Paul Gatenholm

List of Publications by Year
in descending order

136 papers	11,583 citations	24978 57 h-index	28224 105 g-index
140 all docs	140 docs citations	140 times ranked	11098 citing authors

#	Article	IF	Citations
1	3D Bioprinting Human Chondrocytes with Nanocelluloseâ€"Alginate Bioink for Cartilage Tissue Engineering Applications. Biomacromolecules, 2015, 16, 1489-1496.	2.6	1,237
2	In vivo biocompatibility of bacterial cellulose. Journal of Biomedical Materials Research - Part A, 2006, 76A, 431-438.	2.1	594
3	Mechanical properties of bacterial cellulose and interactions with smooth muscle cells. Biomaterials, 2006, 27, 2141-2149.	5.7	509
4	Bacterial cellulose-based materials and medical devices: current state and perspectives. Applied Microbiology and Biotechnology, 2011, 91, 1277-1286.	1.7	453
5	Cartilage Tissue Engineering by the 3D Bioprinting of iPS Cells in a Nanocellulose/Alginate Bioink. Scientific Reports, 2017, 7, 658.	1.6	342
6	Microporous bacterial cellulose as a potential scaffold for bone regeneration. Acta Biomaterialia, 2010, 6, 2540-2547.	4.1	332
7	Alginate Sulfateâ€"Nanocellulose Bioinks for Cartilage Bioprinting Applications. Annals of Biomedical Engineering, 2017, 45, 210-223.	1.3	317
8	Bacterial Nanocellulose as a Renewable Material for Biomedical Applications. MRS Bulletin, 2010, 35, 208-213.	1.7	302
9	Tissue-engineered conduit using urine-derived stem cells seeded bacterial cellulose polymer in urinary reconstruction and diversion. Biomaterials, 2010, 31, 8889-8901.	5.7	228
10	Material Properties of Plasticized Hardwood Xylans for Potential Application as Oxygen Barrier Films. Biomacromolecules, 2004, 5, 1528-1535.	2.6	213
11	3D bioprinting of human chondrocyte-laden nanocellulose hydrogels for patient-specific auricular cartilage regeneration. Bioprinting, 2016, 1-2, 22-35.	2.9	212
12	Engineering microporosity in bacterial cellulose scaffolds. Journal of Tissue Engineering and Regenerative Medicine, 2008, 2, 320-330.	1.3	204
13	Electrospinning of Highly Porous Scaffolds for Cartilage Regeneration. Biomacromolecules, 2008, 9, 1044-1049.	2.6	199
14	Modification of Nanocellulose with a Xyloglucanâ€"RGD Conjugate Enhances Adhesion and Proliferation of Endothelial Cells: Implications for Tissue Engineering. Biomacromolecules, 2007, 8, 3697-3704.	2.6	190
15	Mechanical evaluation of bacterial nanocellulose as an implant material for ear cartilage replacement. Journal of the Mechanical Behavior of Biomedical Materials, 2013, 22, 12-21.	1.5	188
16	Influence of cultivation conditions on mechanical and morphological properties of bacterial cellulose tubes. Biotechnology and Bioengineering, 2007, 97, 425-434.	1.7	181
17	Bacterial cellulose as a potential meniscus implant. Journal of Tissue Engineering and Regenerative Medicine, 2007, 1, 406-408.	1.3	180
18	Isolation and characterization of physicochemical and material properties of arabinoxylans from barley husks. Carbohydrate Polymers, 2005, 61, 266-275.	5.1	166

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19	Mechanism of Assembly of Xylan onto Cellulose Surfaces. Langmuir, 2003, 19, 5072-5077.	1.6	165
20	Biomimetic design of a bacterial cellulose/hydroxyapatite nanocomposite for bone healing applications. Materials Science and Engineering C, 2011, 31, 43-49.	3.8	165
21	Characterization of water in bacterial cellulose using dielectric spectroscopy and electron microscopy. Polymer, 2007, 48, 7623-7631.	1.8	152
22	Biomimetic Calcium Phosphate Crystal Mineralization on Electrospun Cellulose-Based Scaffolds. ACS Applied Materials & Interfaces, 2011, 3, 681-689.	4.0	146
