Christophe Moser

List of Publications by Year
in descending order

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168 papers	4,527 citations	126901 33 h-index	114455 63 g-index
169 all docs	169 docs citations	169 times ranked	3793 citing authors

#	Article	IF	Citations
1	Focusing and scanning light through a multimode optical fiber using digital phase conjugation. Optics Express, 2012, 20, 10583.	3.4	341
2	Volumetric Bioprinting of Complex Livingâ€Tissue Constructs within Seconds. Advanced Materials, 2019, 31, e1904209.	21.0	286
3	High-resolution, lensless endoscope based on digital scanning through a multimode optical fiber. Biomedical Optics Express, 2013, 4, 260.	2.9	277
4	Learning to see through multimode fibers. Optica, 2018, 5, 960.	9.3	274
5	Multimode optical fiber transmission with a deep learning network. Light: Science and Applications, 2018, 7, 69.	16.6	221
6	High-resolution tomographic volumetric additive manufacturing. Nature Communications, 2020, 11, 852.	12.8	217
7	Design and cost considerations for practical solar-hydrogen generators. Energy and Environmental Science, 2014, 7, 3828-3835.	30.8	140
8	Digital confocal microscopy through a multimode fiber. Optics Express, 2015, 23, 23845.	3.4	132
9	Spatiotemporal self-similar fiber laser. Optica, 2019, 6, 1412.	9.3	102
10	Volumetric Bioprinting of Organoids and Optically Tuned Hydrogels to Build Liverâ€Like Metabolic Biofactories. Advanced Materials, 2022, 34, e2110054.	21.0	100
11	Dynamic bending compensation while focusing through a multimode fiber. Optics Express, 2013, 21, 22504.	3.4	99
12	Two-photon imaging through a multimode fiber. Optics Express, 2015, 23, 32158.	3.4	97
13	Delivery of focused short pulses through a multimode fiber. Optics Express, 2015, 23, 9109.	3.4	93
14	Solar-to-Hydrogen Production at 14.2% Efficiency with Silicon Photovoltaics and Earth-Abundant Electrocatalysts. Journal of the Electrochemical Society, 2016, 163, F1177-F1181.	2.9	85
15	Composite Double-Network Hydrogels To Improve Adhesion on Biological Surfaces. ACS Applied Materials & Interfaces, 2018, 10, 38692-38699.	8.0	81
16	A versatile and membrane-less electrochemical reactor for the electrolysis of water and brine. Energy and Environmental Science, 2019, 12, 1592-1604.	30.8	80
17	Single-mode output by controlling the spatiotemporal nonlinearities in mode-locked femtosecond multimode fiber lasers. Advanced Photonics, 2020, 2, .	11.8	75
18	Scalable optical learning operator. Nature Computational Science, 2021, 1, 542-549.	8.0	67

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19	Volume Holographic Grating Wavelength Stabilized Laser Diodes. IEEE Journal of Selected Topics in Quantum Electronics, 2007, 13, 672-678.	2.9	59
20	Inkjet Printing of Viscous Monodisperse Microdroplets by Laser-Induced Flow Focusing. Physical Review Applied, 2016, 6, .	3.8	55
21	A photopolymerized composite hydrogel and surgical implanting tool for a nucleus pulposus replacement. Biomaterials, 2016, 88, 110-119.	11.4	51
22	Photo-polymerization, swelling and mechanical properties of cellulose fibre reinforced poly(ethylene) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	7.8	48
23	Bend translation in multimode fiber imaging. Optics Express, 2017, 25, 6263.	3.4	47
24	Imaging through multimode fibers using deep learning: The effects of intensity versus holographic recording of the speckle pattern. Optical Fiber Technology, 2019, 52, 101985.	2.7	47
25	Actor neural networks for the robust control of partially measured nonlinear systems showcased for image propagation through diffuse media. Nature Machine Intelligence, 2020, 2, 403-410.	16.0	46
26	Calibration-free imaging through a multicore fiber using speckle scanning microscopy. Optics Letters, 2016, 41, 3078.	3.3	41
27	Controlling Light in Scattering Materials for Volumetric Additive Manufacturing. Advanced Science, 2022, 9, e2105144.	11.2	41
28	Volume holographic grating-based continuously tunable optical filter. Optical Engineering, 2004, 43, 2017.	1.0	39
29	Dual wavelength full field imaging in low coherence digital holographic microscopy. Optics Express, 2011, 19, 24005.	3.4	38
30	Optical-resolution photoacoustic microscopy by use of a multimode fiber. Applied Physics Letters, 2013, 102, .	3.3	38
31	Light control in a multicore fiber using the memory effect. Optics Express, 2015, 23, 30532.	3.4	38
32	Vapor-fed microfluidic hydrogen generator. Lab on A Chip, 2015, 15, 2287-2296.	6.0	37
33	All-fiber spatiotemporally mode-locked laser with multimode fiber-based filtering. Optics Express, 2020, 28, 23433.	3.4	37
34	Selective femtosecond laser ablation via two-photon fluorescence imaging through a multimode fiber. Biomedical Optics Express, 2019, 10, 423.	2.9	35
35	Increasing the imaging capabilities of multimode fibers by exploiting the properties of highly scattering media. Optics Letters, 2013, 38, 2776.	3.3	31
36	Confocal microscopy through a multimode fiber using optical correlation. Optics Letters, 2015, 40, 5754.	3.3	31

