Nicholas W Roberts

List of Publications by Year
in descending order

80 papers	3,564 citations	201385 27 h-index	143772 57 g-index
85 all docs	85 docs citations	85 times ranked	4194 citing authors

#	Article	IF	Citations
1	Insect visual sensitivity to long wavelengths enhances colour contrast of insects against vegetation. Scientific Reports, 2022, 12, 982.	1.6	2
2	The marine gastropod Conomurex luhuanus (Strombidae) has high-resolution spatial vision and eyes with complex retinas. Journal of Experimental Biology, 2022, 225, .	0.8	4
3	Light adaptation mechanisms in the eye of the fiddler crab Afruca tangeri. Journal of Comparative Neurology, 2021, 529, 616-634.	0.9	11
4	Thresholds of polarization vision in octopuses. Journal of Experimental Biology, 2021, 224, .	0.8	8
5	Hoverflies use a time-compensated sun compass to orientate during autumn migration. Proceedings of the Royal Society B: Biological Sciences, 2021, 288, 20211805.	1.2	12
6	Effects of multiple stressors on fish shoal collective motion are independent and vary with shoaling metric. Animal Behaviour, 2020, 168, 7-17.	0.8	28
7	A Novel Approach to Investigate the Effect of Tree Reconstruction Artifacts in Single-Gene Analysis Clarifies Opsin Evolution in Nonbilaterian Metazoans. Genome Biology and Evolution, 2020, 12, 3906-3916.	1.1	17
8	Parallel processing of polarization and intensity information in fiddler crab vision. Science Advances, 2019, 5, eaax3572.	4.7	19
9	Gaze stabilization in mantis shrimp in response to angled stimuli. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2019, 205, 515-527.	0.7	3
10	Long-Wavelength Reflecting Filters Found in the Larval Retinas of One Mantis Shrimp Family (Nannosquillidae). Current Biology, 2019, 29, 3101-3108.e4.	1.8	14
11	Fundamental differences in patterns of retinal ageing between primates and mice. Scientific Reports, 2019, 9, 12574.	1.6	14
12	Polarisation signals: a new currency for communication. Journal of Experimental Biology, 2019, 222, .	0.8	29
13	Haidingerâ€™s brushes elicited at varying degrees of polarization rapidly and easily assesses total macular pigmentation. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2019, 36, B123.	0.8	14
14	Polarisation vision: overcoming challenges of working with a property of light we barely see. Die Naturwissenschaften, 2018, 105, 27.	0.6	56
15	Complex gaze stabilization in mantis shrimp. Proceedings of the Royal Society B: Biological Sciences, 2018, 285, 20180594.	1.2	8
16	Molecular palaeontology illuminates the evolution of ecdysozoan vision. Proceedings of the Royal Society B: Biological Sciences, 2018, 285, .	1.2	25
17	Behavioural evidence for polychromatic ultraviolet sensitivity in mantis shrimp. Proceedings of the Royal Society B: Biological Sciences, 2018, 285, 20181384.	1.2	15
18	Denoising imaging polarimetry by adapted BM3D method. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2018, 35, 690.	0.8	16

