Leonardo Ricotti

List of Publications by Year
in descending order

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119 papers	3,574 citations	136885 32 h-index	161767 54 g-index
121 all docs	121 docs citations	121 times ranked	4748 citing authors

#	Article	IF	Citations
1	Biohybrid actuators for robotics: A review of devices actuated by living cells. Science Robotics, 2017, 2, .	9.9	334
2	Enhancement of Neurite Outgrowth in Neuronal-Like Cells following Boron Nitride Nanotube-Mediated Stimulation. ACS Nano, 2010, 4, 6267-6277.	7.3	208
3	Sockets for Limb Prostheses: A Review of Existing Technologies and Open Challenges. IEEE Transactions on Biomedical Engineering, 2018, 65, 1996-2010.	2.5	156
4	MEMS Sensor Technologies for Human Centred Applications in Healthcare, Physical Activities, Safety and Environmental Sensing: A Review on Research Activities in Italy. Sensors, 2015, 15, 6441-6468.	2.1	125
5	Microwrinkled Conducting Polymer Interface for Anisotropic Multicellular Alignment. ACS Applied Materials & Interfaces, 2013, 5, 573-584.	4.0	106
6	Piezoelectric Nanomaterials Activated by Ultrasound: The Pathway from Discovery to Future Clinical Adoption. ACS Nano, 2021, 15, 11066-11086.	7.3	102
7	Effects of barium titanate nanoparticles on proliferation and differentiation of rat mesenchymal stem cells. Colloids and Surfaces B: Biointerfaces, 2013, 102, 312-320.	2.5	93
8	Tuning acoustic and mechanical properties of materials for ultrasound phantoms and smart substrates for cell cultures. Acta Biomaterialia, 2017, 49, 368-378.	4.1	92
9	Bio-hybrid muscle cell-based actuators. Biomedical Microdevices, 2012, 14, 987-998.	1.4	91
10	Investigation of interactions between poly-L-lysine-coated boron nitride nanotubes and C2C12 cells: up-take, cytocompatibility, and differentiation. International Journal of Nanomedicine, 2010, 5, 285.	3.3	90
11	Proliferation and skeletal myotube formation capability of C2C12 and H9c2 cells on isotropic and anisotropic electrospun nanofibrous PHB scaffolds. Biomedical Materials (Bristol), 2012, 7, 035010.	1.7	84
12	Boron Nitride Nanotube-Mediated Stimulation of Cell Co-Culture on Micro-Engineered Hydrogels. PLoS ONE, 2013, 8, e71707.	1.1	66
13	Static and dynamic balance in young athletes. Journal of Human Sport and Exercise, 2011, 6, 616-628.	0.2	66
14	Flexible nanofilms coated with aligned piezoelectric microfibers preserve the contractility of cardiomyocytes. Biomaterials, 2017, 139, 213-228.	5.7	62
15	Highâ€Resolution SPECT Imaging of Stimuliâ€Responsive Soft Microrobots. Small, 2019, 15, e1900709.	5.2	62
16	Selfâ€Folded Hydrogel Tubes for Implantable Muscular Tissue Scaffolds. Macromolecular Bioscience, 2018, 18, e1700377.	2.1	57
17	Symbiotic robot organisms. , 2008, , .		54
18	Evaluation of Substrata Effect on Cell Adhesion Properties Using Freestanding Poly(l-lactic acid) Nanosheets. Langmuir, 2011, 27, 13173-13182.	1.6	53

