

Athanasios Mantalaris

List of Publications by Year in descending order

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Version: 2024-02-01

88
papers

2,507
citations

236925

25
h-index

214800

47
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95
all docs

95
docs citations

95
times ranked

3483
citing authors

#	ARTICLE	IF	CITATIONS
1	Development of a Novel Perfusion Rotating Wall Vessel Bioreactor with Ultrasound Stimulation for Mass-Production of Mineralized Tissue Constructs. <i>Tissue Engineering and Regenerative Medicine</i> , 2022, 19, 739-754.	3.7	3
2	Patient-specific 3D Bioprinted Models of Developing Human Heart. <i>Advanced Healthcare Materials</i> , 2021, 10, e2001169.	7.6	18
3	Immune reconstitution and clinical recovery following anti-CD28 antibody (TGN1412)-induced cytokine storm. <i>Cancer Immunology, Immunotherapy</i> , 2021, 70, 1127-1142.	4.2	7
4	Systematic Understanding of Recent Developments in Bacterial Cellulose Biosynthesis at Genetic, Bioprocess and Product Levels. <i>International Journal of Molecular Sciences</i> , 2021, 22, 7192.	4.1	16
5	A Spatiotemporal Microenvironment Model to Improve Design of a Three-Dimensional Bioreactor for Red Cell Production. <i>Tissue Engineering - Part A</i> , 2021, , .	3.1	4
6	Linking Engineered Gene Circuit Kinetic Modeling to Cellulose Biosynthesis Prediction in <i>Escherichia coli</i> : Toward Bioprocessing of Microbial Cell Factories. <i>Industrial & Engineering Chemistry Research</i> , 2020, 59, 4659-4669.	3.7	3
7	Increased PIP3 activity blocks nanoparticle mRNA delivery. <i>Science Advances</i> , 2020, 6, eaba5672.	10.3	16
8	A dual-parameter identification approach for data-based predictive modeling of hybrid gene regulatory network-growth kinetics in <i>Pseudomonas putida</i> mt-2. <i>Bioprocess and Biosystems Engineering</i> , 2020, 43, 1671-1688.	3.4	2
9	Osteogenic differentiation of bone marrow mesenchymal stem cells on chitosan/gelatin scaffolds: gene expression profile and mechanical analysis. <i>Biomedical Materials (Bristol)</i> , 2020, 15, 064101.	3.3	10
10	Multiomics characterization of mesenchymal stromal cells cultured in monolayer and as aggregates. <i>Biotechnology and Bioengineering</i> , 2020, 117, 1761-1778.	3.3	18
11	RGD-functionalized polyurethane scaffolds promote umbilical cord blood mesenchymal stem cell expansion and osteogenic differentiation. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2019, 13, 232-243.	2.7	22
12	Dynamic human erythropoiesis in a three-dimensional perfusion bone marrow biomimicry. <i>Biomaterials</i> , 2019, 188, 24-37.	11.4	25
13	A Predictive Mathematical Model of Cell Cycle, Metabolism, and Apoptosis of Monoclonal Antibody-producing GS-NS0 Cells. <i>Biotechnology Journal</i> , 2019, 14, e1800573.	3.5	6
14	Capturing Mesenchymal Stem Cell Heterogeneity during Osteogenic Differentiation: An Experimental Modeling Approach. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 13900-13909.	3.7	6
15	Comparison of human isogenic Wharton's jelly MSCs and iPSC-derived MSCs reveals differentiation-dependent metabolic responses to IFNG stimulation. <i>Cell Death and Disease</i> , 2019, 10, 277.	6.3	12
16	Oxidized alginate hydrogels with the GHK peptide enhance cord blood mesenchymal stem cell osteogenesis: A paradigm for metabolomics-based evaluation of biomaterial design. <i>Acta Biomaterialia</i> , 2019, 88, 224-240.	8.3	55
17	Apoptosis: A mammalian cell bioprocessing perspective. <i>Biotechnology Advances</i> , 2019, 37, 459-475.	11.7	117
18	New Approaches to Respiratory Assist: Bioengineering an Ambulatory, Miniaturized Bioartificial Lung. <i>ASAIO Journal</i> , 2019, 65, 422-429.	1.6	7

