

# Jannick P Rolland

## List of Publications by Year in descending order

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98  
papers

4,025  
citations

159585

30  
h-index

118850

62  
g-index

99  
all docs

99  
docs citations

99  
times ranked

2149  
citing authors

#	ARTICLE	IF	CITATIONS
1	TFOS DEWS II Tear Film Report. <i>Ocular Surface</i> , 2017, 15, 366-403.	4.4	610
2	Fast freeform reflector generation using source-target maps. <i>Optics Express</i> , 2010, 18, 5295.	3.4	244
3	Freeform spectrometer enabling increased compactness. <i>Light: Science and Applications</i> , 2017, 6, e17026-e17026.	16.6	189
4	Freeform optics for imaging. <i>Optica</i> , 2021, 8, 161.	9.3	178
5	Theory of aberration fields for general optical systems with freeform surfaces. <i>Optics Express</i> , 2014, 22, 26585.	3.4	168
6	Starting geometry creation and design method for freeform optics. <i>Nature Communications</i> , 2018, 9, 1756.	12.8	160
7	A new family of optical systems employing $\tilde{T}$ -polynomial surfaces. <i>Optics Express</i> , 2011, 19, 21919.	3.4	150
8	Freeform Optical Surfaces: A Revolution in Imaging Optical Design. <i>Optics and Photonics News</i> , 2012, 23, 30.	0.5	131
9	Optimal local shape description for rotationally non-symmetric optical surface design and analysis. <i>Optics Express</i> , 2008, 16, 1583.	3.4	118
10	Gabor-based fusion technique for Optical Coherence Microscopy. <i>Optics Express</i> , 2010, 18, 3632.	3.4	110
11	Three-dimensional adaptive microscopy using embedded liquid lens. <i>Optics Letters</i> , 2009, 34, 145.	3.3	102
12	Broadband astigmatism-corrected "Czerny" Turner spectrometer. <i>Optics Express</i> , 2010, 18, 23378.	3.4	96
13	Real-ray-based method for locating individual surface aberration field centers in imaging optical systems without rotational symmetry. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2009, 26, 1503.	1.5	92
14	MEMS-based handheld scanning probe with pre-shaped input signals for distortion-free images in Gabor-domain optical coherence microscopy. <i>Optics Express</i> , 2016, 24, 13365.	3.4	77
15	Reverberant 3D optical coherence elastography maps the elasticity of individual corneal layers. <i>Nature Communications</i> , 2019, 10, 4895.	12.8	77
16	Visual space assessment of two all-reflective, freeform, optical see-through head-worn displays. <i>Optics Express</i> , 2014, 22, 13155.	3.4	76
17	Assembly of a freeform off-axis optical system employing three $\tilde{T}$ -polynomial Zernike mirrors. <i>Optics Letters</i> , 2014, 39, 2896.	3.3	75
18	The misalignment induced aberrations of TMA telescopes. <i>Optics Express</i> , 2008, 16, 20345.	3.4	63

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19	Separation of the effects of astigmatic figure error from misalignments using Nodal Aberration Theory (NAT). Optics Express, 2010, 18, 17433.	3.4	57
20	Extending Nodal Aberration Theory to include mount-induced aberrations with application to freeform surfaces. Optics Express, 2012, 20, 20139.	3.4	54
21	Optical Coherence Tomography Enabling Non Destructive Metrology of Layered Polymeric GRIN Material. Scientific Reports, 2013, 3, .	3.3	51
22	Metaform optics: Bridging nanophotonics and freeform optics. Science Advances, 2021, 7, .	10.3	50
23	Interferometric measurement of a concave, $\tilde{r}$ -polynomial, Zernike mirror. Optics Letters, 2014, 39, 18.	3.3	49
24	Application of radial basis functions to shape description in a dual-element off-axis magnifier. Optics Letters, 2008, 33, 1237.	3.3	45
25	Three-dimensional imaging of normal skin and nonmelanoma skin cancer with cellular resolution using Gabor domain optical coherence microscopy. Journal of Biomedical Optics, 2012, 17, 1.	2.6	45
26	Misalignment-induced nodal aberration fields in two-mirror astronomical telescopes. Applied Optics, 2010, 49, D131.	2.1	42
27	Design of a freeform electronic viewfinder coupled to aberration fields of freeform optics. Optics Express, 2015, 23, 28141.	3.4	40
28	Lateral eyes direct principal eyes as jumping spiders track objects. Current Biology, 2018, 28, R1092-R1093.	3.9	40
29	Comparative study of shear wave-based elastography techniques in optical coherence tomography. Journal of Biomedical Optics, 2017, 22, 035010.	2.6	39
30	Assessment of a liquid lens enabled in vivo optical coherence microscope. Applied Optics, 2010, 49, D145.	2.1	33
31	A unique astigmatic nodal property in misaligned Ritchey-Chr�tien telescopes with misalignment coma removed. Optics Express, 2010, 18, 5282.	3.4	33
32	Effect of freeform surfaces on the volume and performance of unobscured three mirror imagers in comparison with off-axis rotationally symmetric polynomials. Optics Express, 2019, 27, 21750.	3.4	33
33	Measurement of a multi-layered tear film phantom using optical coherence tomography and statistical decision theory. Biomedical Optics Express, 2014, 5, 4374.	2.9	30
34	System design of a single-shot reconfigurable null test using a spatial light modulator for freeform metrology. Optics Letters, 2019, 44, 2000.	3.3	30
35	Dispersion control with a Fourier-domain optical delay line in a fiber-optic imaging interferometer. Applied Optics, 2005, 44, 4009.	2.1	29
36	Longitudinal shear waves for elastic characterization of tissues in optical coherence elastography. Biomedical Optics Express, 2019, 10, 3699.	2.9	28

