

# Francesco Iacoviello

## List of Publications by Year in descending order

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66  
papers

1,581  
citations

236925

25  
h-index

345221

36  
g-index

70  
all docs

70  
docs citations

70  
times ranked

2011  
citing authors

#	ARTICLE	IF	CITATIONS
1	Antarctic ice sheet sensitivity to atmospheric CO <sub>2</sub> variations in the early to mid-Miocene. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 3453-3458.	7.1	133
2	Quantifying the anisotropy and tortuosity of permeable pathways in clay-rich mudstones using models based on X-ray tomography. Scientific Reports, 2017, 7, 14838.	3.3	97
3	Investigation of Hot Pressed Polymer Electrolyte Fuel Cell Assemblies via X-ray Computed Tomography. Electrochimica Acta, 2017, 242, 125-136.	5.2	74
4	Aqueous Inks of Pristine Graphene for 3D Printed Microsupercapacitors with High Capacitance. ACS Nano, 2021, 15, 15342-15353.	14.6	60
5	Laser preparation of geometrically optimised samples for X-ray nano-CT. Journal of Microscopy, 2017, 267, 384-396.	1.8	54
6	The effect of non-uniform compression and flow-field arrangements on membrane electrode assemblies - X-ray computed tomography characterisation and effective parameter determination. Journal of Power Sources, 2019, 426, 97-110.	7.8	46
7	Novel laboratory investigation of huff-n-puff gas injection for shale oils under realistic reservoir conditions. Fuel, 2021, 284, 118950.	6.4	43
8	In situ compression and X-ray computed tomography of flow battery electrodes. Journal of Energy Chemistry, 2018, 27, 1353-1361.	12.9	42
9	Correlative study of microstructure and performance for porous transport layers in polymer electrolyte membrane water electrolyzers by X-ray computed tomography and electrochemical characterization. International Journal of Hydrogen Energy, 2019, 44, 19519-19532.	7.1	41
10	Enhanced primary productivity and magnetotactic bacterial production in response to middle Eocene warming in the Neo-Tethys Ocean. Palaeogeography, Palaeoclimatology, Palaeoecology, 2014, 414, 32-45.	2.3	37
11	4D nano-tomography of electrochemical energy devices using lab-based X-ray imaging. Nano Energy, 2018, 47, 556-565.	16.0	37
12	Virtual unrolling of spirally-wound lithium-ion cells for correlative degradation studies and predictive fault detection. Sustainable Energy and Fuels, 2019, 3, 2972-2976.	4.9	37
13	Enhanced composite plate impact damage detection and characterisation using X-Ray refraction and scattering contrast combined with ultrasonic imaging. Composites Part B: Engineering, 2020, 181, 107579.	12.0	37
14	A spinal organ of proprioception for integrated motor action feedback. Neuron, 2021, 109, 1188-1201.e7.	8.1	36
15	A Structure and Durability Comparison of Membrane Electrode Assembly Fabrication Methods: Self-Assembled Versus Hot-Pressed. Journal of the Electrochemical Society, 2018, 165, F3045-F3052.	2.9	34
16	X-ray tomography and modelling study on the mechanical behaviour and performance of metal foam flow-fields for polymer electrolyte fuel cells. International Journal of Hydrogen Energy, 2019, 44, 7583-7595.	7.1	34
17	Effect of Microstructure of Porous Transport Layer on Performance in Polymer Electrolyte Membrane Water Electrolyser. Energy Procedia, 2018, 151, 111-119.	1.8	33
18	Multi-Scale Imaging of Polymer Electrolyte Fuel Cells using X-ray Micro- and Nano-Computed Tomography, Transmission Electron Microscopy and Helium Ion Microscopy. Fuel Cells, 2019, 19, 35-42.	2.4	31

