

Catherine Picart

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

120 papers	8,753 citations	51 h-index	92 g-index
129 ext. papers	9,568 ext. citations	8.8 avg, IF	6.11 L-index

#	Paper	IF	Citations
120	Multiple functionalities of polyelectrolyte multilayer films: new biomedical applications. <i>Advanced Materials</i> , 2010 , 22, 441-67	24	610
119	Layer by layer buildup of polysaccharide films: physical chemistry and cellular adhesion aspects. <i>Langmuir</i> , 2004 , 20, 448-58	4	450
118	Improvement of stability and cell adhesion properties of polyelectrolyte multilayer films by chemical cross-linking. <i>Biomacromolecules</i> , 2004 , 5, 284-94	6.9	375
117	Bone regeneration strategies: Engineered scaffolds, bioactive molecules and stem cells current stage and future perspectives. <i>Biomaterials</i> , 2018 , 180, 143-162	15.6	334
116	Polyelectrolyte multilayers with a tunable Young's modulus: influence of film stiffness on cell adhesion. <i>Langmuir</i> , 2006 , 22, 1193-200	4	279
115	Surface probe measurements of the elasticity of sectioned tissue, thin gels and polyelectrolyte multilayer films: Correlations between substrate stiffness and cell adhesion. <i>Surface Science</i> , 2004 , 570, 142-154	1.8	275
114	Polyelectrolyte Multilayer Assemblies on Materials Surfaces: From Cell Adhesion to Tissue Engineering. <i>Chemistry of Materials</i> , 2012 , 24, 854-869	9.6	267
113	Modeling the Buildup of Polyelectrolyte Multilayer Films Having Exponential Growth?. <i>Journal of Physical Chemistry B</i> , 2004 , 108, 635-648	3.4	247
112	Polyelectrolyte multilayer films of controlled stiffness modulate myoblast cells differentiation. <i>Advanced Functional Materials</i> , 2008 , 18, 1378-1389	15.6	220
111	Layer-by-layer films as a biomimetic reservoir for rhBMP-2 delivery: controlled differentiation of myoblasts to osteoblasts. <i>Small</i> , 2009 , 5, 598-608	11	215
110	Elasticity of native and cross-linked polyelectrolyte multilayer films. <i>Biomacromolecules</i> , 2004 , 5, 1908-16.9	6.9	214
109	Natural polyelectrolyte films based on layer-by layer deposition of collagen and hyaluronic acid. <i>Biomaterials</i> , 2005 , 26, 3353-61	15.6	189
108	Polyelectrolyte multilayer films: from physico-chemical properties to the control of cellular processes. <i>Current Medicinal Chemistry</i> , 2008 , 15, 685-97	4.3	175
107	Cytotoxicity of polyethyleneimine (PEI), precursor base layer of polyelectrolyte multilayer films. <i>Biomaterials</i> , 2007 , 28, 632-40	15.6	163
106	Polysaccharide-based polyelectrolyte multilayers. <i>Current Opinion in Colloid and Interface Science</i> , 2010 , 15, 417-426	7.6	149
105	pH dependent growth of poly(L-lysine)/poly(L-glutamic) acid multilayer films and their cell adhesion properties. <i>Surface Science</i> , 2004 , 570, 13-29	1.8	139
104	Nanostructured polymeric coatings based on chitosan and dopamine-modified hyaluronic acid for biomedical applications. <i>Small</i> , 2014 , 10, 2459-69	11	131

