Nicola Massarotti

List of Publications by Year
in descending order

88 papers	**2,128** citations	218677 **26** h-index	276875 **41** g-index
94 all docs	**94** docs citations	**94** times ranked	**1879** citing authors

#	Article	IF	Citations
1	Modelling approaches to biomass gasification: A review with emphasis on the stoichiometric method. Renewable and Sustainable Energy Reviews, 2017, 74, 71-88.	16.4	143
2	Direct use of waste vegetable oil in internal combustion engines. Renewable and Sustainable Energy Reviews, 2017, 69, 759-770.	16.4	87
3	Characteristic‐based‐split (CBS) algorithm for incompressible flow problems with heat transfer. International Journal of Numerical Methods for Heat and Fluid Flow, 1998, 8, 969-990.	2.8	85
4	A novel energy assessment of urban wastewater treatment plants. Energy Conversion and Management, 2018, 163, 304-313.	9.2	75
5	Polygeneration system based on PEMFC, CPVT and electrolyzer: Dynamic simulation and energetic and economic analysis. Applied Energy, 2017, 192, 530-542.	10.1	64
6	Energy piles for ground source heat pump applications: Comparison of heat transfer performance for different design and operating parameters. Applied Thermal Engineering, 2017, 124, 1492-1504.	6.0	62
7	A renewable energy system for a nearly zero greenhouse city: Case study of a small city in southern Italy. Energy, 2018, 143, 347-362.	8.8	58
8	An integrated system for sewage sludge drying through solar energy and a combined heat and power unit fuelled by biogas. Energy Conversion and Management, 2018, 171, 587-603.	9.2	58
9	Explicit and semi-implicit CBS procedures for incompressible viscous flows. International Journal for Numerical Methods in Engineering, 2006, 66, 1618-1640.	2.8	55
10	Energy, exergy and economic analysis of a novel geothermal energy system for wastewater and sludge treatment. Energy Conversion and Management, 2019, 195, 533-547.	9.2	51
11	Natural convection in porous medium‐fluid interface problems ‐A finite element analysis by using the CBS procedure. International Journal of Numerical Methods for Heat and Fluid Flow, 2001, 11, 473-490.	2.8	47
12	Performance analysis of a biomass powered micro-cogeneration system based on gasification and syngas conversion in a reciprocating engine. Energy Conversion and Management, 2018, 175, 33-48.	9.2	45
13	Thermo-economic analysis of a novel cogeneration system for sewage sludge treatment. Energy, 2016, 115, 1560-1571.	8.8	43
14	On the influence of thermal cycles on the yearly performance of an energy pile. Geomechanics for Energy and the Environment, 2018, 16, 32-44.	2.5	43
15	Numerical simulation of mass and energy transport phenomena in solid oxide fuel cells. Energy, 2009, 34, 2033-2041.	8.8	42
16	Experimental and Theoretical Modeling of the Effective Thermal Conductivity of Rough Steel Spheroid Packed Beds. Journal of Heat Transfer, 2003, 125, 693-702.	2.1	41
17	A new methodology for numerical simulation of geothermal down-hole heat exchangers. Applied Thermal Engineering, 2012, 48, 225-236.	6.0	40
18	Microscopic and macroscopic approach for natural convection in enclosures filled with fluid saturated porous medium. International Journal of Numerical Methods for Heat and Fluid Flow, 2003, 13, 862-886.	2.8	39

#	ARTICLE	IF	CITATIONS
19	High Rayleigh Number Laminar-Free Convection in Cavities: New Benchmark Solutions. Numerical Heat Transfer, Part B: Fundamentals, 2010, 58, 73-97.	0.9	39
20	Models for thermo-fluid dynamic phenomena in low enthalpy geothermal energy systems: A review. Renewable and Sustainable Energy Reviews, 2016, 60, 330-355.	16.4	39
21	New solutions for axial flow convection in porous and partly porous cylindrical domains. International Journal of Heat and Mass Transfer, 2013, 57, 155-170.	4.8	35
22	Numerical analysis of a compression ignition engine powered in the dual-fuel mode with syngas and biodiesel. Energy, 2017, 137, 969-979.	8.8	35
23	Laminar and turbulent flow calculations through a model human upper airway using unstructured meshes. Communications in Numerical Methods in Engineering, 2006, 23, 1057-1069.	1.3	33
24	Efficient three-dimensional FEM based algorithm for the solution of convection in partly porous domains. International Journal of Heat and Mass Transfer, 2011, 54, 4495-4506.	4.8	32
25	High Order Explicit Solutions for the Transient Natural Convection of Incompressible Fluids in Tall Cavities. Numerical Heat Transfer; Part A: Applications, 2014, 66, 839-862.	2.1	30
26	Artificial compressibility based CBS solutions for double diffusive natural convection in cavities. International Journal of Numerical Methods for Heat and Fluid Flow, 2013, 23, 205-225.	2.8	29
27	Three-dimensional simulation of heat and mass transport phenomena in planar SOFCs. International Journal of Hydrogen Energy, 2011, 36, 10288-10301.	7.1	28
28	Engineering bed models for solid fuel conversion process in grate-fired boilers. Energy, 2014, 77, 244-253.	8.8	28
29	A robust model and numerical approach for solving solid oxide fuel cell (SOFC) problems. International Journal of Numerical Methods for Heat and Fluid Flow, 2008, 18, 811-834.	2.8	27
30	CFD modelling of a RDF incineration plant. Applied Thermal Engineering, 2016, 101, 710-719.	6.0	27
31	A geothermal energy system for wastewater sludge drying and electricity production in a small island. Energy, 2018, 163, 130-143.	8.8	26
32	The integration of exergy criterion in energy planning analysis for 100% renewable system. Energy, 2019, 174, 749-767.	8.8	26
33	A stable explicit fractional step procedure for the solution of heat and fluid flow through interfaces between saturated porous media and free fluids in presence of high source terms. International Journal for Numerical Methods in Engineering, 2010, 83, 671-692.	2.8	25
34	A new model for the analysis of operating conditions of micro-cogenerative SOFC units. International Journal of Hydrogen Energy, 2013, 38, 336-344.	7.1	24
35	Temperature and residence time of the combustion products in a waste-to-energy plant. Fuel, 2012, 102, 92-105.	6.4	23
36	New benchmark solutions for transient natural convection in partially porous annuli. International Journal of Numerical Methods for Heat and Fluid Flow, 2016, 26, 1187-1225.	2.8	23