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19	Selection of the intrinsic polarization properties of animal optical materials creates enhanced structural reflectivity and camouflage. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160336.	1.8	17
20	The independence of eye movements in a stomatopod crustacean is task dependent. Journal of Experimental Biology, 2017, 220, 1360-1368.	0.8	10
21	Colour preference in Odontodactylus scyllarus (Linnaeus, 1758) (Stomatopoda). Journal of Crustacean Biology, 2017, 37, 374-379.	0.3	4
22	Optical influence of oil droplets on cone photoreceptor sensitivity. Journal of Experimental Biology, 2017, 220, 1997-2004.	0.8	24
23	The biology of color. Science, 2017, 357, .	6.0	509
24	Circularly polarized light detection in stomatopod crustaceans: a comparison of photoreceptors and possible function in six species. Journal of Experimental Biology, 2017, 220, 3222-3230.	0.8	11
25	An analytical model for the celestial distribution of polarized light, accounting for polarization singularities, wavelength and atmospheric turbidity. Journal of Optics (United Kingdom), 2016, 18, 065601.	1.0	19
26	Evolution under pressure and the adaptation of visual pigment compressibility in deep-sea environments. Molecular Phylogenetics and Evolution, 2016, 105, 160-165.	1.2	13
27	Comment on â€œOpen-ocean fish reveal an omnidirectional solution to camouflage in polarized environmentsâ€• Science, 2016, 353, 552-552.	6.0	3
28	Dynamic polarization vision in mantis shrimps. Nature Communications, 2016, 7, 12140.	5.8	78
29	A shape-anisotropic reflective polarizer in a stomatopod crustacean. Scientific Reports, 2016, 6, 21744.	1.6	13
30	Magnetic Control of the Light Reflection Anisotropy in a Biogenic Guanine Microcrystal Platelet. Langmuir, 2016, 32, 180-187.	1.6	29
31	The Effects of Plant Virus Infection on Polarization Reflection from Leaves. PLoS ONE, 2016, 11, e0152836.	1.1	14
32	Complementary shifts in photoreceptor spectral tuning unlock the full adaptive potential of ultraviolet vision in birds. ELife, 2016, 5, .	2.8	45
33	Cyp27c1 Red-Shifts the Spectral Sensitivity of Photoreceptors by Converting Vitamin A1 into A2. Current Biology, 2015, 25, 3048-3057.	1.8	135
34	Polarization sensitivity as a visual contrast enhancer in the Emperor dragonfly larva,Anax imperator(Leach, 1815). Journal of Experimental Biology, 2015, 218, 3399-405.	0.8	14
35	Perceiving polarization with the naked eye: characterization of human polarization sensitivity. Proceedings of the Royal Society B: Biological Sciences, 2015, 282, 20150338.	1.2	38
36	Optics of cone photoreceptors in the chicken (Gallus gallus domesticus). Journal of the Royal Society Interface, 2015, 12, 20150591.	1.5	37

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37	Target Detection Is Enhanced by Polarization Vision in a Fiddler Crab. Current Biology, 2015, 25, 3069-3073.	1.8	41
38	Landmarks and ant search strategies after interrupted tandem runs. Journal of Experimental Biology, 2014, 217, 944-54.	0.8	25
39	Disordered animal multilayer reflectors and the localization of light. Journal of the Royal Society Interface, 2014, 11, 20140948.	1.5	36
40	Out of the blue: the evolution of horizontally polarized signals inHaptosquilla(Crustacea,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 6	0.8	24
41	Null point of discrimination in crustacean polarisation vision. Journal of Experimental Biology, 2014, 217, 2462-7.	0.8	23
42	Animal Polarization Imaging and Implications for Optical Processing. Proceedings of the IEEE, 2014, 102, 1427-1434.	16.4	21
43	Bioinspired Polarization Imaging Sensors: From Circuits and Optics to Signal Processing Algorithms and Biomedical Applications. Proceedings of the IEEE, 2014, 102, 1450-1469.	16.4	94
44	Bumblebees Learn Polarization Patterns. Current Biology, 2014, 24, 1415-1420.	1.8	53
45	Suppression of Brewster delocalization anomalies in an alternating isotropic-birefringent random layered medium. Physical Review B, 2013, 88, .	1.1	14
46	An omnidirectional broadband mirror design inspired by biological multilayer reflectors. , 2012, , .		1
47	High levels of reflectivity and pointillist structural color in fish, cephalopods, and beetles. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E3387; author reply E3388.	3.3	9
48	Corneal microprojections in coleoid cephalopods. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2012, 198, 849-856.	0.7	6
49	Photophysiology and albedo-changing potential of the ice algal community on the surface of the Greenland ice sheet. ISME Journal, 2012, 6, 2302-2313.	4.4	190
50	Non-polarizing broadband multilayer reflectors in fish. Nature Photonics, 2012, 6, 759-763.	15.6	137
51	The fish that beat physics. Nature Photonics, 2012, 6, 794-794.	15.6	1
52	High-resolution polarisation vision in a cuttlefish. Current Biology, 2012, 22, R121-R122.	1.8	74
53	Behavioural relevance of polarization sensitivity as a target detection mechanism in cephalopods and fishes. Philosophical Transactions of the Royal Society B: Biological Sciences, 2011, 366, 734-741.	1.8	66
54	The molecular basis of mechanisms underlying polarization vision. Philosophical Transactions of the Royal Society B: Biological Sciences, 2011, 366, 627-637.	1.8	67