103	Ion pairing and hydration in polyelectrolyte multilayer films containing polysaccharides. <i>Biomacromolecules</i> , 2009 , 10, 433-42	6.9	126
102	The performance of BMP-2 loaded TCP/HAP porous ceramics with a polyelectrolyte multilayer film coating. <i>Biomaterials</i> , 2011 , 32, 7543-54	15.6	118
101	Free-standing polyelectrolyte membranes made of chitosan and alginate. <i>Biomacromolecules</i> , 2013 , 14, 1653-60	6.9	117
100	Multifunctional polyelectrolyte multilayer films: combining mechanical resistance, biodegradability, and bioactivity. <i>Biomacromolecules</i> , 2007 , 8, 139-45	6.9	117
99	Degradability of polysaccharides multilayer films in the oral environment: an in vitro and in vivo study. <i>Biomacromolecules</i> , 2005 , 6, 726-33	6.9	116
98	Asymmetric free-standing film with multifunctional anti-bacterial and self-cleaning properties. <i>ACS Applied Materials & Interfaces</i> , 2012 , 4, 4476-83	9.5	113
97	Self assembling and crosslinking of polyelectrolyte multilayer films of chitosan and alginate studied by QCM and IR spectroscopy. <i>Macromolecular Bioscience</i> , 2009 , 9, 776-85	5.5	111
96	Designing hyaluronic acid-based layer-by-layer capsules as a carrier for intracellular drug delivery. <i>Biomacromolecules</i> , 2010 , 11, 713-20	6.9	108
95	Presentation of BMP-2 from a soft biopolymeric film unveils its activity on cell adhesion and migration. <i>Advanced Materials</i> , 2011 , 23, H111-8	24	102
94	Human blood shear yield stress and its hematocrit dependence. <i>Journal of Rheology</i> , 1998 , 42, 1-12	4.1	97
93	Surface delivery of tunable doses of BMP-2 from an adaptable polymeric scaffold induces volumetric bone regeneration. <i>Biomaterials</i> , 2016 , 104, 168-81	15.6	96
92	Surface functionalization of hyaluronic acid hydrogels by polyelectrolyte multilayer films. <i>Biomaterials</i> , 2011 , 32, 5590-9	15.6	92
91	Elasticity, biodegradability and cell adhesive properties of chitosan/hyaluronan multilayer films. <i>Biomedical Materials (Bristol)</i> , 2007 , 2, S45-51	3.5	82
90	The stability of BMP loaded polyelectrolyte multilayer coatings on titanium. <i>Biomaterials</i> , 2013 , 34, 5737-46	15.6	80
89	Giant unilamellar vesicles containing phosphatidylinositol(4,5)bispophosphate: characterization and functionality. <i>Biophysical Journal</i> , 2008 , 95, 4348-60	2.9	79
88	Effect of crosslinking on the elasticity of polyelectrolyte multilayer films measured by colloidal probe AFM. <i>Microscopy Research and Technique</i> , 2006 , 69, 84-92	2.8	79
87	Internal composition versus the mechanical properties of polyelectrolyte multilayer films: the influence of chemical cross-linking. <i>Langmuir</i> , 2009 , 25, 13809-19	4	75
86	Variation of polyelectrolyte film stiffness by photo-cross-linking: a new way to control cell adhesion. <i>Langmuir</i> , 2009 , 25, 3556-63	4	74

85	Tailored freestanding multilayered membranes based on chitosan and alginate. <i>Biomacromolecules</i> , 2014 , 15, 3817-26	6.9	70
84	Layer-by-Layer Assemblies for Cancer Treatment and Diagnosis. <i>Advanced Materials</i> , 2016 , 28, 1295-301	24	67
83	Dynamics of poly(L-lysine) in hyaluronic acid/poly(L-lysine) multilayer films studied by fluorescence recovery after pattern photobleaching. <i>Langmuir</i> , 2008 , 24, 7842-7	4	65
82	An extended modeling of the micropipette aspiration experiment for the characterization of the Young's modulus and Poisson's ratio of adherent thin biological samples: numerical and experimental studies. <i>Journal of Biomechanics</i> , 2006 , 39, 1677-85	2.9	64
81	Micropore-induced capillarity enhances bone distribution in vivo in biphasic calcium phosphate scaffolds. <i>Acta Biomaterialia</i> , 2016 , 44, 144-54	10.8	60
80	Spatial patterning of BMP-2 and BMP-7 on biopolymeric films and the guidance of muscle cell fate. <i>Biomaterials</i> , 2014 , 35, 3975-85	15.6	59
79	Spatio-Temporal Control of LbL Films for Biomedical Applications: From 2D to 3D. <i>Advanced Healthcare Materials</i> , 2015 , 4, 811-30	10.1	57
78	Cyclodextrin/Paclitaxel Complex in Biodegradable Capsules for Breast Cancer Treatment. <i>Chemistry of Materials</i> , 2013 , 25, 3867-3873	9.6	56
77	pH-Amplified multilayer films based on hyaluronan: influence of HA molecular weight and concentration on film growth and stability. <i>Biomacromolecules</i> , 2011 , 12, 1322-31	6.9	56
76	Manipulation of the adhesive behaviour of skeletal muscle cells on soft and stiff polyelectrolyte multilayers. <i>Acta Biomaterialia</i> , 2010 , 6, 4238-48	10.8	56
75	Tuning cellular responses to BMP-2 with material surfaces. <i>Cytokine and Growth Factor Reviews</i> , 2016 , 27, 43-54	17.9	55
74	Polysaccharide-blend multilayers containing hyaluronan and heparin as a delivery system for rhBMP-2. <i>Small</i> , 2010 , 6, 651-62	11	55
73	Measurement of film thickness up to several hundreds of nanometers using optical waveguide lightmode spectroscopy. <i>Biosensors and Bioelectronics</i> , 2004 , 20, 553-61	11.8	53
72	β integrin-mediated spreading induced by matrix-bound BMP-2 controls Smad signaling in a stiffness-independent manner. <i>Journal of Cell Biology</i> , 2016 , 212, 693-706	7.3	52
71	Gradients of physical and biochemical cues on polyelectrolyte multilayer films generated via microfluidics. <i>Lab on A Chip</i> , 2013 , 13, 1562-70	7.2	52
70	Stiffening of Soft Polyelectrolyte Architectures by Multilayer Capping Evidenced by Viscoelastic Analysis of AFM Indentation Measurements. <i>Journal of Physical Chemistry C</i> , 2007 , 111, 8299-8306	3.8	52
69	Myoconductive and osteoinductive free-standing polysaccharide membranes. <i>Acta Biomaterialia</i> , 2015 , 15, 139-49	10.8	51
68	Measuring mechanical properties of polyelectrolyte multilayer thin films: Novel methods based on AFM and optical techniques. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2007 , 303, 30-36	5.1	51

