

Assessing Worker and Pedestrian Exposure to Pollutant Emissions from Sidewalk Cleaning: A Comparative Analysis of Blowing and Jet Washing Techniques

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Table S1. Meteorological measurements during sampling rue de Genève

Season	Time slot	Relative Humidity (%) [Min - Max]	Temperature (°C) [Min - Max]	Wind speed (m/s)	Atmospheric pressure
Autumn (31.10.2022)	09:00 - 11:00	48 - 70%	15 - 25°C	0.2	976 hPa
Winter (27.02.2023)	07:10 - 11:17	48 - 52%	3 - 6°C	0.5 -1.7	966 hPa
Spring (08.05.2023)	07:16 - 11:27	51 - 71%	16 - 25°C	0.4	975 hPa
Summer (10.07.2023)	07:13 - 09:10	46 - 65%	25 - 33°C	0.1	976 hPa

Table S2. Meteorological measurements during sampling Quai de Cologny

Season	Time slot	Relative Humidity (%) [Min - Max]	Temperature (°C) [Min - Max]	Wind speed (m/s)	Atmospheric pressure
Autumn (31.10.2022)	14:00 -16:00	55 - 99%	20 - 23°C	0.2	978 hPa
Winter (27.02.2023)	13:45 - 16:00	47 - 58%	5 - 6°C	1.7 - 5.0	976 hPa
Spring (08.05.2023)	13:46 - 14:53	42 - 67%	19 - 29°C	3.0 - 3.8	980 hPa
Summer (10.07.2023)	10:15 - 11:55	56 - 68%	28 - 31°C	0.2- 0.4	982 hPa

Table S3. Total air volume sampled with IOM heads for bioaerosol analysis

Season	Site	Pump carrier	m ³	Duration (min)
Summer	Quai de Cologny	pedestrian	0.169	85
Summer	rue de Genève	Pony driver	0.304	152
Summer	rue de Genève	sweeper driver	0.302	151
Summer	Quai de Cologny	Pony driver	0.191	96
Summer	Quai de Cologny	water jet operator	0.180	90
Summer	rue de Genève	pedestrian	0.284	142
Summer	rue de Genève	water jet operator	0.292	146
Summer	Quai de Cologny	sweeper driver	0.178	89
Spring	rue de Genève	blower	0.361	181
Spring	rue de Genève	blower	0.361	181
Spring	rue de Genève	sweeper driver	0.457	229
Spring	rue de Genève	pedestrian	0.346	173
Spring	Quai de Cologny	blower	0.158	79
Spring	Quai de Cologny	Pony driver	0.154	77
Spring	Quai de Cologny	sweeper driver	0.150	75
Spring	Quai de Cologny	pedestrian	0.117	59
Winter	rue de Genève	blower	0.295	148
Winter	rue de Genève	blower	0.312	156
Winter	rue de Genève	pedestrian (behind)	0.320	160
Winter	rue de Genève	sweeper driver	0.326	163
Winter	Quai de Cologny	blower	0.128	64
Winter	Quai de Cologny	pedestrian (behind)	0.130	65
Winter	Quai de Cologny	pedestrian (follower)	0.112	56
Winter	Quai de Cologny	sweeper driver	0.139	70
Autumn	rue de Genève	blower	0.186	93
Autumn	Quai de Cologny	blower	0.118	59

Table S4. Relative abundance of various ASVs detected in the breathing zone of a blower during blowing, along with their assigned taxonomy

Kingdom	Phylum	Class	Order	Family	Genus	Species	ASV	Number of Reads	Relative Abundance
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV2	2610	16.41406201
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV3	2157	13.56518458
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV9	1085	6.823470222
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	rhizosphaerae	ASV12	827	5.200930759
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV16	781	4.911640777
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	NA	ASV13	750	4.716684485
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV20	704	4.427394503
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	dura	ASV7	686	4.314194076
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	syringae	ASV17	480	3.018678071
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Moraxellaceae	Psychrobacter	alimentarius	ASV54	286	1.798629017
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV64	163	1.025092761
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV112	138	0.867869945
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV113	132	0.830136469
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV118	126	0.792402994
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV123	110	0.691780391
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV70	109	0.685491479
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Moraxellaceae	Psychrobacter	nivimaris	ASV125	106	0.666624741
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV105	101	0.635180177
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Variovorax	NA	ASV96	101	0.635180177
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV94	78	0.490535186
Bacteria	Firmicutes	Bacilli	Paenibacillales	Paenibacillaceae	Saccharibacillus	sacchari	ASV153	76	0.477957361
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	melonis	ASV84	76	0.477957361
Bacteria	Bacteroidota	Bacteroidia	Flavobacteriales	Flavobacteriaceae	Subsaxibacter	NA	ASV156	75	0.471668449
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	faeni	ASV56	73	0.459090623
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	umsongensis	ASV163	72	0.452801711
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV165	71	0.446512798
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Thermomonas	NA	ASV168	70	0.440223885
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	plicata	ASV33	66	0.415068235
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV93	66	0.415068235