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19	3D Imaging of Lithium Protrusions in Solid-State Lithium Batteries using X-Ray Computed Tomography. <i>Advanced Functional Materials</i> , 2021, 31, 2007564.	14.9	31
20	Correlative acoustic time-of-flight spectroscopy and X-ray imaging to investigate gas-induced delamination in lithium-ion pouch cells during thermal runaway. <i>Journal of Power Sources</i> , 2020, 470, 228039.	7.8	30
21	Microstructure analysis and image-based modelling of face masks for COVID-19 virus protection. <i>Communications Materials</i> , 2021, 2, .	6.9	30
22	Provenance and geological significance of red mud and other clastic sediments of the Mugnano cave (Montagnola Senese, Italy). <i>International Journal of Speleology</i> , 2012, 41, 317-328.	1.0	29
23	MicroCT optimisation for imaging fascicular anatomy in peripheral nerves. <i>Journal of Neuroscience Methods</i> , 2020, 338, 108652.	2.5	29
24	X-ray Phase-Contrast Radiography and Tomography with a Multiaperture Analyzer. <i>Physical Review Letters</i> , 2017, 118, 243902.	7.8	27
25	Environmental magnetic implications of magnetofossil occurrence during the Middle Eocene Climatic Optimum (MECO) in pelagic sediments from the equatorial Indian Ocean. <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> , 2016, 441, 212-222.	2.3	26
26	Three-Phase Segmentation of Solid Oxide Fuel Cell Anode Materials Using Lab Based X-Ray Nano-Computed Tomography. <i>Fuel Cells</i> , 2017, 17, 75-82.	2.4	26
27	Imaging fascicular organization of rat sciatic nerves with fast neural electrical impedance tomography. <i>Nature Communications</i> , 2020, 11, 6241.	12.8	24
28	Metabolically diverse primordial microbial communities in Earth's oldest seafloor-hydrothermal jasper. <i>Science Advances</i> , 2022, 8, eabm2296.	10.3	24
29	The Imaging Resolution and Knudsen Effect on the Mass Transport of Shale Gas Assisted by Multi-length Scale X-Ray Computed Tomography. <i>Scientific Reports</i> , 2019, 9, 19465.	3.3	22
30	Prevention of lithium-ion battery thermal runaway using polymer-substrate current collectors. <i>Cell Reports Physical Science</i> , 2021, 2, 100360.	5.6	22
31	Pore structure development during hydration of tricalcium silicate by X-ray nano-imaging in three dimensions. <i>Construction and Building Materials</i> , 2019, 200, 318-323.	7.2	21
32	Three-Dimensional Visualization of Conductive Domains in Battery Electrodes with Contrast-Enhancing Nanoparticles. <i>ACS Applied Energy Materials</i> , 2018, 1, 4479-4484.	5.1	20
33	Evolution with depth from detrital to authigenic smectites in sediments from AND-2A drill core (McMurdo Sound, Antarctica). <i>Clay Minerals</i> , 2012, 47, 481-498.	0.6	19
34	Geosources for ceramic production: The clays from the Neogene-Quaternary Albegna Basin (southern Tuscany). <i>Applied Clay Science</i> , 2014, 91-92, 105-116.	5.2	17
35	In-situ X-ray tomographic imaging study of gas and structural evolution in a commercial Li-ion pouch cell. <i>Journal of Power Sources</i> , 2022, 520, 230818.	7.8	17
36	The multiscale hierarchical structure of <i>Heloderma suspectum</i> osteoderms and their mechanical properties. <i>Acta Biomaterialia</i> , 2020, 107, 194-203.	8.3	16

