Trevor M Benson

List of Publications by Year
in descending order

73 papers	2,313 citations	331259 21 h-index	205818 48 g-index
74 all docs	74 docs citations	74 times ranked	1774 citing authors

#	Article	IF	Citations
1	Mid-infrared supercontinuum covering the 1.4â€“13.3â€…Î¼m molecular fingerprint region using ultra-high NA chalcogenide step-index fibre. Nature Photonics, 2014, 8, 830-834.	15.6	811
2	Progress in rare-earth-doped mid-infrared fiber lasers. Optics Express, 2010, 18, 26704.	1.7	269
3	Optical Theorem Helps Understand Thresholds of Lasing in Microcavities With Active Regions. IEEE Journal of Quantum Electronics, 2011, 47, 20-30.	1.0	93
4	Low loss Ge-As-Se chalcogenide glass fiber, fabricated using extruded preform, for mid-infrared photonics. Optical Materials Express, 2015, 5, 1722.	1.6	79
5	Explicit Solution of the Time Domain Volume Integral Equation Using a Stable Predictor-Corrector Scheme. IEEE Transactions on Antennas and Propagation, 2012, 60, 5203-5214.	3.1	77
6	Directional Emission, Increased Free Spectral Range, and Mode Q-Factors in 2-D Wavelength-Scale Optical Microcavity Structures. IEEE Journal of Selected Topics in Quantum Electronics, 2006, 12, 1175-1182.	1.9	68
7	Mid-infrared photoluminescence in small-core fiber of praseodymium-ion doped selenide-based chalcogenide glass. Optical Materials Express, 2015, 5, 870.	1.6	58
8	Low-threshold lasing eigenmodes of an infinite periodic chain of quantum wires. Optics Letters, 2010, 35, 3634.	1.7	55
9	Binary Grating of Subwavelength Silver and Quantum Wires as a Photonic-Plasmonic Lasing Platform With Nanoscale Elements. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 1839-1846.	1.9	53
10	Threshold reduction in a cyclic photonic molecule laser composed of identical microdisks with whispering-gallery modes. Optics Letters, 2006, 31, 921.	1.7	52
11	A refractive index sensor based on a D-shaped photonic crystal fiber with a nanoscale gold belt. Optical and Quantum Electronics, 2018, 50, 1.	1.5	46
12	Crystallization behavior of Dy3+-doped selenide glasses. Journal of Non-Crystalline Solids, 2011, 357, 2453-2462.	1.5	39
13	Lasing frequencies and thresholds of the dipole supermodes in an active microdisk concentrically coupled with a passive microring. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2008, 25, 2884.	0.8	35
14	Efficient Analysis and Design of Low-Loss Whispering-Gallery-Mode Coupled Resonator Optical Waveguide Bends. Journal of Lightwave Technology, 2007, 25, 2487-2494.	2.7	33
15	Solid Microstructured Chalcogenide Glass Optical Fibers for the Near- and Mid-Infrared Spectral Regions. IEEE Photonics Technology Letters, 2009, 21, 1804-1806.	1.3	30
16	Electromagnetic analysis of the lasing thresholds of hybrid plasmon modes of a silver tube nanolaser with active core and active shell. Beilstein Journal of Nanotechnology, 2019, 10, 294-304.	1.5	28
17	Experimental Investigation of Mid-Infrared Laser Action From Dy³⁺ Doped Fluorozirconate Fiber. IEEE Photonics Technology Letters, 2018, 30, 1083-1086.	1.3	26
18	Why elliptic microcavity lasers emit light on bow-tie-like modes instead of whispering-gallery-like modes. Optics Communications, 2019, 439, 112-117.	1.0	24

