Andrea Armani

List of Publications by Year
in descending order

173 papers	4,256 citations	147801 31 h-index	118850 62 g-index
174 all docs	174 docs citations	174 times ranked	4526 citing authors

#	Article	IF	Citations
1	Label-Free, Single-Molecule Detection with Optical Microcavities. Science, 2007, 317, 783-787.	12.6	1,066
2	Label-free biological and chemical sensors. Nanoscale, 2010, 2, 1544.	5.6	335
3	Heavy water detection using ultra-high-Q microcavities. Optics Letters, 2006, 31, 1896.	3.3	244
4	Electrical thermo-optic tuning of ultrahigh-Q microtoroid resonators. Applied Physics Letters, 2004, 85, 5439-5441.	3.3	109
5	Bioconjugation Strategies for Microtoroidal Optical Resonators. Sensors, 2010, 10, 9317-9336.	3.8	97
6	Low-tech solutions for the COVID-19 supply chain crisis. Nature Reviews Materials, 2020, 5, 403-406.	48.7	89
7	Hybrid microcavity humidity sensor. Applied Physics Letters, 2013, 102, .	3.3	87
8	Ultra-high-Q microcavity operation in H2O and D2O. Applied Physics Letters, 2005, 87, 151118.	3.3	81
9	Emerging material systems for integrated optical Kerr frequency combs. Advances in Optics and Photonics, 2020, 12, 135.	25.5	75
10	Ultra-low-threshold Er:Yb sol-gel microlaser on silicon. Optics Express, 2009, 17, 23265.	3.4	64
11	Soft Lithographic Fabrication of High Q Polymer Microcavity Arrays. Nano Letters, 2007, 7, 1823-1826.	9.1	63
12	How to organize an online conference. Nature Reviews Materials, 2020, 5, 253-256.	48.7	62
13	Hybrid Integrated Label-Free Chemical and Biological Sensors. Sensors, 2014, 14, 5890-5928.	3.8	60
14	Flexible UV Exposure Sensor Based on UV Responsive Polymer. ACS Sensors, 2016, 1, 1251-1255.	7.8	55
15	Replica-molded high-Q polymer microresonators. Optics Letters, 2004, 29, 533.	3.3	53
16	Ultimate quality factor of silica microtoroid resonant cavities. Applied Physics Letters, 2010, 96, .	3.3	52
17	Raman laser from an optical resonator with a grafted single-molecule monolayer. Nature Photonics, 2020, 14, 95-101.	31.4	50
18	Simultaneous measurement of quality factor and wavelength shift by phase shift microcavity ring down spectroscopy. Optics Express, 2012, 20, 9090.	3.4	48

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19	Wavelength-normalized spectroscopic analysis of Staphylococcus aureus and Pseudomonas aeruginosa growth rates. Biomedical Optics Express, 2016, 7, 4034.	2.9	48
20	Silica microtoroid resonator sensor with monolithically integrated waveguides. Optics Express, 2013, 21, 23592.	3.4	47
21	Conference demographics and footprint changed by virtual platforms. Nature Sustainability, 2022, 5, 149-156.	23.7	47
22	Hybrid silica-polymer ultra-high-Q microresonators. Optics Letters, 2010, 35, 459.	3.3	45
23	Blue upconversion laser based on thulium-doped silica m icrocavity. Optics Letters, 2013, 38, 4346.	3.3	45
24	Gold Nanorod Plasmonic Upconversion Microlaser. Nano Letters, 2013, 13, 5827-5831.	9.1	44
25	Determination of binding kinetics using whispering gallery mode microcavities. Applied Physics Letters, 2011, 99, 103703-1037033.	3.3	39
26	Label free detection of 5â€²hydroxymethylcytosine within CpG islands using optical sensors. Biosensors and Bioelectronics, 2015, 65, 198-203.	10.1	39
27	Low-threshold parametric oscillation in organically modified microcavities. Science Advances, 2018, 4, eaao4507.	10.3	38
28	Two-Photon Microscopy Analysis of Gold Nanoparticle Uptake in 3D Cell Spheroids. PLoS ONE, 2016, 11, e0167548.	2.5	38
29	Thermal nonlinear effects in hybrid optical microresonators. Applied Physics Letters, 2010, 97, 223306.	3.3	36
30	Cascaded Raman microlaser in air and buffer. Optics Letters, 2012, 37, 4068.	3.3	35
31	Flexible Light-Emitting Nanocomposite Based on ZnO Nanotetrapods. Nano Letters, 2016, 16, 7389-7393.	9.1	31
32	Rapid Diagnostic for Point-of-Care Malaria Screening. ACS Sensors, 2018, 3, 1264-1270.	7.8	31
33	Characterization of thermo-optic coefficient and material loss of high refractive index silica sol-gel films in the visible and near-IR. Optical Materials Express, 2012, 2, 671.	3.0	29
34	High Efficiency Raman Lasers Based on Zr-Doped Silica Hybrid Microcavities. ACS Photonics, 2016, 3, 2383-2388.	6.6	29
35	Photoelastic ultrasound detection using ultra-high-Q silica optical resonators. Optics Express, 2014, 22, 28169.	3.4	28
36	Lightweight UV-C disinfection system. Biomedical Optics Express, 2020, 11, 4326.	2.9	28