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37	Imaging with Multimode Fibers. Optics and Photonics News, 2016, 27, 24.	0.5	31
38	Direct (3+1)D laser writing of graded-index optical elements. Optica, 2021, 8, 1281.	9.3	31
39	Proof of principle demonstration of a self-tracking concentrator. Optics Express, 2014, 22, A498.	3.4	29
40	Compact lensless off-axis transmission digital holographic microscope. Optics Express, 2017, 25, 16652.	3.4	29
41	Single-photon three-dimensional microfabrication through a multimode optical fiber. Optics Express, 2018, 26, 1766.	3.4	29
42	Self-tracking solar concentrator with an acceptance angle of 32Â°. Optics Express, 2014, 22, A1880.	3.4	28
43	Lensless two-photon imaging through a multicore fiber with coherence-gated digital phase conjugation. Journal of Biomedical Optics, 2016, 21, 045002.	2.6	28
44	Three-dimensional microfabrication through a multimode optical fiber. Optics Express, 2017, 25, 7031.	3.4	28
45	Ultra-narrow-band tunable laserline notch filter. Applied Physics B: Lasers and Optics, 2009, 95, 597-601.	2.2	26
46	Transscleral optical phase imaging of the human retina. Nature Photonics, 2020, 14, 439-445.	31.4	25
47	An Intrinsicallyâ€Adhesive Family of Injectable and Photoâ€Curable Hydrogels with Functional Physicochemical Performance for Regenerative Medicine. Macromolecular Rapid Communications, 2021, 42, e2000660.	3.9	25
48	Tomographic Volumetric Additive Manufacturing of Silicon Oxycarbide Ceramics. Advanced Engineering Materials, 2022, 24, .	3.5	25
49	Localized holographic recording in doubly doped lithium niobate. Optics Letters, 2000, 25, 162.	3.3	24
50	Fabrication of Sub-Micron Polymer Waveguides through Two-Photon Polymerization in Polydimethylsiloxane. Polymers, 2020, 12, 2485.	4.5	24
51	Additive micro-manufacturing of crack-free PDCs by two-photon polymerization of a single, low-shrinkage preceramic resin. Additive Manufacturing, 2020, 35, 101343.	3.0	24
52	Photoinitiator-free multi-photon fabrication of compact optical waveguides in polydimethylsiloxane. Optical Materials Express, 2019, 9, 128.	3.0	22
53	Light induced fluidic waveguide coupling. Optics Express, 2012, 20, A924.	3.4	21
54	High power, ultrashort pulse control through a multi-core fiber for ablation. Optics Express, 2017, 25, 11491.	3.4	21

