

# Ginu Rajan

## List of Publications by Year in descending order

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134  
papers

2,102  
citations

257450

24  
h-index

289244

40  
g-index

138  
all docs

138  
docs citations

138  
times ranked

1765  
citing authors

#	ARTICLE	IF	CITATIONS
1	Overview of Fiber Optic Sensor Technologies for Strain/Temperature Sensing Applications in Composite Materials. <i>Sensors</i> , 2016, 16, 99.	3.8	255
2	Automated fibre placement based composite structures: Review on the defects, impacts and inspections techniques. <i>Composite Structures</i> , 2019, 224, 110987.	5.8	143
3	A fast response intrinsic humidity sensor based on an etched singlemode polymer fiber Bragg grating. <i>Sensors and Actuators A: Physical</i> , 2013, 203, 107-111.	4.1	86
4	Low-cost wavelength measurement based on a macrobending single-mode fiber. <i>Optics Letters</i> , 2006, 31, 1785.	3.3	77
5	Humidity sensor based on photonic crystal fibre interferometer. <i>Electronics Letters</i> , 2010, 46, 1341.	1.0	71
6	Dental resin composites: A review on materials to product realizations. <i>Composites Part B: Engineering</i> , 2022, 230, 109495.	12.0	71
7	High Sensitivity Force and Pressure Measurements Using Etched Singlemode Polymer Fiber Bragg Gratings. <i>IEEE Sensors Journal</i> , 2013, 13, 1794-1800.	4.7	68
8	Experimental Study and Analysis of Hydrostatic Pressure Sensitivity of Polymer Fibre Bragg Gratings. <i>Journal of Lightwave Technology</i> , 2015, 33, 2456-2462.	4.6	52
9	Characterization of process-induced defects in automated fiber placement manufacturing of composites using fiber Bragg grating sensors. <i>Structural Health Monitoring</i> , 2018, 17, 108-117.	7.5	48
10	Polarization dependence of bend loss for a standard singlemode fiber. <i>Optics Express</i> , 2007, 15, 4909.	3.4	43
11	High Intrinsic Sensitivity Etched Polymer Fiber Bragg Grating Pair for Simultaneous Strain and Temperature Measurements. <i>IEEE Sensors Journal</i> , 2016, 16, 2453-2459.	4.7	38
12	Experimental Study and Analysis of a Polymer Fiber Bragg Grating Embedded in a Composite Material. <i>Journal of Lightwave Technology</i> , 2014, 32, 1726-1733.	4.6	36
13	Intrinsic High-Sensitivity Sensors Based on Etched Single-Mode Polymer Optical Fibers. <i>IEEE Photonics Technology Letters</i> , 2015, 27, 604-607.	2.5	36
14	Improving the sensitivity of a humidity sensor based on fiber bend coated with a hygroscopic coating. <i>Optics and Laser Technology</i> , 2011, 43, 1301-1305.	4.6	35
15	Optical Fiber Sensors. , 0, , .		32
16	Influence of Surface Treatment on the Interfacial and Mechanical Properties of Short S-Glass Fiber-Reinforced Dental Composites. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 32328-32338.	8.0	31
17	Influence of lamination process on optical fiber sensors embedded in composite material. Measurement: <i>Journal of the International Measurement Confederation</i> , 2012, 45, 2275-2280.	5.0	30
18	Hybrid Fiber Optic Sensor System for Measuring the Strain, Temperature, and Thermal Strain of Composite Materials. <i>IEEE Sensors Journal</i> , 2014, 14, 2571-2578.	4.7	30