23	Novel bilayer bacterial nanocellulose scaffold supports neocartilage formation inÂvitro and inÂvivo. Biomaterials, 2015, 44, 122-133.	5.7	130
24	Biocompatibility evaluation of densified bacterial nanocellulose hydrogel as an implant material for auricular cartilage regeneration. Applied Microbiology and Biotechnology, 2014, 98, 7423-7435.	1.7	129
25	Material Properties of Films from Enzymatically Tailored Arabinoxylans. Biomacromolecules, 2008, 9, 2042-2047.	2.6	118
26	Solidification of 3D Printed Nanofibril Hydrogels into Functional 3D Cellulose Structures. Advanced Materials Technologies, 2016, 1, 1600096.	3.0	118
27	Flexible oxygen barrier films from spruce xylan. Carbohydrate Polymers, 2012, 87, 2381-2387.	5.1	112
28	Biomimetic engineering of cellulose-based materials. Trends in Biotechnology, 2007, 25, 299-306.	4.9	110
29	In Vivo Chondrogenesis in 3D Bioprinted Human Cell-laden Hydrogel Constructs. Plastic and Reconstructive Surgery - Global Open, 2017, 5, e1227.	0.3	107
30	Effect of acetylation on the material properties of glucuronoxylan from aspen wood. Carbohydrate Polymers, 2003, 52, 359-366.	5.1	106
31	Biomimetic Inks Based on Cellulose Nanofibrils and Cross-Linkable Xylans for 3D Printing. ACS Applied Materials & Interfaces, 2017, 9, 40878-40886.	4.0	106
32	Tailor-made conductive inks from cellulose nanofibrils for 3D printing of neural guidelines. Carbohydrate Polymers, 2018, 189, 22-30.	5.1	104
33	Chondrocytes and stem cells in 3D-bioprinted structures create human cartilage in vivo. PLoS ONE, 2017, 12, e0189428.	1.1	100
34	Ambientâ€Dried, 3Dâ€Printable and Electrically Conducting Cellulose Nanofiber Aerogels by Inclusion of Functional Polymers. Advanced Functional Materials, 2020, 30, 1909383.	7.8	92
35	Electrospinning cellulosic nanofibers for biomedical applications: structure and in vitro biocompatibility. Cellulose, 2012, 19, 1583-1598.	2.4	84
36	In vitro evaluation of osteoblastic cells on bacterial cellulose modified with multi-walled carbon nanotubes as scaffold for bone regeneration. Materials Science and Engineering C, 2017, 75, 445-453.	3.8	84

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37	13C NMR assignments of regenerated cellulose from solid-state 2D NMR spectroscopy. Carbohydrate Polymers, 2016, 151, 480-487.	5.1	83
38	Design and microstructuring of PDMS surfaces for improved marine biofouling resistance. Journal of Biomaterials Science, Polymer Edition, 2000, 11, 1051-1072.	1.9	79
39	Adipogenic differentiation of stem cells in three-dimensional porous bacterial nanocellulose scaffolds. , 2015, 103, 195-203.		79
40	Regular Motifs in Xylan Modulate Molecular Flexibility and Interactions with Cellulose Surfaces. Plant Physiology, 2017, 175, 1579-1592.	2.3	79
41	Electrospinning of cellulose nanofibers from ionic liquids: The effect of different cosolvents. Journal of Applied Polymer Science, 2012, 125, 1901-1909.	1.3	77
42	Cellulose-derived carbon nanofibers/graphene composite electrodes for powerful compact supercapacitors. RSC Advances, 2017, 7, 45968-45977.	1.7	76
43	Observations on bacterial cellulose tube formation for application as vascular graft. Materials Science and Engineering C, 2011, 31, 14-21.	3.8	75
44	A GH115 Î±-glucuronidase from Schizophyllum commune contributes to the synergistic enzymatic deconstruction of softwood glucuronoarabinoxylan. Biotechnology for Biofuels, 2016, 9, 2.	6.2	72
45	Corncob arabinoxylan for new materials. Carbohydrate Polymers, 2014, 102, 12-20.	5.1	71
46	Bacterial nanocelluloseâ€reinforced arabinoxylan films. Journal of Applied Polymer Science, 2011, 122, 1030-1039.	1.3	68