67	Imaging cell interactions with native and crosslinked polyelectrolyte multilayers. <i>Cell Biochemistry and Biophysics</i> , 2006 , 44, 273-85	3.2	50
66	Effect of RGD functionalization and stiffness modulation of polyelectrolyte multilayer films on muscle cell differentiation. <i>Acta Biomaterialia</i> , 2013 , 9, 6468-80	10.8	49
65	Multilayer assembly of hyaluronic acid/poly(allylamine): control of the buildup for the production of hollow capsules. <i>Langmuir</i> , 2008 , 24, 9767-74	4	48
64	Nano-scale control of cellular environment to drive embryonic stem cells selfrenewal and fate. <i>Biomaterials</i> , 2010 , 31, 1742-50	15.6	47
63	Quantitative analysis of the binding of ezrin to large unilamellar vesicles containing phosphatidylinositol 4,5 bisphosphate. <i>Biophysical Journal</i> , 2008 , 94, 1021-33	2.9	47
62	Assessment of a polyelectrolyte multilayer film coating loaded with BMP-2 on titanium and PEEK implants in the rabbit femoral condyle. <i>Acta Biomaterialia</i> , 2016 , 36, 310-22	10.8	46
61	Layer-by-layer films from hyaluronan and amine-modified hyaluronan. <i>Langmuir</i> , 2007 , 23, 2655-62	4	45
60	Contact-Killing Polyelectrolyte Microcapsules Based on Chitosan Derivatives. <i>Advanced Functional Materials</i> , 2010 , 20, 3303-3312	15.6	44
59	Influence of polyelectrolyte film stiffness on bacterial growth. <i>Biomacromolecules</i> , 2013 , 14, 520-8	6.9	43
58	A material's point of view on recent developments of polymeric biomaterials: control of mechanical and biochemical properties. <i>Journal of Materials Chemistry</i> , 2011 , 21, 14354-14366		43
57	Application of fluorescence recovery after photobleaching to diffusion of a polyelectrolyte in a multilayer film. <i>Microscopy Research and Technique</i> , 2005 , 66, 43-57	2.8	43
56	Polyelectrolyte multilayer nanofilms used as thin materials for cell mechano-sensitivity studies. <i>Macromolecular Bioscience</i> , 2011 , 11, 77-89	5.5	42
55	Activation of moesin, a protein that links actin cytoskeleton to the plasma membrane, occurs by phosphatidylinositol 4,5-bisphosphate (PIP2) binding sequentially to two sites and releasing an autoinhibitory linker. <i>Journal of Biological Chemistry</i> , 2012 , 287, 16311-23	5.4	39
54	Polyelectrolyte multilayer nanoshells with hydrophobic nanodomains for delivery of Paclitaxel. <i>Journal of Controlled Release</i> , 2012 , 159, 403-412	11.7	35
53	Microinterferometric Study of the Structure, Interfacial Potential, and Viscoelastic Properties of Polyelectrolyte Multilayer Films on a Planar Substrate. <i>Journal of Physical Chemistry B</i> , 2004 , 108, 7196-7205	2.4	35
52	Self assembly of HIV-1 Gag protein on lipid membranes generates PI(4,5)P/Cholesterol nanoclusters. <i>Scientific Reports</i> , 2016 , 6, 39332	4.9	35
51	Engineering muscle tissues on microstructured polyelectrolyte multilayer films. <i>Tissue Engineering - Part A</i> , 2012 , 18, 1664-76	3.9	34
50	The effect of delivering the chemokine SDF-1 α in a matrix-bound manner on myogenesis. <i>Biomaterials</i> , 2014 , 35, 4525-4535	15.6	33

