021, 226, 334-347.	1.6	74
16	A 3D study on the amplification of regional haze and particle growth by local emissions. Npj Climate and Atmospheric Science, 2021, 4, .	2.6	23
17	Direct field evidence of autocatalytic iodine release from atmospheric aerosol. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	25
18	Particle growth with photochemical age from new particle formation to haze in the winter of Beijing, China. Science of the Total Environment, 2021, 753, 142207.	3.9	21

#	Article	IF	Citations
19	Role of iodine oxoacids in atmospheric aerosol nucleation. Science, 2021, 371, 589-595.	6.0	94
20	Sulfuric acidâ€“amine nucleation in urban Beijing. Atmospheric Chemistry and Physics, 2021, 21, 2457-2468.	1.9	70
21	Differing Mechanisms of New Particle Formation at Two Arctic Sites. Geophysical Research Letters, 2021, 48, e2020GL091334.	1.5	70
22	Atmospheric organic vapors in two European pine forests measured by a Vocus PTR-TOF: insights into monoterpene and sesquiterpene oxidation processes. Atmospheric Chemistry and Physics, 2021, 21, 4123-4147.	1.9	23
23	The Synergistic Role of Sulfuric Acid, Bases, and Oxidized Organics Governing Newâ€Particle Formation in Beijing. Geophysical Research Letters, 2021, 48, e2020GL091944.	1.5	53
24	Secondary Production of Gaseous Nitrated Phenols in Polluted Urban Environments. Environmental Science & Technology, 2021, 55, 4410-4419.	4.6	26
25	Formation of nighttime sulfuric acid from the ozonolysis of alkenes in Beijing. Atmospheric Chemistry and Physics, 2021, 21, 5499-5511.	1.9	17
26	An indicator for sulfuric acidâ€“amine nucleation in atmospheric environments. Aerosol Science and Technology, 2021, 55, 1059-1069.	1.5	19
27	Measurement report: Molecular composition and volatility of gaseous organic compounds in a boreal forest â€“ from volatile organic compounds to highly oxygenated organic molecules. Atmospheric Chemistry and Physics, 2021, 21, 8961-8977.	1.9	12
28	Atmospheric gaseous hydrochloric and hydrobromic acid in urban Beijing, China: detection, source identification and potential atmospheric impacts. Atmospheric Chemistry and Physics, 2021, 21, 11437-11452.	1.9	12
29	Acidâ€“Base Clusters during Atmospheric New Particle Formation in Urban Beijing. Environmental Science & Technology, 2021, 55, 10994-11005.	4.6	34
30	Rapid mass growth and enhanced light extinction of atmospheric aerosols during the heating season haze episodes in Beijing revealed by aerosolâ€“chemistryâ€“radiationâ€“boundary layer interaction. Atmospheric Chemistry and Physics, 2021, 21, 12173-12187.	1.9	10
31	Ammonium nitrate promotes sulfate formation through uptake kinetic regime. Atmospheric Chemistry and Physics, 2021, 21, 13269-13286.	1.9	24
32	The driving factors of new particle formation and growth in the polluted boundary layer. Atmospheric Chemistry and Physics, 2021, 21, 14275-14291.	1.9	38
33	Contribution of Atmospheric Oxygenated Organic Compounds to Particle Growth in an Urban Environment. Environmental Science & Technology, 2021, 55, 13646-13656.	4.6	32
34	Modeling the effect of reduced traffic due to COVID-19 measures on air quality using a chemical transport model: impacts on the Po Valley and the Swiss Plateau regions. Environmental Science Atmospheres, 2021, 1, 228-240.	0.9	12
35	Emerging Investigator Series: COVID-19 lockdown effects on aerosol particle size distributions in northern Italy. Environmental Science Atmospheres, 2021, 1, 214-227.	0.9	12
36	Clear, transparent, and timely communication for fair authorship decisions: a practical guide. Geoscience Communication, 2021, 4, 507-516.	0.5	0

#	ARTICLE	IF	CITATIONS
37	Identifying source regions of air masses sampled at the tropical high-altitude site of Chacaltaya using WRF-FLEXPART and cluster analysis. Atmospheric Chemistry and Physics, 2021, 21, 16453-16477.	1.9	13
38	Unprecedented Ambient Sulfur Trioxide (SO₃) Detection: Possible Formation Mechanism and Atmospheric Implications. Environmental Science and Technology Letters, 2020, 7, 809-818.	3.9	34
39	Continuous and comprehensive atmospheric observations in Beijing: a station to understand the complex urban atmospheric environment. Big Earth Data, 2020, 4, 295-321.	2.0	54
40	Size-dependent influence of NO _x on the growth rates of organic aerosol particles. Science Advances, 2020, 6, eaay4945.	4.7	61
41	Uptake selectivity of methanesulfonic acid (MSA) on fine particles over polynya regions of the Ross Sea, Antarctica. Atmospheric Chemistry and Physics, 2020, 20, 3259-3271.	1.9	18
42	Terpenes and their oxidation products in the French Landes forest: insights from Vocus PTR-TOF measurements. Atmospheric Chemistry and Physics, 2020, 20, 1941-1959.	1.9	46
43	Seasonal Characteristics of New Particle Formation and Growth in Urban Beijing. Environmental Science & Technology, 2020, 54, 8547-8557.	4.6	78
44	Variation of size-segregated particle number concentrations in wintertime Beijing. Atmospheric Chemistry and Physics, 2020, 20, 1201-1216.	1.9	52
45	Overlooked organic vapor emissions from thawing Arctic permafrost. Environmental Research Letters, 2020, 15, 104097.	2.2	17
46	Sources and sinks driving sulfuric acid concentrations in contrasting environments: implications on proxy calculations. Atmospheric Chemistry and Physics, 2020, 20, 11747-11766.	1.9	42
47	Molecular understanding of the suppression of new-particle formation by isoprene. Atmospheric Chemistry and Physics, 2020, 20, 11809-11821.	1.9	49
48	Size-segregated particle number and mass concentrations from different emission sources in urban Beijing. Atmospheric Chemistry and Physics, 2020, 20, 12721-12740.	1.9	36
49	The promotion effect of nitrous acid on aerosol formation in wintertime in Beijing: the possible contribution of traffic-related emissions. Atmospheric Chemistry and Physics, 2020, 20, 13023-13040.	1.9	37
50	Molecular understanding of new-particle formation from <i>Î±</i>-pinene between âˆ’50 and +25â€‰Â°C. Atmospheric Chemistry and Physics, 2020, 20, 9183-9207.	1.9	68
51	Atmospheric new particle formation in China. Atmospheric Chemistry and Physics, 2019, 19, 115-138.	1.9	118
52	Formation of Highly Oxygenated Organic Molecules from Î±-Pinene Ozonolysis: Chemical Characteristics, Mechanism, and Kinetic Model Development. ACS Earth and Space Chemistry, 2019, 3, 873-883.	1.2	52
53	Highly Oxygenated Organic Molecules (HOM) from Gas-Phase Autoxidation Involving Peroxy Radicals: A Key Contributor to Atmospheric Aerosol. Chemical Reviews, 2019, 119, 3472-3509.	23.0	460
54	A proxy for atmospheric daytime gaseous sulfuric acid concentration in urban Beijing. Atmospheric Chemistry and Physics, 2019, 19, 1971-1983.	1.9	46

#	Article	IF	Citations
55	Novel insights on new particle formation derived from a pan-european observing system. Scientific Reports, 2018, 8, 1482.	1.6	39
56	Formation of highly oxygenated organic molecules from aromatic compounds. Atmospheric Chemistry and Physics, 2018, 18, 1909-1921.	1.9	133
57	Measurementâ€“model comparison of stabilized Criegee intermediateÂand highly oxygenated molecule productionÂinÂtheÂCLOUDÂchamber. Atmospheric Chemistry and Physics, 2018, 18, 2363-2380.	1.9	21
58	New particle formation in the sulfuric acidâ€“dimethylamineâ€“water system: reevaluation of CLOUD chamber measurements and comparison to an aerosol nucleation and growth model. Atmospheric Chemistry and Physics, 2018, 18, 845-863.	1.9	92
59	Influence of temperature on the molecular composition of ions and charged clusters during pure biogenic nucleation. Atmospheric Chemistry and Physics, 2018, 18, 65-79.	1.9	56
60	Observations of biogenic ion-induced cluster formation in the atmosphere. Science Advances, 2018, 4, eaar5218.	4.7	64
61	Vertical characterization of highly oxygenated molecules (HOMs) below and above a boreal forest canopy. Atmospheric Chemistry and Physics, 2018, 18, 17437-17450.	1.9	34
62	Multicomponent new particle formation from sulfuric acid, ammonia, and biogenic vapors. Science Advances, 2018, 4, eaau5363.	4.7	164
63	Atmospheric new particle formation and growth: review of field observations. Environmental Research Letters, 2018, 13, 103003.	2.2	308