Bacteria	Bacteroidota	Bacteroidia	Sphingobacteriales	Sphingobacteriaceae	Pedobacter	NA	ASV85	66	0.415068235
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV129	61	0.383623671
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Variovorax	NA	ASV185	61	0.383623671
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	echinoides	ASV99	59	0.371045846
Bacteria	Bacteroidota	Bacteroidia	Flavobacteriales	Flavobacteriaceae	Flavobacterium	subsaxonicum	ASV160	58	0.364756934
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	gingeri	ASV208	49	0.30815672
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Novosphingobium	resinovorum	ASV82	46	0.289289982
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV66	44	0.276712156
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV73	42	0.264134331
Bacteria	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae	Paracoccus	NA	ASV137	42	0.264134331
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	NA	ASV111	41	0.257845419
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Polaromonas	NA	ASV253	40	0.251556506
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Variovorax	NA	ASV257	39	0.245267593
Bacteria	Proteobacteria	Gammaproteobacteria	Enterobacterales	Erwiniaceae	Erwinia	billingiae	ASV74	38	0.238978681
Bacteria	Bacteroidota	Bacteroidia	Cytophagales	Hymenobacteraceae	Hymenobacter	NA	ASV262	38	0.238978681
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	NA	ASV210	38	0.238978681
Bacteria	Planctomycetota	Phycisphaerae	Tepidisphaerales	Tepidisphaeraceae	Tepidisphaera	NA	ASV265	37	0.232689768
Bacteria	Bacteroidota	Bacteroidia	Flavobacteriales	Weeksellaceae	Chryseobacterium	chaponense	ASV220	36	0.226400855
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV61	36	0.226400855
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Rhizobacter	gummiphilus	ASV270	36	0.226400855
Bacteria	Proteobacteria	Alphaproteobacteria	Rhizobiales	Rhizobiaceae	Allorhizobium-Neorhizobium-Pararhizobium-Rhizobium	NA	ASV170	35	0.220111943
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	rhizosphaerae	ASV83	35	0.220111943
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Moraxellaceae	Psychrobacter	cryohalolentis	ASV275	35	0.220111943
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Moraxellaceae	Psychrobacter	urativorans	ASV276	35	0.220111943
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV121	34	0.21382303
Bacteria	Bacteroidota	Bacteroidia	Chitinophagales	Chitinophagaceae	NA	NA	ASV285	34	0.21382303
Bacteria	Proteobacteria	Alphaproteobacteria	Rhizobiales	Rhizobiaceae	Allorhizobium-Neorhizobium-Pararhizobium-Rhizobium	NA	ASV291	33	0.207534117
Bacteria	Actinobacteriota	Actinobacteria	Frankiales	Nakamurellaceae	Nakamurella	NA	ASV290	33	0.207534117
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Cellvibrionaceae	Cellvibrio	NA	ASV216	32	0.201245205
Bacteria	Verrucomicrobiota	Verrucomicrobiae	Verrucomicrobiales	Rubritaleaceae	Luteolibacter	NA	ASV207	32	0.201245205
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Qipengyuania	NA	ASV199	32	0.201245205
Bacteria	Bacteroidota	Bacteroidia	Flavobacteriales	Weeksellaceae	Chryseobacterium	halperniae	ASV59	31	0.194956292