49	Hydrophobic shell loading of biopolyelectrolyte capsules. <i>Advanced Materials</i> , 2011 , 23, H200-4	24	33
48	Humidity responsive asymmetric free-standing multilayered film. <i>Langmuir</i> , 2010 , 26, 16634-7	4	33
47	Additive Manufacturing of Material Scaffolds for Bone Regeneration: Toward Application in the Clinics. <i>Advanced Functional Materials</i> , 2021 , 31, 2006967	15.6	32
46	Substrate Stiffness Combined with Hepatocyte Growth Factor Modulates Endothelial Cell Behavior. <i>Biomacromolecules</i> , 2016 , 17, 2767-76	6.9	31
45	Geometrical confinement controls the asymmetric patterning of brachyury in cultures of pluripotent cells. <i>Development (Cambridge)</i> , 2018 , 145,	6.6	30
44	Practical guide to characterize biomolecule adsorption on solid surfaces (Review). <i>Biointerphases</i> , 2018 , 13, 06D303	1.8	30
43	Secondary structure of rhBMP-2 in a protective biopolymeric carrier material. <i>Biomacromolecules</i> , 2012 , 13, 3620-6	6.9	29
42	Rigidity-patterned polyelectrolyte films to control myoblast cell adhesion and spatial organization. <i>Advanced Functional Materials</i> , 2013 , 23, 3432-3442	15.6	29
41	3-D surface charges modulate protrusive and contractile contacts of chondrosarcoma cells. <i>Cytoskeleton</i> , 2003 , 56, 147-58		29
40	Actin protofilament orientation in deformation of the erythrocyte membrane skeleton. <i>Biophysical Journal</i> , 2000 , 79, 2987-3000	2.9	29
39	Tunable Structural and Mechanical Properties of Cellulose Nanofiber Substrates in Aqueous Conditions for Stem Cell Culture. <i>Biomacromolecules</i> , 2017 , 18, 2034-2044	6.9	28
38	Actin protofilament orientation at the erythrocyte membrane. <i>Biophysical Journal</i> , 1999 , 77, 865-78	2.9	28
37	Glycated polyelectrolyte multilayer films: differential adhesion of primary versus tumor cells. <i>Biomacromolecules</i> , 2006 , 7, 2882-9	6.9	27
36	Multiscale Porosity Directs Bone Regeneration in Biphasic Calcium Phosphate Scaffolds. <i>ACS Biomaterials Science and Engineering</i> , 2017 , 3, 2768-2778	5.5	24
35	Automated Buildup of Biomimetic Films in Cell Culture Microplates for High-Throughput Screening of Cellular Behaviors. <i>Advanced Materials</i> , 2018 , 30, e1801097	24	24
34	Microfabrication of a platform to measure and manipulate the mechanics of engineered microtissues. <i>Methods in Cell Biology</i> , 2014 , 121, 191-211	1.8	23
33	Stiffness-dependent cellular internalization of matrix-bound BMP-2 and its relation to Smad and non-Smad signaling. <i>Acta Biomaterialia</i> , 2016 , 46, 55-67	10.8	22
32	Signal mingle: Micropatterns of BMP-2 and fibronectin on soft biopolymeric films regulate myoblast shape and SMAD signaling. <i>Scientific Reports</i> , 2017 , 7, 41479	4.9	21