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19	An Optimized Macrobending-Fiber-Based Edge Filter. IEEE Photonics Technology Letters, 2007, 19, 1136-1138.	2.5	28
20	Investigation of macrobending losses of standard single mode fiber with small bend radii. Microwave and Optical Technology Letters, 2007, 49, 2133-2138.	1.4	28
21	In situ process monitoring for automated fibre placement using fibre Bragg grating sensors. Structural Health Monitoring, 2016, 15, 706-714.	7.5	27
22	Evaluation of the physical properties of dental resin composites using optical fiber sensing technology. Dental Materials, 2016, 32, 1113-1123.	3.5	27
23	Fibre Bragg Grating Based Acoustic Emission Measurement System for Structural Health Monitoring Applications. Materials, 2021, 14, 897.	2.9	27
24	Laser Self-Mixing Fiber Bragg Grating Sensor for Acoustic Emission Measurement. Sensors, 2018, 18, 1956.	3.8	26
25	Resolution investigation of a ratiometric wavelength measurement system. Applied Optics, 2007, 46, 6362.	2.1	24
26	Polymer micro-fiber Bragg grating. Optics Letters, 2013, 38, 3359.	3.3	24
27	Analysis of Vibration Measurements in a Composite Material Using an Embedded PM-PCF Polarimetric Sensor and an FBG Sensor. IEEE Sensors Journal, 2012, 12, 1365-1371.	4.7	21
28	Cold Crack Monitoring and Localization in Welding Using Fiber Bragg Grating Sensors. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 9228-9236.	4.7	21
29	Physical and mechanical characterisation of flowable dental composites reinforced with short aspect ratio micro-sized S-Glass fibres. Materials Science and Engineering C, 2020, 111, 110771.	7.3	21
30	Ratiometric wavelength monitor based on singlemode-multimode-singlemode fiber structure. Microwave and Optical Technology Letters, 2008, 50, 3036-3039.	1.4	20
31	A Photonic Crystal Fiber and Fiber Bragg Grating-Based Hybrid Fiber-Optic Sensor System. IEEE Sensors Journal, 2012, 12, 39-43.	4.7	20
32	Design of integrated wavelength monitor based on a Y-branch with an S-bend waveguide. Sensors and Actuators A: Physical, 2007, 134, 405-409.	4.1	19
33	Composite materials with embedded photonic crystal fiber interferometric sensors. Sensors and Actuators A: Physical, 2012, 182, 57-67.	4.1	19
34	Measurement of thermal elongation induced strain of a composite material using a polarization maintaining photonic crystal fiber sensor. Sensors and Actuators A: Physical, 2013, 190, 44-51.	4.1	19
35	Polymerisation Shrinkage Profiling of Dental Composites using Optical Fibre Sensing and their Correlation with Degree of Conversion and Curing Rate. Scientific Reports, 2019, 9, 3162.	3.3	19
36	Hybrid engineered dental composites by multiscale reinforcements with chitosan-integrated halloysite nanotubes and S-glass fibers. Composites Part B: Engineering, 2020, 202, 108448.	12.0	19

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37	Smart orthopaedic implants: A targeted approach for continuous postoperative evaluation in the spine. <i>Journal of Biomechanics</i> , 2020, 104, 109690.	2.1	19
38	Temperature dependence of a macrobending edge filter based on a high-bend loss fiber. <i>Optics Letters</i> , 2008, 33, 2470.	3.3	18
39	A liquid crystal coated tapered photonic crystal fiber interferometer. <i>Journal of Optics (United Kingdom)</i> , 2014, 11, 078431.	2.2	18
40	Etching Process Related Changes and Effects on Solid-Core Single-Mode Polymer Optical Fiber Grating. <i>IEEE Photonics Journal</i> , 2016, 8, 1-9.	2.0	17
41	Simultaneous Measurement of Normal and Shear Stress Using Fiber Bragg Grating Sensors in Prosthetic Applications. <i>IEEE Sensors Journal</i> , 2019, 19, 7383-7390.	4.7	17
42	Online Monitoring and Prediction of Thermo-Mechanics of AFP Based Thermoplastic Composites. <i>Sensors</i> , 2019, 19, 1310.	3.8	17
43	The influence of thermal expansion of a composite material on embedded polarimetric sensors. <i>Smart Materials and Structures</i> , 2011, 20, 125002.	3.5	16
44	Selective Atomic-Level Etching on Short S-Glass Fibres to Control Interfacial Properties for Restorative Dental Composites. <i>Scientific Reports</i> , 2019, 9, 3851.	3.3	16
45	Dimensional stability of short fibre reinforced flowable dental composites. <i>Scientific Reports</i> , 2021, 11, 4697.	3.3	16
46	Macrobending fibre loss filter, ratiometric wavelength measurement and application. <i>Measurement Science and Technology</i> , 2007, 18, 3082-3088.	2.6	15
47	Inscription of Multiple Bragg Gratings in a Single-Mode Polymer Optical Fiber Using a Single Phase Mask and Its Analysis. <i>IEEE Sensors Journal</i> , 2014, 14, 2384-2388.	4.7	14
48	A voltage sensor based on a singlemode-multimode-singlemode fiber structure. <i>Microwave and Optical Technology Letters</i> , 2010, 52, 1887-1890.	1.4	13
49	Experimental analysis and demonstration of a low cost fibre optic temperature sensor system for engineering applications. <i>Sensors and Actuators A: Physical</i> , 2010, 163, 88-95.	4.1	13
50	A Fiber Bragg Grating-Based All-Fiber Sensing System for Telerobotic Cutting Applications. <i>IEEE Sensors Journal</i> , 2010, 10, 1913-1920.	4.7	13
51	Fabrication and Characterization of a Magnetized Metal-Encapsulated FBG Sensor for Structural Health Monitoring. <i>IEEE Sensors Journal</i> , 2018, 18, 8739-8746.	4.7	13
52	Simple method for measuring the linewidth enhancement factor of semiconductor lasers. <i>Applied Optics</i> , 2015, 54, 10295.	2.1	11
53	An approach for process optimisation of the Automated Fibre Placement (AFP) based thermoplastic composites manufacturing using Machine Learning, photonic sensing and thermo-mechanics modelling. <i>Manufacturing Letters</i> , 2022, 32, 10-14.	2.2	11
54	Thermal sensitivity and relaxation of carbon fibre-foam sandwich composites with fibre optic sensors. <i>Journal of Sandwich Structures and Materials</i> , 2016, 18, 652-664.	3.5	10