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37	Crawling wave optical coherence elastography. <i>Optics Letters</i> , 2016, 41, 847.	3.3	26
38	Starting point designs for freeform four-mirror systems. <i>Optical Engineering</i> , 2018, 57, 1.	1.0	26
39	Design, fabrication, and testing of convex reflective diffraction gratings. <i>Optics Express</i> , 2017, 25, 15252.	3.4	25
40	On-the-fly surface manufacturability constraints for freeform optical design enabled by orthogonal polynomials. <i>Optics Express</i> , 2019, 27, 6129.	3.4	24
41	Parallelized multi-graphics processing unit framework for high-speed Gabor-domain optical coherence microscopy. <i>Journal of Biomedical Optics</i> , 2014, 19, 071410.	2.6	23
42	Point-cloud noncontact metrology of freeform optical surfaces. <i>Optics Express</i> , 2018, 26, 10242.	3.4	23
43	Differential Shack-Hartmann curvature sensor: local principal curvature measurements. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2008, 25, 2331.	1.5	22
44	In vivo thickness dynamics measurement of tear film lipid and aqueous layers with optical coherence tomography and maximum-likelihood estimation. <i>Optics Letters</i> , 2016, 41, 1981.	3.3	21
45	An approach to viscoelastic characterization of dispersive media by inversion of a general wave propagation model. <i>Journal of Innovative Optical Health Sciences</i> , 2017, 10, 1742008.	1.0	21
46	Target flux estimation by calculating intersections between neighboring conic reflector patches. <i>Optics Letters</i> , 2013, 38, 5012.	3.3	20
47	Hybrid RBF and local $\tilde{l}$ -polynomial freeform surfaces. <i>Advanced Optical Technologies</i> , 2013, 2, 81-88.	1.7	19
48	Degeneracy in freeform surfaces described with orthogonal polynomials. <i>Applied Optics</i> , 2018, 57, 10348.	1.8	19
49	Absolute linear-in- $k$ spectrometer designs enabled by freeform optics. <i>Optics Express</i> , 2019, 27, 34593.	3.4	19
50	Freeform hyperspectral imager design in a CubeSat format. <i>Optics Express</i> , 2021, 29, 35915.	3.4	19
51	In vivo imaging of corneal nerves and cellular structures in mice with Gabor-domain optical coherence microscopy. <i>Biomedical Optics Express</i> , 2020, 11, 711.	2.9	18
52	Roadmap for the unobscured three-mirror freeform design space. <i>Optics Express</i> , 2021, 29, 26736.	3.4	15
53	Speckle statistics of biological tissues in optical coherence tomography. <i>Biomedical Optics Express</i> , 2021, 12, 4179.	2.9	14
54	All-reflective electronic viewfinder enabled by freeform optics. <i>Optics Express</i> , 2019, 27, 30597.	3.4	13

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55	Spectral fusing Gabor domain optical coherence microscopy. <i>Optics Letters</i> , 2016, 41, 508.	3.3	12
56	How good is your lens? Assessing performance with MTF full-field displays. <i>Applied Optics</i> , 2017, 56, 5661.	1.8	12
57	Off-axis conics as base surfaces for freeform optics enable null testability. <i>Optics Express</i> , 2020, 28, 10859.	3.4	12
58	Freeform optics: introduction. <i>Optics Express</i> , 2022, 30, 6450.	3.4	12
59	Observation of the Gouy phase anomaly in astigmatic beams. <i>Applied Optics</i> , 2012, 51, 2902.	1.8	11
60	Optical Assessment of Soft Contact Lens Edge-Thickness. <i>Optometry and Vision Science</i> , 2016, 93, 987-996.	1.2	11
61	Gabor-domain optical coherence tomography to aid in Mohs resection of basal cell carcinoma. <i>Journal of the American Academy of Dermatology</i> , 2019, 80, 1766-1769.	1.2	11
62	Experimental investigation in nodal aberration theory (NAT) with a customized Ritchey-Chr�tien system: third-order coma. <i>Optics Express</i> , 2018, 26, 8729.	3.4	10
63	Ten Years of Gabor-Domain Optical Coherence Microscopy. <i>Applied Sciences (Switzerland)</i> , 2019, 9, 2565.	2.5	10
64	Broadband Fourier-domain mode-locked lasers. <i>Photonic Sensors</i> , 2011, 1, 222-227.	5.0	8
65	Experimental classification of surface waves in optical coherence elastography. <i>Proceedings of SPIE</i> , 2016, , .	0.8	8
66	Capabilities of Gabor-domain optical coherence microscopy for the assessment of corneal disease. <i>Journal of Biomedical Optics</i> , 2019, 24, 1.	2.6	8
67	Comparison between optical-resolution photoacoustic microscopy and confocal laser scanning microscopy for turbid sample imaging. <i>Journal of Biomedical Optics</i> , 2015, 20, 121306.	2.6	7
68	Experimental investigation of binodal astigmatism in nodal aberration theory (NAT) with a Cassegrain telescope system. <i>Optics Express</i> , 2021, 29, 19427.	3.4	7
69	Design for metrology for freeform optics manufacturing. <i>Procedia CIRP</i> , 2019, 84, 169-172.	1.9	6
70	Telecentric broadband objective lenses for optical coherence tomography (OCT) in the context of low uncertainty metrology of freeform optical components: from design to testing for wavefront and telecentricity. <i>Optics Express</i> , 2019, 27, 6184.	3.4	6
71	See-through reflective metasurface diffraction grating. <i>Optical Materials Express</i> , 2019, 9, 4070.	3.0	6
72	Survey of the four-mirror freeform imager solution space. <i>Optics Express</i> , 2021, 29, 41534.	3.4	6