Bacteria	Bacteroidota	Bacteroidia	Flavobacteriales	Weeksellaceae	Chryseobacterium	NA	ASV303	31	0.194956292
Bacteria	Proteobacteria	Alphaproteobacteria	Rhizobiales	Devosiaceae	Devosia	NA	ASV310	30	0.188667379
Bacteria	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae	Paracoccus	NA	ASV309	30	0.188667379
Bacteria	Proteobacteria	Alphaproteobacteria	Acetobacterales	Acetobacteraceae	Roseomonas	NA	ASV224	30	0.188667379
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Simplicispira	NA	ASV308	30	0.188667379
Bacteria	Proteobacteria	Alphaproteobacteria	Rhizobiales	Rhizobiaceae	Allorhizobium-Neorhizobium-Pararhizobium-Rhizobium	vitis	ASV313	29	0.182378467
Bacteria	Planctomycetota	Phycisphaerae	Tepidisphaerales	Tepidisphaeraceae	NA	NA	ASV315	29	0.182378467
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Noviherbaspirillum	NA	ASV187	29	0.182378467
Bacteria	Bacteroidota	Bacteroidia	Sphingobacteriales	Sphingobacteriaceae	Pedobacter	NA	ASV24	29	0.182378467
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	NA	ASV90	29	0.182378467
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Rhizobacter	NA	ASV314	29	0.182378467
Bacteria	Actinobacteriota	Actinobacteria	Micrococcales	Microbacteriaceae	NA	NA	ASV323	28	0.176089554
Bacteria	Cyanobacteria	Cyanobacteriia	Chloroplast	NA	NA	NA	ASV322	28	0.176089554
Bacteria	Proteobacteria	Alphaproteobacteria	Caulobacterales	Caulobacteraceae	Brevundimonas	NA	ASV167	27	0.169800641
Bacteria	Proteobacteria	Alphaproteobacteria	Rhizobiales	Beijerinckiaceae	Methylobacterium-	adhaesivum	ASV277	27	0.169800641
Bacteria	Proteobacteria	Alphaproteobacteria	Caulobacterales	Caulobacteraceae	Brevundimonas	NA	ASV188	26	0.163511729
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Novosphingobium	NA	ASV183	26	0.163511729
Bacteria	Proteobacteria	Gammaproteobacteria	Enterobacterales	Erwiniaceae	Pantoea	vagans	ASV32	26	0.163511729
Bacteria	Bacteroidota	Bacteroidia	Chitinophagales	Chitinophagaceae	Ferruginibacter	NA	ASV342	25	0.157222816
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	corrugata	ASV58	25	0.157222816
Bacteria	Proteobacteria	Alphaproteobacteria	Caulobacterales	Caulobacteraceae	Caulobacter	NA	ASV352	24	0.150933904
Bacteria	Bacteroidota	Bacteroidia	Flavobacteriales	Flavobacteriaceae	Flavobacterium	aquidurens	ASV229	24	0.150933904
Bacteria	Bacteroidota	Bacteroidia	Flavobacteriales	Flavobacteriaceae	Gelidibacter	NA	ASV353	24	0.150933904
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV62	24	0.150933904
Bacteria	Bacteroidota	Bacteroidia	Sphingobacteriales	Sphingobacteriaceae	Pedobacter	NA	ASV351	24	0.150933904
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Variovorax	NA	ASV143	24	0.150933904
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Moraxellaceae	Acinetobacter	NA	ASV363	23	0.144644991
Bacteria	Verrucomicrobiota	Verrucomicrobiae	Chthoniobacterales	Chthoniobacteraceae	Chthoniobacter	NA	ASV364	23	0.144644991
Bacteria	Verrucomicrobiota	Verrucomicrobiae	Verrucomicrobiales	Rubritaleaceae	Luteolibacter	NA	ASV362	23	0.144644991
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	NA	NA	ASV241	22	0.138356078
Bacteria	Acidobacteriota	Vicinamibacteria	Vicinamibacterales	NA	NA	NA	ASV374	22	0.138356078
Bacteria	Bacteroidota	Bacteroidia	Sphingobacteriales	Sphingobacteriaceae	Pedobacter	NA	ASV375	22	0.138356078

Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Simplicispira	NA	ASV372	22	0.138356078
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	astaxanthinifaciens	ASV373	22	0.138356078
Bacteria	Cyanobacteria	Cyanobacteriia	Chloroplast	NA	NA	NA	ASV321	21	0.132067166
Bacteria	Bacteroidota	Bacteroidia	Sphingobacteriales	Sphingobacteriaceae	Pedobacter	NA	ASV240	21	0.132067166
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Pseudoxanthomonas	NA	ASV386	21	0.132067166
Bacteria	Actinobacteriota	Actinobacteria	Micromonosporales	Micromonosporaceae	Actinoplanes	derwentensis	ASV402	20	0.125778253
Bacteria	Proteobacteria	Alphaproteobacteria	Caulobacterales	Caulobacteraceae	Brevundimonas	intermedia	ASV206	20	0.125778253
Bacteria	Actinobacteriota	Actinobacteria	Micrococcales	Micrococcaceae	Paeniglutamicibacter	NA	ASV403	20	0.125778253
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Acidovorax	NA	ASV101	19	0.11948934
Bacteria	Bacteroidota	Bacteroidia	Cytophagales	Hymenobacteraceae	Hymenobacter	NA	ASV416	19	0.11948934
Bacteria	Bacteroidota	Bacteroidia	Cytophagales	Hymenobacteraceae	Hymenobacter	norwichensis	ASV413	19	0.11948934
Bacteria	Bacteroidota	Bacteroidia	Chitinophagales	Chitinophagaceae	NA	NA	ASV414	19	0.11948934
Bacteria	Planctomycetota	Phycisphaerae	Tepidisphaerales	WD2101 soil group	NA	NA	ASV417	19	0.11948934
Bacteria	Actinobacteriota	Actinobacteria	Pseudonocardiales	Pseudonocardaceae	Pseudonocardia	NA	ASV415	19	0.11948934
Bacteria	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae	Rubellimicrobium	NA	ASV247	19	0.11948934
Bacteria	Actinobacteriota	Actinobacteria	Frankiales	Geodermatophilaceae	Blastococcus	aggregatus	ASV269	18	0.113200428
Bacteria	Bacteroidota	Bacteroidia	Cytophagales	Hymenobacteraceae	Hymenobacter	NA	ASV423	18	0.113200428
Bacteria	Actinobacteriota	Actinobacteria	Micrococcales	Micrococcaceae	Kocuria	rosea	ASV424	18	0.113200428
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	NA	ASV425	18	0.113200428
Bacteria	Cyanobacteria	Cyanobacteriia	Cyanobacteriales	Chroococcidiopsaceae	Aliterella	NA	ASV435	17	0.106911515
Bacteria	Bacteroidota	Bacteroidia	Chitinophagales	Chitinophagaceae	Ferruginibacter	NA	ASV438	17	0.106911515
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	koreensis	ASV437	17	0.106911515
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Variovorax	NA	ASV434	17	0.106911515
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Variovorax	NA	ASV436	17	0.106911515
Bacteria	Bacteroidota	Bacteroidia	Flavobacteriales	Flavobacteriaceae	Arenibacter	NA	ASV451	16	0.100622602
Bacteria	Proteobacteria	Alphaproteobacteria	Caulobacterales	Caulobacteraceae	Brevundimonas	NA	ASV79	16	0.100622602
Bacteria	Verrucomicrobiota	Verrucomicrobiae	Chthoniobacterales	Chthoniobacteraceae	Chthoniobacter	NA	ASV447	16	0.100622602
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Leptothrix	NA	ASV453	16	0.100622602
Bacteria	Verrucomicrobiota	Verrucomicrobiae	Verrucomicrobiales	Rubritaleaceae	Luteolibacter	NA	ASV448	16	0.100622602
Bacteria	Chloroflexi	Chloroflexia	Thermomicrobiales	JG30-KF-CM45	NA	NA	ASV449	16	0.100622602
Bacteria	Chloroflexi	Chloroflexia	Thermomicrobiales	JG30-KF-CM45	NA	NA	ASV450	16	0.100622602
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Moraxellaceae	Psychrobacter	faecalis	ASV254	16	0.100622602
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	NA	ASV452	16	0.100622602

Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Variovorax	NA	ASV454	16	0.100622602
Bacteria	Acidobacteriota	Blastocatellia	Blastocatellales	Blastocatellaceae	JGI 0001001-H03	NA	ASV469	15	0.09433369
Bacteria	Actinobacteriota	Actinobacteria	Propionibacteriales	Nocardioideaceae	Marmoricola	NA	ASV341	15	0.09433369
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Moraxellaceae	Psychrobacter	maritimus	ASV470	15	0.09433369
Bacteria	Proteobacteria	Alphaproteobacteria	Acetobacterales	Acetobacteraceae	Roseomonas	NA	ASV467	15	0.09433369
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Simplicispira	NA	ASV471	15	0.09433369
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	NA	ASV215	15	0.09433369
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	glacialis	ASV256	15	0.09433369
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Xylophilus	NA	ASV468	15	0.09433369
Bacteria	Verrucomicrobiota	Verrucomicrobiae	Verrucomicrobiales	Rubritaleaceae	Luteolibacter	NA	ASV487	14	0.088044777
Bacteria	Planctomycetota	Phycisphaerae	Tepidisphaerales	Tepidisphaeraceae	NA	NA	ASV490	14	0.088044777
Bacteria	Planctomycetota	Phycisphaerae	Tepidisphaerales	WD2101 soil group	NA	NA	ASV491	14	0.088044777
Bacteria	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae	NA	NA	ASV486	14	0.088044777
Bacteria	Verrucomicrobiota	Verrucomicrobiae	Verrucomicrobiales	Verrucomicrobiaceae	NA	NA	ASV488	14	0.088044777
Bacteria	Proteobacteria	Alphaproteobacteria	Azospirillales	Azospirillaceae	Skermanella	NA	ASV239	14	0.088044777
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	NA	ASV489	14	0.088044777
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Altererythrobacter	NA	ASV307	13	0.081755864
Bacteria	Proteobacteria	Alphaproteobacteria	Caulobacterales	Caulobacteraceae	Brevundimonas	NA	ASV192	13	0.081755864
Bacteria	Proteobacteria	Alphaproteobacteria	Caulobacterales	Caulobacteraceae	Brevundimonas	subvibrioides	ASV333	13	0.081755864
Bacteria	Bacteroidota	Bacteroidia	Cytophagales	Hymenobacteraceae	Hymenobacter	NA	ASV506	13	0.081755864
Bacteria	Acidobacteriota	Blastocatellia	Blastocatellales	Blastocatellaceae	NA	NA	ASV504	13	0.081755864
Bacteria	Actinobacteriota	Actinobacteria	Micrococcales	Dermatophilaceae	NA	NA	ASV507	13	0.081755864
Bacteria	Patescibacteria	Saccharimonadia	Saccharimonadales	NA	NA	NA	ASV502	13	0.081755864
Bacteria	Bacteroidota	Bacteroidia	Sphingobacteriales	Sphingobacteriaceae	Pedobacter	NA	ASV508	13	0.081755864
Bacteria	Cyanobacteria	Cyanobacteriia	Cyanobacteriales	Nostocaceae	Scytonema UTEX 2349	NA	ASV505	13	0.081755864
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	NA	ASV503	13	0.081755864
Bacteria	Verrucomicrobiota	Verrucomicrobiae	Chthoniobacteriales	Chthoniobacteraceae	LD29	NA	ASV521	12	0.075466952
Bacteria	Planctomycetota	Phycisphaerae	Tepidisphaerales	WD2101 soil group	NA	NA	ASV520	12	0.075466952
Bacteria	Actinobacteriota	Actinobacteria	Micrococcales	Sanguibacteraceae	Sanguibacter-Flavimobilis	keddieii	ASV522	12	0.075466952
Bacteria	Proteobacteria	Alphaproteobacteria	Rhizobiales	Beijerinckiaceae	1174-901-12	NA	ASV538	11	0.069178039
Bacteria	Actinobacteriota	Actinobacteria	Pseudonocardiales	Pseudonocardaceae	Actinomycetospora	NA	ASV536	11	0.069178039
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Arenimonas	NA	ASV539	11	0.069178039
Bacteria	Bacteroidota	Bacteroidia	Flavobacteriales	Weeksellaceae	Chryseobacterium	NA	ASV541	11	0.069178039

Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Rhodanobacteraceae	Dokdonella	NA	ASV537	11	0.069178039
Bacteria	Bacteroidota	Bacteroidia	Cytophagales	Spirosomaceae	Dyadobacter	NA	ASV540	11	0.069178039
Bacteria	Verrucomicrobiota	Verrucomicrobiae	Verrucomicrobiales	Rubritaleaceae	Luteolibacter	NA	ASV565	10	0.062889126
Bacteria	Cyanobacteria	Cyanobacteriia	Chloroplast Candidatus	NA	NA	NA	ASV562	10	0.062889126
Bacteria	Patescibacteria	Parcubacteria	Nomurabacteria	NA	NA	NA	ASV564	10	0.062889126
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Nitrosomonadaceae	Nitrosospira	NA	ASV563	10	0.062889126
Bacteria	Verrucomicrobiota	Verrucomicrobiae	Chthoniobacterales	Terrimicrobiaceae	Terrimicrobium	NA	ASV561	10	0.062889126
Bacteria	Verrucomicrobiota	Verrucomicrobiae	Chthoniobacterales	Chthoniobacteraceae	Chthoniobacter	NA	ASV580	9	0.056600214
Bacteria	Bacteroidota	Bacteroidia	Cytophagales	Hymenobacteraceae	Hymenobacter	roseosalivarius	ASV588	9	0.056600214
Bacteria	Acidobacteriota	Vicinamibacteria	Vicinamibacterales	NA	NA	NA	ASV581	9	0.056600214
Bacteria	Cyanobacteria	Cyanobacteriia	Chloroplast	NA	NA	NA	ASV582	9	0.056600214
Bacteria	Cyanobacteria	Cyanobacteriia	Chloroplast	NA	NA	NA	ASV585	9	0.056600214
Bacteria	Patescibacteria	Saccharimonadia	Saccharimonadales	LWQ8	NA	NA	ASV586	9	0.056600214
Bacteria	Proteobacteria	Gammaproteobacteria	Enterobacterales	Aeromonadaceae	Oceanisphaera	NA	ASV584	9	0.056600214
Bacteria	Planctomycetota	Planctomycetes	Pirellulales	Pirellulaceae	Pirellula	NA	ASV587	9	0.056600214
Bacteria	Acidobacteriota	Blastocatellia	Pyrinomonadales	Pyrinomonadaceae	RB41	NA	ASV583	9	0.056600214
Bacteria	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	NA	ASV289	9	0.056600214
Bacteria	Proteobacteria	Alphaproteobacteria	Rhizobiales	Beijerinckiaceae	1174-901-12	NA	ASV603	8	0.050311301
Bacteria	Proteobacteria	Alphaproteobacteria	Rhizobiales	Rhizobiaceae	Pararhizobium-Rhizobium-	etli	ASV605	8	0.050311301
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Arenimonas	NA	ASV609	8	0.050311301
Bacteria	Acidobacteriota	Blastocatellia	Blastocatellales	Blastocatellaceae	Blastocatella	NA	ASV301	8	0.050311301
Bacteria	Bacteroidota	Bacteroidia	Flavobacteriales	Flavobacteriaceae	Flavobacterium	caeni	ASV608	8	0.050311301
Bacteria	Chloroflexi	Chloroflexia	Thermomicrobiales	JG30-KF-CM45	NA	NA	ASV472	8	0.050311301
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	NA	NA	ASV607	8	0.050311301
Bacteria	Bacteroidota	Bacteroidia	Cytophagales	Spirosomaceae	Spirosoma	NA	ASV604	8	0.050311301
Bacteria	Proteobacteria	Gammaproteobacteria	Steroidobacterales	Steroidobacteraceae	Steroidobacter	NA	ASV606	8	0.050311301
Bacteria	Abditibacteriota	Abditibacteria	Abditibacteriales	Abditibacteriaceae	Abditibacterium	NA	ASV633	7	0.044022389
Bacteria	Myxococcota	Polyangia	Polyangiales	Polyangiaceae	Pajaroellobacter	NA	ASV630	7	0.044022389
Bacteria	Bacteroidota	Bacteroidia	Cytophagales	Spirosomaceae	Persicitalea	NA	ASV632	7	0.044022389
Bacteria	Planctomycetota	Planctomycetes	Pirellulales	Pirellulaceae	Pir4 lineage	NA	ASV634	7	0.044022389
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	granadensis	ASV35	7	0.044022389
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	caeni	ASV635	7	0.044022389

Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Alcaligenaceae	Verticiella	NA	ASV631	7	0.044022389
Bacteria	Bacteroidota	Bacteroidia	Flavobacteriales	Flavobacteriaceae	Vitellibacter	NA	ASV636	7	0.044022389
Bacteria	Bacteroidota	Bacteroidia	Chitinophagales	Chitinophagaceae	Flavisolibacter	NA	ASV662	6	0.037733476
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV233	6	0.037733476
Bacteria	Bacteroidota	Bacteroidia	Chitinophagales	Chitinophagaceae	NA	NA	ASV665	6	0.037733476
Bacteria	Cyanobacteria	Cyanobacteriia	Chloroplast	NA	NA	NA	ASV661	6	0.037733476
Bacteria	Myxococcota	Polyangia	Polyangiales	Sandaracinaceae	NA	NA	ASV663	6	0.037733476
Bacteria	Planctomycetota	Phycisphaerae	Tepidisphaerales	WD2101 soil group	NA	NA	ASV659	6	0.037733476
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	NA	NA	ASV664	6	0.037733476
Bacteria	Bdellovibrionota	Bdellovibrionia	Bacteriovoracales	Bacteriovoracaceae	Peredibacter	starrii	ASV501	6	0.037733476
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	rhizosphaerae	ASV178	6	0.037733476
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Thermomonas	NA	ASV660	6	0.037733476
Bacteria	Proteobacteria	Alphaproteobacteria	Rhizobiales	Devosiaceae	Devosia	riboflavina	ASV685	5	0.031444563
Bacteria	Verrucomicrobiota	Verrucomicrobiae	Verrucomicrobiales	Rubritaleaceae	Luteolibacter	NA	ASV519	5	0.031444563
Bacteria	Bacteroidota	Bacteroidia	Flavobacteriales	NS9 marine group	NA	NA	ASV687	5	0.031444563
Bacteria	Planctomycetota	Phycisphaerae	Tepidisphaerales	WD2101 soil group	NA	NA	ASV683	5	0.031444563
Bacteria	Planctomycetota	Planctomycetes	Pirellulales	Pirellulaceae	NA	NA	ASV691	5	0.031444563
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	NA	NA	ASV689	5	0.031444563
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Alcaligenaceae	Pigmentiphaga	NA	ASV684	5	0.031444563
Bacteria	Acidobacteriota	Blastocatellia	Pyrinomonadales	Pyrinomonadaceae	RB41	NA	ASV686	5	0.031444563
Bacteria	Bacteroidota	Bacteroidia	Chitinophagales	Chitinophagaceae	Segetibacter	NA	ASV690	5	0.031444563
Bacteria	Verrucomicrobiota	Verrucomicrobiae	Verrucomicrobiales	Verrucomicrobiaceae	Verrucomicrobium	NA	ASV688	5	0.031444563
Bacteria	Verrucomicrobiota	Verrucomicrobiae	Chthoniobacterales	Chthoniobacteraceae	Chthoniobacter	NA	ASV717	4	0.025155651
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Halomonadaceae	Halomonas	NA	ASV710	4	0.025155651
Bacteria	Acidobacteriota	Vicinamibacteria	Vicinamibacterales	Vicinamibacteraceae	Luteitalea	NA	ASV715	4	0.025155651
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Lysobacter	NA	ASV722	4	0.025155651
Bacteria	Acidobacteriota	Vicinamibacteria	Vicinamibacterales	Vicinamibacteraceae	NA	NA	ASV711	4	0.025155651
Bacteria	Actinobacteriota	Thermoleophilia	Solirubrobacterales	Solirubrobacteraceae	NA	NA	ASV721	4	0.025155651
Bacteria	Patescibacteria	Parcubacteria	Candidatus Kaiserbacteria	NA	NA	NA	ASV713	4	0.025155651
Bacteria	Patescibacteria	Parcubacteria	Candidatus Kaiserbacteria	NA	NA	NA	ASV718	4	0.025155651
Bacteria	Planctomycetota	Phycisphaerae	Tepidisphaerales	NA	NA	NA	ASV719	4	0.025155651
Bacteria	Proteobacteria	Alphaproteobacteria	Rickettsiales	Mitochondria	NA	NA	ASV714	4	0.025155651
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	NA	NA	ASV712	4	0.025155651

