

# Martin Richardson

## List of Publications by Year in descending order

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113  
papers

2,848  
citations

136950

32  
h-index

175258

52  
g-index

113  
all docs

113  
docs citations

113  
times ranked

2223  
citing authors

#	ARTICLE	IF	CITATIONS
1	Welding of polymers using a 2 $\mu$ m thulium fiber laser. Optics and Laser Technology, 2012, 44, 2095-2099.	4.6	276
2	Direct femtosecond laser writing of waveguides in As <sub>2</sub> S <sub>3</sub> thin films. Optics Letters, 2004, 29, 748.	3.3	170
3	Femtosecond laser fabrication of tubular waveguides in poly(methyl methacrylate). Optics Letters, 2004, 29, 1840.	3.3	141
4	Hole-Assisted Few-Mode Multicore Fiber for High-Density Space-Division Multiplexing. IEEE Photonics Technology Letters, 2012, 24, 1914-1917.	2.5	123
5	High-power widely tunable thulium fiber lasers. Applied Optics, 2010, 49, 6236.	2.1	91
6	Femtosecond laser deep hole drilling of silicate glasses in air. Applied Surface Science, 2001, 183, 151-164.	6.1	89
7	Ultrashort 1-kHz laser plasma hard x-ray source. Optics Letters, 2002, 27, 866.	3.3	87
8	Beat the diffraction limit in 3D direct laser writing in photosensitive glass. Optics Express, 2009, 17, 10304.	3.4	86
9	Elemental analysis by microwave-assisted laser-induced breakdown spectroscopy: Evaluation on ceramics. Journal of Analytical Atomic Spectrometry, 2010, 25, 1316.	3.0	81
10	3D Patterning at the Nanoscale of Fluorescent Emitters in Glass. Journal of Physical Chemistry C, 2010, 114, 15584-15588.	3.1	76
11	Femtosecond laser induced photochemistry in materials tailored with photosensitive agents [Invited]. Optical Materials Express, 2011, 1, 866.	3.0	74
12	Laser-induced breakdown spectroscopy of copper with a 2 $\mu$ m thulium fiber laser. Optics Express, 2010, 18, 7905.	3.4	73
13	Laser-induced defects in fused silica by femtosecond IR irradiation. Physical Review B, 2006, 73, .	3.2	69
14	Very large-core, single-mode, gain-guided, index-antiguidded fiber lasers. Optics Letters, 2007, 32, 2505.	3.3	68
15	High peak-power mid-infrared ZnGeP <sub>2</sub> optical parametric oscillator pumped by a Tm: fiber master oscillator power amplifier system. Optics Letters, 2014, 39, 1212.	3.3	62
16	Optical properties of infrared femtosecond laser-modified fused silica and application to waveguide fabrication. Journal of the Optical Society of America B: Optical Physics, 2005, 22, 2138.	2.1	59
17	Transition from linear- to nonlinear-focusing regime in filamentation. Scientific Reports, 2014, 4, 7217.	3.3	58
18	Blueshifted continuum peaks from filamentation in the anomalous dispersion regime. Physical Review A, 2013, 87, .	2.5	57

