

Pallab Datta

List of Publications by Year in descending order

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112
papers

4,572
citations

172443

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113
all docs

113
docs citations

113
times ranked

5509
citing authors

#	ARTICLE	IF	CITATIONS
1	TrueNorth: Design and Tool Flow of a 65 mW 1 Million Neuron Programmable Neurosynaptic Chip. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2015, 34, 1537-1557.	2.7	960
2	Bioprinting for vascular and vascularized tissue biofabrication. Acta Biomaterialia, 2017, 51, 1-20.	8.3	327
3	3D bioprinting for drug discovery and development in pharmaceuticals. Acta Biomaterialia, 2017, 57, 26-46.	8.3	229
4	Cognitive computing building block: A versatile and efficient digital neuron model for neurosynaptic cores. , 2013, , .		177
5	3D bioprinting for reconstituting the cancer microenvironment. Npj Precision Oncology, 2020, 4, 18.	5.4	163
6	Electrospun chitosan/polycaprolactone-hyaluronic acid bilayered scaffold for potential wound healing applications. International Journal of Biological Macromolecules, 2018, 116, 774-785.	7.5	153
7	TrueNorth: Accelerating From Zero to 64 Million Neurons in 10 Years. Computer, 2019, 52, 20-29.	1.1	129
8	Essential steps in bioprinting: From pre- to post-bioprinting. Biotechnology Advances, 2018, 36, 1481-1504.	11.7	105
9	Enzymatically crosslinked carboxymethyl chitosan/gelatin/nano-hydroxyapatite injectable gels for in situ bone tissue engineering application. Materials Science and Engineering C, 2011, 31, 1295-1304.	7.3	103
10	Cognitive computing programming paradigm: A Corelet Language for composing networks of neurosynaptic cores. , 2013, , .		101
11	Collagen scaffolds derived from fresh water fish origin and their biocompatibility. Journal of Biomedical Materials Research - Part A, 2012, 100A, 1068-1079.	4.0	96
12	Thermally-controlled extrusion-based bioprinting of collagen. Journal of Materials Science: Materials in Medicine, 2019, 30, 55.	3.6	86
13	Transplantation of Bioprinted Tissues and Organs. Annals of Surgery, 2017, 266, 48-58.	4.2	83
14	Cognitive computing systems: Algorithms and applications for networks of neurosynaptic cores. , 2013, , .		76
15	Accelerated healing of full thickness dermal wounds by macroporous waterborne polyurethane-chitosan hydrogel scaffolds. Materials Science and Engineering C, 2017, 81, 133-143.	7.3	72
16	3D Bioprinting of Tumor Models for Cancer Research. ACS Applied Bio Materials, 2020, 3, 5552-5573.	4.6	63
17	Natural and Synthetic Bioinks for 3D Bioprinting. Advanced NanoBiomed Research, 2021, 1, 2000097.	3.6	60
18	Ratiometric chemodosimeter: an organic-nanofiber platform for sensing lethal phosgene gas. Journal of Materials Chemistry A, 2019, 7, 1756-1767.	10.3	56

