Laura E Niklason

List of Publications by Year
in descending order

146 papers	13,135 citations	34076 52 h-index	25770 108 g-index
152 all docs	152 docs citations	152 times ranked	13594 citing authors

#	Article	IF	Citations
1	Single-cell multi-omics reveals dyssynchrony of the innate and adaptive immune system in progressive COVID-19. Nature Communications, 2022, 13, 440.	5.8	100
2	Five Year Outcomes in Patients with End Stage Renal Disease Who Received a Bioengineered Human Acellular Vessel for Dialysis Access. EJVES Vascular Forum, 2022, 54, 58-63.	0.2	15
3	Lung Tissue Engineering: Toward a More Deliberate Approach. ACS Biomaterials Science and Engineering, 2022, 8, 4625-4628.	2.6	3
4	Engineered Lung Tissues Prepared from Decellularized Lung Slices. Journal of Visualized Experiments, 2022, , .	0.2	3
5	Expression of the transcription factor PU.1 induces the generation of microglia-like cells in human cortical organoids. Nature Communications, 2022, 13, 430.	5.8	49
6	Characterization of the COPD alveolar niche using single-cell RNA sequencing. Nature Communications, 2022, 13, 494.	5.8	74
7	Computation and visualization of cellâ€"cell signaling topologies in single-cell systems data using Connectome. Scientific Reports, 2022, 12, 4187.	1.6	50
8	Readily Available Tissue-Engineered Vascular Grafts Derived From Human Induced Pluripotent Stem Cells. Circulation Research, 2022, 130, 925-927.	2.0	5
9	Pressure-Regulated Ventilator Splitting for Disaster Relief: Design, Testing, and Clinical Experience. Anesthesia and Analgesia, 2022, 134, 1094-1105.	1.1	3
10	Bioengineering Human Tissues and the Future of Vascular Replacement. Circulation Research, 2022, 131, 109-126.	2.0	27
11	The History of Engineered Tracheal Replacements: Interpreting the Past and Guiding the Future. Tissue Engineering - Part B: Reviews, 2021, 27, 341-352.	2.5	19
12	Xenogeneic-free generation of vascular smooth muscle cells from human induced pluripotent stem cells for vascular tissue engineering. Acta Biomaterialia, 2021, 119, 155-168.	4.1	11
13	Efficient Differentiation of Human Induced Pluripotent Stem Cells into Endothelial Cells under Xenogeneic-free Conditions for Vascular Tissue Engineering. Acta Biomaterialia, 2021, 119, 184-196.	4.1	22
14	Development of a Bioartificial Vascular Pancreas. Journal of Tissue Engineering, 2021, 12, 204173142110277.	2.3	10
15	Single-cell longitudinal analysis of SARS-CoV-2 infection in human airway epithelium identifies target cells, alterations in gene expression, and cell state changes. PLoS Biology, 2021, 19, e3001143.	2.6	180
16	A therapeutic vascular conduit to support in vivo cell-secreted therapy. Npj Regenerative Medicine, 2021, 6, 40.	2.5	2
17	Integrated Single-Cell Atlas of Endothelial Cells of the Human Lung. Circulation, 2021, 144, 286-302.	1.6	181
18	An ex vivo physiologic and hyperplastic vessel culture model to study intra-arterial stent therapies. Biomaterials, 2021, 275, 120911.	5.7	9