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19	Establishment of a Spontaneous Stromal Microenvironment from Cord Blood Supports Human Dynamic Erythropoietic Temporal Maturation in Long-Term Serum- and Cytokine-Free 3D Cultures and Reveals a Distinct CD44hi Population. <i>Blood</i> , 2019, 134, 2219-2219.	1.4	0
20	Energy-based culture medium design for biomanufacturing optimization: A case study in monoclonal antibody production by GS-NSO cells. <i>Metabolic Engineering</i> , 2018, 47, 21-30.	7.0	14
21	Optimal bioprocess design through a gene regulatory network – Growth kinetic hybrid model: Towards replacing Monod kinetics. <i>Metabolic Engineering</i> , 2018, 48, 129-137.	7.0	12
22	Recombinant biosynthesis of bacterial cellulose in genetically modified <i>Escherichia coli</i> . <i>Bioprocess and Biosystems Engineering</i> , 2018, 41, 265-279.	3.4	50
23	Stem cell biomanufacturing under uncertainty: A case study in optimizing red blood cell production. <i>AIChE Journal</i> , 2018, 64, 3011-3022.	3.6	13
24	Model-Based Dynamic Optimization of Monoclonal Antibodies Production in Semibatch Operation – Use of Reformulation Techniques. <i>Industrial & Engineering Chemistry Research</i> , 2018, 57, 9915-9924.	3.7	13
25	Ceramic Hollow Fibre Constructs for Continuous Perfusion and Cell Harvest from 3D Hematopoietic Organoids. <i>Stem Cells International</i> , 2018, 2018, 1-14.	2.5	11
26	A 3D bioinspired highly porous polymeric scaffolding system for <i>in vitro</i> simulation of pancreatic ductal adenocarcinoma. <i>RSC Advances</i> , 2018, 8, 20928-20940.	3.6	31
27	Metabolism of Acute Myeloid Leukemia Cell Lines Alters with Passage in 2D Culture and Remains Stable in 3D. <i>Blood</i> , 2018, 132, 2787-2787.	1.4	1
28	Fibronectin stimulates the osteogenic differentiation of murine embryonic stem cells. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2017, 11, 1929-1940.	2.7	24
29	Designing a bio-inspired biomimetic <i>in vitro</i> system for the optimization of <i>ex vivo</i> studies of pancreatic cancer. <i>Drug Discovery Today</i> , 2017, 22, 690-701.	6.4	27
30	Human embryonic and induced pluripotent stem cells maintain phenotype but alter their metabolism after exposure to ROCK inhibitor. <i>Scientific Reports</i> , 2017, 7, 42138.	3.3	46
31	A Quantitative Three-Dimensional Image Analysis Tool for Maximal Acquisition of Spatial Heterogeneity Data. <i>Tissue Engineering - Part C: Methods</i> , 2017, 23, 108-117.	2.1	15
32	Advanced model-based control strategies for the intensification of upstream and downstream processing in mAb production. <i>Biotechnology Progress</i> , 2017, 33, 966-988.	2.6	27
33	The impact of succinate trace on pWWO and ortho -cleavage pathway transcription in <i>Pseudomonas putida</i> mt-2 during toluene biodegradation. <i>Bioresource Technology</i> , 2017, 234, 397-405.	9.6	12
34	Metabolomics Analysis of the Osteogenic Differentiation of Umbilical Cord Blood Mesenchymal Stem Cells Reveals Differential Sensitivity to Osteogenic Agents. <i>Stem Cells and Development</i> , 2017, 26, 723-733.	2.1	40
35	Mesoderm Lineage 3D Tissue Constructs Are Produced at Large Scale in a 3D Stem Cell Bioprocess. <i>Biotechnology Journal</i> , 2017, 12, 1600748.	3.5	1
36	Polyurethane scaffolds seeded with CD34+ cells maintain early stem cells whilst also facilitating prolonged egress of haematopoietic progenitors. <i>Scientific Reports</i> , 2016, 6, 32149.	3.3	25