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19	Preparation, characterization and in vitro testing of poly(lactic-co-glycolic) acid/barium titanate nanoparticle composites for enhanced cellular proliferation. Biomedical Microdevices, 2011, 13, 255-266.	1.4	53
20	The bioartificial pancreas (BAP): Biological, chemical and engineering challenges. Biochemical Pharmacology, 2016, 100, 12-27.	2.0	51
21	Adhesion and proliferation of skeletal muscle cells on single layer poly(lactic acid) ultra-thin films. Biomedical Microdevices, 2010, 12, 809-819.	1.4	48
22	Magnetically driven drug delivery systems improving targeted immunotherapy for colon-rectal cancer. Journal of Controlled Release, 2018, 280, 76-86.	4.8	47
23	Advanced Micro-Nano-Bio Systems for Future Targeted Therapies. Current Nanoscience, 2015, 11, 144-160.	0.7	42
24	Graphene Oxideâ€Ðoped Gellan Gumâ€“PEGDA Bilayered Hydrogel Mimicking the Mechanical and Lubrication Properties of Articular Cartilage. Advanced Healthcare Materials, 2021, 10, e2001434.	3.9	41
25	Modeling and Fabrication of Silk Fibroinâ€“Gelatin-Based Constructs Using Extrusion-Based Three-Dimensional Bioprinting. ACS Biomaterials Science and Engineering, 2021, 7, 3306-3320.	2.6	41
26	Modelling and control of HIV dynamics. Computer Methods and Programs in Biomedicine, 2008, 89, 162-168.	2.6	40
27	A Layer Jamming Actuator for Tunable Stiffness and Shape-Changing Devices. Soft Robotics, 2021, 8, 85-96.	4.6	39
28	An Intravascular Magnetic Catheter Enables the Retrieval of Nanoagents from the Bloodstream. Advanced Science, 2018, 5, 1800807.	5.6	37
29	Quantification of growth and differentiation of C2C12 skeletal muscle cells on PSSâ€“PAH-based polyelectrolyte layer-by-layer nanofilms. Biomedical Materials (Bristol), 2011, 6, 031001.	1.7	36
30	Untethered magnetic millirobot for targeted drug delivery. Biomedical Microdevices, 2015, 17, 9962.	1.4	36
31	Investigation of drug release modulation from poly(2-oxazoline) micelles through ultrasound. Scientific Reports, 2018, 8, 9893.	1.6	36
32	Analysis of Balance, Rapidity, Force and Reaction Times of Soccer Players at Different Levels of Competition. PLoS ONE, 2013, 8, e77264.	1.1	34
33	Optimal Ultrasound Exposure Conditions for Maximizing C2C12 Muscle Cell Proliferation and Differentiation. Ultrasound in Medicine and Biology, 2017, 43, 1452-1465.	0.7	33
34	Skeletal muscle differentiation of human iPSCs meets bioengineering strategies: perspectives and challenges. Npj Regenerative Medicine, 2022, 7, 23.	2.5	33
35	Boron Nitride Nanotubes: Production, Properties, Biological Interactions and Potential Applications as Therapeutic Agents in Brain Diseases. Current Nanoscience, 2011, 7, 94-109.	0.7	32
36	Wearable and implantable pancreas substitutes. Journal of Artificial Organs, 2013, 16, 9-22.	0.4	32

