Alessia Cedola

List of Publications by Year
in descending order

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114 papers	2,494 citations	201674 27 h-index	223800 46 g-index
117 all docs	117 docs citations	117 times ranked	2360 citing authors

#	Article	IF	Citations
1	Non-destructive determination of local strain with 100-nanometre spatial resolution. Nature, 2000, 403, 638-640.	27.8	145
2	Engineering of bone using bone marrow stromal cells and a silicon-stabilized tricalcium phosphate bioceramic: Evidence for a coupling between bone formation and scaffold resorption. Biomaterials, 2007, 28, 1376-1384.	11.4	126
3	Phase contrast hard x-ray microscopy with submicron resolution. Applied Physics Letters, 1997, 71, 2557-2559.	3.3	113
4	SYRMEP Tomo Project: a graphical user interface for customizing CT reconstruction workflows. Advanced Structural and Chemical Imaging, 2017, 3, 4.	4.0	111
5	Bulk and interface investigations of scaffolds and tissue-engineered bones by X-ray microtomography and X-ray microdiffraction. Biomaterials, 2007, 28, 2505-2524.	11.4	110
6	Properties of a submicrometer xâ€ray beam at the exit of a waveguide. Journal of Applied Physics, 1996, 80, 4831-4836.	2.5	90
7	Microdiffraction Experiments on Single Polymeric Fibers by Synchrotron Radiation. Macromolecules, 1997, 30, 1033-1037.	4.8	86
8	High gain beam compression in new-generation thin-film x-ray waveguides. Applied Physics Letters, 2001, 78, 1192-1194.	3.3	84
9	Submicrometer x-ray beam production by a thin film waveguide. Journal of Applied Physics, 1996, 79, 4471.	2.5	79
10	Simultaneous submicrometric 3D imaging of the micro-vascular network and the neuronal system in a mouse spinal cord. Scientific Reports, 2015, 5, 8514.	3.3	73
11	Microcrystallography with an X-ray waveguide. Journal of Applied Crystallography, 2000, 33, 1231-1240.	4.5	68
12	X-Ray Phase Contrast Tomography Reveals Early Vascular Alterations and Neuronal Loss in a Multiple Sclerosis Model. Scientific Reports, 2017, 7, 5890.	3.3	64
13	Kinetics ofIn VivoBone Deposition by Bone Marrow Stromal Cells into Porous Calcium Phosphate Scaffolds: An X-Ray Computed Microtomography Study. Tissue Engineering, 2006, 12, 3449-3458.	4.6	63
14	Exploring Alzheimer's disease mouse brain through X-ray phase contrast tomography: From the cell to the organ. NeuroImage, 2019, 184, 490-495.	4.2	56
15	Submicrometre resolution phase-contrast radiography with the beam from an X-ray waveguide. Journal of Synchrotron Radiation, 1998, 5, 376-378.	2.4	50
16	Techniques for mechanical strain analysis in sub-micrometer structures: TEM/CBED, micro-Raman spectroscopy, X-ray micro-diffraction and modeling. Microelectronic Engineering, 2003, 70, 425-435.	2.4	44
17	Recent advances in superhydrophobic surfaces and their relevance to biology and medicine. Bioinspiration and Biomimetics, 2016, 11, 011001.	2.9	44
18	Hard x-ray contact microscopy with 250nm spatial resolution using a LiF film detector and a tabletop microsource. Applied Physics Letters, 2006, 89, 054102.	3.3	41