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37	Transcriptional kinetics of the cross-talk between the ortho -cleavage and TOL pathways of toluene biodegradation in <i>Pseudomonas putida</i> mt-2. <i>Journal of Biotechnology</i> , 2016, 228, 112-123.	3.8	12
38	Advanced control strategies for the multicolumn countercurrent solvent gradient purification process. <i>AIChE Journal</i> , 2016, 62, 2341-2357.	3.6	56
39	Current clinical evidence for the use of mesenchymal stem cells in articular cartilage repair. <i>Expert Opinion on Biological Therapy</i> , 2016, 16, 535-557.	3.1	42
40	Investigational drugs for fracture healing: preclinical & clinical data. <i>Expert Opinion on Investigational Drugs</i> , 2016, 25, 585-596.	4.1	27
41	Early Erythroid Development Is Enhanced with Hypoxia and Terminal Maturation with Normoxia in a 3D Ex Vivo Physiologic Erythropoiesis Model. <i>Blood</i> , 2016, 128, 2453-2453.	1.4	0
42	A mathematical model of subpopulation kinetics for the deconvolution of leukaemia heterogeneity. <i>Journal of the Royal Society Interface</i> , 2015, 12, 20150276.	3.4	17
43	Bone and cartilage regeneration with the use of umbilical cord mesenchymal stem cells. <i>Expert Opinion on Biological Therapy</i> , 2015, 15, 1541-1552.	3.1	46
44	Cyclin and DNA Distributed Cell Cycle Model for GS-NS0 Cells. <i>PLoS Computational Biology</i> , 2015, 11, e1004062.	3.2	18
45	In Vitro Differentiation of Embryonic Stem Cells into Hematopoietic Lineage: Towards Erythroid Progenitor TM s Production. <i>Methods in Molecular Biology</i> , 2015, 1341, 217-234.	0.9	0
46	Use of Mathematical Modelling Indicates That Patients Treated for Acute Myeloid Leukaemia (AML) Are Undertreated When Ideal Body Weight Is Used to Dose Chemotherapy. <i>Blood</i> , 2015, 126, 4522-4522.	1.4	0
47	Effect of Oxygen and 3D Microenvironment on Physiologic Erythropoiesis. <i>Blood</i> , 2015, 126, 3600-3600.	1.4	0
48	Global superstructure optimisation of red blood cell production in a parallelised hollow fibre bioreactor. <i>Computers and Chemical Engineering</i> , 2014, 71, 532-553.	3.8	21
49	Nanosensors for Regenerative Medicine. <i>Journal of Biomedical Nanotechnology</i> , 2014, 10, 2722-2746.	1.1	14
50	Early Exposure of Murine Embryonic Stem Cells to Hematopoietic Cytokines Differentially Directs Definitive Erythropoiesis and Cardiomyogenesis in Alginate Hydrogel Three-Dimensional Cultures. <i>Stem Cells and Development</i> , 2014, 23, 2720-2729.	2.1	4
51	A Study on Fe ²⁺ -Helical-Rich Keratin Complex Formation Using Isothermal Titration Calorimetry and Molecular Dynamics Simulation. <i>Journal of Pharmaceutical Sciences</i> , 2014, 103, 1224-1232.	3.3	8
52	Influence of culture pH on proliferation and cardiac differentiation of murine embryonic stem cells. <i>Biochemical Engineering Journal</i> , 2014, 90, 8-15.	3.6	25
53	More Than Meets the Eye in Bacterial Cellulose: Biosynthesis, Bioprocessing, and Applications in Advanced Fiber Composites. <i>Macromolecular Bioscience</i> , 2014, 14, 10-32.	4.1	316
54	A novel perfused rotary bioreactor for cardiomyogenesis of embryonic stem cells. <i>Biotechnology Letters</i> , 2014, 36, 947-960.	2.2	13

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55	Free Energy Predictions of Ligand Binding to an α -Helix Using Steered Molecular Dynamics and Umbrella Sampling Simulations. <i>Journal of Chemical Information and Modeling</i> , 2014, 54, 2093-2104.	5.4	19
56	Molecular and thermodynamic basis for EGCG-Keratin interaction—part II: Experimental investigation. <i>AIChE Journal</i> , 2013, 59, 4824-4827.	3.6	9
57	Molecular and thermodynamic basis for EGCG-Keratin interaction—part I: Molecular dynamics simulations. <i>AIChE Journal</i> , 2013, 59, 4816-4823.	3.6	9
58	Biology Of Mixed Phenotype Acute Leukemia In Successful Long-Term Cytokine-Free Three-Dimensional (3D) Static and Perfused 3D Hollow-Fibre Bioreactor Culture. <i>Blood</i> , 2013, 122, 2603-2603.	1.4	4
59	Enhanced Hematopoietic Differentiation Toward Erythrocytes from Murine Embryonic Stem Cells with HepG2-Conditioned Medium. <i>Stem Cells and Development</i> , 2012, 21, 3152-3161.	2.1	6
60	BIOPROCESS SYSTEMS ENGINEERING: TRANSFERRING TRADITIONAL PROCESS ENGINEERING PRINCIPLES TO INDUSTRIAL BIOTECHNOLOGY. <i>Computational and Structural Biotechnology Journal</i> , 2012, 3, e201210022.	4.1	50
61	Systematic experimental design for bioprocess characterization: Elucidating transient effects of multi-cytokine contributions on erythroid differentiation. <i>Biotechnology and Bioprocess Engineering</i> , 2012, 17, 218-226.	2.6	5
62	Hydrodynamics and bioprocess considerations in designing bioreactors for cardiac tissue engineering. <i>Journal of Regenerative Medicine & Tissue Engineering</i> , 2012, 1, 4.	1.5	11
63	Ex Vivo Three-Dimensional (3D) Functional biomimicry for the Long-Term Cytokine-Free Culture of Human Primary Acute Myeloid Leukemia (AML). <i>Blood</i> , 2012, 120, 4896-4896.	1.4	0
64	Physiologic Erythropoiesis with Enhanced Globin Switching and Endogenous Cytokine Production in a Long-Term Serum-free in Vitro human Bone Marrow Biomimicry. <i>Blood</i> , 2012, 120, 276-276.	1.4	0
65	Long-term cytokine-free expansion of cord blood mononuclear cells in three-dimensional scaffolds. <i>Biomaterials</i> , 2011, 32, 9263-9270.	11.4	67
66	“Closing the loop” in biological systems modeling” From the in silico to the in vitro. <i>Automatica</i> , 2011, 47, 1147-1155.	5.0	81
67	Linking genes to microbial growth kinetics—An integrated biochemical systems engineering approach. <i>Metabolic Engineering</i> , 2011, 13, 401-413.	7.0	26
68	The regulatory logic of <i>Xylenol</i> biodegradation by <i>Pseudomonas putida</i> exposed by dynamic modelling of the principal node <i>PsPr</i> of the TOL plasmid. <i>Environmental Microbiology</i> , 2010, 12, 1705-1718.	3.8	38
69	Systematic development of predictive mathematical models for animal cell cultures. <i>Computers and Chemical Engineering</i> , 2010, 34, 1192-1198.	3.8	63
70	A Novel, Three Dimensional (3D) Culture System for the Efficient, Single-Step Erythropoietic Differentiation of Mouse Embryonic Stem Cells (mESCs). <i>Blood</i> , 2010, 116, 2044-2044.	1.4	0
71	Long-Term, Cytokine-Free Ex Vivo Expansion of Human Cord Blood Mononuclear Cells Using a Novel Closed-Loop 3D Dual Hollow Fibre Perfused Bioreactor. <i>Blood</i> , 2010, 116, 828-828.	1.4	0
72	Effects of Single-Agent, Low Dose Exogenous Erythropoietin In a Long-Term In Vitro serum-Free 3D Culture of Human Cord Blood Mononuclear Cells for Directed Erythropoiesis. <i>Blood</i> , 2010, 116, 341-341.	1.4	0