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37	Studying polymer thin films with hybrid optical microcavities. Optics Letters, 2011, 36, 2152.	3.3	27
38	Power enhancement and phase regimes in embedded microring resonators in analogy with electromagnetically induced transparency. Optics Express, 2013, 21, 20179.	3.4	27
39	Engineering photonics solutions for COVID-19. APL Photonics, 2020, 5, 090901.	5.7	26
40	Recycling microcavity optical biosensors. Optics Letters, 2011, 36, 1092.	3.3	25
41	Titanium-enhanced Raman microcavity laser. Optics Letters, 2014, 39, 1354.	3.3	25
42	On-Chip Ultra-High-Q Silicon Oxynitride Optical Resonators. ACS Photonics, 2017, 4, 2376-2381.	6.6	25
43	Heterodyned toroidal microlaser sensor. Applied Physics Letters, 2013, 103, .	3.3	24
44	Bioconjugation Strategies for Label-Free Optical Microcavity Sensors. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 121-133.	2.9	24
45	Photocleavage of Poly(methyl acrylate) with Centrally Located o-Nitrobenzyl Moiety: Influence of Environment on Kinetics. Macromolecules, 2015, 48, 8746-8751.	4.8	23
46	An Integrated Photonic Gas Sensor Enhanced by Optimized Fano Effects in Coupled Microring Resonators With an Athermal Waveguide. Journal of Lightwave Technology, 2015, 33, 4521-4530.	4.6	23
47	High-Speed â€œ4Dâ€•Computational Microscopy of Bacterial Surface Motility. ACS Nano, 2017, 11, 9340-9351.	14.6	23
48	Plasmonically Enhanced Kerr Frequency Combs. ACS Photonics, 2017, 4, 2828-2834.	6.6	23
49	Nonlinear nanophotonic devices in the ultraviolet to visible wavelength range. Nanophotonics, 2020, 9, 3781-3804.	6.0	23
50	Metal nanoparticle arrays for near-field optical lithography. , 2002, 4810, 7.		22
51	Low-loss silica-on-silicon waveguides. Optics Letters, 2011, 36, 3729.	3.3	22
52	Excitation of Cy5 in self-assembled lipid bilayers using optical microresonators. Applied Physics Letters, 2011, 98, 143703.	3.3	21
53	Monitoring DNA hybridization using optical microcavities. Optics Letters, 2013, 38, 4690.	3.3	20
54	Temperature sensor based on a hybrid ITO-silica resonant cavity. Optics Express, 2015, 23, 1930.	3.4	20