47	Evidence of the presence of 2-O-Î²-d-xylopyranosyl-Î±-l-arabinofuranose side chains in barley husk arabinoxylan. Carbohydrate Research, 2006, 341, 2959-2966.	1.1	67
48	Behavior of human chondrocytes in engineered porous bacterial cellulose scaffolds. Journal of Biomedical Materials Research - Part A, 2010, 94A, 1124-1132.	2.1	67
49	The effect of moisture on the dynamical mechanical properties of bacterial cellulose/glucuronoxylan nanocomposites. Polymer, 2005, 46, 10364-10371.	1.8	66
50	In situ synthesis of conductive polypyrrole on electrospun cellulose nanofibers: scaffold for neural tissue engineering. Cellulose, 2015, 22, 1459-1467.	2.4	66
51	3D Printed Conductive Nanocellulose Scaffolds for the Differentiation of Human Neuroblastoma Cells. Cells, 2020, 9, 682.	1.8	65
52	Role of (1,3)(1,4)-Î²-Glucan in Cell Walls: Interaction with Cellulose. Biomacromolecules, 2014, 15, 1727-1736.	2.6	63
53	The effect of barley husk arabinoxylan adsorption on the properties of cellulose fibres. Cellulose, 2008, 15, 537-546.	2.4	62
54	3D Bioprinting of Cellulose Structures from an Ionic Liquid. 3D Printing and Additive Manufacturing, 2014, 1, 115-121.	1.4	62

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55	Assembly of Debranched Xylan from Solution and on Nanocellulosic Surfaces. Biomacromolecules, 2014, 15, 924-930.	2.6	62
56	Mechanical stimulation of fibroblasts in microâ€channeled bacterial cellulose scaffolds enhances production of oriented collagen fibers. Journal of Biomedical Materials Research - Part A, 2012, 100A, 948-957.	2.1	60
57	Small calibre biosynthetic bacterial cellulose blood vessels: 13-months patency in a sheep model. Scandinavian Cardiovascular Journal, 2012, 46, 57-62.	0.4	59
58	In situ forming spruce xylan-based hydrogel for cell immobilization. Carbohydrate Polymers, 2014, 102, 862-868.	5.1	59
59	Controlled Assembly of Glucuronoxylans onto Cellulose Fibres. Holzforschung, 2001, 55, 494-502.	0.9	58
60	The influence of lignin on the self-assembly behaviour of xylan rich fractions from birch (Betula) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 54	2.4	56
61	Electromagnetically Controlled Biological Assembly of Aligned Bacterial Cellulose Nanofibers. Annals of Biomedical Engineering, 2010, 38, 2475-2484.	1.3	56
62	Sustainable carbon nanofibers/nanotubes composites from cellulose as electrodes for supercapacitors. Energy, 2015, 90, 1490-1496.	4.5	56
63	In Vivo Human Cartilage Formation in Three-Dimensional Bioprinted Constructs with a Novel Bacterial Nanocellulose Bioink. ACS Biomaterials Science and Engineering, 2019, 5, 2482-2490.	2.6	55
64	Universal method for protein bioconjugation with nanocellulose scaffolds for increased cell adhesion. Materials Science and Engineering C, 2013, 33, 4599-4607.	3.8	51
65	3D Culturing and differentiation of SH-SY5Y neuroblastoma cells on bacterial nanocellulose scaffolds. Artificial Cells, Nanomedicine and Biotechnology, 2014, 42, 302-308.	1.9	51
66	Ammonium chloride promoted synthesis of carbon nanofibers from electrospun cellulose acetate. Carbon, 2014, 67, 694-703.	5.4	51
67	Enhanced growth of neural networks on conductive cellulose-derived nanofibrous scaffolds. Materials Science and Engineering C, 2016, 58, 14-23.	3.8	51
68	Bacterial cellulose modified with xyloglucan bearing the adhesion peptide RGD promotes endothelial cell adhesion and metabolism-a promising modification for vascular grafts. Journal of Tissue Engineering and Regenerative Medicine, 2011, 5, 454-463.	1.3	50
69	<i>In situ</i> Imaging of Collagen Synthesis by Osteoprogenitor Cells in Microporous Bacterial Cellulose Scaffolds. Tissue Engineering - Part C: Methods, 2012, 18, 227-234.	1.1	50
70	Arabinoxylan/nanofibrillated cellulose composite films. Journal of Materials Science, 2012, 47, 6724-6732.	1.7	50
71	Gas-Phase Surface Fluorination of Arabinoxylan Films. Macromolecules, 2006, 39, 2718-2721.	2.2	49
72	Surface modification of cellulose fibers: towards wood composites by biomimetics. Comptes Rendus - Biologies, 2004, 327, 945-953.	0.1	48

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73	Influence of molecular weight and rheological behavior on electrospinning cellulose nanofibers from ionic liquids. Journal of Applied Polymer Science, 2013, 130, 2303-2310.	1.3	47
74	Three-Dimensional Printed Biopatches With Conductive Ink Facilitate Cardiac Conduction When Applied to Disrupted Myocardium. Circulation: Arrhythmia and Electrophysiology, 2019, 12, e006920.	2.1	44
75	The Effect of Starch Composition on Structure of Foams Prepared by Microwave Treatment. Journal of Polymers and the Environment, 2005, 13, 29-37.	2.4	43
76	The effect of molecular composition of xylan extracted from birch on its assembly onto bleached softwood kraft pulp. Holzforschung, 2006, 60, 143-148.	0.9	41
77	Embedding of Bacterial Cellulose Nanofibers within PHEMA Hydrogel Matrices: Tunable Stiffness Composites with Potential for Biomedical Applications. Journal of Nanomaterials, 2018, 2018, 1-11.	1.5	40
78	Development of nanofiberâ€reinforced hydrogel scaffolds for nucleus pulposus regeneration by a combination of electrospinning and spraying technique. Journal of Applied Polymer Science, 2013, 128, 1158-1163.	1.3	39
79	Fast and highly efficient acetylation of xylans in ionic liquid systems. Cellulose, 2013, 20, 2813-2824.	2.4	35
80	Biofabrication of bacterial nanocellulose scaffolds with complex vascular structure. Biofabrication, 2019, 11, 045010.	3.7	35
81	Materials from trees assembled by 3D printing â€" Wood tissue beyond nature limits. Applied Materials Today, 2019, 15, 280-285.	2.3	35
82	Intravital fluorescent microscopic evaluation of bacterial cellulose as scaffold for vascular grafts. Journal of Biomedical Materials Research - Part A, 2010, 93A, 140-149.	2.1	34
83	Superhydrophobic behaviour of plasma modified electrospun cellulose nanofiber-coated microfibers. Cellulose, 2012, 19, 1743-1748.	2.4	33
84	Methacrylate hydrogels reinforced with bacterial cellulose. Polymer International, 2012, 61, 1193-1201.	1.6	32
85	Visualization of the Cellulose Biosynthesis and Cell Integration into Cellulose Scaffolds. Biomacromolecules, 2010, 11, 542-548.	2.6	30
86	The effect of controlled glucuronoxylan adsorption on drying-induced strength loss of bleached softwood pulp. Nordic Pulp and Paper Research Journal, 2007, 22, 508-515.	0.3	29
87	Synthesis of tunable hydrogels based on O-acetyl-galactoglucomannans from spruce. Carbohydrate Polymers, 2017, 157, 1349-1357.	5.1	29
88	Nanofibrillated cellulose reinforced acetylated arabinoxylan films. Composites Science and Technology, 2014, 98, 72-78.	3.8	28
89	Effect of xylan content on mechanical properties in regenerated cellulose/xylan blend films from ionic liquid. Cellulose, 2015, 22, 1943-1953.	2.4	28
90	Moisture induced plasticity of amorphous cellulose films from ionic liquid. Polymer, 2013, 54, 6555-6560.	1.8	27

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91	Capacitive effects of nitrogen doping on cellulose-derived carbon nanofibers. Materials Chemistry and Physics, 2015, 160, 59-65.	2.0	26
