Andrea D'Anna

List of Publications by Year
in descending order

131 papers	4,151 citations	101543 36 h-index	149698 56 g-index
139 all docs	139 docs citations	139 times ranked	2422 citing authors

#	Article	IF	Citations
1	Combustion-formed nanoparticles. Proceedings of the Combustion Institute, 2009, 32, 593-613.	3.9	308
2	On the early stages of soot formation: Molecular structure elucidation by high-resolution atomic force microscopy. Combustion and Flame, 2019, 205, 154-164.	5.2	134
3	A wide-range modeling study of iso-octane oxidation. Combustion and Flame, 1997, 108, 24-42.	5.2	133
4	Surface deposition and coagulation efficiency of combustion generated nanoparticles in the size range from 1 to 10nm. Proceedings of the Combustion Institute, 2005, 30, 2595-2603.	3.9	132
5	Insights into incipient soot formation by atomic force microscopy. Proceedings of the Combustion Institute, 2019, 37, 885-892.	3.9	132
6	A Review of Terminology Used to Describe Soot Formation and Evolution under Combustion and Pyrolytic Conditions. ACS Nano, 2020, 14, 12470-12490.	14.6	122
7	A kinetic model for the formation of aromatic hydrocarbons in premixed laminar flames. Proceedings of the Combustion Institute, 1998, 27, 425-433.	0.3	118
8	Modeling Formation and Oxidation of Soot in Nonpremixed Flames. Energy & Fuels, 2013, 27, 2303-2315.	5.1	88
9	Physicochemical evolution of nascent soot particles in a laminar premixed flame: from nucleation to early growth. Combustion and Flame, 2015, 162, 3854-3863.	5.2	80
10	Modeling of particulate formation in combustion and pyrolysis. Chemical Engineering Science, 1999, 54, 3433-3442.	3.8	75
11	Investigating the origin of nuclei particles in GDI engine exhausts. Combustion and Flame, 2012, 159, 1687-1692.	5.2	72
12	A model of particle nucleation in premixed ethylene flames. Combustion and Flame, 2010, 157, 2106-2115.	5.2	69
13	Particulate Formation in Premixed and Counter-flow Diffusion Ethylene/Ethanol Flames. Energy & Fuels, 2012, 26, 6144-6152.	5.1	69
14	Characterization of flame-generated 2-D carbon nano-disks. Carbon, 2014, 68, 138-148.	10.3	59
15	Aromatic formation pathways in non-premixed methane flames. Combustion and Flame, 2003, 132, 715-722.	5.2	58
16	Detection of aromatic hydrocarbons and incipient particles in an opposed-flow flame of ethylene by spectral and time-resolved laser induced emission spectroscopy. Combustion and Flame, 2012, 159, 1663-1669.	5.2	53
17	â€œAre we forgetting the smallest, sub 10 nm combustion generated particles?â€ Particle and Fibre Toxicology, 2015, 12, 34.	6.2	53
18	The effect of ethanol on the particle size distributions in ethylene premixed flames. Experimental Thermal and Fluid Science, 2012, 43, 71-75.	2.7	51

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19	Measurements of Nanoparticles of Organic Carbon and Soot in Flames and Vehicle Exhausts. Environmental Science & Technology, 2008, 42, 859-863.	10.0	49
20	Detailed modeling of size distribution functions and hydrogen content in combustion-formed particles. Combustion and Flame, 2010, 157, 1211-1219.	5.2	49
21	Detection of nanostructures and soot in laminar premixed flames. Combustion and Flame, 2017, 176, 299-308.	5.2	49
22	Role of radicals in carbon clustering and soot inception: A combined EPR and Raman spectroscopic study. Combustion and Flame, 2019, 205, 286-294.	5.2	49
23	The role of dimethyl ether as substituent to ethylene on particulate formation in premixed and counter-flow diffusion flames. Fuel, 2014, 126, 256-262.	6.4	48
24	Effect of furans on particle formation in diffusion flames: An experimental and modeling study. Proceedings of the Combustion Institute, 2015, 35, 525-532.	3.9	48
25	Flame-formed carbon nanoparticles exhibit quantum dot behaviors. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 12692-12697.	7.1	48
26	Effect of fuel/air ratio and aromaticity on the molecular weight distribution of soot in premixed n-heptane flames. Proceedings of the Combustion Institute, 2009, 32, 803-810.	3.9	45
27	Controlling Steps in the Low-Temperature Oxidation of n-Heptane and iso-Octane. Combustion and Flame, 1998, 112, 617-622.	5.2	44
28	Coagulation of combustion generated nanoparticles in low and intermediate temperature regimes: An experimental study. Proceedings of the Combustion Institute, 2013, 34, 1877-1884.	3.9	43
29	Further details on particle inception and growth in premixed flames. Proceedings of the Combustion Institute, 2015, 35, 1795-1802.	3.9	43
30	Chronic Obstructive Pulmonary Disease-Derived Circulating Cells Release IL-18 and IL-33 under Ultrafine Particulate Matter Exposure in a Caspase-1/8-Independent Manner. Frontiers in Immunology, 2017, 8, 1415.	4.8	42
31	Ï€-Diradical Aromatic Soot Precursors in Flames. Journal of the American Chemical Society, 2021, 143, 12212-12219.	13.7	41
32	On detection of nanoparticles below the sooting threshold. Combustion and Flame, 2008, 152, 287-292.	5.2	40
33	Temperature and oxygen effects on oxidation-induced fragmentation of soot particles. Combustion and Flame, 2016, 171, 15-26.	5.2	40
34	Particle formation in opposed-flow diffusion flames of ethylene: An experimental and numerical study. Proceedings of the Combustion Institute, 2009, 32, 793-801.	3.9	39
35	Nano organic carbon and soot in turbulent non-premixed ethylene flames. Proceedings of the Combustion Institute, 2007, 31, 621-629.	3.9	37
36	Detailed Kinetic Modeling of Particulate Formation in Rich Premixed Flames of Ethylene. Energy & Fuels, 2008, 22, 1610-1619.	5.1	37