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19	Implicit Element Clustering for Tetrahedral Transmission-Line Modeling (TLM). IEEE Transactions on Microwave Theory and Techniques, 2009, 57, 2005-2014.	2.9	23
20	The Influence of Dysprosium Addition on the Crystallization Behavior of a Chalcogenide Selenide Glass Close to the Fiber Drawing Temperature. Journal of the American Ceramic Society, 2012, 95, 3834-3841.	1.9	21
21	Promising emission behavior in Pr 3+ /In selenide-chalcogenide-glass small-core step index fiber (SIF). Optical Materials, 2017, 67, 98-107.	1.7	21
22	Compositional dependence of crystallization in Geâ€“Sbâ€“Se glasses relevant to optical fiber making. Journal of the American Ceramic Society, 2018, 101, 208-219.	1.9	21
23	Milliwatt-Level Spontaneous Emission Across the 3.5â€“8 Âµm Spectral Region from Pr3+ Doped Selenide Chalcogenide Fiber Pumped with a Laser Diode. Applied Sciences (Switzerland), 2020, 10, 539.	1.3	20
24	Mid-infrared integrated optics: versatile hot embossing of mid-infrared glasses for on-chip planar waveguides for molecular sensing. Optical Engineering, 2014, 53, 071824.	0.5	18
25	Coâ€Extrusion of Multilayer Glass Fiberâ€Optic Preforms: Prediction of Layer Dimensions in the Extrudate. Journal of the American Ceramic Society, 2013, 96, 118-124.	1.9	16
26	Extended Capability Models for Carbon Fiber Composite (CFC) Panels in the Unstructured Transmission Line Modeling (UTLM) Method. IEEE Transactions on Electromagnetic Compatibility, 2016, 58, 811-819.	1.4	16
27	Experimental observation of gain in a resonantly pumped Pr3+-doped chalcogenide glass mid-infrared fibre amplifier notwithstanding the signal excited-state absorption. Scientific Reports, 2019, 9, 11426.	1.6	16
28	Time domain simulation in photonics: A comparison of nonlinear dispersive polarisation models. Optical and Quantum Electronics, 2005, 37, 3-24.	1.5	15
29	Design of omnidirectional reflectors based on a cascaded one-dimensional photonic crystal structure. Journal of Modern Optics, 2013, 60, 1804-1812.	0.6	15
30	Gain-switched Dy³⁺:ZBLAN fiber laser operating around 3 Î¼m. JPhys Photonics, 2020, 2, 014003.	2.2	15
31	First Identification of Rareâ€Earth Oxide Nucleation in Chalcogenide Glasses and Implications for Fabrication of Midâ€Infrared Active Fibers. Journal of the American Ceramic Society, 2014, 97, 432-441.	1.9	13
32	A novel photonic crystal band-pass filter using degenerate modes of a point-defect microcavity for terahertz communication systems. Microwave and Optical Technology Letters, 2014, 56, 792-797.	0.9	12
33	Fabrication of stable, low optical loss rib-waveguides via embossing of sputtered chalcogenide glass-film on glass-chip. Optical and Quantum Electronics, 2015, 47, 351-361.	1.5	12
34	Experimental Investigation of Actively Q-Switched Er3+:ZBLAN Fiber Laser Operating at around 2.8 Âµm. Sensors, 2020, 20, 4642.	2.1	12
35	Comparative Modeling of Infrared Fiber Lasers. Photonics, 2018, 5, 48.	0.9	11
36	Dy³⁺â€Doped Selenide Chalcogenide Glasses: Influence of Dy³⁺ Dopantâ€Additive and Containment. Journal of the American Ceramic Society, 2016, 99, 2283-2291.	1.9	10

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37	Holistic Appraisal of Modeling Installed Antennas for Aerospace Applications. IEEE Transactions on Antennas and Propagation, 2019, 67, 1396-1409.	3.1	10
38	Subsampling of fine features in finite-difference frequency-domain simulations. Microwave and Optical Technology Letters, 2005, 44, 95-101.	0.9	9
39	Femtosecond Laser Processing as an Advantageous 3-D Technology for the Fabrication of Highly Nonlinear Chip-Scale Photonic Devices. Journal of Lightwave Technology, 2009, 27, 3275-3282.	2.7	9
40	Complexity Reduction of Multiscale UTLM Cell Clusters. IEEE Journal on Multiscale and Multiphysics Computational Techniques, 2017, 2, 18-28.	1.4	9
41	Low galliumâ€content, dysprosium <scp>III</scp>â€doped, Geâ€“Asâ€“Gaâ€“Se chalcogenide glasses for active midâ€infrared fiber optics. Journal of the American Ceramic Society, 2019, 102, 195-206.	1.9	9
42	Experimental and numerical investigation to rationalize both near-infrared and mid-infrared spontaneous emission inÂPr3+ doped selenide-chalcogenide fiber. Journal of Luminescence, 2019, 209, 14-20.	1.5	9
43	The local environment of Dy3+in selenium-rich chalcogenide glasses. RSC Advances, 2014, 4, 42364-42371.	1.7	8
44	Toward Mid-Infrared, Subdiffraction, Spectral-Mapping of Human Cells and Tissue: SNIM (Scanning) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	2.7	8
45	Impact of In Situ Radome Lightning Diverter Strips on Antenna Performance. IEEE Transactions on Antennas and Propagation, 2020, 68, 7287-7296.	3.1	8
46	Extracting modal field profiles from 3D unstructured transmission line modelling meshes for use as sources and observers. IET Science, Measurement and Technology, 2017, 11, 780-785.	0.9	8
47	Efficient broadband simulations for thin optical structures. Optical and Quantum Electronics, 2013, 45, 343-348.	1.5	6
48	Coupled Electrothermal Two-Dimensional Model for Lightning Strike Prediction and Thermal Modeling Using the TLM Method. IEEE Journal on Multiscale and Multiphysics Computational Techniques, 2017, 2, 38-48.	1.4	6
49	A Fast Converging Resonance-Free Global Multi-Trace Method for Scattering by Partially Coated Composite Structures. IEEE Transactions on Antennas and Propagation, 2022, 70, 9534-9543.	3.1	6
50	Efficient Time Domain Modeling of Rib Waveguide RF Modulators. Journal of Lightwave Technology, 2006, 24, 5044-5053.	2.7	5
51	Fourth-order accurate sub-sampling for finite-difference analysis of surface plasmon metallic waveguides. Microwave and Optical Technology Letters, 2008, 50, 995-1000.	0.9	5
52	Predictive, Miniature Coâ€Extrusion of Multilayered Glass Fiberâ€Optic Preforms. Journal of the American Ceramic Society, 2016, 99, 106-114.	1.9	5
53	Generating Radome Geometries for Full Lightning Protection Studies. , 2019, , .		5
54	Evaluating the cytotoxicity of Geâ€“Sbâ€“Se chalcogenide glass optical fibres on 3T3 mouse fibroblasts. RSC Advances, 2021, 11, 8682-8693.	1.7	5