64	The role of H₂SO₄-NH<sub>3</sub&a anion clusters in ion-induced aerosol nucleation mechanisms in the boreal forest. Atmospheric Chemistry and Physics, 2018, 18, 13231-13243.	1.9	33
65	Atmospheric new particle formation from sulfuric acid and amines in a Chinese megacity. Science, 2018, 361, 278-281.	6.0	415
66	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.	3.3	118
67	Hourly composition of gas and particle phase pollutants at a central urban background site in Milan, Italy. Atmospheric Research, 2017, 186, 83-94.	1.8	30
68	Causes and importance of new particle formation in the presentâ€day and preindustrial atmospheres. Journal of Geophysical Research D: Atmospheres, 2017, 122, 8739-8760.	1.2	198
69	Long-term chemical analysis and organic aerosol source apportionment at nine sites in central Europe: source identification and uncertainty assessment. Atmospheric Chemistry and Physics, 2017, 17, 13265-13282.	1.9	78
70	The role of highly oxygenated moleculesÂ(HOMs) in determining the composition of ambient ions in the boreal forest. Atmospheric Chemistry and Physics, 2017, 17, 13819-13831.	1.9	66
71	The role of ions in new particle formation in the CLOUD chamber. Atmospheric Chemistry and Physics, 2017, 17, 15181-15197.	1.9	50
72	Chemical characterization of atmospheric ions at the high altitude research station Jungfraujoch (Switzerland). Atmospheric Chemistry and Physics, 2017, 17, 2613-2629.	1.9	24

#	Article	IF	Citations
73	Evaporation of sulfate aerosols at low relative humidity. Atmospheric Chemistry and Physics, 2017, 17, 8923-8938.	1.9	11
74	Detection of dimethylamine in the low pptv range using nitrate chemical ionization atmospheric pressure interface time-of-flight (CI-APi-TOF) mass spectrometry. Atmospheric Measurement Techniques, 2016, 9, 2135-2145.	1.2	27
75	Effect of ions on sulfuric acidâ€water binary particle formation: 2. Experimental data and comparison with QCâ€normalized classical nucleation theory. Journal of Geophysical Research D: Atmospheres, 2016, 121, 1752-1775.	1.2	99
76	Comparison of the SAWNUC model with CLOUD measurements of sulphuric acidâ€water nucleation. Journal of Geophysical Research D: Atmospheres, 2016, 121, 12401-12414.	1.2	16
77	Effect of dimethylamine on the gas phase sulfuric acid concentration measured by Chemical Ionization Mass Spectrometry. Journal of Geophysical Research D: Atmospheres, 2016, 121, 3036-3049.	1.2	17
78	Experimental particle formation rates spanning tropospheric sulfuric acid and ammonia abundances, ion production rates, and temperatures. Journal of Geophysical Research D: Atmospheres, 2016, 121, 12,377.	1.2	71
79	The role of low-volatility organic compounds in initial particle growth in the atmosphere. Nature, 2016, 533, 527-531.	13.7	540
80	Ion-induced nucleation of pure biogenic particles. Nature, 2016, 533, 521-526.	13.7	528
81	New particle formation in the free troposphere: A question of chemistry and timing. Science, 2016, 352, 1109-1112.	6.0	348
82	Contribution of methane to aerosol carbon mass. Atmospheric Environment, 2016, 141, 41-47.	1.9	12
83	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.	3.3	107
84	Modeling the thermodynamics and kinetics of sulfuric acid-dimethylamine-water nanoparticle growth in the CLOUD chamber. Aerosol Science and Technology, 2016, 50, 1017-1032.	1.5	13
85	Global atmospheric particle formation from CERN CLOUD measurements. Science, 2016, 354, 1119-1124.	6.0	289
86	Contribution of new particle formation to the total aerosol concentration at the highâ€altitude site Jungfraujoch (3580ÂmÂasl, Switzerland). Journal of Geophysical Research D: Atmospheres, 2016, 121, 11,692.	1.2	21
87	The effect of acidâ€"base clustering and ions on the growth of atmospheric nano-particles. Nature Communications, 2016, 7, 11594.	5.8	116
88	Unexpectedly acidic nanoparticles formed in dimethylamineâ€"ammoniaâ€"sulfuric-acid nucleation experiments at CLOUD. Atmospheric Chemistry and Physics, 2016, 16, 13601-13618.	1.9	24
89	Aqueous phase oxidation of sulphur dioxide by ozone in cloud droplets. Atmospheric Chemistry and Physics, 2016, 16, 1693-1712.	1.9	47