#	Article	IF	Citations
37	Influence of thermal radiation on contaminated air and water flow past a vertical wavy frustum of a cone. International Communications in Heat and Mass Transfer, 2016, 76, 63-68.	5.6	23
38	Modelling electro-osmotic flow in porous media: a review. International Journal of Numerical Methods for Heat and Fluid Flow, 2018, 28, 472-497.	2.8	23
39	A new example of circular economy: Waste vegetable oil for cogeneration in wastewater treatment plants. Energy Conversion and Management, 2020, 211, 112763.	9.2	23
40	Flow conditioners efficiency a comparison based on numerical approach. Flow Measurement and Instrumentation, 2002, 13, 1-11.	2.0	22
41	Transient Natural Convection in Partially Porous Vertical Annuli. International Journal of Heat and Technology, 2016, 34, S512-S518.	0.6	21
42	Numerical analysis of the thermo-fluid-dynamic field in the combustion chamber of an incinerator plant. Energy, 2009, 34, 2075-2086.	8.8	20
43	Artificial Compressibility-Based CBS Scheme for the Solution of the Generalized Porous Medium Model. Numerical Heat Transfer, Part B: Fundamentals, 2009, 55, 196-218.	0.9	20
44	A novel single domain approach for numerical modelling solid oxide fuel cells. International Journal of Numerical Methods for Heat and Fluid Flow, 2010, 20, 587-612.	2.8	19
45	Low Enthalpy Geothermal Systems in Structural Controlled Areas: A Sustainability Analysis of Geothermal Resource for Heating Plant (The Mondragone Case in Southern Appennines, Italy). Energies, 2020, 13, 1237.	3.1	19
46	Forced convection heat transfer from solder balls on a printed circuit board using the characteristic based split (CBS) scheme. International Journal of Numerical Methods for Heat and Fluid Flow, 2005, 15, 73-95.	2.8	18
47	Geothermal energy for wastewater and sludge treatment: An exergoeconomic analysis. Energy Conversion and Management, 2020, 224, 113180.	9.2	18
48	The â€œINNOVAREâ€•Project: Innovative Plants for Distributed Poly-Generation by Residual Biomass. Energies, 2020, 13, 4020.	3.1	18
49	Modeling Artificial Ground Freezing for Construction of Two Tunnels of a Metro Station in Napoli (Italy). Energies, 2020, 13, 1272.	3.1	17
50	Aerosol hazards in operating rooms: A review of numerical and experimental studies. Journal of Aerosol Science, 2021, 158, 105823.	3.8	15
51	Analysis of heat capacity ratio on porous media in oscillating flow. International Journal of Heat and Mass Transfer, 2021, 179, 121724.	4.8	15
52	Air contamination inside an actual operating room due to ultrafine particles: An experimental-numerical thermo-fluid dynamic study. Atmospheric Environment, 2021, 249, 118155.	4.1	14
53	A generalised porous medium approach to study thermo-fluid dynamics in human eyes. Medical and Biological Engineering and Computing, 2018, 56, 1823-1839.	2.8	13
54	Metrological analysis of the measurement system for a micro-cogenerative SOFC module. International Journal of Hydrogen Energy, 2011, 36, 10228-10234.	7.1	12