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37	Modeling and measurements of size distributions in premixed ethylene and benzene flames. Proceedings of the Combustion Institute, 2009, 32, 705-711.	3.9	37
38	Further experimental and modelling evidences of soot fragmentation in flames. Proceedings of the Combustion Institute, 2015, 35, 1779-1786.	3.9	37
39	Analysis of the chemical features of particles generated from ethylene and ethylene/2,5 dimethyl furan flames. Combustion and Flame, 2016, 167, 268-273.	5.2	36
40	Human peripheral blood mononuclear cells (PBMCs) from smokers release higher levels of IL-1-like cytokines after exposure to combustion-generated ultrafine particles. Scientific Reports, 2017, 7, 43016.	3.3	35
41	The effect of butanol isomers on the formation of carbon particulate matter in fuel-rich premixed ethylene flames. Combustion and Flame, 2019, 199, 122-130.	5.2	35
42	Flame-Formed Carbon Nanoparticles: Morphology, Interaction Forces, and Hamaker Constant from AFM. Aerosol Science and Technology, 2015, 49, 281-289.	3.1	34
43	Evolution of soot size distribution in premixed ethylene/air and ethylene/benzene/air flames: Experimental and modeling study. Combustion and Flame, 2011, 158, 98-104.	5.2	33
44	Optical and electrical characterization of carbon nanoparticles produced in laminar premixed flames. Combustion and Flame, 2014, 161, 3201-3210.	5.2	33
45	Evidence on the formation of dimers of polycyclic aromatic hydrocarbons in a laminar diffusion flame. Communications Chemistry, 2020, 3, .	4.5	33
46	Illuminating the earliest stages of the soot formation by photoemission and Raman spectroscopy. Combustion and Flame, 2017, 181, 188-197.	5.2	32
47	Experimental and modeling study on the molecular weight distribution and properties of carbon particles in premixed sooting flames. Proceedings of the Combustion Institute, 2011, 33, 633-640.	3.9	31
48	Effect of 2,5-dimethylfuran doping on particle size distributions measured in premixed ethylene/air flames. Proceedings of the Combustion Institute, 2017, 36, 985-992.	3.9	31
49	Raman Spectroscopy of Soot Sampled in High-Pressure Diffusion Flames. Energy & Fuels, 2017, 31, 10158-10164.	5.1	30
50	On the effect of pressure on soot nanostructure: A Raman spectroscopy investigation. Combustion and Flame, 2020, 219, 13-19.	5.2	30
51	TIO2 nanoparticle coatings with advanced antibacterial and hydrophilic properties prepared by flame aerosol synthesis and thermophoretic deposition. Surface and Coatings Technology, 2018, 349, 830-837.	4.8	28
52	Effect of alkylated aromatics on particle formation in diffusion flames: An experimental study. Experimental Thermal and Fluid Science, 2016, 73, 27-32.	2.7	27
53	Effect of furanic biofuels on particles formation in premixed ethyleneâ€“air flames: An experimental study. Fuel, 2016, 175, 137-145.	6.4	27
54	Simulating the morphology of clusters of polycyclic aromatic hydrocarbons: The influence of the intermolecular potential. Combustion and Flame, 2017, 185, 53-62.	5.2	27