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55	Optically tunable microresonator using an azobenzene monolayer. AIP Advances, 2020, 10, .	1.3	20
56	Nanowatt threshold, alumina sensitized neodymium laser integrated on silicon. Optics Express, 2013, 21, 27238.	3.4	18
57	Stimulated Anti-Stokes Raman Emission Generated by Gold Nanorod Coated Optical Resonators. ACS Photonics, 2018, 5, 3550-3556.	6.6	18
58	Quantifying pulsed electric field-induced membrane nanoporation in single cells. Biochimica Et Biophysica Acta - Biomembranes, 2016, 1858, 2795-2803.	2.6	16
59	Ramanâ€“Kerr frequency combs in Zr-doped silica hybrid microresonators. Optics Letters, 2018, 43, 2949.	3.3	16
60	Tailoring the behavior of optical microcavities with high refractive index sol-gel coatings. Optics Letters, 2012, 37, 2844.	3.3	15
61	On-Chip Biological and Chemical Sensing With Reversed Fano Lineshape Enabled by Embedded Microring Resonators. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 35-44.	2.9	15
62	Optimizing the Signal to Noise Ratio of Microcavity Sensors. IEEE Photonics Technology Letters, 2014, 26, 2023-2026.	2.5	15
63	Leveraging bimodal kinetics to improve detection specificity. Optics Letters, 2012, 37, 1643.	3.3	14
64	Optical microcavities with a thiol-functionalized gold nanoparticle polymer thin film coating. Applied Physics Letters, 2012, 100, .	3.3	14
65	Optothermal transport behavior in whispering gallery mode optical cavities. Applied Physics Letters, 2014, 105, .	3.3	14
66	Supercontinuum Generation in High Order Waveguide Mode with near-Visible Pumping Using Aluminum Nitride Waveguides. ACS Photonics, 2021, 8, 1344-1352.	6.6	14
67	Low threshold anti-Stokes Raman laser on-chip. Photonics Research, 2019, 7, 926.	7.0	14
68	Suspended bridge-like silica 2Ã—2 beam splitter on silicon. Optics Letters, 2011, 36, 3012.	3.3	12
69	COVID-19 Diagnostics: Past, Present, and Future. ACS Photonics, 2021, 8, 2827-2838.	6.6	12
70	Fabrication of Silica Ultra High Quality Factor Microresonators. Journal of Visualized Experiments, 2012, , .	0.3	11
71	Characterization of the mechanical properties of resected porcine organ tissue using optical fiber photoelastic polarimetry. Biomedical Optics Express, 2017, 8, 4663.	2.9	11
72	Thermo-optic Coefficient of Polyisobutylene Ultrathin Films Measured with Integrated Photonic Devices. Langmuir, 2012, 28, 849-854.	3.5	10

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73	Selective patterning of Si-based biosensor surfaces using isotropic silicon etchants. Journal of Colloid and Interface Science, 2012, 369, 477-481.	9.4	10
74	Ultraviolet light detection using an optical microcavity. Optics Letters, 2013, 38, 3422.	3.3	10
75	Investigating membrane nanoporation induced by bipolar pulsed electric fields via second harmonic generation. Applied Physics Letters, 2016, 109, 113701.	3.3	10
76	Photocleavage of Covalently Immobilized Amphiphilic Block Copolymer: From Bilayer to Monolayer. Macromolecules, 2016, 49, 5773-5781.	4.8	10
77	Normal dispersion silicon oxynitride microresonator Kerr frequency combs. Applied Physics Letters, 2019, 115, .	3.3	10
78	The need to recognize and reward academic service. Nature Reviews Materials, 2021, 6, 960-962.	48.7	10
79	Plasmonically Enhanced Kerr Frequency Combs. , 2018, , .		10
80	Multifunctional photoresponsive organic molecule for electric field sensing and modulation. Journal of Materials Chemistry C, 2022, 10, 1204-1211.	5.5	10
81	Mass Transport Effects in Suspended Waveguide Biosensors Integrated in Microfluidic Channels. Sensors, 2012, 12, 14327-14343.	3.8	9
82	Photobleaching of Cy5 Conjugated Lipid Bilayers Determined With Optical Microresonators. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 1160-1165.	2.9	9
83	Serpentine low loss trapezoidal silica waveguides on silicon. Optics Express, 2012, 20, 22298.	3.4	8
84	On-chip asymmetric microcavity optomechanics. Optics Express, 2016, 24, 29613.	3.4	8
85	All-optical reversible control of integrated resonant cavity by a self-assembled azobenzene monolayer. Optics Express, 2020, 28, 22462.	3.4	8
86	Towards more accurate microcavity sensors: maximum likelihood estimation applied to a combination of quality factor and wavelength shifts. Optics Express, 2013, 21, 22817.	3.4	7
87	Portable polarimetric fiber stress sensor system for visco-elastic and biomimetic material analysis. Applied Physics Letters, 2015, 106, 191105.	3.3	7
88	Optical detection of CO and CO2 temperature dependent desorption from carbon nanotube clusters. Nanotechnology, 2014, 25, 395201.	2.6	5
89	Real-time detection of lipid bilayer assembly and detergent-initiated solubilization using optical cavities. Applied Physics Letters, 2015, 106, 071103.	3.3	5
90	High-resolution analysis of the mechanical behavior of tissue. Applied Physics Letters, 2017, 110, 243701.	3.3	5