90	Hygroscopicity of nanoparticles produced from homogeneous nucleation in the CLOUD experiments. Atmospheric Chemistry and Physics, 2016, 16, 293-304.	1.9	29

#	Article	IF	Citations
91	Experimental investigation of ionâ€“ion recombination under atmospheric conditions. Atmospheric Chemistry and Physics, 2015, 15, 7203-7216.	1.9	46
92	Thermodynamics of the formation of sulfuric acid dimers in the binary (H₂SO₄â€“H<sub>2</sub and ternary (H₂SO₄â€“H<sub>2</sub system. Atmospheric Chemistry and Physics, 2015, 15, 10701-10721.	1.9	27
93	Elemental composition and clustering behaviour of Î±-pinene oxidation products for different oxidation conditions. Atmospheric Chemistry and Physics, 2015, 15, 4145-4159.	1.9	17
94	Technical Note: Using DEG-CPCs at upper tropospheric temperatures. Atmospheric Chemistry and Physics, 2015, 15, 7547-7555.	1.9	11
95	Bisulfate â€“ cluster based atmospheric pressure chemical ionization mass spectrometer for high-sensitivity (< 100 ppqV) detection of atmospheric dimethyl amine: proof-of-concept and first ambient data from boreal forest. Atmospheric Measurement Techniques, 2015, 8, 4001-4011.	1.2	30
96	On the composition of ammoniaâ€“sulfuric-acid ion clusters during aerosol particle formation. Atmospheric Chemistry and Physics, 2015, 15, 55-78.	1.9	84
97	Insight into Acidâ€“Base Nucleation Experiments by Comparison of the Chemical Composition of Positive, Negative, and Neutral Clusters. Environmental Science & Technology, 2014, 48, 13675-13684.	4.6	51
98	Oxidation Products of Biogenic Emissions Contribute to Nucleation of Atmospheric Particles. Science, 2014, 344, 717-721.	6.0	456
99	Neutral molecular cluster formation of sulfuric acidâ€“dimethylamine observed in real time under atmospheric conditions. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 15019-15024.	3.3	208
100	Molecular understanding of sulphuric acidâ€“amine particle nucleation in the atmosphere. Nature, 2013, 502, 359-363.	13.7	774
101	Characterization of positive clusters in the CLOUD nucleation experiments. , 2013, , .		0
102	Ternary H[sub 2]SO[sub 4]-H[sub 2]O-NH[sub 3] neutral and charged nucleation rates for a wide range of atmospheric conditions. , 2013, , .		0
103	Role of organics in particle nucleation: From the lab to global model. , 2013, , .		1
104	Measuring composition and growth of ion clusters of sulfuric acid, ammonia, amines and oxidized organics as first steps of nucleation in the CLOUD experiment. , 2013, , .		0
105	Aerosol nucleation and growth in a mixture of sulfuric acid/alpha-pinene oxidation products at the CERN CLOUD chamber. , 2013, , .		0
106	Particle nucleation events at the high Alpine station Jungfraujoch. , 2013, , .		0
107	Evolution of nanoparticle composition in CLOUD in presence of sulphuric acid, ammonia and organics. , 2013, , .		1
108	Two-dimensional volatility basis set modeling of pinanediol oxidation in the CLOUD experiment. , 2013, , .		1

#	Article	IF	Citations
109	Molecular understanding of atmospheric particle formation from sulfuric acid and large oxidized organic molecules. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 17223-17228.	3.3	300
110	Evolution of particle composition in CLOUD nucleation experiments. Atmospheric Chemistry and Physics, 2013, 13, 5587-5600.	1.9	33
111	Secondary organic aerosol formation from gasoline vehicle emissions in a new mobile environmental reaction chamber. Atmospheric Chemistry and Physics, 2013, 13, 9141-9158.	1.9	207
112	On-line determination of ammonia at low pptv mixing ratios in the CLOUD chamber. Atmospheric Measurement Techniques, 2012, 5, 1719-1725.	1.2	37
113	Dimethylamine and ammonia measurements with ion chromatography during the CLOUD4 campaign. Atmospheric Measurement Techniques, 2012, 5, 2161-2167.	1.2	47
114	Role of sulphuric acid, ammonia and galactic cosmic rays in atmospheric aerosol nucleation. Nature, 2011, 476, 429-433.	13.7	1,114
115	Determination of fatty alcohol ethoxylates with diphenic anhydride derivatization and liquid chromatography with spectrophotometric detection. Journal of Chromatography A, 2009, 1216, 3023-3030.	1.8	15