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55	A Novel Vertebrate Eye Using Both Refractive and Reflective Optics. Current Biology, 2009, 19, 108-114.	1.8	55
56	A biological quarter-wave retarder with excellent achromaticity in the visible wavelength region. Nature Photonics, 2009, 3, 641-644.	15.6	90
57	An eye for inspiration. Nature Photonics, 2009, 3, 668-668.	15.6	1
58	Unusual properties of a bent-core liquid-crystalline fluid. Soft Matter, 2009, 5, 463-471.	1.2	126
59	Nanometric optical tweezers based on nanostructured substrates. Nature Photonics, 2008, 2, 365-370.	15.6	602
60	Thermotropic biaxial nematic order parameters and phase transitions deduced by Raman scattering. Europhysics Letters, 2008, 82, 56001.	0.7	84
61	Continuously rotating chiral liquid crystal droplets in a linearly polarized laser trap. Optics Express, 2008, 16, 6877.	1.7	45
62	Asymmetric switching in a ferrielectric liquid crystal device. Applied Physics Letters, 2008, 93, 153506.	1.5	10
63	Laser nanotrapping and manipulation of nanoscale objects using subwavelength apertured plasmonic media. Journal of Applied Physics, 2008, 103, 084316.	1.1	8
64	Circularly Polarized Color Reflection in the Beetle Plusiotis boucardi. Optics and Photonics News, 2007, 18, 33.	0.4	2
65	Circularly polarized colour reflection from helicoidal structures in the beetlePlusiotis boucardi. New Journal of Physics, 2007, 9, 99-99.	1.2	123
66	A Mechanism of Polarized Light Sensitivity in Cone Photoreceptors of the Goldfish Carassius auratus. Biophysical Journal, 2007, 93, 3241-3248.	0.2	28
67	Deduction of the temperature-dependent structure of the four-layer intermediate smectic phase using resonant X-ray scattering. European Physical Journal E, 2007, 23, 281-287.	0.7	16
68	Remarkably wide four-layer smectic phases in mixtures of liquid crystals and highly chiral dopants. Journal of Materials Chemistry, 2006, 16, 3753.	6.7	32
69	An experimental investigation of discrete changes in pitch in a thin, planar chiral nematic device. Liquid Crystals, 2006, 33, 503-510.	0.9	28
70	Antisymmetric plasmon resonance in coupled gold nanoparticles as a sensitive tool for detection of local index of refraction. Applied Physics Letters, 2006, 88, 124103.	1.5	18
71	The optics of vertebrate photoreceptors: Anisotropy and form birefringence. Vision Research, 2006, 46, 3259-3266.	0.7	15
72	Mechanisms of switching in an antiferroelectric liquid crystal device revealed by timeâ€resolved Xâ€ray scattering. Liquid Crystals, 2006, 33, 451-457.	0.9	4

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73	Biaxiality and temperature dependence of 3- and 4-layer intermediate smectic-phase structures as revealed by resonant X-ray scattering. Europhysics Letters, 2005, 72, 976-982.	0.7	33
74	Investigation into the Effects of Optical Tilt Angle Profile, