Michael S Kallos

List of Publications by Year
in descending order

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Version: 2024-02-01

79	2,721	159573	189881
papers	citations	30 h-index	50 g-index

82	82	82	2373
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Expansion of Undifferentiated Murine Embryonic Stem Cells as Aggregates in Suspension Culture Bioreactors. Tissue Engineering, 2006, 12, 3233-3245.	4.6	155
2	Large-Scale Expansion of Pluripotent Human Embryonic Stem Cells in Stirred-Suspension Bioreactors. Tissue Engineering - Part C: Methods, 2010, 16, 573-582.	2.1	145
3	Embryonic stem cells remain highly pluripotent following long term expansion as aggregates in suspension bioreactors. Journal of Biotechnology, 2007, 129, 421-432.	3.8	130
4	Mass Transfer Limitations in Embryoid Bodies during Human Embryonic Stem Cell Differentiation. Cells Tissues Organs, 2012, 196, 34-47.	2.3	129
5	Enzyme responsive GAG-based natural-synthetic hybrid hydrogel for tunable growth factor delivery and stem cell differentiation. Biomaterials, 2016, 87, 104-117.	11.4	121
6	A review of pyrolysis, aquathermolysis, and oxidation of Athabasca bitumen. Fuel Processing Technology, 2015, 131, 270-289.	7.2	112
7	Inoculation and growth conditions for high-cell-density expansion of mammalian neural stem cells in suspension bioreactors. Biotechnology and Bioengineering, 1999, 63, 473-483.	3.3	107
8	Expansion of mammalian neural stem cells in bioreactors: effect of power input and medium viscosity. Developmental Brain Research, 2002, 134, 103-113.	1.7	78
9	Improved expansion of human bone marrow-derived mesenchymal stem cells in microcarrier-based suspension culture. Journal of Tissue Engineering and Regenerative Medicine, 2014, 8, 210-225.	2.7	78
10	Effects of Hydrodynamics on Cultures of Mammalian Neural Stem Cell Aggregates in Suspension Bioreactors. Industrial & Engineering Chemistry Research, 2001, 40, 5350-5357.	3.7	76
11	Biocomposite nanofiber matrices to support ECM remodeling by human dermal progenitors and enhanced wound closure. Scientific Reports, 2017, 7, 10291.	3.3	66
12	Scaled-up production of mammalian neural precursor cell aggregates in computer-controlled suspension bioreactors. Biotechnology and Bioengineering, 2006, 94, 783-792.	3.3	65
13	Practical process design for in situ gasification of bitumen. Applied Energy, 2013, 107, 281-296.	10.1	63
14	Expansion and long-term maintenance of induced pluripotent stem cells in stirred suspension bioreactors. Journal of Tissue Engineering and Regenerative Medicine, 2012, 6, 462-472.	2.7	62
15	Potential for hydrogen generation from in situ combustion of Athabasca bitumen. Fuel, 2011, 90, 2254-2265.	6.4	60
16	Large-scale expansion of mammalian neural stem cells: a review. Medical and Biological Engineering and Computing, 2003, 41, 271-282.	2.8	57
17	Optimizing gelling parameters of gellan gum for fibrocartilage tissue engineering. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2011, 98B, 238-245.	3.4	57
18	Extended serial passaging of mammalian neural stem cells in suspension bioreactors. Biotechnology and Bioengineering, 1999, 65, 589-599.	3.3	55

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19	Reduced Differentiation Efficiency of Murine Embryonic Stem Cells in Stirred Suspension Bioreactors. Stem Cells and Development, 2010, 19, 989-998.	2.1	55
20	Shear stress influences the pluripotency of murine embryonic stem cells in stirred suspension bioreactors. Journal of Tissue Engineering and Regenerative Medicine, 2014, 8, 268-278.	2.7	53
21	Factorial Experimental Design for the Culture of Human Embryonic Stem Cells as Aggregates in Stirred Suspension Bioreactors Reveals the Potential for Interaction Effects Between Bioprocess Parameters. Tissue Engineering - Part C: Methods, 2014, 20, 76-89.	2.1	52
22	A new reaction model for aquathermolysis of Athabasca bitumen. Canadian Journal of Chemical Engineering, 2013, 91, 475-482.	1.7	47
23	Overcoming bioprocess bottlenecks in the large-scale expansion of high-quality hiPSC aggregates in vertical-wheel stirred suspension bioreactors. Stem Cell Research and Therapy, 2021, 12, 55.	5.5	42
24	Passaging Protocols for Mammalian Neural Stem Cells in Suspension Bioreactors. Biotechnology Progress, 2002, 18, 337-345.	2.6	41
25	New Tissue Dissociation Protocol for Scaled-up Production of Neural Stem Cells in Suspension Bioreactors. Tissue Engineering, 2004, 10, 904-913.	4.6	40
26	Optimized serial expansion of human induced pluripotent stem cells using low-density inoculation to generate clinically relevant quantities in vertical-wheel bioreactors. Stem Cells Translational Medicine, 2020, 9, 1036-1052.	3.3	40
27	Efficient suspension bioreactor expansion of murine embryonic stem cells on microcarriers in serumâ€free medium. Biotechnology Progress, 2011, 27, 811-823.	2.6	39
28	Large-scale production of murine embryonic stem cell-derived osteoblasts and chondrocytes on microcarriers in serum-free media. Biomaterials, 2011, 32, 6006-6016.	11.4	39
29	New thermal-reactive reservoir engineering model predicts hydrogen sulfide generation in Steam Assisted Gravity Drainage. Journal of Petroleum Science and Engineering, 2012, 94-95, 100-111.	4.2	37
30	Large-Scale Expansion of Mammary Epithelial Stem Cell Aggregates in Suspension Bioreactors. Biotechnology Progress, 2008, 21, 984-993.	2.6	35
31	Scale-up of embryonic stem cell aggregate stirred suspension bioreactor culture enabled by computational fluid dynamics modeling. Biochemical Engineering Journal, 2018, 133, 157-167.	3.6	34
32	Bioreactor expansion of human neural precursor cells in serumâ€free media retains neurogenic potential. Biotechnology and Bioengineering, 2010, 105, 823-833.	3.3	31
33	Cell cycle kinetics of expanding populations of neural stem and progenitor cells in vitro. Biotechnology and Bioengineering, 2004, 88, 332-347.	3.3	28
34	A new kinetic model for pyrolysis of Athabasca bitumen. Canadian Journal of Chemical Engineering, 2013, 91, 889-901.	1.7	27
35	Reservoir Simulation of Steam Fracturing in Early-Cycle Cyclic Steam Stimulation. SPE Reservoir Evaluation and Engineering, 2012, 15, 676-687.	1.8	26
36	Nonâ€Newtonian rheology in suspension cell cultures significantly impacts bioreactor shear stress quantification. Biotechnology and Bioengineering, 2018, 115, 2101-2113.	3.3	23

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37	Production of Islet-Like Structures from Neonatal Porcine Pancreatic Tissue in Suspension Bioreactors. Biotechnology Progress, 2006, 22, 561-567.	2.6	22
38	Non-Viral Engineering of Skin Precursor-Derived Schwann Cells for Enhanced NT-3 Production in Adherent and Microcarrier Culture. Current Medicinal Chemistry, 2012, 19, 5572-5579.	2.4	22
39	Using computational fluid dynamics (CFD) modeling to understand murine embryonic stem cell aggregate size and pluripotency distributions in stirred suspension bioreactors. Journal of Biotechnology, 2019, 304, 16-27.	3.8	21
40	Serumâ€free scaled up expansion and differentiation of murine embryonic stem cells to osteoblasts in suspension bioreactors. Biotechnology and Bioengineering, 2010, 106, 829-840.	3.3	20
41	Computational fluid dynamic characterization of verticalâ€wheel bioreactors used for effective scaleâ€up of human induced pluripotent stem cell aggregate culture. Canadian Journal of Chemical Engineering, 2021, 99, 2536-2553.	1.7	20
42	Properties of murine embryonic stem cells maintained on human foreskin fibroblasts without LIF. Molecular Reproduction and Development, 2008, 75, 614-622.	2.0	19
43	Dynamic behavior of cells within neurospheres in expanding populations of neural precursors. Brain Research, 2006, 1107, 82-96.	2.2	18
44	Characterization of human islet-like structures generated from pancreatic precursor cells in culture. Biotechnology and Bioengineering, 2006, 93, 980-988.	3.3	18
45	New gas material balance to quantify biogenic gas generation rates from shallow organic-matter-rich shales. Fuel, 2013, 104, 443-451.	6.4	18
46	Enhanced Expansion and Sustained Inductive Function of Skin-Derived Precursor Cells in Computer-Controlled Stirred Suspension Bioreactors. Stem Cells Translational Medicine, 2017, 6, 434-443.	3.3	16
47	Fluid Shear Stress Promotes Embryonic Stem Cell Pluripotency via Interplay Between Î²-Catenin and Vinculin in Bioreactor Culture. Stem Cells, 2021, 39, 1166-1177.	3.2	15
48	Potential for Hydrogen Generation during In Situ Combustion of Bitumen. , 2009, , .		13
49	Reactive Thermal Reservoir Simulation: Hydrogen Sulphide Production in SAGD. , 2011, , .		13
50	Largeâ€scale expansion of human skinâ€derived precursor cells (hSKPs) in stirred suspension bioreactors. Biotechnology and Bioengineering, 2016, 113, 2725-2738.	3.3	13
51	Challenges and Solutions for Commercial Scale Manufacturing of Allogeneic Pluripotent Stem Cell Products. Bioengineering, 2020, 7, 31.	3.5	13
52	Induced pluripotency in the context of stem cell expansion bioprocess development, optimization, and manufacturing: a roadmap to the clinic. Npj Regenerative Medicine, 2021, 6, 72.	5.2	13
53	A Comprehensive Kinetic Theory to Model Thermolysis, Aquathermolysis, Gasification, Combustion, and Oxidation of Athabasca Bitumen. , 2010, , .		12
54	Reactive Reservoir Simulation of Biogenic Shallow Shale Gas Systems Enabled by Experimentally Determined Methane Generation Rates. Energy & Fuels, 2013, 27, 2413-2421.	5.1	12