#	ARTICLE	IF	CITATIONS
19	Improvement of the sensitivity for the measurement of copper concentrations in soil by microwave-assisted laser-induced breakdown spectroscopy. <i>Spectrochimica Acta, Part B: Atomic Spectroscopy</i> , 2012, 73, 89-92.	2.9	55
20	1 $\frac{1}{4}$ J, sub-500 $\hat{A}$ s chirped pulse amplification in a Tm-doped fiber system. <i>Optics Letters</i> , 2013, 38, 121.	3.3	52
21	Lasing in thulium-doped polarizing photonic crystal fiber. <i>Optics Letters</i> , 2011, 36, 3873.	3.3	50
22	Temperature-dependent spectroscopic properties of Tm <sup>3+</sup> in germanate, silica, and phosphate glasses: A comparative study. <i>Journal of Applied Physics</i> , 2008, 103, .	2.5	48
23	Synthesizing broadband propagation-invariant space-time wave packets using transmissive phase plates. <i>Optics Express</i> , 2018, 26, 13628.	3.4	46
24	Femtosecond laser structuring and optical properties of a silver and zinc phosphate glass. <i>Journal of Non-Crystalline Solids</i> , 2010, 356, 2658-2665.	3.1	43
25	Three-dimensional direct femtosecond laser writing of second-order nonlinearities in glass. <i>Optics Letters</i> , 2012, 37, 1029.	3.3	43
26	Nd:YAG-CO <sub>2</sub> double-pulse laser induced breakdown spectroscopy of organic films. <i>Optics Express</i> , 2010, 18, 259.	3.4	42
27	Amplification of nanosecond pulses to megawatt peak power levels in Tm <sup>3+</sup> -doped photonic crystal fiber rod. <i>Optics Letters</i> , 2013, 38, 691.	3.3	41
28	Broadband space-time wave packets propagating 70 $\hat{A}$ m. <i>Optics Letters</i> , 2019, 44, 2073.	3.3	40
29	Mass-limited, debris-free laser-plasma EUV source. <i>Optics Communications</i> , 1998, 145, 109-112.	2.1	37
30	Evolution of hole shape and size during short and ultrashort pulse laser deep drilling. <i>Optics Express</i> , 2012, 20, 27147.	3.4	35
31	Scalable side-pumped, gain-guided index-antiguidded fiber laser. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2010, 27, 2451.	2.1	34
32	Progress on the Photoresponse of Chalcogenide Glasses and Films to Near-Infrared Femtosecond Laser Irradiation: A Review. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2008, 14, 1323-1334.	2.9	33
33	Characterization and control of laser plasma flux parameters for soft-x-ray projection lithography. <i>Applied Optics</i> , 1993, 32, 6901.	2.1	27
34	Femtosecond laser photo-response of Ge <sub>23</sub> Sb <sub>75</sub> films. <i>Optics Express</i> , 2008, 16, 20081.	3.4	26
35	Stand-off filament-induced ablation of gallium arsenide. <i>Applied Physics Letters</i> , 2012, 101, .	3.3	26
36	Helical filaments. <i>Applied Physics Letters</i> , 2014, 104, .	3.3	26

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37	Dramatic enhancement of supercontinuum generation in elliptically-polarized laser filaments. Scientific Reports, 2016, 6, 20363.	3.3	26
38	Q-switched thulium-doped photonic crystal fiber laser. Optics Letters, 2012, 37, 1664.	3.3	25
39	Principles and applications of trans-wafer processing using a 2- $\frac{1}{4}$ m thulium fiber laser. International Journal of Advanced Manufacturing Technology, 2016, 84, 2567-2578.	3.0	25
40	CW-lasing and amplification in Tm <sup>3+</sup> -doped photonic crystal fiber rod. Optics Letters, 2012, 37, 4513.	3.3	23
41	Comparison between geometrically focused pulses versus filaments in femtosecond laser ablation of steel and titanium alloys. Applied Physics B: Lasers and Optics, 2014, 116, 485-491.	2.2	23
42	Transition from linear- to nonlinear-focusing regime of laser filament plasma dynamics. Journal of Applied Physics, 2018, 124, .	2.5	22
43	Studies on structural, electrical, and optical properties of Cu doped As <sup>Se</sup> Te chalcogenide glasses. Journal of Applied Physics, 2007, 101, 063520.	2.5	21
44	High-power spectral beam combining of linearly polarized Tm: fiber lasers. Applied Optics, 2015, 54, 757.	1.8	20
45	Double helical laser beams based on interfering first-order Bessel beams. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2011, 28, 1462.	1.5	18
46	Comparison of higher-order mode suppression and Q-switched laser performance in thulium-doped large mode area and photonic crystal fibers. Optics Express, 2012, 20, 24295.	3.4	18
47	Free-Space Nonlinear Beam Combining for High Intensity Projection. Scientific Reports, 2017, 7, 10147.	3.3	16
48	Transverse mode competition in gain-guided index antiguided fiber lasers. Journal of the Optical Society of America B: Optical Physics, 2012, 29, 191.	2.1	15
49	Effect of Replacement of As and Sb on the Photo-Response under Near Infrared Femtosecond Laser Irradiation in As-based Sulfide Glasses. International Journal of Applied Glass Science, 2011, 2, 308-320.	2.0	14
50	Strong nuclear contribution to the optical Kerr effect in niobium oxide containing glasses. Physical Review B, 2007, 75, .	3.2	13
51	Comparative study of light propagation and single-mode operation in large-mode area fibers designed for 2- $\frac{1}{4}$ m laser applications. Optical Engineering, 2014, 54, 011006.	1.0	11
52	Direct Ultrastructural Imaging of Macrophages Using a Novel X-Ray Contact Microscopy. Experimental Biology and Medicine, 1999, 220, 27-30.	2.4	9
53	Multiple beam splitter using volumetric multiplexed Fresnel zone plates fabricated by ultrafast laser-writing. Optics Letters, 2012, 37, 3375.	3.3	9
54	Chirped pulse amplification in single mode Tm: fiber using a chirped Bragg grating. Applied Physics B: Lasers and Optics, 2013, 111, 299-304.	2.2	9