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19	Quantitative 3D investigation of Neuronal network in mouse spinal cord model. Scientific Reports, 2017, 7, 41054.	3.3	40
20	Synchrotron Radiation Microtomography of Bone Engineered from Bone Marrow Stromal Cells. Tissue Engineering, 2004, 10, 1767-1774.	4.6	36
21	Early stage mineralization in tissue engineering mapped by high resolution X-ray microdiffraction. Acta Biomaterialia, 2012, 8, 3411-3418.	8.3	36
22	Wave-Field Formation in a Hollow X-Ray Waveguide. Physical Review Letters, 2006, 97, 184801.	7.8	35
23	In-line holography and coherent diffractive imaging with x-ray waveguides. Physical Review B, 2008, 77, .	3.2	32
24	Heterogeneous and self-organizing mineralization of bone matrix promoted by hydroxyapatite nanoparticles. Nanoscale, 2017, 9, 17274-17283.	5.6	31
25	Imaging collagen packing dynamics during mineralization of engineered bone tissue. Acta Biomaterialia, 2015, 23, 309-316.	8.3	30
26	Engineered bone from bone marrow stromal cells: a structural study by an advanced x-ray microdiffraction technique. Physics in Medicine and Biology, 2006, 51, N109-N116.	3.0	28
27	Three dimensional visualization of engineered bone and soft tissue by combined x-ray micro-diffraction and phase contrast tomography. Physics in Medicine and Biology, 2014, 59, 189-201.	3.0	27
28	Virtual unrolling and deciphering of Herculaneum papyri by X-ray phase-contrast tomography. Scientific Reports, 2016, 6, 27227.	3.3	27
29	Xâ€ray microtomography and phylogenomics provide insights into the morphology and evolution of an enigmatic Mesozoic insect larva. Systematic Entomology, 2021, 46, 672-684.	3.9	27
30	X-ray nano-diffraction: 100 nm resolution obtained in a novel imaging technique for strain measurement at buried interfaces. Microelectronic Engineering, 2000, 53, 645-648.	2.4	26
31	X-ray waveguide as a new tool for 100 nm spatially resolved x-ray strain analysis. Journal Physics D: Applied Physics, 2001, 34, A40-A43.	2.8	25
32	Orientation of mineral crystals by collagen fibers during in vivo bone engineering: An X-ray diffraction imaging study. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2007, 62, 642-647.	2.9	25
33	Debye function analysis and 2D imaging of nanoscaled engineered bone. Biomaterials, 2010, 31, 8289-8298.	11.4	23
34	Synchrotron radiation techniques boost the research in bone tissue engineering. Acta Biomaterialia, 2019, 89, 33-46.	8.3	23
35	A three-image algorithm for hard x-ray grating interferometry. Optics Express, 2013, 21, 19401.	3.4	21
36	Multiscale pink-beam microCT imaging at the ESRF-ID17 biomedical beamline. Journal of Synchrotron Radiation, 2020, 27, 1347-1357.	2.4	21

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37	Intracellular concentration map of magnesium in whole cells by combined use of X-ray fluorescence microscopy and atomic force microscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2011, 66, 834-840.	2.9	20
38	Computer simulations and experimental results on air-gap X-ray waveguides. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2007, 62, 615-621.	2.9	19
39	Assessment of plaque morphology in Alzheimerâ€™s mouse cerebellum using three-dimensional X-ray phase-based virtual histology. Scientific Reports, 2020, 10, 11233.	3.3	19
40	Ancient Greek text concealed on the back of unrolled papyrus revealed through shortwave-infrared hyperspectral imaging. Science Advances, 2019, 5, eaav8936.	10.3	18
41	Analysis of tapered front-coupling X-ray waveguides. Journal of Synchrotron Radiation, 2010, 17, 61-68.	2.4	17
42	Wet sample confinement by superhydrophobic patterned surfaces for combined X-ray fluorescence and X-ray phase contrast imaging. Microelectronic Engineering, 2013, 111, 304-309.	2.4	17
43	New insights on the biomineralisation process developing in human lungs around inhaled asbestos fibres. Scientific Reports, 2017, 7, 44862.	3.3	17
44	Spatial coherence of X-ray planar waveguide exiting radiation. Optics Communications, 2003, 217, 31-45.	2.1	16
45	X-ray phase contrast microscopy at 300 nm resolution with laboratory sources. Optics Express, 2010, 18, 15998.	3.4	16
46	In-line phase-contrast imaging for strong absorbing objects. Physics in Medicine and Biology, 2008, 53, 6619-6637.	3.0	15
47	Characterization of mouse spinal cord vascular network by means of synchrotron radiation X-ray phase contrast tomography. Physica Medica, 2016, 32, 1779-1784.	0.7	15
48	Electromagnetic field resonance in thin amorphous films: a tool for non-destructive localization of thin marker layers by use of a standard X-ray tube. Thin Solid Films, 1996, 287, 288-292.	1.8	14
49	Advances in Microdiffraction with X-Ray Waveguide. Crystal Research and Technology, 2002, 37, 758.	1.3	14
50	Toward the X-Ray Microdiffraction Imaging of Bone and Tissue-Engineered Bone. Tissue Engineering - Part B: Reviews, 2009, 15, 423-442.	4.8	14
51	An improved ring removal procedure for in-line x-ray phase contrast tomography. Physics in Medicine and Biology, 2018, 63, 045007.	3.0	14
52	High spatial resolution X-ray microdiffraction applied to biomaterial studies and archeometry. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2004, 59, 1557-1564.	2.9	12
53	Imaging regenerating bone tissue based on neural networks applied to micro-diffraction measurements. Applied Physics Letters, 2013, 103, 253703.	3.3	12
54	X-ray fluorescence microscopy of light elements in cells: self-absorption correction by integration of compositional and morphological measurements. Journal of Physics: Conference Series, 2013, 463, 012022.	0.4	12