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19	Compass: A scalable simulator for an architecture for cognitive computing. , 2012, , .		55
20	Chemically modified carbon nitride-chitin-acetic acid hybrid as a metal-free bifunctional nanozyme cascade of glucose oxidase-peroxidase for colorimetric detection of peroxide and glucose. Biosensors and Bioelectronics, 2020, 154, 112072.	10.1	54
21	Hydrogels and electrospun nanofibrous scaffolds of N-methylene phosphonic chitosan as bioinspired osteoconductive materials for bone grafting. Carbohydrate Polymers, 2012, 87, 1354-1362.	10.2	53
22	Repositing honey incorporated electrospun nanofiber membranes to provide anti-oxidant, anti-bacterial and anti-inflammatory microenvironment for wound regeneration. Journal of Materials Science: Materials in Medicine, 2018, 29, 31.	3.6	49
23	3D bioprinting for modelling vasculature. Microphysiological Systems, 2018, 1, 1-1.	2.0	48
24	Alginate-honey bioinks with improved cell responses for applications as bioprinted tissue engineered constructs. Journal of Materials Research, 2018, 33, 2029-2039.	2.6	47
25	Tranexamic acid-loaded chitosan electrospun nanofibers as drug delivery system for hemorrhage control applications. Journal of Drug Delivery Science and Technology, 2019, 52, 559-567.	3.0	46
26	TrueNorth Ecosystem for Brain-Inspired Computing: Scalable Systems, Software, and Applications. , 2016, , .		44
27	Anisotropy Properties of Tissues: A Basis for Fabrication of Biomimetic Anisotropic Scaffolds for Tissue Engineering. Journal of Bionic Engineering, 2019, 16, 842-868.	5.0	44
28	Real-Time Scalable Cortical Computing at 46 Giga-Synaptic OPS/Watt with ~100x Speedup in Time-to-Solution and ~100,000x Reduction in Energy-to-Solution. , 2014, , .		43
29	Simple Bisthiocarbonohydrazone as a Sensitive, Selective, Colorimetric, and Ratiometric Fluorescent Chemosensor for Picric Acids. ACS Omega, 2017, 2, 1583-1593.	3.5	42
30	Bone tissue bioprinting for craniofacial reconstruction. Biotechnology and Bioengineering, 2017, 114, 2424-2431.	3.3	40
31	Finite element and experimental analysis to select patient's bone condition specific porous dental implant, fabricated using additive manufacturing. Computers in Biology and Medicine, 2020, 124, 103839.	7.0	36
32	Developments with 3D bioprinting for novel drug discovery. Expert Opinion on Drug Discovery, 2018, 13, 1115-1129.	5.0	35
33	Electrospun nanofibers of a phosphorylated polymer—A bioinspired approach for bone graft applications. Colloids and Surfaces B: Biointerfaces, 2012, 94, 177-183.	5.0	34
34	In Vitro ALP and Osteocalcin Gene Expression Analysis and In Vivo Biocompatibility of N-Methylene Phosphonic Chitosan Nanofibers for Bone Regeneration. Journal of Biomedical Nanotechnology, 2013, 9, 870-879.	1.1	31
35	Newer guar gum ester/chicken feather keratin interact films for tissue engineering. International Journal of Biological Macromolecules, 2021, 180, 339-354.	7.5	31
36	A solvent directed D-Fluorescent chemodosimeter for selective detection of hazardous hydrazine in real water sample and living cell. Dyes and Pigments, 2020, 173, 107997.	3.7	30

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37	Carboxymethyl guar gum synthesis in homogeneous phase and macroporous 3D scaffolds design for tissue engineering. Carbohydrate Polymers, 2018, 191, 71-78.	10.2	29
38	Challenges in Bio-fabrication of Organoid Cultures. Advances in Experimental Medicine and Biology, 2018, 1107, 53-71.	1.6	29
39	Flexible Nanogenerator from Electrospun PVDF/Polycarbazole Nanofiber Membranes for Human Motion Energy-Harvesting Device Applications. ACS Biomaterials Science and Engineering, 2021, 7, 1673-1685.	5.2	28
40	Rerouting mesenchymal stem cell trajectory towards epithelial lineage by engineering cellular niche. Biomaterials, 2018, 156, 28-44.	11.4	27
41	A comparative assessment of poly(vinylidene fluoride)/conducting polymer electrospun nanofiber membranes for biomedical applications. Journal of Applied Polymer Science, 2020, 137, 49115.	2.6	27
42	A highly selective ICT-based fluorescent probe for cysteine sensing and its application in living cell imaging. Analytical Methods, 2019, 11, 1199-1207.	2.7	25
43	A turn-on fluorescent and colorimetric chemodosimeter for selective detection of Au ³⁺ ions in solution and in live cells via Au ³⁺ -induced hydrolysis of a rhodamine-derived Schiff base. New Journal of Chemistry, 2020, 44, 7954-7961.	2.8	25
44	Bioprinting of osteochondral tissues: A perspective on current gaps and future trends. International Journal of Bioprinting, 2017, 3, 007.	3.4	25
45	Alginate-poly(amino acid) extrusion printed scaffolds for tissue engineering applications. International Journal of Polymeric Materials and Polymeric Biomaterials, 2020, 69, 65-72.	3.4	22
46	A PET based fluorescent chemosensor with real time application in monitoring formaldehyde emissions from plywood. Analytical Methods, 2018, 10, 2888-2894.	2.7	21
47	Bioprinting of radiopaque constructs for tissue engineering and understanding degradation behavior by use of Micro-CT. Bioactive Materials, 2020, 5, 569-576.	15.6	21
48	Reaction-based bi-signaling chemodosimeter probe for selective detection of hydrogen sulfide and cellular studies. New Journal of Chemistry, 2018, 42, 5367-5375.	2.8	19
49	Force modeling to develop a novel method for fabrication of hollow channels inside a gel structure. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2020, 234, 223-231.	1.8	19
50	Nanoparticulate formulations of radiopharmaceuticals: Strategy to improve targeting and biodistribution properties. Journal of Labelled Compounds and Radiopharmaceuticals, 2020, 63, 333-355.	1.0	19
51	Pre-cancer risk assessment in habitual smokers from DIC images of oral exfoliative cells using active contour and SVM analysis. Tissue and Cell, 2017, 49, 296-306.	2.2	18
52	Bioink formulations to ameliorate bioprinting-induced loss of cellular viability. Biointerphases, 2019, 14, 051006.	1.6	17
53	Deinococcus radiodurans: A novel bacterium for crack remediation of concrete with special applicability to low-temperature conditions. Cement and Concrete Composites, 2020, 108, 103523.	10.7	17
54	A Michael addition cyclization-based switch-on fluorescent chemodosimeter for cysteine and its application in live cell imaging. New Journal of Chemistry, 2018, 42, 4951-4958.	2.8	16