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55	Soot inception in laminar coflow diffusion flames. Combustion and Flame, 2019, 205, 180-192.	5.2	27
56	Charge fraction distribution of nucleation mode particles: New insight on the particle formation mechanism. Combustion and Flame, 2011, 158, 1418-1425.	5.2	26
57	Experimental and numerical study of soot formation and evolution in co-flow laminar partially premixed flames. Fuel, 2018, 220, 396-402.	6.4	26
58	Apoptotic and proinflammatory effect of combustion-generated organic nanoparticles in endothelial cells. Toxicology Letters, 2013, 219, 307-314.	0.8	25
59	Tracking the evolution of soot particles and precursors in turbulent flames using laser-induced emission. Proceedings of the Combustion Institute, 2017, 36, 1869-1876.	3.9	25
60	The evolution of soot particles in premixed and diffusion flames by thermophoretic particle densitometry. Proceedings of the Combustion Institute, 2017, 36, 763-770.	3.9	25
61	<i>Report:</i> Combustion Byproducts and Their Health Effects: Summary of the 10th International Congress. Environmental Engineering Science, 2008, 25, 1107-1114.	1.6	24
62	Emission of Ultrafine Particles from Natural Gas Domestic Burners. Environmental Engineering Science, 2008, 25, 1357-1364.	1.6	24
63	Factors Influencing Ultrafine Particulate Matter (PM_{0.1}) Formation under Pulverized Coal Combustion and Oxyfiring Conditions. Energy & Fuels, 2010, 24, 6248-6256.	5.1	24
64	Effect of C9H12 alkylbenzenes on particle formation in diffusion flames: An experimental study. Fuel, 2017, 191, 204-211.	6.4	24
65	A modeling evaluation of the effect of chlorine on the formation of particulate matter in combustion. Chemosphere, 2001, 42, 463-471.	8.2	23
66	Charge Distribution of Incipient Flame-Generated Particles. Aerosol Science and Technology, 2010, 44, 651-662.	3.1	23
67	On the hydrophilic/hydrophobic character of carbonaceous nanoparticles formed in laminar premixed flames. Experimental Thermal and Fluid Science, 2016, 73, 56-63.	2.7	23
68	Spectroscopic and Chemical Characterization of Soot Inception Processes in Premixed Laminar Flames at Atmospheric Pressure. Springer Series in Chemical Physics, 1994, , 83-103.	0.2	23
69	Modeling aerosol formation in opposed-flow diffusion flames. Chemosphere, 2003, 51, 1047-1054.	8.2	22
70	Detailed modeling of soot particle formation and comparison to optical diagnostics and size distribution measurements in premixed flames using a method of moments. Fuel, 2018, 222, 287-293.	6.4	22
71	SOOT AND NANOPARTICLE FORMATION IN LAMINAR AND TURBULENT FLAMES. Combustion Science and Technology, 2007, 179, 387-400.	2.3	21
72	Structure and size of soot nanoparticles in laminar premixed flames at different equivalence ratios. Fuel, 2018, 216, 456-462.	6.4	20