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91	Role of Extracellular Matrix in the Biomechanical Behavior of Pancreatic Tissue. ACS Biomaterials Science and Engineering, 2018, 4, 1916-1923.	5.2	5
92	Single Molecule Detection Using Optical Microcavities. Springer Series in Optical Sciences, 2010, , 253-273.	0.7	5
93	Stretchable optical diffraction grating from poly(acrylic acid)/polyethylene oxide stereocomplex. Optics Letters, 2021, 46, 5493.	3.3	5
94	Label-Free, Single Molecule Resonant Cavity Detection: A Double-Blind Experimental Study. Sensors, 2015, 15, 6324-6341.	3.8	4
95	A portable optical diagnostic system for rapid malaria screening. , 2019, , .		4
96	General strategy for doping rare earth metals into Auâ€“ZnO coreâ€“shell nanospheres. Journal of Materials Research, 2019, 34, 3877-3886.	2.6	3
97	Biomechanical Analysis of Porcine Cartilage Elasticity. Annals of Biomedical Engineering, 2019, 47, 202-212.	2.5	3
98	Cascaded Stokes and anti-Stokes laser based on an optical resonator with a self-assembled organic monolayer. Optics Letters, 2020, 45, 4244.	3.3	3
99	Chemical and biological detectors using ultrahigh-Q microresonators. , 2006, 6376, 41.		2
100	Characterization of high-Q optical microcavities using confocal microscopy. Optics Letters, 2008, 33, 2931.	3.3	2
101	Improving the specificity and stability of label-free optical biosensors. , 2011, , .		2
102	Optimal design of suspended silica on-chip splitter. Optics Express, 2013, 21, 7748.	3.4	2
103	Soft Lithographic Fabrication of Microresonators. LEOS Summer Topical Meeting, 2007, , .	0.0	1
104	Label-free detection of cytokines using optical microcavities. , 2008, , .		1
105	Label-free single-molecule all-optical sensor. Proceedings of SPIE, 2008, , .	0.8	1
106	Low threshold Er³⁺/Yb³⁺co-doped microcavity laser. Proceedings of SPIE, 2010, , .	0.8	1
107	Optical devices for label-free detection. , 2010, , .		1
108	Improving the performance of label-free optical biosensors. , 2011, , .		1

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109	Bioconjugation of ultra-high-Q optical microcavities for label-free sensing. , 2011, , .		1
110	Low loss silica on silicon integrated waveguides. Proceedings of SPIE, 2012, , .	0.8	1
111	Enhanced dispersive and nonlinear properties of coupled ring resonators by using an embedded microrings configuration. , 2013, , .		1
112	Application of phase shift ring down spectroscopy to microcavities for biosensing. Proceedings of SPIE, 2013, , .	0.8	1
113	Low-threshold integrated microlaser emitting in the blue formed from thulium doped silica. Proceedings of SPIE, 2014, , .	0.8	1
114	Spatiotemporal Fluorescent Detection Measurements Using Embedded Waveguide Sensors. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 166-172.	2.9	1
115	High frequency ultrasound detection with ultra-high-Q silica microspheres. , 2015, , .		1
116	Environmentally stable integrated ultra-high-Q optical cavities. , 2018, , .		1
117	Effect of substrate impurities on the Q factor of toroidal microcavities. , 2010, , .		1
118	Label-free, single molecule detection of cytokines using optical microcavities. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	0
119	Soft lithographic fabrication of microresonators. , 2007, , .		0
120	Label-free detection of chemical messenger proteins. , 2007, , .		0
121	Biochemical sensor based on a resonant microcavity. , 2007, , .		0
122	Athermal polymer coated hybrid microresonators. , 2011, , .		0
123	Bioconjugation strategies for improved optical sensor performance. Proceedings of SPIE, 2011, , .	0.8	0
124	Recyclable optical microcavities for label-free sensing. , 2011, , .		0
125	Experimental demonstration of application of ring down measurement approach to microcavities for biosensing. Proceedings of SPIE, 2012, , .	0.8	0
126	Suspended silica beam splitters on silicon with large core-clad index deference. Proceedings of SPIE, 2012, , .	0.8	0