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37	Design and Development of a Mechatronic System for Noninvasive Refilling of Implantable Artificial Pancreas. IEEE/ASME Transactions on Mechatronics, 2015, 20, 1160-1169.	3.7	32
38	3D porous polyurethanes featured by different mechanical properties: Characterization and interaction with skeletal muscle cells. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 75, 147-159.	1.5	32
39	Hypergravity effects on myoblast proliferation and differentiation. Journal of Bioscience and Bioengineering, 2012, 113, 258-261.	1.1	31
40	Bio/non-bio interfaces: A straightforward method for obtaining long term PDMS/muscle cell biohybrid constructs. Colloids and Surfaces B: Biointerfaces, 2013, 105, 144-151.	2.5	31
41	Soft Hydrogel Zwitterionic Coatings Minimize Fibroblast and Macrophage Adhesion on Polyimide Substrates. Langmuir, 2019, 35, 1085-1099.	1.6	31
42	Break dance significantly increases static balance in 9 years-old soccer players. Gait and Posture, 2011, 33, 462-465.	0.6	30
43	Nanostructured ultra-thin patches for ultrasound-modulated delivery of anti-restenotic drug. International Journal of Nanomedicine, 2016, 11, 69.	3.3	30
44	Self-assembly of polydimethylsiloxane structures from 2D to 3D for bio-hybrid actuation. Bioinspiration and Biomimetics, 2015, 10, 056001.	1.5	30
45	Biohybrid Actuators Based on Skeletal Muscle-Powered Microgrooved Ultrathin Films Consisting of Poly(styrene-block-butadiene-block-styrene). ACS Biomaterials Science and Engineering, 2019, 5, 5734-5743.	2.6	30
46	A flexible bioreactor system for constructing in vitro tissue and organ models. Biotechnology and Bioengineering, 2011, 108, 2129-2140.	1.7	29
47	Flexible polymeric ultrathin film for mesenchymal stem cell differentiation. Acta Biomaterialia, 2011, 7, 2883-2891.	4.1	28
48	A fully implantable device for intraperitoneal drug delivery refilled by ingestible capsules. Science Robotics, 2021, 6, .	9.9	28
49	Novel Ultrathin Films Based on a Blend of PEG-b-PCL and PLLA and Doped with ZnO Nanoparticles. ACS Applied Materials & Interfaces, 2020, 12, 21398-21410.	4.0	26
50	Evolutionary robotics: The next-generation-platform for on-line and on-board artificial evolution. , 2009, , .		24
51	Artificial Sphincters to Manage Urinary Incontinence: A Review. Artificial Organs, 2018, 42, E215-E233.	1.0	24
52	Is a Shorter Bar an Effective Solution to Avoid Bar Dislocation in a Nuss Procedure?. Annals of Thoracic Surgery, 2014, 97, 1022-1027.	0.7	23
53	Thin polymeric films for building biohybrid microrobots. Bioinspiration and Biomimetics, 2017, 12, 021001.	1.5	23
54	Magnetically Controlled Endourethral Artificial Urinary Sphincter. Annals of Biomedical Engineering, 2017, 45, 1181-1193.	1.3	22

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55	Polydimethylsiloxane films doped with NdFeB powder: magnetic characterization and potential applications in biomedical engineering and microrobotics. Biomedical Microdevices, 2015, 17, 112.	1.4	21
56	Pulsatile Drug Delivery System Triggered by Acoustic Radiation Force. Frontiers in Bioengineering and Biotechnology, 2020, 8, 317.	2.0	20
57	Development and validation of low-intensity pulsed ultrasound systems for highly controlled in vitro cell stimulation. Ultrasonics, 2021, 116, 106495.	2.1	19
58	Small-caliber vascular grafts based on a piezoelectric nanocomposite elastomer: Mechanical properties and biocompatibility. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 97, 138-148.	1.5	18
59	Graphene Oxide and Reduced Graphene Oxide Nanoflakes Coated with Glycol Chitosan, Propylene Glycol Alginate, and Polydopamine: Characterization and Cytotoxicity in Human Chondrocytes. Nanomaterials, 2021, 11, 2105.	1.9	18
60	Boron nitride nanotube-mediated stimulation modulates F/G-actin ratio and mechanical properties of human dermal fibroblasts. Journal of Nanoparticle Research, 2014, 16, 1.	0.8	17
61	Engineering Stem Cells For Future Medicine. IEEE Transactions on Biomedical Engineering, 2013, 60, 727-734.	2.5	16
62	Nanotechnology in biorobotics: opportunities and challenges. Journal of Nanoparticle Research, 2015, 17, 1.	0.8	16
63	Pressure mapping with textile sensors for compression therapy monitoring. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2016, 230, 795-808.	1.0	16
64	Nanocomposite thin films for triggerable drug delivery. Expert Opinion on Drug Delivery, 2018, 15, 509-522.	2.4	15
65	Residual limb volume fluctuations in transfemoral amputees. Scientific Reports, 2021, 11, 12273.	1.6	15
66	Stability andin vivosafety of gold, titanium nitride and parylene C coatings on NdFeB magnets implanted in muscles towards a new generation of myokinetic prosthetic limbs. RSC Advances, 2021, 11, 6766-6775.	1.7	13
67	An Injectable System for Local and Sustained Release of Antimicrobial Agents in the Periodontal Pocket. Macromolecular Bioscience, 2017, 17, 1700103.	2.1	12
68	Parametric design, fabrication and validation of one-way polymeric valves for artificial sphincters. Sensors and Actuators A: Physical, 2015, 233, 184-194.	2.0	11
69	Novel Nanostructured Coating on PDMS Substrates Featuring High Resistance to Urine. ACS Applied Bio Materials, 2019, 2, 255-265.	2.3	11
70	Wear Behavior Characterization of Hydrogels Constructs for Cartilage Tissue Replacement. Materials, 2021, 14, 428.	1.3	11
71	Magnetically driven microrobotic system for cancer cell manipulation. , 2015, 2015, 3631-4.		10
72	Design of a novel magnetic platform for cell manipulation. Journal of Micromechanics and Microengineering, 2018, 28, 025009.	1.5	10

