

# Matthew Libera

## List of Publications by Year in descending order

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102  
papers

3,708  
citations

147801

31  
h-index

133252

59  
g-index

102  
all docs

102  
docs citations

102  
times ranked

4478  
citing authors

#	ARTICLE	IF	CITATIONS
1	Morphological Development in Solvent-Cast Polystyrene~Polybutadiene~Polystyrene (SBS) Triblock Copolymer Thin Films. <i>Macromolecules</i> , 1998, 31, 2569-2577.	4.8	431
2	Biointeractive hydrogels. <i>Materials Today</i> , 2005, 8, 36-44.	14.2	403
3	Protein Engineering of a Viral Cage for Constrained Nanomaterials Synthesis. <i>Advanced Materials</i> , 2002, 14, 415-418.	21.0	365
4	Predation of human pathogens by the predatory bacteria <i>Micavibrio aeruginosavorus</i> and <i>Bdellovibrio bacteriovorus</i> . <i>Journal of Applied Microbiology</i> , 2011, 110, 431-444.	3.1	184
5	Hydrogen-Bonded Polymer Capsules Formed by Layer-by-Layer Self-Assembly. <i>Macromolecules</i> , 2003, 36, 8590-8592.	4.8	162
6	Polymer Multilayers with pH-Triggered Release of Antibacterial Agents. <i>Biomacromolecules</i> , 2010, 11, 3448-3456.	5.4	137
7	Kinetic Constraints on the Development of Surface Microstructure in SBS Thin Films. <i>Macromolecules</i> , 1998, 31, 2670-2672.	4.8	98
8	Protein Surface Patterning Using Nanoscale PEG Hydrogels. <i>Langmuir</i> , 2004, 20, 11123-11126.	3.5	95
9	Electron-Beam Surface-Patterned Poly(ethylene glycol) Microhydrogels. <i>Langmuir</i> , 2003, 19, 5618-5625.	3.5	90
10	Oxygen-Generating Nanofiber Cell Scaffolds with Antimicrobial Properties. <i>ACS Applied Materials &amp; Interfaces</i> , 2011, 3, 67-73.	8.0	89
11	Time-resolved reflection and transmission studies of amorphous GeTe thin film crystallization. <i>Journal of Applied Physics</i> , 1993, 73, 2272-2282.	2.5	72
12	Surface Priming and the Self-Assembly of Hydrogen-Bonded Multilayer Capsules and Films. <i>Macromolecules</i> , 2005, 38, 4828-4836.	4.8	72
13	Dose-limited spectroscopic imaging of soft materials by low-loss EELS in the scanning transmission electron microscope. <i>Micron</i> , 2008, 39, 734-740.	2.2	69
14	Length-Scale Mediated Differential Adhesion of Mammalian Cells and Microbes. <i>Advanced Functional Materials</i> , 2011, 21, 3916-3923.	14.9	65
15	Spatially controlled bacterial adhesion using surface-patterned poly(ethylene glycol) hydrogels. <i>Acta Biomaterialia</i> , 2009, 5, 589-596.	8.3	56
16	Self-Assembled Poly(ethylene glycol)-Acrylic Acid Microgels to Inhibit Bacterial Colonization of Synthetic Surfaces. <i>ACS Applied Materials &amp; Interfaces</i> , 2012, 4, 2498-2506.	8.0	49
17	Multilayered Thin-Film Materials for Phase-Change Erasable Storage. <i>MRS Bulletin</i> , 1990, 15, 40-45.	3.5	47
18	Nanoscale artifacts in RuO <sub>4</sub> -stained poly(styrene). <i>Polymer</i> , 2002, 43, 2085-2088.	3.8	47