Bacteria	Myxococcota	Polyangia	Polyangiales	Polyangiaceae	Pajaroellobacter	NA	ASV720	4	0.025155651
Bacteria	Verrucomicrobiota	Verrucomicrobiae	Verrucomicrobiales	Verrucomicrobiaceae	Prostheco bacter	NA	ASV709	4	0.025155651
Bacteria	Planctomycetota	Planctomycetes	Planctomycetales	Rubinisphaeraceae	SH-PL14	NA	ASV716	4	0.025155651
Bacteria	Bacteroidota	Bacteroidia	Cytophagales	Hymenobacteraceae	Adhaeribacter	NA	ASV755	3	0.018866738
Bacteria	Verrucomicrobiota	Verrucomicrobiae	Chthoniobacterales	Xiphinematobacteraceae	Candidatus Xiphinematobacter	NA	ASV756	3	0.018866738
Bacteria	Gemmatimonadota	Gemmatimonadetes	Gemmatimonadales	Gemmatimonadaceae	Gemmatimonas	NA	ASV759	3	0.018866738
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Luteimonas	NA	ASV750	3	0.018866738
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Lysobacter	NA	ASV748	3	0.018866738
Bacteria	Actinobacteriota	Thermoleophilia	Solirubrobacterales	67-14	NA	NA	ASV749	3	0.018866738
Bacteria	Armatimonadota	Fimbriimonadia	Fimbriimonadales	Fimbriimonadaceae	NA	NA	ASV757	3	0.018866738
Bacteria	Bacteroidota	Bacteroidia	Cytophagales	Microscillaceae	NA	NA	ASV753	3	0.018866738
Bacteria	Bacteroidota	Bacteroidia	Flavobacteriales	Flavobacteriaceae	NA	NA	ASV752	3	0.018866738
			Candidatus						
Bacteria	Patescibacteria	Parcubacteria	Nomurabacteria	NA	NA	NA	ASV758	3	0.018866738
Bacteria	Bacteroidota	Bacteroidia	Sphingobacteriales	Sphingobacteriaceae	Pedobacter	NA	ASV754	3	0.018866738
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	azotoformans	ASV10	3	0.018866738
Bacteria	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	NA	ASV751	3	0.018866738
Bacteria	Bacteroidota	Bacteroidia	Cytophagales	Spirosomaceae	Spirosoma	NA	ASV747	3	0.018866738
Bacteria	Patescibacteria	Saccharimonadia	Saccharimonadales	Saccharimonadaceae	TM7a	NA	ASV746	3	0.018866738
Bacteria	Bdellovibrionota	Bdellovibrionia	Bdellovibrionales	Bdellovibrionaceae	Bdellovibrio	NA	ASV780	2	0.012577825
Bacteria	Bacteroidota	Rhodothermia	Rhodothermales	Rhodothermaceae	NA	NA	ASV776	2	0.012577825
Bacteria	Gemmatimonadota	Longimicrobia	Longimicrobiales	Longimicrobiaceae	NA	NA	ASV781	2	0.012577825
Bacteria	Proteobacteria	Alphaproteobacteria	Reyranellales	Reyranellaceae	NA	NA	ASV777	2	0.012577825
Bacteria	Proteobacteria	Alphaproteobacteria	Rickettsiales	Candidatus Jidaibacter	NA	NA	ASV778	2	0.012577825
Bacteria	Actinobacteriota	Actinobacteria	Propionibacteriales	Nocardiodaceae	Nocardioides	NA	ASV779	2	0.012577825
Bacteria	Proteobacteria	Gammaproteobacteria	Enterobacterales	Erwiniaceae	Pantoea	vagans	ASV87	2	0.012577825
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Thermomonas	NA	ASV782	2	0.012577825
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Xylophilus	NA	ASV783	2	0.012577825
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Luteimonas	NA	ASV820	1	0.006288913
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	NA	ASV824	1	0.006288913
Bacteria	Acidobacteriota	Vicinamibacteria	Vicinamibacterales	Vicinamibacteraceae	NA	NA	ASV819	1	0.006288913
Bacteria	Myxococcota	Polyangia	Polyangiales	Sandaracinaceae	NA	NA	ASV827	1	0.006288913
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	NA	NA	ASV817	1	0.006288913

Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	NA	NA	ASV823	1	0.006288913
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	NA	NA	ASV825	1	0.006288913
Bacteria	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	NA	NA	ASV822	1	0.006288913
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Alcaligenaceae	Pigmentiphaga	NA	ASV826	1	0.006288913
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Rhodoferax	NA	ASV818	1	0.006288913
Bacteria	Bacteroidota	Bacteroidia	Chitinophagales	Chitinophagaceae	Segetibacter	NA	ASV821	1	0.006288913
Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Comamonadaceae	Variovorax	NA	ASV465	1	0.006288913

Table S5. Levels of bioaerosols detected by stationary sampling. Concentrations are expressed in CFU m⁻³

Site	Season	Mould	Mesophilic bacteria	Type of sample
1	autumn	3 x 10 ³	1.6 x 10 ²	ambient air
1	autumn	6 x 10 ³	5 x 10 ³	during blowing
1	autumn	1 x 10 ⁴	5 x 10 ³	during blowing
2	autumn	1.5 x 10 ³	1.2 x 10 ²	ambient air
2	autumn	1 x 10 ⁴	1 x 10 ³	during blowing
2	autumn	1 x 10 ⁴	5 x 10 ³	during blowing
2	autumn	1 x 10 ⁴	6 x 10 ³	during blowing
1	winter	4.5 x 10 ²	5.5 x 10 ²	ambient air
1	winter	1.6 x 10 ⁴	5.2 x 10 ³	during blowing
1	winter	1.4 x 10 ⁴	5.1 x 10 ³	during blowing
2	winter	2.8 x 10 ³	6.5 x 10 ²	ambient air
2	winter	3.0 x 10 ⁴	9.7 x 10 ³	during blowing
1	spring	2.5 x 10 ²	9.0 x 10 ¹	ambient air
1	spring	2.2 x 10 ⁴	2.2 x 10 ³	during blowing
1	spring	6.2 x 10 ³	1.1 x 10 ⁴	during blowing
2	spring	4.6 x 10 ²	2.5 x 10 ¹	ambient air
2	spring	2.2 x 10 ⁴	1.0 x 10 ³	during blowing
2	spring	5.3 x 10 ³	1.3 x 10 ³	during blowing
1	summer	1.4 x 10 ³	1.6 x 10 ¹	ambient air
1	summer	3.9 x 10 ³	4.0 x 10 ³	during water jet usage

1	summer	5.4×10^3	3.6×10^3	during water jet usage
1	summer	4.2×10^3	3.3×10^3	during water jet usage
1	summer	1.3×10^3	6.0×10^2	during water jet usage
2	summer	1.3×10^3	9.0×10^1	ambient air
2	summer	1.8×10^4	1.6×10^4	during water jet usage
2	summer	2.2×10^4	5.0×10^3	during water jet usage
2	summer	1.0×10^4	5.3×10^3	during water jet usage
2	summer	1.6×10^4	1.3×10^4	during water jet usage