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73	Retrieval of magnetic medical microrobots from the bloodstream. , 2019, , .		10
74	Monolithic Three-Dimensional Functionally Graded Hydrogels for Bioinspired Soft Robots Fabrication. Soft Robotics, 2021, , .	4.6	10
75	Nanoscaffolds for Guided Cardiac Repair: The New Therapeutic Challenge of Regenerative Medicine. Journal of Nanomaterials, 2013, 2013, 1-16.	1.5	9
76	Combined Effects of Electrical Stimulation and Protein Coatings on Myotube Formation in a Soft Porous Scaffold. Annals of Biomedical Engineering, 2020, 48, 734-746.	1.3	9
77	Guest editorial introduction to the Special Issue on bio-hybrid systems and living machines. Biomedical Microdevices, 2012, 14, 965-967.	1.4	8
78	Creep-resistant dextran-based polyurethane foam as a candidate scaffold for bone tissue engineering: Synthesis, chemico-physical characterization, and in vitro and in vivo biocompatibility. International Journal of Polymeric Materials and Polymeric Biomaterials, 2016, 65, 729-740.	1.8	8
79	Design of an innovative platform for the treatment of cerebral tumors by means of erythro-magneto-HA-virosomes. Biomedical Physics and Engineering Express, 2020, 6, 045005.	0.6	8
80	RGD-Functionalized Hydrogel Supports the Chondrogenic Commitment of Adipose Mesenchymal Stromal Cells. Gels, 2022, 8, 382.	2.1	8
81	Primers for the Adhesion of Gellan Gumâ€Based Hydrogels to the Cartilage: A Comparative Study. Macromolecular Bioscience, 2022, 22, .	2.1	8
82	Applications of Piezoelectricity in Nanomedicine. Nanomedicine and Nanotoxicology, 2012, , 213-238.	0.1	7
83	Smart Implantable Artificial Bladder: An Integrated Design for Organ Replacement. IEEE Transactions on Biomedical Engineering, 2021, 68, 2088-2097.	2.5	7
84	Comparative analysis of occlusion methods for artificial sphincters. Artificial Organs, 2020, 44, 995-1005.	1.0	7
85	Magnetic Field-Based Technologies for Lab-on-a-Chip Applications. , 0, , .		6
86	A Coupled FEMâ€SPH Modeling Technique to Investigate the Contractility of Biohybrid Thin Films. Advanced Biology, 2020, 4, e1900306.	3.0	6
87	Ultrasound Stimulations Induce Prolonged Depolarization and Fast Action Potentials in Leech Neurons. IEEE Open Journal of Engineering in Medicine and Biology, 2020, 1, 23-32.	1.7	6
88	A bio-hybrid mechanotransduction system based on ciliate cells. Microelectronic Engineering, 2015, 144, 51-56.	1.1	5
89	Polymeric Microporous Nanofilms as Smart Platforms for <italic>in Vitro</italic> Assessment of Nanoparticle Translocation and Caco-2 Cell Culture. IEEE Transactions on Nanobioscience, 2016, 15, 689-696.	2.2	5
90	Miniaturized peristaltic rotary pump for non-continuous drug dosing. , 2019, 2019, 5522-5526.		5