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73	INVESTIGATION OF SPECIES CONCENTRATION AND SOOT FORMATION IN A CO-FLOWING DIFFUSION FLAME OF ETHYLENE. Combustion Science and Technology, 2007, 179, 355-369.	2.3	19
74	Characterization of Combustion-Generated Carbonaceous Nanoparticles by Size-Dependent Ultraviolet Laser Photoionization. Journal of Physical Chemistry A, 2013, 117, 3980-3989.	2.5	19
75	Chemical Features of Particles Generated in an Ethylene/Ethanol Premixed Flame. Energy & Fuels, 2017, 31, 2370-2377.	5.1	19
76	Soot inception: A DFT study of Ïƒ and Ï€ dimerization of resonantly stabilized aromatic radicals. Fuel, 2020, 279, 118491.	6.4	19
77	Detailed particle nucleation modeling in a sooting ethylene flame using a Conditional Quadrature Method of Moments (CQMOM). Proceedings of the Combustion Institute, 2017, 36, 771-779.	3.9	18
78	Electronic band gap of flame-formed carbon nanoparticles by scanning tunneling spectroscopy. Proceedings of the Combustion Institute, 2021, 38, 1805-1812.	3.9	18
79	Testing Surgical Face Masks in an Emergency Context: The Experience of Italian Laboratories during the COVID-19 Pandemic Crisis. International Journal of Environmental Research and Public Health, 2021, 18, 1462.	2.6	17
80	Spectroscopic analysis and modeling of particulate formation in a diesel engine. Journal of Quantitative Spectroscopy and Radiative Transfer, 2002, 73, 443-450.	2.3	16
81	Pollutant Formation during the Occurrence of Flame Instabilities under Very-Lean Combustion Conditions in a Liquid-Fuel Burner. Energies, 2017, 10, 352.	3.1	16
82	Molecular content of nascent soot: Family characterization using two-step laser desorption laser ionization mass spectrometry. Proceedings of the Combustion Institute, 2021, 38, 1241-1248.	3.9	16
83	Exploring Soot Particle Concentration and Emissivity by Transient Thermocouples Measurements in Laminar Partially Premixed Coflow Flames. Energies, 2017, 10, 232.	3.1	15
84	Evidence of sub-10â€¯nm particles emitted from a small-size diesel engine. Experimental Thermal and Fluid Science, 2018, 95, 60-64.	2.7	15
85	A Comprehensive Kinetic Modeling of Ignition of Syngasâ€“Air Mixtures at Low Temperatures and High Pressures. Combustion Science and Technology, 2010, 182, 692-701.	2.3	14
86	On the characterization of nanoparticles emitted from combustion sources related to understanding their effects on health and climate. Journal of Hazardous Materials, 2012, 211-212, 420-426.	12.4	14
87	Molecular dynamics simulations of incipient carbonaceous nanoparticle formation at flame conditions. Combustion Theory and Modelling, 2017, 21, 49-61.	1.9	14
88	Filtration and coagulation efficiency of sub-10â€¯nm combustion-generated particles. Fuel, 2018, 221, 298-302.	6.4	14
89	Particle formation in premixed ethylene-benzene flames: An experimental and modeling study. Combustion and Flame, 2019, 200, 23-31.	5.2	14
90	Mechanical Properties of Soot Particles: The Impact of Crosslinked Polycyclic Aromatic Hydrocarbons. Combustion Science and Technology, 2021, 193, 643-663.	2.3	14

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91	Soot-Free Low-NOx Aeronautical Combustor Concept: The Lean Azimuthal Flame for Kerosene Sprays. Energy & Fuels, 2021, 35, 7092-7106.	5.1	14
92	Organic nanoparticles from different fuel blends: <i>in vitro</i> toxicity and inflammatory potential. Journal of Applied Toxicology, 2014, 34, 1247-1255.	2.8	13
93	Experimental Characterization and Modeling for Equivalence Ratio Sensing in Non-premixed Flames Using Chemiluminescence and Laser-Induced Breakdown Spectroscopy Techniques. Energy & Fuels, 2017, 31, 3227-3233.	5.1	13
94	Electrical characterization of flame-soot nanoparticle thin films. Synthetic Metals, 2017, 229, 89-99.	3.9	13
95	Soot particle size distribution measurements in a turbulent ethylene swirl flame. Proceedings of the Combustion Institute, 2021, 38, 2691-2699.	3.9	13
96	Multimodal ultrafine particles from pulverized coal combustion in a laboratory scale reactor. Combustion and Flame, 2010, 157, 1290-1297.	5.2	12
97	A flat premixed flame reactor to study nano-ash formation during high temperature pulverized coal combustion and oxygen firing. Fuel, 2011, 90, 369-375.	6.4	12
98	Nano-TiO2 coatings on aluminum surfaces by aerosol flame synthesis. Thin Solid Films, 2016, 609, 53-61.	1.8	12
99	Comprehensive soot particle size distribution modelling of a model Rich-Quench-Lean burner. Fuel, 2020, 270, 117483.	6.4	12
100	Measurements of ultrafine particles from a gas-turbine burning biofuels. Experimental Thermal and Fluid Science, 2010, 34, 258-261.	2.7	11
101	The Inhibition of Caspase-1- Does Not Revert Particulate Matter (PM)-Induced Lung Immunesuppression in Mice. Frontiers in Immunology, 2019, 10, 1329.	4.8	11
102	Ultrafine Particles Formed by Heating Droplets of Simulated Ash Containing Metals. Environmental Engineering Science, 2008, 25, 1379-1388.	1.6	10
103	Radicals in nascent soot from laminar premixed ethylene and ehtylene-benzene flames by electron paramagnetic resonance spectroscopy. Proceedings of the Combustion Institute, 2021, 38, 1487-1495.	3.9	9
104	Morphology and electronic properties of incipient soot by scanning tunneling microscopy and spectroscopy. Combustion and Flame, 2022, 243, 111980.	5.2	9
105	Particle Inception in a Laminar Premixed Flame of Benzene. Combustion Science and Technology, 2008, 180, 758-766.	2.3	8
106	Detailed kinetic mechanisms of PAH and soot formation. Computer Aided Chemical Engineering, 2019, , 647-672.	0.5	8
107	The role of CO2 dilution on soot formation and combustion characteristics in counter-flow diffusion flames of ethylene. Experimental Thermal and Fluid Science, 2020, 114, 110061.	2.7	8
108	An Experimental Analysis of Five Household Equipment-Based Methods for Decontamination and Reuse of Surgical Masks. International Journal of Environmental Research and Public Health, 2022, 19, 3296.	2.6	8