#	Article	IF	Citations
55	A novel numerical modelling approach for keratoplasty eye procedure. Biomechanics and Modeling in Mechanobiology, 2019, 18, 1429-1442.	2.8	10
56	A novel procedure for validation of flow simulations in operating theaters. Science and Technology for the Built Environment, 2019, 25, 629-642.	1.7	10
57	Fluid dynamic and thermal comfort analysis in an actual operating room with unidirectional airflow system. Building Simulation, 2021, 14, 1127-1146.	5.6	10
58	Conversion of Sewage Sludge to combined heat and power: Modeling and optimization. Smart Energy, 2022, 5, 100061.	5.7	10
59	CFD Modeling of Thermoacoustic Energy Conversion: A Review. Energies, 2022, 15, 3806.	3.1	10
60	Modeling and optimization of an incinerator plant for the reduction of the environmental impact. International Journal of Numerical Methods for Heat and Fluid Flow, 2015, 25, 1463-1487.	2.8	9
61	Temperature Effect on Rheological Behavior of Silicone Oils. A Model for the Viscous Heating. Journal of Physical Chemistry B, 2017, 121, 7048-7054.	2.6	9
62	Energy Analysis of a Small Geothermal District Heating System in Southern Italy. International Journal of Heat and Technology, 2016, 34, S519-S527.	0.6	9
63	Effects of Inhomogeneities on Heat and Mass Transport Phenomena in Thermal Bridges. Energies, 2016, 9, 126.	3.1	8
64	Strong temperature dependent viscosity effects on bio-magnetic fluid flow under the action of localized magnetic field and viscous dissipation. Journal of Molecular Liquids, 2017, 248, 616-625.	4.9	8
65	A novel patientâ€oriented numerical procedure for glaucoma drainage devices. International Journal for Numerical Methods in Biomedical Engineering, 2018, 34, e3141.	2.1	8
66	Ultrafine particle transport inside an operating room equipped with turbulent diffusers. Journal of Building Performance Simulation, 2020, 13, 443-455.	2.0	8
67	Design of a novel heating device for infusion fluids in vitrectomy. Applied Thermal Engineering, 2018, 128, 625-636.	6.0	7
68	A novel model for macroscopic simulation of oscillating heat and fluid flow in porous media. International Journal of Thermal Sciences, 2022, 181, 107758.	4.9	7
69	A metrological analysis of a (Direct Digital Control) DDC-based air conditioning system. Energy and Buildings, 1999, 29, 155-166.	6.7	6
70	A general numerical procedure for solidification and melting in porous media and free fluids. International Journal of Thermal Sciences, 2021, 161, 106716.	4.9	6
71	Transient Natural Convection in Partially Porous Vertical Annuli. International Journal of Heat and Technology, 2016, 34, S512-S518.	0.6	6
72	Effectiveness of flow obstructions in enhancing electro-osmotic flow. Microfluidics and Nanofluidics, 2017, 21, 1.	2.2	5

#	Article	IF	Citations
73	Innovative Solutions to Use Ground-Coupled Heat Pumps in Historical Buildings: A Test Case in the City of Napoli, Southern Italy. Energies, 2021, 14, 296.	3.1	5
74	Sparce Subspace Learning and Characteristic Based Split for Modelling Artificial Ground Freezing. International Journal of Heat and Mass Transfer, 2021, 180, 121789.	4.8	5
75	Combined heat and power production based on sewage sludge gasification: An energy-efficient solution for wastewater treatment plants. Energy Conversion and Management: X, 2022, 13, 100171.	1.6	5
76	An elasto-plastic model of thermal contact conductance between nominally flat surfaces in vacuum. International Communications in Heat and Mass Transfer, 2003, 30, 921-930.	5.6	4
77	Thermo-mechanical behaviour of energy pile in underground railway construction site. , 2016, , 83-88.		4
78	A novel single domain approach for numerical modelling Solid Oxide Fuel Cells (SOFCs). International Journal of Numerical Methods for Heat and Fluid Flow, 2010, 20, .	2.8	3
79	4 The finite element method: discretization and application to heat convection problems. Developments in Heat Transfer, 2010, , 129-170.	0.1	3
80	Numerical performance assessment of a novel Darrieus-style VAWT with auxiliary straight blades. Journal of Physics: Conference Series, 2020, 1589, 012020.	0.4	2
81	Heat and fluid flow in electro-osmotically driven systems. Energy Procedia, 2017, 126, 91-98.	1.8	1
82	A novel approach for the numerical analysis of waste-to-energy plants. Journal of Physics: Conference Series, 2020, 1599, 012025.	0.4	1
83	A novel low enthalpy geothermal energy system based on ground freezing probes. , 2019, , 1294-1303.		1
84	Influence of one porous layer insert on the transient heat transfer in a tall annulus in presence of large source terms. International Journal of Heat and Technology, 2017, 35, S478-S484.	0.6	1
85	Coupled Geothermal Energy Simulations. Journal of Physics: Conference Series, 2022, 2177, 012004.	0.4	1
86	A Numerical Model for Solid Oxide Fuel Cells. , 2006, , 293.		0
87	Analysis of Temperature and Residence Time of the Exhausts in the Combustion Chamber of an Incinerator Plant. , 2008, , .		0
88	Techno-Economic Assessment of Combined Heat and Power Units Fuelled by Waste Vegetable Oil for Wastewater Treatment Plants: A Real Case Study. Advances in Science, Technology and Innovation, 2020, , 345-348.	0.4	0