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55	An Integrated Approach toward the Biomanufacturing of Engineered Cell Therapy Products in a Stirred-Suspension Bioreactor. Molecular Therapy - Methods and Clinical Development, 2018, 9, 376-389.	4.1	12
56	Improved expansion of equine cord blood derived mesenchymal stromal cells by using microcarriers in stirred suspension bioreactors. Journal of Biological Engineering, 2019, 13, 25.	4.7	11
57	Stirred suspension bioreactors maintain naÃ¯ve pluripotency of human pluripotent stem cells. Communications Biology, 2020, 3, 492.	4.4	11
58	Cell Therapy in Veterinary Medicine as a Proof-of-Concept for Human Therapies: Perspectives From the North American Veterinary Regenerative Medicine Association. Frontiers in Veterinary Science, 2021, 8, 779109.	2.2	9
59	Cell Culture Process Scale-Up Challenges for Commercial-Scale Manufacturing of Allogeneic Pluripotent Stem Cell Products. Bioengineering, 2022, 9, 92.	3.5	9
60	Fluid Flow Modulation of Murine Embryonic Stem Cell Pluripotency Gene Expression in the Absence of LIF. Cellular and Molecular Bioengineering, 2013, 6, 335-345.	2.1	8
61	Serum-free bioprocessing of adult human and rodent skin-derived Schwann cells: implications for cell therapy in nervous system injury. Journal of Tissue Engineering and Regenerative Medicine, 2017, 11, 3385-3397.	2.7	8
62	Biogenic Gas Generation From Shallow Organic-Matter-Rich Shales. , 2010, , .		7
63	Towards the Development of Bitumen Carbonates: An Integrated Analysis of Grosmont Steam Pilots. Oil and Gas Science and Technology, 2015, 70, 983-1005.	1.4	7
64	Flowable Polyethylene Glycol Hydrogels Support the in Vitro Survival and Proliferation of Dermal Progenitor Cells in a Mechanically Dependent Manner. ACS Biomaterials Science and Engineering, 2019, 5, 950-958.	5.2	6
65	Interâ€microcarrier transfer and phenotypic stability of stem cellâ€derived Schwann cells in stirred suspension bioreactor culture. Biotechnology and Bioengineering, 2016, 113, 393-402.	3.3	5
66	Embryonic Stem Cells - Differentiation and Pluripotent Alternatives. , 2011, , .		4
67	Reservoir Simulation of Steam Fracturing in Early Cycle Cyclic Steam Stimulation. , 2010, , .		3
68	Bioreactor Expansion of Skin-Derived Precursor Schwann Cells. Methods in Molecular Biology, 2016, 1502, 103-110.	0.9	3
69	Largeâ€scale expansion of feederâ€free mouse embryonic stem cells serially passaged in stirred suspension bioreactors at low inoculation densities directly from cryopreservation. Biotechnology and Bioengineering, 2020, 117, 1316-1328.	3.3	3
70	Control of dissolved oxygen significantly increases the yield of skinâ€derived Schwann cells during expansion in stirred suspension bioreactors. Engineering Reports, 2021, 3, e12421.	1.7	3
71	Inoculation and growth conditions for highâ€cellâ€density expansion of mammalian neural stem cells in suspension bioreactors. Biotechnology and Bioengineering, 1999, 63, 473-483.	3.3	3
72	Preface to the special issue honouring <scp>Professor Leo A. Behie</scp>. Canadian Journal of Chemical Engineering, 2021, 99, 2259-2261.	1.7	2

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73	Measurement of intrinsic rates for homogeneous gasâ€phase reactions at high temperatures. Canadian Journal of Chemical Engineering, 2002, 80, 513-517.	1.7	1
74	Research contributions of Leo A. Behie to chemical and biomedical engineering. Canadian Journal of Chemical Engineering, 2021, 99, 2262.	1.7	1
75	Bioengineering Protocols for Neural Precursor Cell Expansion. Springer Protocols, 2009, , 105-123.	0.3	1
76	Expansion of Undifferentiated Murine Embryonic Stem Cells as Aggregates in Suspension Culture Bioreactors. Tissue Engineering, 2006, .	4.6	1
77	Image Analysis Method for Evaluating Heterogeneous Growth and Differentiation of Embryonic Stem Cell Cultures. ACS Symposium Series, 2013, , 165-181.	0.5	0
78	Fundamentals of Heat Transport at the Edge of Steam Chambers in Cyclic Steam Stimulation and Steam-assisted Gravity Drainage. , 2013, , .		0
79	Bioreactor Protocols for the Expansion and Differentiation of Human Neural Precursor Cells in Targeting the Treatment of Neurodegenerative Disorders. , 2018, , 97-134.		0