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109	A critical review of methods for decontaminating filtering facepiece respirators. Toxicology and Industrial Health, 2020, 36, 654-680.	1.4	7
110	An Experimental and Modelling Study of Particulate Formation in Premixed Flames Burning Methane. Combustion Science and Technology, 2008, 180, 950-958.	2.3	6
111	Size Distribution Functions of Ultrafine Ashes From Pulverized Coal Combustion. Combustion Science and Technology, 2010, 182, 668-682.	2.3	5
112	Nano-TiO2 Coating Layers with Improved Anticorrosive Properties by Aerosol Flame Synthesis and Thermophoretic Deposition on Aluminium Surfaces. Materials, 2021, 14, 2918.	2.9	5
113	Thermo-optical-transmission OC/EC and Raman spectroscopy analyses of flame-generated carbonaceous nanoparticles. Fuel, 2022, 310, 122308.	6.4	5
114	Monitoring flame soot maturity by variable temperature Raman spectroscopy. Fuel, 2022, 321, 124006.	6.4	5
115	Towards Improving Simulations of Combustion Processes. Combustion Theory and Modelling, 2017, 21, 1-1.	1.9	4
116	Antimicrobial Activity of TiO2 Coatings Prepared by Direct Thermophoretic Deposition of Flame-Synthesized Nanoparticles. MRS Advances, 2017, 2, 1493-1498.	0.9	4
117	UV-Broadband Light Scattering Measurements During Metallic Particle Formation in a Combustion-Like Environment. Particle and Particle Systems Characterization, 1999, 16, 77-84.	2.3	3
118	Effect of Sampling Probe Perturbation on Particle Size Distribution Functions in a Slightly Sooting Premixed Flame of Ethylene: A Modeling Study. Combustion Science and Technology, 2012, 184, 1011-1024.	2.3	3
119	An Advanced Multi-Sectional Method for Particulate Matter Modeling in Flames. Green Energy and Technology, 2013, , 363-388.	0.6	3
120	Flame synthesis of MgO nanoparticles in a FASP Reactor. Materials Research Society Symposia Proceedings, 2013, 1506, 1.	0.1	2
121	Variable Temperature Synthesis of Tunable Flame-Generated Carbon Nanoparticles. Journal of Carbon Research, 2021, 7, 44.	2.7	2
122	Exploring Nanomechanical Properties of Soot Particle Layers by Atomic Force Microscopy Nanoindentation. Applied Sciences (Switzerland), 2021, 11, 8448.	2.5	2
123	Metal oxide nanoparticles formed from solution droplets under high heating rate. Experimental Thermal and Fluid Science, 2012, 43, 23-31.	2.7	1
124	Carbon-TiO2 Nanostructures: Flame Synthesis and Characterization. Materials Research Society Symposia Proceedings, 2015, 1747, 1.	0.1	1
125	Probing the equivalence ratio in partially premixed flames by combining optical techniques and modeling results. Combustion Science and Technology, 2018, 190, 1442-1454.	2.3	1
126	Resistive Switching Phenomenon Observed in Self-Assembled Films of Flame-Formed Carbon-TiO2 Nanoparticles. Materials, 2021, 14, 4672.	2.9	1

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127	COORDINATED MULTIPARAMETRIC CHARACTERIZATION OF ATMOSPHERIC PARTICULATE IN THE CAMPANIA REGION OF ITALY. , 2018, , .		1
128	Eighth Mediterranean Combustion Symposium. Combustion Science and Technology, 2014, 186, 387-388.	2.3	0
129	Eighth Mediterranean Combustion Symposium. Experimental Thermal and Fluid Science, 2014, 56, 1.	2.7	0
130	Spectroscopic Characterization of Flame-Generated 2-D Carbon Nano-Disks. Materials Research Society Symposia Proceedings, 2015, 1726, 56.	0.1	0
131	Ninth Mediterranean Combustion Symposium. Combustion Science and Technology, 2016, 188, 481-481.	2.3	0