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19	Microvascular fluid flow in ex vivo and engineered lungs. Journal of Applied Physiology, 2021, 131, 1444-1459.	1.2	1
20	A Pulmonary Vascular Model From Endothelialized Whole Organ Scaffolds. Frontiers in Bioengineering and Biotechnology, 2021, 9, 760309.	2.0	4
21	Modular design of a tissue engineered pulsatile conduit using human induced pluripotent stem cell-derived cardiomyocytes. Acta Biomaterialia, 2020, 102, 220-230.	4.1	25
22	Microvessel Network Formation and Interactions with Pancreatic Islets in Three-Dimensional Chip Cultures. Tissue Engineering - Part A, 2020, 26, 556-568.	1.6	27
23	Reduced patency in left-sided arteriovenous grafts in a porcine model. Journal of Vascular Surgery, 2020, 72, 305-317.e6.	0.6	1
24	Bioengineered human blood vessels. Science, 2020, 370, .	6.0	120
25	Challenges and novel therapies for vascular access in haemodialysis. Nature Reviews Nephrology, 2020, 16, 586-602.	4.1	54
26	Arterial reconstruction with human bioengineered acellular blood vessels in patients with peripheral arterial disease. Journal of Vascular Surgery, 2020, 72, 1247-1258.	0.6	59
27	Platform Effects on Regeneration by Pulmonary Basal Cells as Evaluated by Single-Cell RNA Sequencing. Cell Reports, 2020, 30, 4250-4265.e6.	2.9	33
28	Bioengineering the Bloodâ€gas Barrier. , 2020, 10, 415-452.		17
29	Tissue-Engineered Vascular Grafts with Advanced Mechanical Strength from Human iPSCs. Cell Stem Cell, 2020, 26, 251-261.e8.	5.2	96
30	Lung tissue engineering. , 2020, , 1273-1285.		0
31	Glycocalyxâ€Like Hydrogel Coatings for Small Diameter Vascular Grafts. Advanced Functional Materials, 2020, 30, 1908963.	7.8	33
32	Bioengineered Human Acellular Vessels. , 2020, , 1-26.		0
33	Bioengineered Human Acellular Vessels. , 2020, , 549-574.		0
34	Non-invasive and real-time measurement of microvascular barrier in intact lungs. Biomaterials, 2019, 217, 119313.	5.7	12
35	Utilization of Natural Detergent Potassium Laurate for Decellularization in Lung Bioengineering. Tissue Engineering - Part C: Methods, 2019, 25, 459-471.	1.1	25
36	Tissue-Engineered Stem Cell Models of Cardiovascular Diseases. , 2019, , 1-18.		0

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37	Engineering of human brain organoids with a functional vascular-like system. Nature Methods, 2019, 16, 1169-1175.	9.0	551
38	Fas ligand and nitric oxide combination to control smooth muscle growth while sparing endothelium. Biomaterials, 2019, 212, 28-38.	5.7	14
39	Bioengineered human acellular vessels recellularize and evolve into living blood vessels after human implantation. Science Translational Medicine, 2019, 11, .	5.8	145
40	Epac agonist improves barrier function in iPSC-derived endothelial colony forming cells for whole organ tissue engineering. Biomaterials, 2019, 200, 25-34.	5.7	22
41	Single-cell connectomic analysis of adult mammalian lungs. Science Advances, 2019, 5, eaaw3851.	4.7	156
42	Perfusion Bioreactors for Lung Engineering Applications. , 2019, , 189-189.		0
43	Understanding the Extracellular Matrix to Enhance Stem Cell-Based Tissue Regeneration. Cell Stem Cell, 2018, 22, 302-305.	5.2	62
44	Arterial Venous Differentiation for Vascular Bioengineering. Annual Review of Biomedical Engineering, 2018, 20, 431-447.	5.7	18
45	Neuropilin-1 Mediated Arterial Differentiation of Murine Pluripotent Stem Cells. Stem Cells and Development, 2018, 27, 441-455.	1.1	13
46	Flow Preservation of Umbilical Vein for Autologous Shunt and Cardiovascular Reconstruction. Annals of Thoracic Surgery, 2018, 105, 1809-1818.	0.7	3
47	Extracellular matrix in lung development, homeostasis and disease. Matrix Biology, 2018, 73, 77-104.	1.5	200
48	Controlled gas exchange in whole lung bioreactors. Journal of Tissue Engineering and Regenerative Medicine, 2018, 12, e119-e129.	1.3	15
49	Historical Perspective and Future Direction of Blood Vessel Developments. Cold Spring Harbor Perspectives in Medicine, 2018, 8, a025742.	2.9	47
50	Bioengineered lungs generated from human i <scp>PSC</scp> sâ€derived epithelial cells on native extracellular matrix. Journal of Tissue Engineering and Regenerative Medicine, 2018, 12, e1623-e1635.	1.3	35
51	Susceptibility of ePTFE vascular grafts and bioengineered human acellular vessels to infection. Journal of Surgical Research, 2018, 221, 143-151.	0.8	31
52	Vascularization of Natural and Synthetic Bone Scaffolds. Cell Transplantation, 2018, 27, 1269-1280.	1.2	36
53	An Ex Vivo Vessel Injury Model to Study Remodeling. Cell Transplantation, 2018, 27, 1375-1389.	1.2	19
54	A short discourse on vascular tissue engineering. Npj Regenerative Medicine, 2017, 2, .	2.5	116

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55	Efficient and Functional Endothelial Repopulation of Whole Lung Organ Scaffolds. ACS Biomaterials Science and Engineering, 2017, 3, 2000-2010.	2.6	18
56	Lung regeneration. Current Opinion in Anaesthesiology, 2017, 30, 23-29.	0.9	11
57	Vascular smooth muscle cells derived from inbred swine induced pluripotent stem cells for vascular tissue engineering. Biomaterials, 2017, 147, 116-132.	5.7	38
58	Transplantation of bioengineered rat lungs recellularized with endothelial and adipose-derived stromal cells. Scientific Reports, 2017, 7, 8447.	1.6	58
59	Engineered Microvasculature in PDMS Networks Using Endothelial Cells Derived from Human Induced Pluripotent Stem Cells. Cell Transplantation, 2017, 26, 1365-1379.	1.2	17
60	Improving inÂvivo outcomes of decellularized vascular grafts via incorporation of a novel extracellular matrix. Biomaterials, 2017, 141, 63-73.	5.7	48
61	Engineered microvasculature in PDMS networks using endothelial cells derived from human induced pluripotent stem cells. Cell Transplantation, 2017, , .	1.2	0
62	Netrinâ€1 Regulates Fibrocyte Accumulation in the Decellularized Fibrotic Sclerodermatous Lung Microenvironment and in Bleomycinâ€Induced Pulmonary Fibrosis. Arthritis and Rheumatology, 2016, 68, 1251-1261.	2.9	51
63	Implantable tissue-engineered blood vessels from human induced pluripotent stem cells. Biomaterials, 2016, 102, 120-129.	5.7	111
64	Ventilation-Based Decellularization System of the Lung. BioResearch Open Access, 2016, 5, 118-126.	2.6	30
65	Biomimetic Culture Reactor for Whole-Lung Engineering. BioResearch Open Access, 2016, 5, 72-83.	2.6	27
66	Biaxial Stretch Improves Elastic Fiber Maturation, Collagen Arrangement, and Mechanical Properties in Engineered Arteries. Tissue Engineering - Part C: Methods, 2016, 22, 524-533.	1.1	63
67	Bioengineered human acellular vessels for dialysis access in patients with end-stage renal disease: two phase 2 single-arm trials. Lancet, The, 2016, 387, 2026-2034.	6.3	291
68	Tissue engineering and regenerative medicine. , 2016, , 488-504.		1
69	Impaired von Willebrand factor adhesion and platelet response in thrombospondin-2 knockout mice. Blood, 2016, 128, 1642-1650.	0.6	25
70	Targeted proteomics effectively quantifies differences between native lung and detergent-decellularized lung extracellular matrices. Acta Biomaterialia, 2016, 46, 91-100.	4.1	103
71	Comparative biology of decellularized lung matrix: Implications of species mismatch in regenerative medicine. Biomaterials, 2016, 102, 220-230.	5.7	68
72	Engineered Tissueâ€"Stent Biocomposites as Tracheal Replacements. Tissue Engineering - Part A, 2016, 22, 1086-1097.	1.6	30

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73	Human Pluripotent Stem Cells (iPSC) Generation, Culture, and Differentiation to Lung Progenitor Cells. Methods in Molecular Biology, 2016, 1576, 55-92.	0.4	16
74	New Functional Tools for Antithrombogenic Activity Assessment of Live Surface Glycocalyx. Arteriosclerosis, Thrombosis, and Vascular Biology, 2016, 36, 1847-1853.	1.1	18
75	Sterilization of Lung Matrices by Supercritical Carbon Dioxide. Tissue Engineering - Part C: Methods, 2016, 22, 260-269.	1.1	51
76	A Rotating Bioreactor for Scalable Culture and Differentiation of Respiratory Epithelium. Cell Medicine, 2015, 7, 109-121.	5.0	13
77	Click-coated, heparinized, decellularized vascular grafts. Acta Biomaterialia, 2015, 13, 177-187.	4.1	65
78	Design and Use of a Novel Bioreactor for Regeneration of Biaxially Stretched Tissue-Engineered Vessels. Tissue Engineering - Part C: Methods, 2015, 21, 841-851.	1.1	29
79	Development of Lung Epithelium from Induced Pluripotent Stem Cells. Current Transplantation Reports, 2015, 2, 81-89.	0.9	20
80	Arterial specification of endothelial cells derived from human induced pluripotent stem cells in a biomimetic flow bioreactor. Biomaterials, 2015, 53, 621-633.	5.7	94
81	Quantification of Extracellular Matrix Proteins from a Rat Lung Scaffold to Provide a Molecular Readout for Tissue Engineering. Molecular and Cellular Proteomics, 2015, 14, 961-973.	2.5	131
82	Production of decellularized porcine lung scaffolds for use in tissue engineering. Integrative Biology (United Kingdom), 2015, 7, 1598-1610.	0.6	58
83	Tissue-Engineered Microvasculature to Reperfuse Isolated Renal Glomeruli. Tissue Engineering - Part A, 2015, 21, 2673-2679.	1.6	1
84	Fate of Distal Lung Epithelium Cultured in a Decellularized Lung Extracellular Matrix. Tissue Engineering - Part A, 2015, 21, 1916-1928.	1.6	24
85	Mesenchymal stromal cells form vascular tubes when placed in fibrin sealant and accelerate wound healing inÂvivo. Biomaterials, 2015, 40, 61-71.	5.7	43
86	Efficient intratracheal delivery of airway epithelial cells in mice and pigs. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2015, 308, L221-L228.	1.3	22
87	Extracellular Matrix as a Driver for Lung Regeneration. Annals of Biomedical Engineering, 2015, 43, 568-576.	1.3	68
88	PCH-2 regulates Caenorhabditis elegans lifespan. Aging, 2015, 7, 1-13.	1.4	21
89	Bmk-1 regulates lifespan in<i>Caenorhabditis elegans</i>by activating hsp-16. Oncotarget, 2015, 6, 18790-18799.	0.8	4
90	A Call to Craft. Science Translational Medicine, 2014, 6, 218fs1.	5.8	1

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91	Future prospects for tissue engineered lung transplantation. Organogenesis, 2014, 10, 196-207.	0.4	58
92	Vascular tissue engineering: building perfusable vasculature for implantation. Current Opinion in Chemical Engineering, 2014, 3, 68-74.	3.8	58
93	Engineering of arteries in vitro. Cellular and Molecular Life Sciences, 2014, 71, 2103-2118.	2.4	99
94	Alveolar epithelial differentiation of human induced pluripotent stem cells in a rotating bioreactor. Biomaterials, 2014, 35, 699-710.	5.7	85
95	Tissue-Engineered Vascular Grafts Created From Human Induced Pluripotent Stem Cells. Stem Cells Translational Medicine, 2014, 3, 1535-1543.	1.6	55
96	Fibroblast engraftment in the decellularized mouse lung occurs via a Î²1-integrin-dependent, FAK-dependent pathway that is mediated by ERK and opposed by AKT. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2014, 306, L463-L475.	1.3	34
97	Construction of Tissue-Engineered Small-Diameter Vascular Grafts in Fibrin Scaffolds in 30 Days. Tissue Engineering - Part A, 2014, 20, 1499-1507.	1.6	52
98	Repair and Regeneration of the Respiratory System: Complexity, Plasticity, and Mechanisms of Lung Stem Cell Function. Cell Stem Cell, 2014, 15, 123-138.	5.2	748
99	Influence of pH on Extracellular Matrix Preservation During Lung Decellularization. Tissue Engineering - Part C: Methods, 2014, 20, 1028-1036.	1.1	74
100	The Use of Optical Clearing and Multiphoton Microscopy for Investigation of Three-Dimensional Tissue-Engineered Constructs. Tissue Engineering - Part C: Methods, 2014, 20, 570-577.	1.1	19
101	Strategies for Whole Lung Tissue Engineering. IEEE Transactions on Biomedical Engineering, 2014, 61, 1482-1496.	2.5	49
102	Epithelial Cell Differentiation of Human Mesenchymal Stromal Cells in Decellularized Lung Scaffolds. Tissue Engineering - Part A, 2014, 20, 1735-1746.	1.6	62
103	Arterial shear stress reduces eph-b4 expression in adult human veins. Yale Journal of Biology and Medicine, 2014, 87, 359-71.	0.2	18
104	Small diameter vascular graft engineered using human embryonic stem cell-derived mesenchymal cells. Tissue Engineering - Part A, 2013, 20, 131015043635000.	1.6	14
105	Human iPS cellÃ¢â,¬â€œderived alveolar epithelium repopulates lung extracellular matrix. Journal of Clinical Investigation, 2013, 123, 4950-4962.	3.9	214
106	Acellular Normal and Fibrotic Human Lung Matrices as a Culture System for <i>In Vitro</i> Investigation. American Journal of Respiratory and Critical Care Medicine, 2012, 186, 866-876.	2.5	552
107	Smooth Muscle and Other Cell Sources for Human Blood Vessel Engineering. Cells Tissues Organs, 2012, 195, 15-25.	1.3	30
108	Microfluidic artificial â€œvesselsâ€•for dynamic mechanical stimulation of mesenchymal stem cells. Integrative Biology (United Kingdom), 2012, 4, 1487-1497.	0.6	51

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109	Allogeneic human tissue-engineered blood vessel. Journal of Vascular Surgery, 2012, 55, 790-798.	0.6	106
110	Matrix Composition and Mechanics of Decellularized Lung Scaffolds. Cells Tissues Organs, 2012, 195, 222-231.	1.3	194
111	Bioreactor for the Long-Term Culture of Lung Tissue. Cell Transplantation, 2011, 20, 1117-1126.	1.2	55
112	Engineering Biological-Based Vascular Grafts Using a Pulsatile Bioreactor. Journal of Visualized Experiments, 2011, , .	0.2	20
113	Readily Available Tissue-Engineered Vascular Grafts. Science Translational Medicine, 2011, 3, 68ra9.	5.8	468
114	Procedure for Lung Engineering. Journal of Visualized Experiments, 2011, , .	0.2	26
115	Bioengineered Vascular Grafts: Can We Make Them Off-the-Shelf?. Trends in Cardiovascular Medicine, 2011, 21, 83-89.	2.3	62
116	Strategies for lung regeneration. Materials Today, 2011, 14, 196-201.	8.3	20
117	Decellularized tissue-engineered blood vessel as an arterial conduit. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 9214-9219.	3.3	316
118	Use of Human Mesenchymal Stem Cells as Alternative Source of Smooth Muscle Cells in Vessel Engineering. Methods in Molecular Biology, 2011, 698, 279-294.	0.4	27
119	Novel Utilization of Serum in Tissue Decellularization. Tissue Engineering - Part C: Methods, 2010, 16, 173-184.	1.1	93
120	Tissue-Engineered Lungs for in Vivo Implantation. Science, 2010, 329, 538-541.	6.0	1,062
121	A Novel Flow Bioreactor for<i>In Vitro</i>Microvascularization. Tissue Engineering - Part C: Methods, 2010, 16, 1191-1200.	1.1	39
122	Enabling tools for engineering collagenous tissues integrating bioreactors, intravital imaging, and biomechanical modeling. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 3335-3339.	3.3	72
123	Influence of Culture Medium on Smooth Muscle Cell Differentiation from Human Bone Marrowâ€“Derived Mesenchymal Stem Cells. Tissue Engineering - Part A, 2009, 15, 319-330.	1.6	77
124	Scaffold-free vascular tissue engineering using bioprinting. Biomaterials, 2009, 30, 5910-5917.	5.7	1,193
125	Development of Decellularized Human Umbilical Arteries as Small-Diameter Vascular Grafts. Tissue Engineering - Part A, 2009, 15, 2665-2676.	1.6	202
126	Effects of Mechanical Stretch on Collagen and Cross-Linking in Engineered Blood Vessels. Cell Transplantation, 2009, 18, 915-921.	1.2	43

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127	A Microstructurally Motivated Model of the Mechanical Behavior of Tissue Engineered Blood Vessels. Annals of Biomedical Engineering, 2008, 36, 1782-1792.	1.3	22
128	Smallâ€diameter human vessel wall engineered from bone marrowâ€derived mesenchymal stem cells (hMSCs). FASEB Journal, 2008, 22, 1635-1648.	0.2	284
129	Cellular lifespan and regenerative medicine. Biomaterials, 2007, 28, 3751-3756.	5.7	20
130	Mechanical Properties and Compositions of Tissue Engineered and Native Arteries. Annals of Biomedical Engineering, 2007, 35, 348-355.	1.3	121
131	An Ultrastructural Analysis of Collagen in Tissue Engineered Arteries. Annals of Biomedical Engineering, 2007, 35, 1749-1755.	1.3	52
132	Blood Vessels Engineered from Human Cells. Trends in Cardiovascular Medicine, 2006, 16, 153-156.	2.3	57
133	Relevance and safety of telomerase for human tissue engineering. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 2500-2505.	3.3	43
134	Blood vessels engineered from human cells. Lancet, The, 2005, 365, 2122-2124.	6.3	211
135	Clonal Population of Adult Stem Cells: Life Span and Differentiation Potential. Cell Transplantation, 2004, 13, 93-101.	1.2	45
136	Engineering porcine arteries: Effects of scaffold modification. Journal of Biomedical Materials Research Part B, 2003, 67A, 303-311.	3.0	23
137	Human arteries engineered in vitro. EMBO Reports, 2003, 4, 633-638.	2.0	177
138	Effect of Pulse Rate on Collagen Deposition in the Tissue-Engineered Blood Vessel. Tissue Engineering, 2003, 9, 579-586.	4.9	62
139	Decellularized Native and Engineered Arterial Scaffolds for Transplantation. Cell Transplantation, 2003, 12, 659-666.	1.2	342
140	Decellularized native and engineered arterial scaffolds for transplantation. Cell Transplantation, 2003, 12, 659-66.	1.2	100
141	Morphologic and mechanical characteristics of engineered bovine arteries. Journal of Vascular Surgery, 2001, 33, 628-638.	0.6	237
142	Surface hydrolysis of poly(glycolic acid) meshes increases the seeding density of vascular smooth muscle cells. , 1998, 42, 417-424.		307
143	Surface hydrolysis of poly(glycolic acid) meshes increases the seeding density of vascular smooth muscle cells. Journal of Biomedical Materials Research Part B, 1998, 42, 417-424.	3.0	4
144	Advances in tissue engineering of blood vessels and other tissues. Transplant Immunology, 1997, 5, 303-306.	0.6	190

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145	Tissue Engineering and Regenerative Medicine. , 0, , 950-971.		4
146	In-vitro blood vessel regeneration. , 0, , 603-620.		0