92	Fractionation and characterization of xylan rich extracts from birch. Holzforschung, 2008, 62, 31-37.	0.9	24
93	Successful engraftment, vascularization, and In vivo survival of 3D-bioprinted human lipoaspirate-derived adipose tissue. Bioprinting, 2020, 17, e00065.	2.9	24
94	Highly Hydrophobic Wood Surfaces Prepared by Treatment With Atmospheric Pressure Dielectric Barrier Discharges. Journal of Adhesion Science and Technology, 2008, 22, 2059-2078.	1.4	23
95	Skin Grafting on 3D Bioprinted Cartilage Constructs In Vivo. Plastic and Reconstructive Surgery - Global Open, 2018, 6, e1930.	0.3	23
96	Effect of Water Content in Potato Amylopectin Starch on Microwave Foaming Process. Journal of Polymers and the Environment, 2007, 15, 43-50.	2.4	21
97	The feasibility of using irreversible electroporation to introduce pores in bacterial cellulose scaffolds for tissue engineering. Applied Microbiology and Biotechnology, 2015, 99, 4785-4794.	1.7	21
98	Neuronal Networks on Nanocellulose Scaffolds. Tissue Engineering - Part C: Methods, 2015, 21, 1162-1170.	1.1	21
99	Comparison of Biomechanical Properties of Native Menisci and Bacterial Cellulose Implant. International Journal of Polymeric Materials and Polymeric Biomaterials, 2014, 63, 891-897.	1.8	20
100	Tailormade Polysaccharides with Defined Branching Patterns: Enzymatic Polymerization of Arabinoxylan Oligosaccharides. Angewandte Chemie - International Edition, 2018, 57, 11987-11992.	7.2	20
101	Effect of cell seeding concentration on the quality of tissue engineered constructs loaded with adult human articular chondrocytes. Journal of Tissue Engineering and Regenerative Medicine, 2008, 2, 14-21.	1.3	19
102	Biosynthesis and in vitro evaluation of macroporous mineralized bacterial nanocellulose scaffolds for bone tissue engineering. Bio-Medical Materials and Engineering, 2015, 25, 39-52.	0.4	19
103	Biochemical and Structural Characterization of a Five-domain GH115 Î±-Glucuronidase from the Marine Bacterium Saccharophagus degradans 2-40T. Journal of Biological Chemistry, 2016, 291, 14120-14133.	1.6	18
104	Coherent anti-Stokes Raman scattering microscopy of human smooth muscle cells in bioengineered tissue scaffolds. Journal of Biomedical Optics, 2011, 16, 021115.	1.4	17
105	Nonâ€linear microscopy of smooth muscle cells in artificial extracellular matrices made of cellulose. Journal of Biophotonics, 2012, 5, 404-414.	1.1	16
106	Experimental and Theoretical Evaluation of the Solubility/Insolubility of Spruce Xylan (Arabino) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 142	2.6	16
107	Longâ€term in vivo integrity and safety of <scp>3D</scp>â€bioprinted cartilaginous constructs. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2021, 109, 126-136.	1.6	15
108	Electrospinning of degradable elastomeric nanofibers with various morphology and their interaction with human fibroblasts. Journal of Applied Polymer Science, 2008, 108, 491-497.	1.3	14

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109	Spruce glucomannan: Preparation, structural characteristics and basic film forming ability. Nordic Pulp and Paper Research Journal, 2013, 28, 323-330.	0.3	14
110	Biomimetic materials with tailored surface micro-architecture for prevention of marine biofouling. Surface and Interface Analysis, 2003, 35, 168-173.	0.8	13
111	Cobalt (II) chloride promoted formation of honeycomb patterned cellulose acetate films. Journal of Colloid and Interface Science, 2012, 367, 485-493.	5.0	13
112	Vascularization of tissue engineered cartilage - Sequential in vivo MRI display functional blood circulation. Biomaterials, 2021, 276, 121002.	5.7	13