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55	Towards new applications using capillary waveguides. Biomedical Optics Express, 2015, 6, 4619.	2.9	20
56	Optical-resolution photoacoustic imaging through thick tissue with a thin capillary as a dual optical-in acoustic-out waveguide. Applied Physics Letters, 2015, 106, .	3.3	20
57	Reusability report: Predicting spatiotemporal nonlinear dynamics in multimode fibre optics with a recurrent neural network. Nature Machine Intelligence, 2021, 3, 387-391.	16.0	20
58	External-cavity lasers based on a volume holographic grating at normal incidence for spectroscopy in the visible range. Optics Communications, 2009, 282, 3119-3123.	2.1	19
59	Repetitive regime of highly focused liquid microjets for needle-free injection. Scientific Reports, 2020, 10, 5067.	3.3	19
60	Computer generated optical volume elements by additive manufacturing. Nanophotonics, 2020, 9, 4173-4181.	6.0	19
61	Diffraction efficiency of localized holograms in doubly doped LiNbO_3 crystals. Optics Letters, 2000, 25, 1243.	3.3	17
62	Self-aligned non-dispersive external cavity tunable laser. Optics Express, 2008, 16, 16691.	3.4	17
63	Enhanced resolution in a multimode fiber imaging system. Optics Express, 2015, 23, 27484.	3.4	16
64	Compact in-line lensfree digital holographic microscope. Methods, 2018, 136, 17-23.	3.8	16
65	Deep Learning-Based Image Classification through a Multimode Fiber in the Presence of Wavelength Drift. Applied Sciences (Switzerland), 2020, 10, 3816.	2.5	16
66	Photopolymerizable hydrogels for implants: Monte-Carlo modeling and experimentalin vitrovalidation. Journal of Biomedical Optics, 2014, 19, 035004.	2.6	15
67	Learning to image and compute with multimode optical fibers. Nanophotonics, 2022, 11, 1071-1082.	6.0	15
68	Miniature probe for the delivery and monitoring of a photopolymerizable material. Journal of Biomedical Optics, 2015, 20, 127001.	2.6	14
69	Needle-free delivery of fluids from compact laser-based jet injector. Lab on A Chip, 2020, 20, 3784-3791.	6.0	14
70	Raman imaging through multimode sapphire fiber. Optics Express, 2019, 27, 1090.	3.4	14
71	Beam-width-dependent filtering properties of strong volume holographic gratings. Applied Optics, 2006, 45, 3774.	2.1	13
72	Off-axis digital holographic camera for quantitative phase microscopy. Biomedical Optics Express, 2014, 5, 1721.	2.9	13

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73	Curved Holographic Combiner for Color Head Worn Display. Journal of Display Technology, 2014, 10, 444-449.	1.2	13
74	Multi-notch holographic filters for atmospheric lines suppression. , 2004, 5494, 554.		12
75	Fabrication and applications of volume holographic optical filters in glass. Journal Physics D: Applied Physics, 2008, 41, 224003.	2.8	11
76	In vitro Implementation of Photopolymerizable Hydrogels as a Potential Treatment of Intracranial Aneurysms. Frontiers in Bioengineering and Biotechnology, 2020, 8, 261.	4.1	11
77	Depth-controlled laser-induced jet injection for direct three-dimensional liquid delivery. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	2.3	10
78	Compact lensless subpixel resolution large field of view microscope. Optics Letters, 2018, 43, 1654.	3.3	10
79	Phase sensitivity in differential phase contrast microscopy: limits and strategies to improve it. Optics Express, 2020, 28, 33767.	3.4	10
80	Holographic memory with localized recording. Applied Optics, 2001, 40, 3909.	2.1	9
81	Biofabrication: Volumetric Bioprinting of Complex Livingâ€Tissue Constructs within Seconds (Adv.) Tj ETQq1 1 0.784314 rgBT /Overlock	21.0	9
82	Compact lensless phase imager. Optics Express, 2017, 25, 4438.	3.4	8
83	Effect of backscattering in phase contrast imaging of the retina. Optics Express, 2018, 26, 6785.	3.4	8
84	Compact single mode tunable laser using a digital micromirror device. Optics Express, 2011, 19, 14642.	3.4	7
85	Full field vertical scanning in short coherence digital holographic microscope. Optics Express, 2013, 21, 12643.	3.4	7
86	Pulsatile Flow-Induced Fatigue-Resistant Photopolymerizable Hydrogels for the Treatment of Intracranial Aneurysms. Frontiers in Bioengineering and Biotechnology, 2020, 8, 619858.	4.1	7
87	Versatile spectral modulation of a broadband source for digital holographic microscopy. Optics Express, 2016, 24, 27791.	3.4	6
88	A 25.1% Efficient Standâ€Alone Solar Chloralkali Generator Employing a Microtracking Solar Concentrator. Global Challenges, 2017, 1, 1700095.	3.6	6
89	Editors' Choiceâ€"Solar-Electrochemical Platforms for Sodium Hypochlorite Generation in Developing Countries. Journal of the Electrochemical Society, 2019, 166, E336-E346.	2.9	6
90	Degradation study on molecules released from laser-based jet injector. International Journal of Pharmaceutics, 2021, 602, 120664.	5.2	5