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127	Silica suspended waveguide splitter-based biosensor. Proceedings of SPIE, 2012, , .	0.8	0
128	Reconfigurable visible quantum dot microlasers integrated on a silicon chip. Proceedings of SPIE, 2012, , .	0.8	0
129	Hybrid organic/inorganic resonators for sensing and telecommunications applications. , 2013, , .		0
130	Controlling the mode volume in high-Q microcavities with high refractive index coatings. , 2013, , .		0
131	Power enhancement and phase regimes in embedded microring resonators in analogy with electromagnetically induced transparency: erratum. Optics Express, 2013, 21, 28414.	3.4	0
132	Challenges in specificity and collection efficiency for integrated optical biosensors. Proceedings of SPIE, 2013, , .	0.8	0
133	Microcavity-based cascaded Raman microlaser in air and in buffer. , 2013, , .		0
134	Thermal nonlinearity analysis of toroidal microcavities. , 2014, , .		0
135	Challenges in resonant cavity biosensor design: collection efficiency and specificity. Proceedings of SPIE, 2014, , .	0.8	0
136	Titanium enhanced Raman microcavity laser. Proceedings of SPIE, 2014, , .	0.8	0
137	Optically pumped gold nanorod plasmonic microlaser. Proceedings of SPIE, 2014, , .	0.8	0
138	Heterodyning cavity-based microlasers to improve sensing performance. Proceedings of SPIE, 2014, , .	0.8	0
139	Gold nanorod plasmonic upconversion microlaser. , 2014, , .		0
140	Ultraviolet Sensor Based on a Silica Optical Microresonator. Materials Research Society Symposia Proceedings, 2014, 1698, 1.	0.1	0
141	Utilizing embedded optofluidic sensors for flourescent detection measurements in space and time. Proceedings of SPIE, 2014, , .	0.8	0
142	High bandwidth, low loss suspended silica splitters. , 2014, , .		0
143	Role of geometry in optothermal response of toroidal ultra-high-Q cavities. , 2015, , .		0
144	Optically active silica and polymeric materials for microcavity lasers and sensors. Proceedings of SPIE, 2015, , .	0.8	0

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145	Portable, low-power diagnostics based on integrated photonics and responsive materials. Proceedings of SPIE, 2016, , .	0.8	0
146	High-Q GRIN resonators. , 2016, , .		0
147	The influence of medium conductivity on cells exposed to nsPEF. , 2017, , .		0
148	Integrated asymmetric whispering gallery mode resonator microcavity optomechanics. Proceedings of SPIE, 2017, , .	0.8	0
149	Impact of zirconium dopants on the lasing efficiency of Raman microcavity laser. , 2017, , .		0
150	Nanomaterial-enhanced optical microcavity-based lasers. , 2017, , .		0
151	Nanomaterial-enhanced microcavity-based frequency combs. , 2017, , .		0
152	Correction to Plasmonically Enhanced Kerr Frequency Combs. ACS Photonics, 2018, 5, 3446-3446.	6.6	0
153	The Next Dimension of Detection: Biomechanical Analysis of Tissue using Optical Elastography. , 2019, , .		0
154	Cascaded Raman lasing with single molecular monolayers. , 2021, , .		0
155	Catalyzing pathways for translational research beyond COVID-19. Communications Physics, 2021, 4, .	5.3	0
156	Evaluating the impact of ideation and actualizationÂof multidisciplinary research. Communications Physics, 2021, 4, .	5.3	0
157	Portable UV-C disinfection methods. , 2021, , .		0
158	Label-free detection of cytokines. , 2007, , .		0
159	Polymer coated silica ultra-high-Q microresonators. , 2010, , .		0
160	2Ã—2 Suspended Silica Splitter on Silicon. , 2011, , .		0
161	Gold Nanosphere Coated Microtoroid Resonators. , 2011, , .		0
162	Thermally stable hybrid organic/inorganic resonant cavities. , 2011, , .		0

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163	Integrated Hybrid Microcavities for Low Threshold Lasers. , 2015, , .		0
164	Organically modified microresonators for high efficiency microlasers. , 2017, , .		0
165	High-resolution optical polarimetric elastography for measuring the mechanical properties of tissue. , 2018, , .		0
166	Hybrid ultra-high-Q silica microcavity Raman lasers. , 2018, , .		0
167	Nonlinear behavior in hybrid microcavities. , 2018, , .		0
168	Hybrid Organic/Inorganic Integrated Photonics. , 2019, , .		0
169	Raman lasing from a surface single molecular layer. , 2019, , .		0
170	Characterization of the thermo-optic coefficient of silicon oxynitride using whispering-gallery mode resonators. , 2019, , .		0
171	Enhancing Raman lasers with single molecule monolayers. , 2019, , .		0
172	On-chip photoswitchable microresonator using azo monolayers. , 2019, , .		0
173	Cascaded Stokes and anti-Stokes microlaser based on a surface-functionalized optical resonator with a self-assembled organic monolayer. , 2020, , .		0