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55	Spatially resolved filament wavefront dynamics. Scientific Reports, 2020, 10, 8920.	3.3	8
56	Hole-assisted few-mode multi-core fiber for high-density space-division multiplexing. , 2012, , .		7
57	Directly laser-written integrated photonics devices including diffractive optical elements. Optics and Lasers in Engineering, 2016, 83, 66-70.	3.8	7
58	Ultraviolet out-of-band radiation studies in laser tin plasma sources. Journal of Applied Physics, 2017, 122, .	2.5	7
59	Direct Ultrastructural Imaging of Macrophages Using a Novel X-ray Contact Microscopy. Proceedings of the Society for Experimental Biology and Medicine, 1999, 220, 27-30.	1.8	6
60	Engineering Glassy Chalcogenide Materials for Integrated Optics Applications. , 0, , 383-405.		6
61	Femtosecond laser direct written diffractive optical elements and their integration in oxide glass. , 2009, , .		5
62	Spatially resolved measurement of femtosecond laser induced refractive index changes in transparent materials. Optics Letters, 2012, 37, 3003.	3.3	5
63	Spectral irradiance of singly and doubly ionized zinc in low-intensity laser-plasma ultraviolet light sources. Journal of Applied Physics, 2017, 121, .	2.5	5
64	Diode-pumped very large core, gain guided, index antiguided single mode fiber laser. , 2009, , .		3
65	Thulium fiber laser and application development. Proceedings of SPIE, 2014, , .	0.8	3
66	Laser-induced modification of local refractive index in infrared glass-ceramic films. , 2019, , .		3
67	Power Scaling of CW Crystalline OPOs and Raman Lasers. Photonics, 2021, 8, 565.	2.0	3
68	Increase of ablation rate using burst mode femtosecond pulses. , 2007, , .		2
69	Increase of ablation rate using burst mode femtosecond pulses. , 2007, , .		2
70	Single mode lasing in a gain-guided index anti-guided diode end pumped fiber. , 2008, , .		2
71	High Power Thulium Fiber Lasers. , 2010, , .		2
72	Spectroscopic Studies of Laser-Based Far-Ultraviolet Plasma Light Source. Applied Sciences (Switzerland), 2021, 11, 6919.	2.5	2