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37	Examining the effect of the secondary flow-field on polymer electrolyte fuel cells using X-ray computed radiography and computational modelling. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 1139-1150.	7.1	15
38	Dendritic silver self-assembly in molten-carbonate membranes for efficient carbon dioxide capture. <i>Energy and Environmental Science</i> , 2020, 13, 1766-1775.	30.8	15
39	Correlation of X-ray diffraction signatures of breast tissue and their histopathological classification. <i>Scientific Reports</i> , 2017, 7, 12998.	3.3	14
40	Multimodal Phase-Based X-Ray Microtomography with Nonmicrofocal Laboratory Sources. <i>Physical Review Applied</i> , 2017, 8, .	3.8	14
41	Thermally Driven SOFC Degradation in 4D: Part I. Microscale. <i>Journal of the Electrochemical Society</i> , 2018, 165, F921-F931.	2.9	14
42	X-ray Nano-computed Tomography of Electrochemical Conversion in Lithium-ion Battery. <i>ChemSusChem</i> , 2019, 12, 3550-3561.	6.8	14
43	Evidence of structural cavities in 3D printed acetabular cups for total hip arthroplasty. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2020, 108, 1779-1789.	3.4	14
44	Three dimensional characterisation of chromatography bead internal structure using X-ray computed tomography and focused ion beam microscopy. <i>Journal of Chromatography A</i> , 2018, 1566, 79-88.	3.7	13
45	Thermally Driven SOFC Degradation in 4D: Part II. Macroscale. <i>Journal of the Electrochemical Society</i> , 2018, 165, F932-F941.	2.9	12
46	Anomalous transport of colloids in heterogeneous porous media: A multi-scale statistical theory. <i>Journal of Colloid and Interface Science</i> , 2022, 617, 94-105.	9.4	11
47	A Multiscale X-ray Tomography Study of the Cycled-induced Degradation in Magnesium-Sulfur Batteries. <i>Small Methods</i> , 2021, 5, e2001193.	8.6	10
48	Clay minerals in cave sediments and terra rossa soils in the Montagnola Senese karst massif (Italy). <i>Geological Quarterly</i> , 2013, 57, .	0.2	10
49	Miocene Glacial Dynamics Recorded by Variations in Magnetic Properties in the ANDRILL-2A Drill Core. <i>Journal of Geophysical Research: Solid Earth</i> , 2019, 124, 2297-2312.	3.4	9
50	Ultra high-resolution biomechanics suggest that substructures within insect mechanosensors decisively affect their sensitivity. <i>Journal of the Royal Society Interface</i> , 2022, 19, 20220102.	3.4	9
51	Improved X-ray computed tomography reconstruction of the largest fragment of the Antikythera Mechanism, an ancient Greek astronomical calculator. <i>PLoS ONE</i> , 2018, 13, e0207430.	2.5	8
52	Packed bed compression visualisation and flow simulation using an erosion-dilation approach. <i>Journal of Chromatography A</i> , 2020, 1611, 460601.	3.7	7
53	Microporous Biodegradable Films Promote Therapeutic Angiogenesis. <i>Advanced Healthcare Materials</i> , 2020, 9, e2000806.	7.6	7
54	Rapid Preparation of Geometrically Optimal Battery Electrode Samples for Nano Scale X-ray Characterisation. <i>Journal of the Electrochemical Society</i> , 2020, 167, 060512.	2.9	7

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55	An open-source platform for 3D-printed redox flow battery test cells. <i>Sustainable Energy and Fuels</i> , 2022, 6, 1529-1540.	4.9	7
56	A multi-method assessment of 3D printed micromorphological osteological features. <i>International Journal of Legal Medicine</i> , 2022, 136, 1391-1406.	2.2	6
57	Evaluating microstructure evolution in an SOFC electrode using digital volume correlation. <i>Sustainable Energy and Fuels</i> , 2018, 2, 2625-2635.	4.9	4
58	Motion-enhancement assisted digital image correlation of lithium-ion batteries during lithiation. <i>Journal of Power Sources</i> , 2022, 527, 231150.	7.8	4
59	In situ x-ray computed tomography of zinc-air primary cells during discharge: correlating discharge rate to anode morphology. <i>JPhys Materials</i> , 2022, 5, 014001.	4.2	4
60	The Time-Dependent Role of Bisphosphonates on Atherosclerotic Plaque Calcification. <i>Journal of Cardiovascular Development and Disease</i> , 2022, 9, 168.	1.6	3
61	Alteration of volcanic deposits in the ANDRILL AND-1B core: Influence of paleodeposition, eruptive style, and magmatic composition. , 2013, 9, 275-286.		2
62	Early Miocene Antarctic glacial history: new insights from heavy mineral analysis from ANDRILL AND-2A drill core sediments. <i>International Journal of Earth Sciences</i> , 2015, 104, 853-872.	1.8	2
63	High-resolution imaging of depth filter structures using X-ray computed tomography. <i>Journal of Materials Science</i> , 2021, 56, 15313.	3.7	1
64	Liposome Sterile Filtration Characterization via X-ray Computed Tomography and Confocal Microscopy. <i>Membranes</i> , 2021, 11, 905.	3.0	1
65	Fascicular Organisation and Neuroanatomy of the Porcine and Human Vagus Nerves: Allowing for Spatially Selective Vagus Nerve Stimulation. <i>FASEB Journal</i> , 2022, 36, .	0.5	1
66	Use of Photon Scattering Interactions in Diagnosis and Treatment of Disease. , 2018, , 135-158.		0