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55	X-ray Phase Contrast Tomography Serves Preclinical Investigation of Neurodegenerative Diseases. Frontiers in Neuroscience, 2020, 14, 584161.	2.8	12
56	X-ray phase contrast tomography for the investigation of amyotrophic lateral sclerosis. Journal of Synchrotron Radiation, 2020, 27, 1042-1048.	2.4	11
57	Sub-micrometre coherent beams from x-ray waveguides: principles and applications. Journal Physics D: Applied Physics, 1999, 32, A179-A183.	2.8	10
58	Some applications of nanotechnologies in stem cells research. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2009, 165, 139-147.	3.5	10
59	High-Resolution X-Ray Techniques as New Tool to Investigate the 3D Vascularization of Engineered-Bone Tissue. Frontiers in Bioengineering and Biotechnology, 2015, 3, 133.	4.1	10
60	Hydroxycarboxylic Acid Receptor 2, a Pleiotropically Linked Receptor for the Multiple Sclerosis Drug, Monomethyl Fumarate. Possible Implications for the Inflammatory Response. Frontiers in Immunology, 2021, 12, 655212.	4.8	10
61	Fractal Dimension Analysis of High-Resolution X-Ray Phase Contrast Micro-Tomography Images at Different Threshold Levels in a Mouse Spinal Cord. Condensed Matter, 2018, 3, 48.	1.8	9
62	Submicrometre Beams from a Hard X-ray Waveguide at a Third-Generation Synchrotron Radiation Source. Journal of Synchrotron Radiation, 1998, 5, 17-22.	2.4	8
63	X-ray micro-diffraction analysis of reconstructed bone at Zr prosthetic surface with sub-micrometre spatial resolution. Physics in Medicine and Biology, 2003, 48, N37-N48.	3.0	8
64	X-ray waveguides for laboratory sources. Journal Physics D: Applied Physics, 2005, 38, A213-A217.	2.8	8
65	Canonical correlation and quantitative phase analysis of microdiffraction patterns in bone-tissue engineering. Journal of Applied Crystallography, 2007, 40, 865-873.	4.5	8
66	Assessment of the effects of different sample perfusion procedures on phase-contrast tomographic images of mouse spinal cord. Journal of Instrumentation, 2018, 13, C03027-C03027.	1.2	7
67	Multiscale Imaging Approach for Studying the Central Nervous System: Methodology and Perspective. Frontiers in Neuroscience, 2020, 14, 72.	2.8	7
68	A computational platform for the virtual unfolding of Herculaneum Papyri. Scientific Reports, 2021, 11, 1695.	3.3	7
69	From Surface Xâ€ray Standing Waves to Waveguides: Principles and Applications. Synchrotron Radiation News, 2004, 17, 30-36.	0.8	6
70	Phase retrieval in x-ray coherent Fresnel projection-geometry diffraction. Applied Physics Letters, 2007, 90, 041105.	3.3	6
71	Assessing denoising strategies to increase signal to noise ratio in spinal cord and in brain cortical and subcortical regions. Journal of Instrumentation, 2018, 13, C02028-C02028.	1.2	6
72	Chemo-physical properties of asbestos bodies in human lung tissues studied at the nano-scale by non-invasive, label free x-ray imaging and spectroscopic techniques. Toxicology Letters, 2021, 348, 18-27.	0.8	6

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73	Metabolic Remodeling in Skeletal Muscle Atrophy as a Therapeutic Target. Metabolites, 2021, 11, 517.	2.9	6
74	Thin film X-ray waveguides: â€˜Condenser systemsâ€™ for experiments with X-ray beams of 0.1 Î¼m dimension. Journal of Alloys and Compounds, 1999, 286, 9-13.	5.5	5
75	Theoretical considerations for X-ray phase contrast mammography by Thomson source. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 608, S23-S27.	1.6	5
76	Resonance modes filtering in structured x-ray waveguides. Optics Letters, 2011, 36, 2602.	3.3	5
77	Investigation of the human pineal gland 3D organization by X-ray phase contrast tomography. Journal of Structural Biology, 2020, 212, 107659.	2.8	5
78	3D Spatial Distribution of Nanoparticles in Mice Brain Metastases by X-ray Phase-Contrast Tomography. Frontiers in Oncology, 2021, 11, 554668.	2.8	5
79	Steerable3D: An ImageJ plugin for neurovascular enhancement in 3-D segmentation. Physica Medica, 2021, 81, 197-209.	0.7	5
80	High resolution 3D visualization of the spinal cord in a post-mortem murine model. Biomedical Optics Express, 2020, 11, 2235.	2.9	5
81	Dispersion properties of x-ray waveguides. Applied Optics, 2006, 45, 2821.	2.1	4
82	X-ray point- and line-projection microscopy and diffraction. Optics Communications, 2006, 265, 18-28.	2.1	4
83	Modelling of Phase Contrast Imaging with X-ray Wavefront Sensor and Partial Coherence Beams. Sensors, 2020, 20, 6469.	3.8	4
84	X-ray standing wave study of Si/Ge superlattices. Applied Surface Science, 1996, 102, 62-66.	6.1	3
85	The application of resonantly enhanced X-ray standing waves in fluorescence and waveguide experiments. Spectrochimica Acta, Part B: Atomic Spectroscopy, 1999, 54, 1487-1495.	2.9	3
86	Visible emitting color centers in lithium fluoride for X-ray imaging applications. Radiation Measurements, 2010, 45, 599-601.	1.4	3
87	Recent developments on techniques for differential phase imaging at the medical beamline of ELETTRA. Journal of Instrumentation, 2013, 8, C06001-C06001.	1.2	3
88	X-ray micro-beam techniques and phase contrast tomography applied to biomaterials. Nuclear Instruments & Methods in Physics Research B, 2015, 364, 93-97.	1.4	3
89	X-ray characterization of Si microstructures with high spatial resolution. Journal of Applied Physics, 2004, 95, 1662-1666.	2.5	2
90	An automatic analysis of strain-depth profile in X-ray microdiffraction. Physica B: Condensed Matter, 2004, 353, 104-110.	2.7	2