113	Release of Antithrombotic Drugs from Alginate Gel Beads. Current Drug Delivery, 2010, 7, 297-302.	0.8	9
114	Controlling the architecture of nanofiberâ€coated microfibers using electrospinning. Journal of Applied Polymer Science, 2010, 118, 511-517.	1.3	9
115	Controlled molecular reorientation enables strong cellulose fibers regenerated from ionic liquid solutions. Polymer, 2015, 75, 119-124.	1.8	8
116	Structural characterization of the family GH115 Î±-glucuronidase from Amphibacillus xylanus yields insight into its coordinated action with Î±-arabinofuranosidases. New Biotechnology, 2021, 62, 49-56.	2.4	8
117	Three-dimensional bioprinting using a coaxial needle with viscous inks in bone tissue engineering - An In vitro study. Annals of Maxillofacial Surgery, 2020, 10, 370.	0.2	8
118	Long-term <i>in vivo</i> survival of 3D-bioprinted human lipoaspirate-derived adipose tissue: proteomic signature and cellular content. Adipocyte, 2022, 11, 34-46.	1.3	8
119	Oxygen Barrier Films Based on Xylans Isolated from Biomass. ACS Symposium Series, 2007, , 137-152.	0.5	7
120	Development of Nanocellulose-Based Bioinks for 3D Bioprinting of Soft Tissue. , 2016, , 1-23.		7
121	Biomaterial and biocompatibility evaluation of tunicate nanocellulose for tissue engineering. , 2022, 137, 212828.		7
122	Development of Nanocellulose-Based Bioinks for 3D Bioprinting of Soft Tissue. , 2018, , 331-352.		6
123	Alginate and tunicate nanocellulose composite microbeads â€“ Preparation, characterization and cell encapsulation. Carbohydrate Polymers, 2022, 286, 119284.	5.1	6
124	Injectable conductive hydrogel restores conduction through ablated myocardium. Journal of Cardiovascular Electrophysiology, 2020, 31, 3293-3301.	0.8	5
125	Elastic strain-hardening and shear-thickening exhibited by thermoreversible physical hydrogels based on poly(alkylene oxide)-grafted hyaluronic acid or carboxymethylcellulose. Physical Chemistry Chemical Physics, 2020, 22, 14579-14590.	1.3	5
126	Optimization of the Process Conditions for the Extraction of Heteropolysaccharides from Birch (<i>Betula pendula</i>). ACS Symposium Series, 2006, , 321-333.	0.5	4

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127	Quantitative Grafting for Structureâ€"Function Establishment: Thermoresponsive Poly(alkylene oxide) Graft Copolymers Based on Hyaluronic Acid and Carboxymethylcellulose. Biomacromolecules, 2019, 20, 1271-1280.	2.6	4
128	Tailormade Polysaccharides with Defined Branching Patterns: Enzymatic Polymerization of Arabinoxylan Oligosaccharides. Angewandte Chemie, 2018, 130, 12163-12168.	1.6	3
129	Preparation and Characterization of Arabinoxylan Esters. ACS Symposium Series, 2003, , 326-346.	0.5	2
130	Effect of Cellulose Substrate on Assembly of Xylans. ACS Symposium Series, 2003, , 236-253.	0.5	2
131	Effects of Extractives on the Surface Chemistry and Wettability of High Temperature Chemithermomechanical Pulps. Nordic Pulp and Paper Research Journal, 2004, 19, 53-58.	0.3	2
132	Contribution of the Molecular Architecture of 4-O-Methyl Glucuronoxylan to Its Aggregation Behavior in Solution. ACS Symposium Series, 2003, , 167-183.	0.5	1
133	Bacterial Cellulose: A Potential Vascular Graft and Tissue Engineering Scaffold. , 2009, , .		1
134	CARS and SHG microscopy of artificial bioengineered tissues. , 2010, , .		1
135	307.7: 3D Bioprinting of Functional Islets With Adipose-derived Stromal Cells in an Alginate/Nanocellulose Scaffold. Transplantation, 2021, 105, S25-S25.	0.5	0
136	Modeling perichondrium-cartilage interactions in vitro. Laryngo- Rhino- Otologie, 2022, , .	0.2	0