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91	Self-tracking planar concentrator using a solar actuated phase-change mechanism. , 2013, , .		4
92	Tomographic Volumetric Additive Manufacturing in Scattering Resins. , 2021, , .		4
93	Dispersion-Managed Soliton Multimode Fiber Laser. , 2020, , .		4
94	Lock-in incoherent differential phase contrast imaging. Photonics Research, 2022, 10, 237.	7.0	4
95	Folded shift multiplexing. Optics Letters, 2003, 28, 899.	3.3	3
96	Compact Raman spectrometer system for low frequency spectroscopy. Proceedings of SPIE, 2010, , .	0.8	3
97	Compact Low Frequency Raman Spectroscopy System. , 2010, , .		3
98	Trackfree planar solar concentrator system. Proceedings of SPIE, 2012, , .	0.8	3
99	Curved transflective holographic screens for head-mounted display. , 2013, , .		3
100	Multi-scale modeling of photopolymerization for medical hydrogel-implant design. , 2013, , .		3
101	Focused light delivery and all optical scanning from a multimode optical fiber using digital phase conjugation. , 2013, , .		3
102	Quantitative phase noise in a two-color low coherence digital holographic microscope. Proceedings of SPIE, 2013, , .	0.8	3
103	Complex pattern projection through a multimode fiber. Proceedings of SPIE, 2015, , .	0.8	3
104	See-through ophthalmoscope for retinal imaging. Journal of Biomedical Optics, 2017, 22, 056006.	2.6	3
105	Imaging using multimode fibers. , 2013, , .		3
106	A constrained method for lensless coherent imaging of thin samples. Applied Optics, 2022, 61, F34.	1.8	3
107	A novel tunable diode laser using volume holographic gratings. , 2009, , .		2
108	Minimally invasive photopolymerization in intervertebral disc tissue cavities. , 2014, , .		2

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109	In-situ photopolymerization and monitoring device for controlled shaping of tissue fillers, replacements, or implants. , 2015, , .		2
110	Laser-assisted inkjet printing of highly viscous fluids with sub-nozzle resolution. Proceedings of SPIE, 2016, , .	0.8	2
111	Multiple speckle illumination for optical-resolution photoacoustic imaging. Proceedings of SPIE, 2017, , .	0.8	2
112	Fully automated detection, segmentation, and analysis of in vivo RPE single cells. Eye, 2021, 35, 1473-1481.	2.1	2
113	Efficient Image Classification through a Multimode Fiber using Deep Neural Networks in presence of Wavelength Drifting. , 2019, , .		2
114	Lock-in Raman difference spectroscopy. Optics Express, 2022, 30, 28601.	3.4	2
115	Distortion free pulse stretching and compression by chirped volume holographic gratings. Proceedings of SPIE, 2010, , .	0.8	1
116	Discrete tunable laser for 3D imaging. , 2012, , .		1
117	Confocal microscopy via multimode fibers: fluorescence bandwidth. Proceedings of SPIE, 2016, , .	0.8	1
118	Complex light in 3D printing. , 2016, , .		1
119	Integrated Platform for Multi-resolution Additive Manufacturing. , 2018, , 145-151.		1
120	Wavelength Independent Image Classification through a Multimode Fiber using Deep Neural Networks. , 2019, , .		1
121	Holographic Filters. , 2007, , 295-319.		1
122	Proof-of concept for a self-tracking solar concentrator. , 2013, , .		1
123	Focusing and scanning of femtosecond pulses through a multimode fiber: applications in two-photon imaging and polymerization. , 2016, , .		1
124	Deep neural networks for seeing through multimode fibers. , 2019, , .		1
125	<title>Localized holographic recording in doubly doped lithium niobate</title>. , 2000, 4089, 118.		0
126	Compact self-aligned external cavity lasers using volume gratings. Proceedings of SPIE, 2009, , .	0.8	0