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55	<i>In-situ</i> simultaneous measurement of strain and temperature in automated fiber placement (AFP) using optical fiber Bragg grating (FBG) sensors. <i>Advanced Manufacturing: Polymer and Composites Science</i> , 2017, 3, 52-61.	0.4	10
56	Evaluation of rheological behaviour of flowable dental composites reinforced with low aspect ratio micro-sized glass fibres. <i>Dental Materials</i> , 2021, 37, 131-142.	3.5	10
57	A Low Polarization Sensitivity All-Fiber Wavelength Measurement System. <i>IEEE Photonics Technology Letters</i> , 2008, 20, 1464-1466.	2.5	9
58	Temperature-Induced Instabilities in Macro-Bend Fiber Based Wavelength Measurement Systems. <i>Journal of Lightwave Technology</i> , 2009, 27, 1355-1361.	4.6	9
59	Twist effect and sensing of few mode polymer fibre Bragg gratings. <i>Optics Communications</i> , 2016, 359, 411-418.	2.1	9
60	The Study of the Directional Sensitivity of Fiber Bragg Gratings for Acoustic Emission Measurements. <i>IEEE Sensors Journal</i> , 2019, 19, 6771-6777.	4.7	9
61	A hybrid fiber optic sensing system for simultaneous strain and temperature measurement and its applications. <i>Photonics Letters of Poland</i> , 2010, 2, .	0.4	9
62	Polarization dependence of an edge filter based on singlemode-multimode-singlemode fibre. <i>Optics and Laser Technology</i> , 2010, 42, 1044-1048.	4.6	8
63	Etched Polymer Fibre Bragg Gratings and Their Biomedical Sensing Applications. <i>Sensors</i> , 2017, 17, 2336.	3.8	8
64	Clinical utility of pressure feedback to socket design and fabrication. <i>Prosthetics and Orthotics International</i> , 2020, 44, 18-26.	1.0	8
65	Evaluation of depth-wise post-gel polymerisation shrinkage behaviour of flowable dental composites. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2021, 124, 104860.	3.1	8
66	Influence of fiber manufacturing tolerances on the spectral response of a bend loss based all-fiber edge filter. <i>Applied Optics</i> , 2008, 47, 2921.	2.1	7
67	Effect of SNR of input signal on the accuracy of a ratiometric wavelength measurement system. <i>Microwave and Optical Technology Letters</i> , 2007, 49, 1022-1024.	1.4	6
68	Ratiometric wavelength monitor based on X-type spectral response using two edge filters. , 2009, , .		6
69	Optical fiber Bragg grating sensors for process monitoring in advanced composites. , 2016, , .		6
70	Ballast Breakage Analysis Using FBG Acoustic Emission Measurement System. <i>Geotechnical and Geological Engineering</i> , 2017, 35, 1239-1247.	1.7	6
71	Modeling and Analysis of the Effect of Noise on an Edge Filter Based Ratiometric Wavelength Measurement System. <i>Journal of Lightwave Technology</i> , 2008, 26, 3434-3442.	4.6	5
72	Investigation and experimental measurement of scissor blade cutting forces using fiber Bragg grating sensors. <i>Smart Materials and Structures</i> , 2011, 20, 105004.	3.5	5