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55	Supramolecular Hydrogel from an Oxidized Byproduct of Tyrosine. ACS Applied Bio Materials, 2019, 2, 4881-4891.	4.6	16
56	Reaction-based ratiometric fluorescent probe for selective recognition of sulfide anions with a large Stokes shift through switching on ESIPT. New Journal of Chemistry, 2018, 42, 76-84.	2.8	15
57	A ratiometric hypochlorite sensor guided by PET controlled ESIPT output with real time application in commercial bleach. New Journal of Chemistry, 2018, 42, 15990-15996.	2.8	15
58	Chicken feather fiber-based bio-piezoelectric energy harvester: an efficient green energy source for flexible electronics. Sustainable Energy and Fuels, 2021, 5, 1857-1866.	4.9	15
59	Analysis of surgical needle insertion modeling and viscoelastic tissue material interaction for minimally invasive surgery (MIS). Materials Today: Proceedings, 2022, 57, 259-264.	1.8	15
60	Cellular behavior of L929 and MG-63 cells cultured on electrospun nanofibers of chitosan with different degrees of phosphorylation. Progress in Biomaterials, 2016, 5, 93-100.	4.5	14
61	Comparative evaluation of surface roughness and color stability of nanohybrid composite resin after periodic exposure to tea, coffee, and Coca-cola in vitro profilometric and image analysis study. Journal of Conservative Dentistry, 2020, 23, 395.	0.9	14
62	Isolation and mass spectrometry based hydroxyproline mapping of type II collagen derived from Capra hircus ear cartilage. Communications Biology, 2019, 2, 146.	4.4	13
63	Biofunctional Phosphorylated Chitosan Hydrogels Prepared Above pH 6 and Effect of Crosslinkers on Gel Properties Towards Biomedical Applications. Soft Materials, 2014, 12, 27-35.	1.7	11
64	A xanthene-based novel colorimetric and fluorometric chemosensor for the detection of hydrazine and its application in the bio-imaging of live cells. New Journal of Chemistry, 2021, 45, 15869-15875.	2.8	11
65	Design of patient specific bone stiffness mimicking scaffold. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2021, 235, 1453-1462.	1.8	11
66	3D Bioprinting for fabrication of tissue models of COVID-19 infection. Essays in Biochemistry, 2021, 65, 503-518.	4.7	11
67	Computational FEM Application on Percutaneous Nephrolithotomy (PCNL) Minimum Invasive Surgery Through Needle Insertion Process. Advances in Mechatronics and Mechanical Engineering, 2022, , 210-222.	1.0	11
68	3D coaxial bioprinting: process mechanisms, bioinks and applications. Progress in Biomedical Engineering, 2022, 4, 022003.	4.9	11
69	Experimental Study of the Robotically Controlled Surgical Needle Insertion for Analysis of the Minimum Invasive Process. Lecture Notes in Electrical Engineering, 2022, , 473-482.	0.4	11
70	Tannic acid-crosslinked chitosan matrices enhance osteogenic differentiation and modulate epigenetic status of cultured cells over glutaraldehyde crosslinking. Soft Materials, 2022, 20, 149-160.	1.7	10
71	Experimental Analysis the Tissue Deformation of Needle Insertion Process in Tissue Engineering. , 2020, , .		9
72	Phosphate functionalized and lactic acid containing graft copolymer: synthesis and evaluation as biomaterial for bone tissue engineering applications. Journal of Biomaterials Science, Polymer Edition, 2013, 24, 696-713.	3.5	8