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91	Advancements in X-ray waveguides and their applications in coherent diffraction imaging. Radiation Physics and Chemistry, 2009, 78, S42-S45.	2.8	2
92	F and F-aggregates colour centres in lithium fluoride for high spatial resolution x-ray imaging. Journal of Physics: Conference Series, 2010, 249, 012003.	0.4	2
93	Iterative retrieval of one-dimensional x ray wave field using a single intensity measurement. Optics Letters, 2012, 37, 262.	3.3	2
94	Periodically structured X-ray waveguides. Journal of Synchrotron Radiation, 2013, 20, 691-697.	2.4	2
95	3D map of theranostic nanoparticles distribution in mice brain and liver by means of X-ray Phase Contrast Tomography. Journal of Instrumentation, 2018, 13, C01049-C01049.	1.2	2
96	Asbestos bodies count and morphometry in bulk lung tissue samples by non-invasive X-ray micro-tomography. Scientific Reports, 2021, 11, 10608.	3.3	2
97	X-ray micro-diffraction analysis of reconstructed bone at Zr prosthetic surface with sub-micrometer spatial resolution. European Physical Journal Special Topics, 2003, 104, 329-332.	0.2	2
98	Orthotropic artifacts suppression for THz and x-ray images using guided filtering. , 2020, , .		2
99	High-Sensitivity X-ray Phase Imaging System Based on a Hartmann Wavefront Sensor. Condensed Matter, 2022, 7, 3.	1.8	2
100	Application of resonance-enhanced X-ray standing waves to the study of layered structures by grazing-incidence X-ray reflectometry and secondary radiation. Journal of Alloys and Compounds, 1999, 286, 313-321.	5.5	1
101	<title>Design and simulation of nested x-ray mirrors</title>. , 2005, , .		1
102	Large-distance refocusing of a submicrometre beam from an X-ray waveguide. Journal of Synchrotron Radiation, 2006, 13, 85-87.	2.4	1
103	Numerical simulation of the blood oxygenation levelâ€“dependent functional magnetic resonance signal using finite element method. International Journal for Numerical Methods in Biomedical Engineering, 2020, 36, e3290.	2.1	1
104	Phase-Contrast Tomography with X-ray Hartmann wavefront sensor. , 2021, , .		1
105	Theoretical Analysis of X-Ray Waveguides. , 2008, , 91-111.		1
106	Simultaneous iterative reconstruction method for high resolution x-ray phase-contrast tomography. , 2020, , .		1
107	Hybrid Nanoparticles as Theranostics Platforms for Glioblastoma Treatment: Phototherapeutic and X-ray Phase Contrast Tomography Investigations. Journal of Nanotheranostics, 2022, 3, 1-17.	3.1	1
108	<title>High-resolution phase contrast microscopy with a hard x-ray waveguide</title>. , 1997, , .		0

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109	<title>Ten years of x-ray waveguides: past, present and future</title>. , 2005, , .		0
110	Combined X-ray Microfluorescence and Atomic Force Microscopy Studies of Mg Distribution in Whole Cells. , 2011, , .		0
111	X-RAY WAVEGUIDES. Series on Synchrotron Radiation Techniques and Applications, 2013, , 143-162.	0.2	0
112	Magnesium intracellular content and distribution map in drug-resistant and -sensitive whole cells. Journal of Biological Research (Italy), 2014, 87, .	0.1	0
113	Investigation of Herculaneum Papyri by X-Ray Phase-Contrast Tomography. , 2019, , 299-324.		0
114	3D imaging of theranostic nanoparticles in mice organs by means of x-ray phase contrast tomography. , 2018, , .		0