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19	Transmission electron holography of silicon nanospheres with surface oxide layers. <i>Applied Physics Letters</i> , 1997, 70, 1296-1298.	3.3	44
20	Delocalized radiation damage in polymers. <i>Micron</i> , 2012, 43, 2-7.	2.2	41
21	Microstructural measurements of amorphous GeTe crystallization by hot-stage optical microscopy. <i>Journal of Applied Physics</i> , 1995, 77, 517-521.	2.5	40
22	Extracellular Matrix Reorganization during Cryo Preparation for Scanning Electron Microscope Imaging of <i>Staphylococcus aureus</i> Biofilms. <i>Microscopy and Microanalysis</i> , 2014, 20, 1348-1355.	0.4	38
23	Superconductor-normal superconductor behavior of Josephson junctions scribed in Y1Ba2Cu3O7 $\delta$ by a high-brightness electron source. <i>Applied Physics Letters</i> , 1996, 68, 3811-3813.	3.3	37
24	Measurement of Polystyrene Mean Inner Potential by Transmission Electron Holography of Latex Spheres. <i>Microscopy and Microanalysis</i> , 1998, 4, 146-157.	0.4	37
25	Conditions of lateral surface confinement that promote tissue-cell integration and inhibit biofilm growth. <i>Biomaterials</i> , 2014, 35, 5446-5452.	11.4	34
26	Quantitative nanoscale water mapping in frozen-hydrated skin by low-loss electron energy-loss spectroscopy. <i>Ultramicroscopy</i> , 2010, 110, 866-876.	1.9	33
27	Compositional variation within the epoxy/adherend interphase. <i>Journal of Adhesion Science and Technology</i> , 2001, 15, 1463-1484.	2.6	32
28	Crystallization within Melt Ordered Semicrystalline Block Copolymers: Exploring the Coexistence of Microphase-Separated and Spherulitic Morphologies. <i>Macromolecules</i> , 2001, 34, 7336-7342.	4.8	32
29	Growth of single-wall carbon nanotubes within an ordered array of nanosize silica spheres. <i>Applied Physics Letters</i> , 2002, 81, 433-435.	3.3	32
30	Heterogeneous nucleation of solidification in atomized liquid metal droplets. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1991, 132, 107-118.	5.6	31
31	Surface modification of protein nanocontainers and their self-directing character in polymer blends. <i>Polymer</i> , 2007, 48, 3632-3640.	3.8	31
32	Water mapping in hydrated soft materials. <i>Ultramicroscopy</i> , 2006, 106, 130-145.	1.9	29
33	Selective Protein Adsorption on a Phase-Separated Solvent-Cast Polymer Blend. <i>Langmuir</i> , 2006, 22, 6286-6292.	3.5	27
34	Diffuse Polymer Interfaces in Lobed Nanoemulsions Preserved in Aqueous Media. <i>Journal of the American Chemical Society</i> , 2006, 128, 6570-6571.	13.7	25
35	Hydrogel-Based Protein Nanoarrays. <i>Journal of Nanoscience and Nanotechnology</i> , 2007, 7, 2623-2632.	0.9	25
36	Macrophage phagocytic activity toward adhering staphylococci on cationic and patterned hydrogel coatings versus common biomaterials. <i>Acta Biomaterialia</i> , 2015, 18, 1-8.	8.3	24

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37	Biomaterial surfaces self-defensive against bacteria by contact transfer of antimicrobials. <i>Biomaterials</i> , 2019, 204, 25-35.	11.4	24
38	Measurement of Interfacial Width in a Poly(styrene)/Poly(2-vinylpyridine) Homopolymer Blend by Spatially Resolved Inelastic Electron Scattering. <i>Macromolecules</i> , 1999, 32, 3051-3056.	4.8	22
39	Reducing Bacterial Colonization of $\text{Ca}$ Nanofiber Cell Scaffolds by Hierarchical Assembly of Microgels and an Antimicrobial Peptide. <i>Advanced Healthcare Materials</i> , 2013, 2, 687-691.	7.6	21
40	Microgel-modified surfaces enhance short-term osteoblast response. <i>Colloids and Surfaces B: Biointerfaces</i> , 2014, 118, 202-209.	5.0	21
41	Substrate effects on cell-envelope deformation during early-stage <i>Staphylococcus aureus</i> biofilm formation. <i>Soft Matter</i> , 2017, 13, 2967-2976.	2.7	21
42	Local amorphous thin-film crystallization induced by focused electron-beam irradiation. <i>Applied Physics Letters</i> , 1996, 68, 331-333.	3.3	20
43	Energy-Loss Measurements of Polymer Microstructure and Polymer Interfaces: Issues and Opportunities. <i>Microscopy and Microanalysis</i> , 1997, 3, 530-539.	0.4	20
44	Nanoscale Composition of Biphasic Polymer Nanocolloids in Aqueous Suspension. <i>Microscopy and Microanalysis</i> , 2008, 14, 459-468.	0.4	20
45	Measuring microgel swell ratio by cryo-SEM. <i>Polymer</i> , 2017, 116, 1-4.	3.8	20
46	Solid-Phase Nucleic Acid Sequence-Based Amplification and Length-Scale Effects during RNA Amplification. <i>Analytical Chemistry</i> , 2018, 90, 6532-6539.	6.5	20
47	Self-defensive antimicrobial biomaterial surfaces. <i>Colloids and Surfaces B: Biointerfaces</i> , 2020, 192, 110989.	5.0	20
48	Surface-patterned microgel-tethered molecular beacons. <i>Soft Matter</i> , 2012, 8, 3067.	2.7	19
49	Mean free paths for inelastic electron scattering in silicon and poly(styrene) nanospheres. <i>Ultramicroscopy</i> , 2003, 94, 31-35.	1.9	18
50	Specimen thickness dependence of hydrogen evolution during cryo-transmission electron microscopy of hydrated soft materials. <i>Journal of Microscopy</i> , 2009, 236, 174-179.	1.8	17
51	A NASBA on microgel-tethered molecular-beacon microarray for real-time microbial molecular diagnostics. <i>Analyst</i> , 2017, 142, 147-155.	3.5	17
52	Chemistry and Structure of Beta Silicon Carbide Implanted with High-Dose Aluminum. <i>Journal of the American Ceramic Society</i> , 1993, 76, 330-335.	3.8	16
53	Nanoscale Morphological Changes during Hydrolytic Degradation and Erosion of a Bioresorbable Polymer. <i>Macromolecules</i> , 2006, 39, 7306-7312.	4.8	16
54	Mechanisms for enhanced $\text{C}_5\text{Si}_2$ formation in Ti-Ta alloy films on single-crystal Si. <i>Journal of Materials Research</i> , 1999, 14, 4690-4700.	2.6	15