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73	Effect of operating conditions and interfering substances on photochemical degradation of a cationic surfactant. <i>Environmental Technology (United Kingdom)</i> , 2018, 39, 2771-2780.	2.2	8
74	A highly selective ratiometric fluorescent probe for H ₂ S based on new heterocyclic ring formation and detection in live cells. <i>Supramolecular Chemistry</i> , 2019, 31, 349-360.	1.2	8
75	Biophysical factors in the regulation of asymmetric division of stem cells. <i>Biological Reviews</i> , 2019, 94, 810-827.	10.4	8
76	Supramolecular assemblies of a 1,8-naphthalimide conjugate and its aggregation-induced emission property. <i>Materials Advances</i> , 2020, 1, 3532-3538.	5.4	8
77	Study and Application of Machine Learning Methods in Modern Additive Manufacturing Processes. <i>Advances in Computational Intelligence and Robotics Book Series</i> , 2022, , 75-95.	0.4	8
78	Artificial Bifunctional Photozyme of Glucose Oxidase/Peroxidase for Solar-Powered Glucose Peroxide Detection in a Biofluid with Resorcinol-Formaldehyde Polymers. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 36948-36956.	8.0	7
79	Integrated UV-H ₂ O ₂ and biological treatment processes for the removal of cationic surfactant. <i>Journal of Environmental Engineering and Science</i> , 2021, 16, 85-93.	0.8	7
80	The Study of the Epidemiology and Clinical Features of the Novel Coronavirus (COVID-19). <i>Health Information Systems and the Advancement of Medical Practice in Developing Countries</i> , 2021, , 25-39.	0.1	7
81	Study of Different Additive Manufacturing Processes and Emergent Applications in Modern Healthcare. <i>Advances in Chemical and Materials Engineering Book Series</i> , 2022, , 239-259.	0.3	7
82	The Impact of 3D Printing Technology on the COVID-19 Pandemic. <i>Advances in Healthcare Information Systems and Administration Book Series</i> , 2022, , 135-154.	0.2	6
83	A Perylene diimide based fluorescent probe for caffeine in aqueous medium. <i>Supramolecular Chemistry</i> , 2019, 31, 28-35.	1.2	5
84	Direct Growth of Bismuth Vanadate Thin Film Arrays on FTO via Galvanic Deposition Mediated by BiOI Nanosheets for Fabrication of Photoelectrochemical Non-Enzymatic Dopamine Sensing Platform. <i>Journal of the Electrochemical Society</i> , 2020, 167, 047513.	2.9	5
85	Assessment of Jaw Bone Quality for Designing Patient-Specific Dental Implant Using Computed Tomography Data. <i>Journal of Long-Term Effects of Medical Implants</i> , 2021, 31, 49-58.	0.7	5
86	Bone tissue engineering construct fabricated using a cell electrospinning technique with polyglutamic acid biopolymer. <i>Journal of Polymer Research</i> , 2021, 28, 1.	2.4	5
87	Honey-incorporated nanofibre reduces replicative senescence of umbilical cord-derived mesenchymal stem cells. <i>IET Nanobiotechnology</i> , 2020, 14, 870-880.	3.8	5
88	Finite element analysis of the influence of cyclic strain on cells anchored to substrates with varying properties. <i>Medical and Biological Engineering and Computing</i> , 2022, 60, 171-187.	2.8	5
89	Estimation of parameters for plasma glucose regulation in type-2 diabetics in presence of meal. <i>IET Systems Biology</i> , 2018, 12, 18-25.	1.5	4
90	Computational Study of In-Vitro Ureter Urine Flow in DJ Stent. <i>Advances in Mechatronics and Mechanical Engineering</i> , 2022, , 198-209.	1.0	4