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73	Photonic Crystal Fiber Sensors for Minimally Invasive Surgical Devices. IEEE Transactions on Biomedical Engineering, 2012, 59, 332-338.	4.2	5
74	Microstructured Fiber Sealed-Void Interferometric Humidity Sensor. IEEE Sensors Journal, 2014, 14, 1154-1159.	4.7	5
75	Hydrostatic pressure sensitivity of standard polymer fibre Bragg gratings and etched polymer fibre Bragg gratings. Proceedings of SPIE, 2014, , .	0.8	5
76	A method to measure reference strain in FBG strain sensor interrogation system involving actuators. Microwave and Optical Technology Letters, 2007, 49, 2658-2661.	1.4	4
77	Study of the effect of source signal bandwidth on ratiometric wavelength measurement. Applied Optics, 2010, 49, 5626.	2.1	4
78	Fibre optic acoustic emission sensor system for hydrogen induced cold crack monitoring in welding applications. , 2016, , .		4
79	Distributed Fibre Optic Sensor-Based Continuous Strain Measurement along Semicircular Paths Using Strain Transformation Approach. Sensors, 2021, 21, 782.	3.8	4
80	Distributed Fiber Optic Sensor-Based Strain Monitoring of a Riveted Bridge Joint Under Fatigue Loading. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-10.	4.7	4
81	Analysis and performance evaluation of an all-fiber wide range interrogation system for a Bragg grating sensor array. Journal of Optics, 2009, 11, 054004.	1.5	3
82	All Fiber tunable loss filter. Proceedings of SPIE, 2009, , .	0.8	3
83	Influence of the lamination process on the strain sensitivity of the fiber sensors embedded in composite materials. Proceedings of SPIE, 2011, , .	0.8	3
84	Investigation of the effect of vibration amplitude on vibration measurements of polarimetric fiber sensors embedded in composite beams. Smart Materials and Structures, 2014, 23, 045037.	3.5	3
85	Fibre optic acoustic emission measurement technique for crack activity monitoring in civil engineering applications. , 2016, , .		3
86	High Frequency Fibre Bragg Grating Interrogator for Monitoring Rock Cracking Events for Mining Applications. , 2017, , .		3
87	Post-gel polymerisation shrinkage profiling of polymer biomaterials using a chirped fibre Bragg grating. Scientific Reports, 2021, 11, 1410.	3.3	3
88	Introduction to Optical Fiber Sensors. , 2017, , 1-12.		3
89	A hybrid highly birefringent fiber optic sensing system for simultaneous strain and temperature measurement. Photonics Letters of Poland, 2010, 2, .	0.4	3
90	Discretely tunable ferroelectric liquid crystal filter for demodulation of multiple FBG sensors. , 2008, , .		2

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91	Analysis of Strain Transfer to FBG™s for Sensorized Telerobotic End-Effector Applications. , 2009, , 65-75.		2
92	Experimental demonstration of a ferroelectric liquid crystal tunable filter for fast demodulation of FBG sensors. , 2009, , .		2
93	Photonic crystal fiber interferometer for dew detection. , 2011, , .		2
94	Comparison of vibration measurements in composite materials using different types of polarimetric sensors. Proceedings of SPIE, 2012, , .	0.8	2
95	A demodulation scheme for a hybrid fiber sensor system for composite materials. Proceedings of SPIE, 2012, , .	0.8	2
96	A miniaturized flexible surface attachable interrogator for hybrid optical fiber sensing. Microwave and Optical Technology Letters, 2014, 56, 1167-1174.	1.4	2
97	Acoustic emission and finite element study on the influence of cusp angles on zirconia dental crowns. Dental Materials, 2020, 36, 1524-1535.	3.5	2
98	Influence of Angular Orientation of the Embedded Highly Birefringent Fiber on PMD Changes under Axial Stress. Acta Physica Polonica A, 2011, 120, 575-578.	0.5	2
99	Accurate theoretical prediction for single-mode fiber macrobending loss and bending induced polarization dependent loss. , 2008, , .		1
100	Evaluation of the performance of a novel low-cost macro-bend fiber-based temperature sensor. , 2009, , .		1
101	Optimum design for maximum wavelength resolution for an edge filter-based ratiometric system. Optics and Laser Technology, 2010, 42, 1032-1037.	4.6	1
102	Characterization of liquid crystal coated photonic crystal fiber interferometers. Proceedings of SPIE, 2010, , .	0.8	1
103	Performance analysis and comparison of composite materials embedded with different optical fiber sensor types. , 2011, , .		1
104	Control of light propagation in optical fibers using liquid crystals for applications in optical communications and sensing. , 2012, , .		1
105	Polymer fiber Bragg grating force sensors for minimally invasive surgical devices. Proceedings of SPIE, 2015, , .	0.8	1
106	High-sensitivity polymer fibre Bragg grating sensor for biomedical applications. , 2016, , .		1
107	High Sensitivity Polymer Fibre Bragg Grating Sensors and Devices. Springer Series in Materials Science, 2016, , 289-314.	0.6	1
108	Resolution of ratiometric system for wavelength measurement. , 2007, 6585, 81.		0