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55	Quantitative phase contrast imaging of arborescent graft polystyrene by off-axis transmission electron holography. <i>Polymer</i> , 2003, 44, 3037-3043.	3.8	13
56	Antimicrobial loading into and release from poly(ethylene glycol)/poly(acrylic acid) semi-interpenetrating hydrogels. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2016, 54, 64-72.	2.1	13
57	Effect of self-implantation on structure and oxidation behavior of single crystal $\text{SiC}$ . <i>Applied Physics Letters</i> , 1993, 62, 423-425.	3.3	12
58	Effects of implantation temperature on the structure, composition, and oxidation resistance of aluminum-implanted SiC. <i>Journal of Materials Research</i> , 1995, 10, 1441-1447.	2.6	12
59	Effect of adsorbed fibronectin on the differential adhesion of osteoblast-like cells and <i>Staphylococcus aureus</i> with and without fibronectin-binding proteins. <i>Biofouling</i> , 2012, 28, 1011-1021.	2.2	12
60	Two-step codeposition process for enhanced $\text{C54-TiSi}_2$ formation in the Ti-Si binary system. <i>Journal of Applied Physics</i> , 2001, 89, 4879-4885.	2.5	11
61	Germanium supersaturation during the crystallization of amorphous Te-Ge-Sn thin films. <i>Journal of Materials Research</i> , 1991, 6, 2666-2676.	2.6	10
62	PEG-based Microgels to Modify Biomaterials Surfaces. <i>Macromolecular Symposia</i> , 2013, 329, 35-40.	0.7	9
63	Poly(ethylene glycol) as a biointeractive electron-beam resist. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2013, 51, 1543-1554.	2.1	9
64	Molecular Crowding Effects on Microgel-Tethered Oligonucleotide Probes. <i>Langmuir</i> , 2016, 32, 6551-6558.	3.5	9
65	Functional Changes during Electron-Beam Lithography of Biotinylated Poly(ethylene glycol) Thin Films. <i>ACS Macro Letters</i> , 2019, 8, 1252-1256.	4.8	9
66	Nature of the Josephson barrier in electron-beam-written $\text{YBa}_2\text{Cu}_3\text{O}_7$ junctions. <i>Physical Review B</i> , 1997, 56, 10828-10831.	3.2	8
67	Selective adsorption of surface-modified ferritin on a phase-separated polymer blend. <i>Colloids and Surfaces B: Biointerfaces</i> , 2009, 73, 152-155.	5.0	8
68	BioScope: A Modeling and Simulation Language for Bacteria-Materials Interactions. <i>Electronic Notes in Theoretical Computer Science</i> , 2013, 293, 35-49.	0.9	8
69	Freezing and sublimation effects on cryo-SEM imaging and microanalysis. <i>Microscopy and Microanalysis</i> , 2019, 25, 1108-1109.	0.4	8
70	Analytical Cryo-Scanning Electron Microscopy of Hydrated Polymers and Microgels. <i>Accounts of Chemical Research</i> , 2021, 54, 2386-2396.	15.6	8
71	High-spatial-resolution analysis of Ge layers in Si. <i>Ultramicroscopy</i> , 1993, 52, 564-569.	1.9	7
72	Variation of Luminescent Efficiency With Size of Doped Nanocrystalline $\text{Y}_2\text{O}_3\text{:Tb}$ Phosphor. <i>Materials Research Society Symposia Proceedings</i> , 1996, 424, 441.	0.1	7