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91	Probing the Influence of Hybrid Thread Design on Biomechanical Response of Dental Implants: Finite Element Study and Experimental Validation. Journal of Biomechanical Engineering, 2023, 145, .	1.3	4
92	Development of chitosan-tripolyphosphate fiber for biomedical application. , 2010, , .		3
93	Engineering Porosity in Electrospun Nanofiber Sheets by Laser Engraving: A Strategy to Fabricate 3D Scaffolds for Bone Graft Applications. Journal of the Indian Institute of Science, 2019, 99, 329-337.	1.9	3
94	The Study of Traditional Medicine for the Treatment of COVID-19. Advances in Medical Diagnosis, Treatment, and Care, 2022, , 221-241.	0.1	3
95	UV-H ₂ O ₂ ADVANCED OXIDATION OF ANIONIC SURFACTANT: REACTION KINETICS, EFFECTS OF INTERFERING SUBSTANCES AND OPERATING CONDITIONS. Environmental Engineering and Management Journal, 2019, 18, 1245-1254.	0.6	3
96	A Micro-Scale Non-Linear Finite Element Model to Optimize the Mechanical Behavior of Bioprinted Constructs. 3D Printing and Additive Manufacturing, 2022, 9, 490-502.	2.9	3
97	Probing combinational influence of design variables on bone biomechanical response around dental implantâ€supported fixed prosthesis. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2022, 110, 2338-2352.	3.4	3
98	Magnetic gels. , 2018, , 441-465.		2
99	Synthesis and characterization of Sr-doped HAp-incorporated polyether ether ketone composite. Journal of Composite Materials, 2020, 54, 287-298.	2.4	2
100	Piezoelectric nanomaterials for biomedical applications. , 2022, , 355-377.		2
101	Chemical modifications of polysaccharides. , 2021, , 47-77.		1
102	Nanoemulsions for the Delivery of Anti-Hypertensive Drugs. Advances in Chemical and Materials Engineering Book Series, 2022, , 378-400.	0.3	1
103	Composite Biomaterials for Bone Grafting and Other Biomedical Applications. , 2021, , .		0
104	Composite of polypyrrole - Graphene hollow fibers mat-a flexible thermoelectric material. AIP Conference Proceedings, 2021, , .	0.4	0
105	Electrochemical Column Cell for Continuous Oxidative Inactivation of Pathogens and Reductive Removal of Toxic Heavy Metals. ACS Applied Materials & Interfaces, 2021, 13, 32402-32414.	8.0	0
106	Characterization of Bioinks for 3D Bioprinting. Gels Horizons: From Science To Smart Materials, 2021, , 27-77.	0.3	0
107	Optimizing Cell Deformation in Extrusion-Based Bioprinting Process by Importing Inherent Viscoelasticity Using Computational Fluid Dynamic. Lecture Notes in Mechanical Engineering, 2022, , 337-348.	0.4	0
108	Improved Oral Delivery of Drugs Using Nanoemulsion. Advances in Chemical and Materials Engineering Book Series, 2022, , 93-117.	0.3	0

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109	Cell-Laden Alginate Hydrogel Modelling using Three-Dimensional (3D) Microscale Finite Element Technique. Journal of the Institution of Engineers (India): Series C, 0, , 1.	1.2	0
110	Mechanical response at peri-implant mandibular bone for variation of pore characteristics of implants: A Finite Element Study. Acta of Bioengineering and Biomechanics, 2019, 21, 83-93.	0.4	0
111	Modelling cell deformations in bioprinting process using a multicompartment-smooth particle hydrodynamics approach. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2022, , 095441192210897.	1.8	0
112	Finite element approach to design of modular hip implants minimizing fretting wear. Journal of Mechanics in Medicine and Biology, 0, , .	0.7	0