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109	Investigation of the influence of 3dB coupler on ratiometric wavelength measurements. , 2008, , .		0
110	Investigation of polarizationâ€dependent loss for a macrobending loss sensitive singleâ€mode fiber. Microwave and Optical Technology Letters, 2009, 51, 1460-1464.	1.4	0
111	A tunable high resolution FBG demodulation system using photonic crystal fiber loop mirrors. Proceedings of SPIE, 2009, , .	0.8	0
112	Optimum design for maximum wavelength resolution based on the edge filter ratiometric system. Proceedings of SPIE, 2009, , .	0.8	0
113	Tunable properties of liquid crystal filled photonic crystal fibers. Proceedings of SPIE, 2009, , .	0.8	0
114	Design of a surface attachable hybrid fiber sensor packaged in a polyimide film for engineering applications. Proceedings of SPIE, 2010, , .	0.8	0
115	Passive All-Fiber Wavelength Measurement Systems: Performance Determination Factors. , 0, , .		0
116	Miniature temperature insensitive fiber optic sensors for minimally invasive surgical devices. , 2011, , .		0
117	Agarose coated single mode fiber bend for monitoring humidity. Proceedings of SPIE, 2011, , .	0.8	0
118	Photonic crystal fiber strain sensors for laparoscopic surgical devices. , 2012, , .		0
119	Characterization of the polarimetric sensors embedded in carbon and glass reinforced composite materials for strain/temperature measurements. , 2012, , .		0
120	Etched singlemode polymer fiber Bragg gratings for high sensitivity tensile force measurements. , 2012, , .		0
121	Fabrication and characterization of a polymer micro-fiber Bragg grating. , 2013, , .		0
122	Photonic crystal fibreâ€based polarimetric sensor for cure monitoring of magnetorheological smart composite material. Electronics Letters, 2014, 50, 1083-1084.	1.0	0
123	Carbon fibre-foam sandwich composite laminate embedded with fiber Bragg grating sensors. , 2014, , .		0
124	Polymer Fibre Bragg Gratings and Sensing. , 2015, , .		0
125	Polymer micro and microstructured fiber Bragg gratings. , 2015, , 207-227.		0
126	Simultaneous strain and temperature measurement with enhanced intrinsic sensitivity using etched polymer fibre Bragg gratings. Proceedings of SPIE, 2015, , .	0.8	0



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127	Solid Core Single-Mode Polymer Fiber Gratings and Sensors. , 2018, , 1-39.		0
128	Demodulation of Multiple Fibre Bragg Grating Sensors using a Ferroelectric Liquid Crystal Tunable Filter. , 2006, , .		0
129	Temperature Insensitive Miniature Photonic Crystal Fiber Interferometric (PCFI) Strain Sensors. , 2012, , .		0
130	Fabrication and Characterization of Bragg Gratings in Polymer Optical Fibers using 248 nm Irradiation. , 2013, , .		0
131	Etched Polymer Fibre Bragg Gratings. , 2016, , .		0
132	Fibre Bragg Grating Based Characterization System for Dental Resin Composites. , 2016, , .		0
133	Solid Core Single-Mode Polymer Fiber Gratings and Sensors. , 2019, , 1-39.		0
134	Solid Core Single-Mode Polymer Fiber Gratings and Sensors. , 2019, , 1997-2035.		0