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73	E-beam-patterned hydrogels to control nanoscale surface bioactivity. , 2005, 6002, 600201.		7
74	Counterion Exchange in Peptide-Complexed Core-Shell Microgels. Langmuir, 2019, 35, 9521-9528.	3.5	7
75	Cryo-STEM EELS of Nafion Saturated with an Organic Solvent. Microscopy and Microanalysis, 2006, 12, 996-997.	0.4	6
76	Microlens Enhancement of Surface-Tethered Molecular Beacons. Langmuir, 2018, 34, 14969-14974.	3.5	6
77	Temperature-dependent high-angle electron scattering from a phase-separated amorphous GeTe thin film. Ultramicroscopy, 1996, 63, 81-91.	1.9	5
78	Mapping Inter-Cellular Water in Skin. Microscopy and Microanalysis, 2002, 8, 284-285.	0.4	5
79	Dip-pen microarraying of molecular beacon probes on microgel thin-film substrates. Analyst, The, 2014, 139, 5568-5575.	3.5	4
80	Salt Destabilization of Cationic Colistin Complexation within Polyanionic Microgels. Macromolecules, 2022, 55, 1736-1746.	4.8	4
81	Dynamic properties and nonequilibrium processes in electron-beam scribed YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7</sub> Josephson junctions. Applied Physics Letters, 1998, 73, 1290-1292.	3.3	3
82	Simulating Anti-adhesive and Antibacterial Bifunctional Polymers for Surface Coating using BioScape. , 2013, , .		3
83	Cryo-SEM Imaging and Analysis of Frozen-Hydrated PEG-AA Microgels. Microscopy and Microanalysis, 2016, 22, 1898-1899.	0.4	3
84	Alteration of oxidation behaviour of silicon carbide by aluminium implantation. Journal of Materials Science Letters, 1995, 14, 460-463.	0.5	2
85	Integrating nucleic acid sequence-based amplification and microlensing for high-sensitivity self-reporting detection. Analyst, The, 2020, 145, 7528-7533.	3.5	2
86	Effects of Implantation Temperature on the Structure, Composition and Oxidation Resistance of Sic. Materials Research Society Symposia Proceedings, 1994, 354, 281.	0.1	1
87	Measuring Polymer Microstructure using Spatially-Resolved Eels in the Stem. Materials Research Society Symposia Proceedings, 1996, 461, 199.	0.1	1
88	Effects of Fast Secondary Electrons on Spatially-resolved Low-Loss Eels of Polystyrene. Microscopy and Microanalysis, 1998, 4, 804-805.	0.4	1
89	Using Cryo FIB-SEM to Study Three-Dimensional Biofilm Structure. Microscopy and Microanalysis, 2012, 18, 626-627.	0.4	1
90	Hierarchical Self-Assembly of Microgel-Modified Biomaterials Surfaces. Materials Research Society Symposia Proceedings, 2014, 1622, 1-6.	0.1	1

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91	FIB Tomography of Bacterial Biofilms Grown on Gold and Polystyrene. <i>Microscopy and Microanalysis</i> , 2016, 22, 172-173.	0.4	1
92	Chemical Orthogonality in Surface-Patterned Poly(ethylene glycol) Microgels. <i>Langmuir</i> , 2020, 36, 10622-10627.	3.5	1
93	An in vitro model of microbial contamination in the operating room. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 0, , .	3.4	1
94	Effects of Glass and Carbon Fiber on Nylon 6,6 Crystallization. <i>Materials Research Society Symposia Proceedings</i> , 1993, 321, 651.	0.1	0
95	The Intercellular Structure of Frozen-Hydrated Porcine Skin. <i>Microscopy and Microanalysis</i> , 2012, 18, 1648-1649.	0.4	0
96	Corneodesmosomal Water Content in Frozen-Hydrated Porcine Skin. <i>Journal of Investigative Dermatology</i> , 2015, 135, 1689-1691.	0.7	0
97	Deformation of the <i>S. aureus</i> Cell Envelope due to Surface Adhesion. <i>Microscopy and Microanalysis</i> , 2017, 23, 1232-1233.	0.4	0
98	Microgel Swelling Studied by Cryo-SEM. <i>Microscopy and Microanalysis</i> , 2017, 23, 1834-1835.	0.4	0
99	Cryo-SEM: Direct Evidence of Water and Counterion Release upon Complexation. <i>Microscopy and Microanalysis</i> , 2018, 24, 352-353.	0.4	0
100	Microscopy 101: Scanning Probes or Scanning Electrons: A Practical Guide to Select a Method for Nanoscale Characterization. <i>Microscopy Today</i> , 2019, 27, 32-38.	0.3	0
101	Microlens Enhancement in Respiratory Infection Diagnosis. <i>Microscopy and Microanalysis</i> , 2019, 25, 1190-1191.	0.4	0
102	HIGH-PRESSURE FORMS OF SILICON AND GERMANIUM IN LASER-ABLATED FILMS. , 1999, , .		0