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127	Compact fast multi-wavelength switchable single frequency laser. Proceedings of SPIE, 2010, , .	0.8	0
128	Single shot dual wavelength full field imaging in low coherence digital holographic microscopy. , 2012, , .		0
129	Miniature self-aligned external cavity tunable single frequency laser for THz generation. Proceedings of SPIE, 2012, , .	0.8	0
130	Microscopy with multimode fibers. Proceedings of SPIE, 2013, , .	0.8	0
131	Self-tracking solar concentration: Improvements to the demonstrator. , 2014, , .		0
132	Design principles of deployable solar-hydrogen generators. , 2014, , .		0
133	Delivery of an ultrashort spatially focused pulse to the other end of a multimode fiber using digital phase conjugation. , 2015, , .		0
134	Time-gated digital phase conjugation for two-photon excitation microscopy through multimode optical fibers. , 2015, , .		0
135	Development of an in situ controllable polymerization tool and process for hydrogel used to replace nucleus pulposus. Proceedings of SPIE, 2015, , .	0.8	0
136	Delivery of ultrashort spatially focused pulses through a multimode fiber. , 2015, , .		0
137	Delivery of ultrashort spatially focused pulses through a multimode fiber for two photon endoscopic imaging. Proceedings of SPIE, 2015, , .	0.8	0
138	Digital confocal microscopy through a multimode fiber. , 2015, , .		0
139	Two-photon fluorescence imaging through multicore fiber with digital phase conjugation. Proceedings of SPIE, 2016, , .	0.8	0
140	Two-photon excitation endoscopy through a multimode optical fiber. Proceedings of SPIE, 2016, , .	0.8	0
141	In-situ photopolymerized and monitored implants: successful application to an intervertebral disc replacement. Proceedings of SPIE, 2016, , .	0.8	0
142	Fluorescence and optical-resolution photoacoustic imaging through capillary waveguides. , 2016, , .		0
143	Flat lensless phase imager. Proceedings of SPIE, 2016, , .	0.8	0
144	Imaging and pattern projection through multicore fibers using the memory effect. , 2017, , .		0

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145	Transmission in Multimode Fiber with Deep Learning. , 2018, , .		0
146	Learning Spatiotemporal Nonlinearities in Graded-Index Multimode Fibers with Deep Neural Networks. , 2019, , .		0
147	Spectral and Spatial Shaping of Spatiotemporal Nonlinearities in Multimode Fibers. , 2020, , .		0
148	Full characterization of partially measured systems with neural networks. , 2021, , .		0
149	Smart 3D Volumetric Printing. , 2021, , .		0
150	Volumetric Additive Manufactuing of Ceramics. , 2021, , .		0
151	Spatial self-beam cleaning in spatiotemporally mode-locked fiber lasers. , 2021, , .		0
152	Optical computing with spatiotemporal fiber nonlinearities. , 2021, , .		0
153	High-resolution microfabrication through a graded-index multimode optical fiber. , 2021, , .		0
154	Fabrication and applications of holographic optical filters. , 2007, , .		0
155	Multimode fiber based endoscope. , 2013, , .		0
156	Focusing of an ultrashort pulse through a multimode fiber using Digital Phase Conjugation. , 2014, , .		0
157	The memory effect in multicore fibers. , 2016, , .		0
158	Dynamic control of laser-induced flow-focused microjets.. , 2017, , .		0
159	Femtosecond pulse delivery through multi-core fibers for imaging and ablation. , 2017, , .		0
160	Wavefront shaping for ultrashort pulse delivery through optical fibers for imaging and ablation. , 2018, , .		0
161	Photoinitiator-free laser fabrication of ultra-compact, low-loss waveguides in polydimethylsiloxane. , 2018, , .		0
162	Deep learning assisted image transmission in multimode fibers. , 2019, , .		0

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163	Two-photon imaging and selective laser ablation of cochlea hair cells through a multimode fiber probe. , 2019, , .		0
164	Lock-In Amplified Differential Phase Contrast. , 2021, , .		0
165	Multimode fiber projection with machine learning. , 2020, , .		0
166	Learning to See and Compute through Multimode Fibers. , 2021, , .		0
167	Light induced fluidic waveguide coupling. Optics Express, 2012, 20, A924-31.	3.4	0
168	Lock-in amplified differential phase contrast. , 2022, , .		0