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55	Numerical investigation of mid-infrared emission from Pr $$^{3+}$$ 3 + doped GeAsGaSe fibre. Optical and Quantum Electronics, 2014, 46, 593-602.	1.5	4
56	A note on material losses in unstructured transmission line modeling. Microwave and Optical Technology Letters, 2015, 57, 2218-2222.	0.9	4
57	Numerical simulation of electromagnetic coupling in explicitly meshed wiring looms and bundles. IET Science, Measurement and Technology, 2018, 12, 176-181.	0.9	4
58	Resonant frequency and Q factor extraction from temporal responses of ultraâ€high Q optical resonators. IET Science, Measurement and Technology, 2014, 8, 277-284.	0.9	2
59	Photonic biosensor chip for early-stage cancer diagnosis. , 2015, , .		2
60	Modeling of Resonant Tunneling Diode Oscillators Based on the Time-Domain Boundary Element Method. IEEE Journal on Multiscale and Multiphysics Computational Techniques, 2022, 7, 161-167.	1.4	2
61	Modernizing electromagnetics education: Incorporating a coursework element into an elementary exam-oriented electromagnetics module. , 2015, , .		1
62	Bright Mid-Infrared (MIR) Photoluminescence Sources and their Application in Imaging and Sensing. , 2020, , .		1
63	The 2002 International Workshop on Optical Waveguide Theory and Numerical Modelling. Optical and Quantum Electronics, 2003, 35, 295-296.	1.5	0
64	Finite Difference Beam Propagation Method Applied to Photonic Crystal Fibres. , 2007, , .		0
65	A Simple Full-Vectorial Finite-Difference Equation for Arbitrarily Positioned Dielectric Interfaces. IEEE Photonics Technology Letters, 2009, 21, 1505-1507.	1.3	0
66	Special issue of OQEL on silicon photonics and nanophotonics. Optical and Quantum Electronics, 2012, 44, 503-504.	1.5	0
67	Assessment of accuracy and runtime trade-offs in unstructured TLM meshes for electromagnetic simulations. , 2013, , .		0
68	Dispersion in the 2D unstructured transmission line modelling (UTLM) method. , 2015, , .		0
69	Broadband terahertz spectroscopy of chalcogenide glass As<inf>30</inf>Se<inf>30</inf>Te<inf>40</inf>. , 2016, , .		0
70	Effect of submicron deformations on the transmission of all-solid photonic bandgap fibre. Optical and Quantum Electronics, 2016, 48, 1.	1.5	0
71	An Effective Stretched Coordinate TLM-PML Suitable for Analyzing Planar Periodic Structures. IEEE Microwave and Wireless Components Letters, 2020, 30, 725-728.	2.0	0
72	Stretchedâ€coordinate PML in 2D TLM simulations. IET Science, Measurement and Technology, 2020, 14, 272-277.	0.9	0

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73	Time-Domain Modelling of Solid State RF Receiver Protection Systems. , 2020, , .		0