#	ARTICLE	IF	CITATIONS
73	Strong nuclear contribution to the optical Kerr effect in niobium oxide containing glasses. , 2007, , .		1
74	EUV sources for Lithography. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	1
75	High Power Fiber Lasers and Applications to Manufacturing. AIP Conference Proceedings, 2008, , .	0.4	1
76	Narrow linewidth volume bragg grating stabilized thulium fiber laser. , 2008, , .		1
77	Tunable high power thulium fiber lasers. , 2010, , .		1
78	Nanosecond Tm: fiber MOPA System for High Peak Power Mid-IR Generation in a ZGP OPO. , 2013, , .		1
79	Chirped pulse amplification in Tm doped fiber using a chirped Bragg grating. , 2013, , .		1
80	Examination of laser-induced heating on multi-component chalcogenide glass. , 2014, , .		1
81	Angular dependence of filament-induced plasma emission from a GaAs surface. Optics Letters, 2015, 40, 4548.	3.3	1
82	Fine surface structure of unfixed and hydrated macrophages observed by laser-plasma x-ray contact microscopy. AIP Conference Proceedings, 2000, , .	0.4	0
83	Laser plasma EUV sources for Lithography â€“ Diode pump technology offers new applications. Laser Technik Journal, 2005, 2, 68-71.	0.2	0
84	Broad Tunability in a Volume Bragg Grating Narrow Line Ti:Sapphire Oscillator. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	0
85	Strong nuclear contribution to the optical Kerr effect in niobium oxide containing glasses. , 2007, , .		0
86	In-situ Raman spectroscopy in femtosecond irradiated material. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	0
87	Fabrication and characterization of femtosecond laser direct written volume diffractive optical elements in fused silica. , 2008, , .		0
88	Plasma properties during the formation of nanograting structures inside fused silica. , 2008, , .		0
89	Nondestructive 3D imaging of femtosecond laser written buried structures using optical coherence microscopy. , 2008, , .		0
90	A compact quasi-single-cycle, phase stabilized laser system. , 2010, , .		0

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91	Monolithic narrow linewidth polarization-maintaining thulium fiber laser using femtosecond laser written fiber Bragg gratings. Proceedings of SPIE, 2011, , .	0.8	0
92	All-fiber single-mode PM thulium fiber lasers using femtosecond laser written fiber Bragg gratings. , 2011, , .		0
93	Q-switched Thulium doped Photonic Crystal Fiber Laser as a Source for Nonlinear Generation. , 2012, , .		0
94	CW and pulsed performance of Tm-doped photonic crystal fiber lasers. Proceedings of SPIE, 2012, , .	0.8	0
95	Comparison of different ultra-short pulsed laser sources used for semiconductor substrate processing. , 2014, , .		0
96	Measurement of thermal lensing in GaAs induced by 100 W Tm: fiber laser. Proceedings of SPIE, 2014, , .	0.8	0
97	Photonic crystal fiber pump combiner for high-peak power all-fiber thulium lasers. , 2014, , .		0
98	Laser materials processing technologies and the future. , 2015, , .		0
99	Material response of semiconductors irradiated with IR ultrashort laser pulses. , 2015, , .		0
100	Resonantly pumped amplification in a thulium-doped photonic crystal fiber. , 2015, , .		0
101	Resonantly pumped amplification in a Tm-doped large mode-area photonic crystal fiber. , 2015, , .		0
102	Influence of Temperature on Nanosecond Pulse Amplification in Thulium Doped Fiber Lasers. Journal of Physics: Conference Series, 2018, 1003, 012120.	0.4	0
103	Femtosecond laser induced micro-structured silver containing glass as an engineered nonlinear optical material. , 2009, , .		0
104	Tailoring of the luminescence properties of a silver and zinc phosphate glass at the nanoscale. , 2010, , .		0
105	Second-harmonic generation by direct-laser-induced-poling in a femto-photo-luminescent glass. , 2010, , .		0
106	Development of photosensitive glasses for direct laser writing. , 2010, , .		0
107	Q-switched Operation of a Novel Ultra-large Mode Area Tm+3 doped Photonic Crystal Fiber. , 2012, , .		0
108	1 mJ Pulse Energies in Tm-doped Photonic Crystal Fiber. , 2012, , .		0

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109	Amplification of ns-pulses beyond 1â€%MW-peak power in Tm <sup>3+</sup> -doped photonic crystal fiber rod. , 2013, , .		0
110	Chirped Pulse Amplification Scaling in Thulium-Doped Fiber Lasers. , 2013, , .		0
111	Backside Surface Machining of Silicon Wafers Using a Nanosecond Tm: fiber MOPA System. , 2013, , .		0
112	700 Î¼J, 100 ns, 20 kHz pulses from a 1.5 m Thulium-doped fiber amplifier. , 2018, , .		0
113	Demonstration of Broadband Space-Time Wave-Packets Propagating 70 m. , 2019, , .		0