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91	PDMS and DLC â€coated unidirectional valves for artificial urinary sphincters: Opening performance after 126â€‰days of immersion in urine. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2021, , .	1.6	5
92	Applications of Ceramic Nanoparticles in Nanomedicine. Materials Science Forum, 0, 706-709, 467-471.	0.3	4
93	Thin and flexible pressure/deformation sensors based on piezoelectric nanocomposites. , 2014, , .		4
94	A Sensorized Nuss Bar for Patient-Specific Treatment of Pectus Excavatum. Sensors, 2014, 14, 18096-18113.	2.1	4
95	A novel strategy for long-term implantable artificial pancreas. , 2011, 2011, 2849-53.		3
96	Magnetic Sensing System for Monitoring the Volume of an Artificial Bladder. , 2018, , .		3
97	Cytotoxicity of pristine and functionalized tungsten disulfide particles in the urinary system. Journal of Nanoparticle Research, 2020, 22, 1.	0.8	3
98	Tether-colon interaction model and tribological characterization for front-wheel driven colonoscopic devices. Tribology International, 2021, 156, 106814.	3.0	3
99	A novel quantitative and reference-free ultrasound analysis to discriminate different concentrations of bone mineral content. Scientific Reports, 2021, 11, 301.	1.6	3
100	Nanostructured, highly aligned poly(hydroxy butyrate) electrospun fibers for differentiation of skeletal and cardiac muscle cells. , 2011, 2011, 3597-600.		2
101	Anisotropic Cellular Alignment on Nano-Wrinkled Polymeric Surface. Materials Research Society Symposia Proceedings, 2012, 1415, 54.	0.1	2
102	Micro and Nanowrinkled Conductive Polymer Surfaces on Shape-memory Polymer Substrates: Tuning of Surface Microfeatures Towards Smart Biointerfaces.. Materials Research Society Symposia Proceedings, 2012, 1411, 13.	0.1	2
103	Microgrooved ultra-thin films as building blocks of future bio-hybrid actuators. , 2015, 2015, 354-7.		2
104	Sensorized Orthosis for Non-Operative Treatment of $Pectus~Carinatum$ in Pediatric Patients. IEEE Transactions on Medical Robotics and Bionics, 2019, 1, 115-121.	2.1	2
105	Nanocomposite thin films based on polyethylene vinyl acetate and piezoelectric nanomaterials. , 2019, 2019, 1050-1053.		2
106	Potential applications of barium titanate nanoparticles in nanomedicine: A preliminary study. , 2010, , .		1
107	Nano-Doped Matrices for Tissue Regeneration. , 0, , .		1
108	Metal/polymer composite Nuss bar for minimally invasive bar removal after Pectus Excavatum treatment: FEM simulations. International Journal for Numerical Methods in Biomedical Engineering, 2014, 30, 1530-1540.	1.0	1

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109	Magnetically-controlled artificial urinary sphincters for severe urinary incontinence. , 2017, , .		1
110	Highly controlled and usable system for Low-Intensity Pulsed Ultrasound Stimulation of Cells. , 2019, 2019, 2513-2516.		1
111	Influence of substrate stiffness on human induced pluripotent stem cells: preliminary results*. , 2019, 2019, 1039-1043.		1
112	Bionic Organs and Tissues. IEEE Transactions on Medical Robotics and Bionics, 2021, 3, 295-296.	2.1	1
113	3D Printed Perfusable Renal Proximal Tubule Model With Different Extracellular Matrix Compositions. IEEE Transactions on Medical Robotics and Bionics, 2021, 3, 328-336.	2.1	1
114	Biohybrid Microrobots. , 2022, , 305-347.		1
115	Design, Development and Validation of a Knee Brace to Standardize the US Imaging Evaluation of Knee Osteoarthritis. IEEE Journal of Translational Engineering in Health and Medicine, 2022, 10, 1-8.	2.2	1
116	Ex-vivo quantitative ultrasound assessment of cartilage degeneration. , 2021, 2021, 2976-2980.		1
117	Thermal Analysis of Paraffin-Embedded Tissue Blocks for Anatomic Pathology Processes. Journal of Biomechanical Engineering, 2021, 143, .	0.6	0
118	RhinoFit: A Bionic Nasal Device for Mitigating Post-Operative Complications After Rhinosurgery. IEEE Transactions on Medical Robotics and Bionics, 2021, 3, 297-305.	2.1	0
119	The Italyâ€“Japan Workshop: A History of Bilateral Cooperation, Pushing the Boundaries of Robotics. IEEE Robotics and Automation Magazine, 2021, 28, 150-162.	2.2	0