31	The effect of hydration on the material and mechanical properties of cellulose nanocrystal-alginate composites. <i>Carbohydrate Polymers</i> , 2018 , 179, 186-195	10.3	21
30	Biomaterial-enabled delivery of SDF-1 α at the ventral side of breast cancer cells reveals a crosstalk between cell receptors to promote the invasive phenotype. <i>Biomaterials</i> , 2017 , 127, 61-74	15.6	19
29	Alkylamino hydrazide derivatives of hyaluronic acid: synthesis, characterization in semidilute aqueous solutions, and assembly into thin multilayer films. <i>Biomacromolecules</i> , 2009 , 10, 2875-84	6.9	18
28	Construction and myogenic differentiation of 3D myoblast tissues fabricated by fibronectin-gelatin nanofilm coating. <i>Biochemical and Biophysical Research Communications</i> , 2016 , 474, 515-521	3.4	17
27	Solvent-free preparation of porous poly(l-lactide) microcarriers for cell culture. <i>Acta Biomaterialia</i> , 2018 , 75, 300-311	10.8	16
26	In situ synthesis of gold nanoparticles in exponentially-growing layer-by-layer films. <i>Journal of Colloid and Interface Science</i> , 2012 , 388, 56-66	9.3	16
25	Quiescence of human muscle stem cells is favored by culture on natural biopolymeric films. <i>Stem Cell Research and Therapy</i> , 2017 , 8, 104	8.3	15
24	Binding of moesin and ezrin to membranes containing phosphatidylinositol (4,5) bisphosphate: a comparative study of the affinity constants and conformational changes. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2012 , 1818, 2839-49	3.8	14
23	Phosphatidylinositol 4,5-bisphosphate-induced conformational change of ezrin and formation of ezrin oligomers. <i>Biochemistry</i> , 2010 , 49, 9318-27	3.2	13
22	Binding of the chemokine CXCL12 to its natural extracellular matrix ligand heparan sulfate enables myoblast adhesion and facilitates cell motility. <i>Biomaterials</i> , 2017 , 123, 24-38	15.6	12
21	Design of experiments to assess the effect of culture parameters on the osteogenic differentiation of human adipose stromal cells. <i>Stem Cell Research and Therapy</i> , 2019 , 10, 256	8.3	9
20	Model membranes to shed light on the biochemical and physical properties of ezrin/radixin/moesin. <i>Biochimie</i> , 2013 , 95, 3-11	4.6	9
19	Role of Phosphorylation in Moesin Interactions with PIP-Containing Biomimetic Membranes. <i>Biophysical Journal</i> , 2018 , 114, 98-112	2.9	8
18	Learning from BMPs and their biophysical extracellular matrix microenvironment for biomaterial design. <i>Bone</i> , 2020 , 141, 115540	4.7	8
17	Blood yield stress in systemic sclerosis. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 1999 , 276, H771-7	5.2	7
16	Heparan sulfate co-immobilized with cRGD ligands and BMP2 on biomimetic platforms promotes BMP2-mediated osteogenic differentiation. <i>Acta Biomaterialia</i> , 2020 , 114, 90-103	10.8	7
15	Age-dependent migratory behavior of human endothelial cells revealed by substrate microtopography. <i>Experimental Cell Research</i> , 2019 , 374, 1-11	4.2	7
14	Functional characterization of p7 viroporin from hepatitis C virus produced in a cell-free expression system. <i>Protein Expression and Purification</i> , 2016 , 118, 83-91	2	6

13	Quick and easy microfabrication of T-shaped cantilevers to generate arrays of microtissues. <i>Biomedical Microdevices</i> , 2016 , 18, 43	3.7	6
12	Polyelectrolyte Multilayer Films [A General Approach to (Bio)functional Coatings 2011 , 1249-1305		3
11	Control of the Proliferation/Differentiation Balance in Skeletal Myoblasts by Integrin and Syndecan Targeting Peptides. <i>ACS Biomaterials Science and Engineering</i> , 2016 , 2, 415-425	5.5	2
10	DRUG DELIVERY: Presentation of BMP-2 from a Soft Biopolymeric Film Unveils its Activity on Cell Adhesion and Migration (Adv. Mater. 12/2011). <i>Advanced Materials</i> , 2011 , 23, H110-H110	24	2
9	Differential bioactivity of four BMP-family members as function of biomaterial stiffness.. <i>Biomaterials</i> , 2022 , 281, 121363	15.6	2
8	Osteogenic Differentiation of Adipose-Derived Stromal Cells: From Bench to Clinics. <i>Tissue Engineering - Part B: Reviews</i> , 2020 , 26, 461-474	7.9	1
7	High-throughput measurements of bone morphogenetic protein/bone morphogenetic protein receptor interactions using biolayer interferometry. <i>Biointerphases</i> , 2021 , 16, 031001	1.8	1
6	Layer-by-Layer Microcapsules Based on Functional Polysaccharides 2015 , 295-308		
5	Photocrosslinked Polyelectrolyte Films of ControlledStiffness to Direct Cell Behavior 2015 , 45-64		
4	Matrix-Bound Presentation of Bone Morphogenetic Protein 2 by Multilayer Films: Fundamental Studies and Applicationsto Orthopedics 2015 , 453-486		
3	Polyelectrolyte Multilayer Films Based on Polysaccharides: From Physical Chemistry to the Control of Cell Differentiation 2012 , 659-690		
2	Drug Delivery: Hydrophobic Shell Loading of Biopolyelectrolyte Capsules (Adv. Mater. 24/2011). <i>Advanced Materials</i> , 2011 , 23, H130-H130	24	
1	Primary osteoblasts adhesion onto RGD-functionalized and cross-linked polyelectrolyte multilayer films. <i>Materials Research Society Symposia Proceedings</i> , 2004 , 823, W12.1.1		