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73	Long-term efficiency preservation for gradient phase metasurface diffraction gratings in the visible. <i>Optical Materials Express</i> , 2018, 8, 2125.	3.0	5
74	Gabor domain optical coherence microscopy combined with laser scanning confocal fluorescence microscopy. <i>Biomedical Optics Express</i> , 2019, 10, 6242.	2.9	5
75	Assessing corneal cross-linking with reverberant 3D optical coherence elastography. <i>Journal of Biomedical Optics</i> , 2022, 27, .	2.6	5
76	A page from "the drawer": how Roland Shack opened the door to the aberration theory of freeform optics. , 2014, , .		4
77	Near-Histologic Resolution Images of Cervical Dysplasia Obtained With Gabor Domain Optical Coherence Microscopy. <i>Journal of Lower Genital Tract Disease</i> , 2021, 25, 137-141.	1.9	4
78	Quantitative assessment of human donor corneal endothelium with Gabor domain optical coherence microscopy. <i>Journal of Biomedical Optics</i> , 2019, 24, 1.	2.6	4
79	Connecting tolerancing of freeform surface deformation in illumination optics with the Laplacian magic mirror. <i>Optics Express</i> , 2021, 29, 40559.	3.4	4
80	Automatic Solution Space Exploration for Freeform Optical Design. , 2019, , .		3
81	Virtual skin biopsy with Gabor Domain optical coherence microscopy. <i>Studies in Health Technology and Informatics</i> , 2012, 173, 398-404.	0.3	3
82	Experimental investigation in nodal aberration theory (NAT): separation of astigmatic figure error from misalignments in a Cassegrain telescope. <i>Optics Express</i> , 2022, 30, 11150.	3.4	3
83	57.3: <i>Invited Paper</i> : Headworn Displays – Lens Design. <i>Digest of Technical Papers SID International Symposium</i> , 2010, 41, 855-858.	0.3	2
84	Cascade optical coherence tomography (C-OCT). <i>Optics Express</i> , 2020, 28, 19937.	3.4	2
85	Schemes for cubature over the unit disk found via numerical optimization. <i>Journal of Computational and Applied Mathematics</i> , 2022, 407, 114076.	2.0	2
86	A comparative study of shear wave speed estimation techniques in optical coherence elastography applications. <i>Proceedings of SPIE</i> , 2016, , .	0.8	1
87	Verification of cascade optical coherence tomography for freeform optics form metrology. <i>Optics Express</i> , 2021, 29, 8542.	3.4	1
88	Roland V. Shack's discovery of nodal aberration theory, the expansion into the aberrations of freeform optics, and impact in optical design. , 2020, , .		1
89	Local Burr distribution estimator for speckle statistics. <i>Biomedical Optics Express</i> , 2022, 13, 2334.	2.9	1
90	From the symposium general chairs. , 2009, , .		0

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91	Illumination devices for uniform delivery of light to the oral cavity for photodynamic therapy. , 2011, , .		0
92	Optical coherence imaging for monitoring of microscopic flow in biological samples. , 2012, , .		0
93	Experimental investigation of third-order binodal astigmatism in Nodal Aberration Theory (NAT) with a Cassegrain system. , 2021, , .		0
94	Aberration-based design example for freeform optical designs with base off-axis conics. , 2021, , .		0
95	Specification sweep for three-mirror freeform imagers. , 2021, , .		0
96	CubeSat Format Freeform Hyperspectral Imager. , 2021, , .		0
97	Fifth-order Aberration Coefficients for Plane-symmetric Optical Systems. , 2021, , .		0
98	Speckle statistics of cortical brain tissue in optical coherence tomography. , 2022, , .		0