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73	The incorporation of 70s bioactive glass to the osteogenic differentiation of murine embryonic stem cells in 3D bioreactors. Journal of Tissue Engineering and Regenerative Medicine, 2009, 3, 63-71.	2.7	26
74	The use of murine embryonic stem cells, alginate encapsulation, and rotary microgravity bioreactor in bone tissue engineering. Biomaterials, 2009, 30, 499-507.	11.4	182
75	Stem cell bioprocessing: fundamentals and principles. Journal of the Royal Society Interface, 2009, 6, 209-232.	3.4	160
76	Long-Term in Vitro Cytokine-Free and Serum-Free Culture of Human Cord Blood Mononuclear Cells in a Three-Dimensional Scaffold.. Blood, 2009, 114, 503-503.	1.4	0
77	A Real-Time Multi-Channel Monitoring System for Stem Cell Culture Process. IEEE Transactions on Biomedical Circuits and Systems, 2008, 2, 66-77.	4.0	25
78	<i>In Vitro</i>Direct Osteogenesis of Murine Embryonic Stem Cells Without Embryoid Body Formation. Stem Cells and Development, 2008, 17, 963-970.	2.1	21
79	Cell Expansion, Cell Encapsulation, 3D Cultures. , 2008, , 503-515.		1
80	Integrated 3-Dimensional Expansion and Osteogenic Differentiation of Murine Embryonic Stem Cells. Tissue Engineering, 2007, 13, 2957-2970.	4.6	65
81	Nanocellulose enhanced interfaces in truly green unidirectional fibre reinforced composites. Composite Interfaces, 2007, 14, 753-762.	2.3	83
82	A combined fluid dynamics, mass transport and cell growth model for a three-dimensional perfused bioreactor for tissue engineering of haematopoietic cells. Biochemical Engineering Journal, 2007, 35, 1-11.	3.6	35
83	EnhancedIn vitro chondrogenic differentiation of murine embryonic stem cells. Biotechnology and Bioprocess Engineering, 2007, 12, 696-706.	2.6	4
84	Directing embryonic stem cell differentiation into osteogenic chondrogenic lineagein vitro. Biotechnology and Bioprocess Engineering, 2007, 12, 15-21.	2.6	14
85	Enhanced Derivation of Osteogenic Cells from Murine Embryonic Stem Cells After Treatment with HepG2- Conditioned Medium and Modulation of the Embryoid Body Formation Period: Application to Skeletal Tissue Engineering. Tissue Engineering, 2006, 12, 1381-1392.	4.6	56
86	Toward Global Parametric Estimability of a Large-Scale Kinetic Single-Cell Model for Mammalian Cell Cultures. Industrial & Engineering Chemistry Research, 2005, 44, 868-878.	3.7	47
87	Engineering a mimicry of bone marrow tissue ex vivo. Journal of Bioscience and Bioengineering, 2005, 100, 28-35.	2.2	64
88	The Use of Alginate Hydrogels for the Culture of Mesenchymal Stem Cells (MSCs): In Vitro and In Vivo Paradigms. , 0, , .		4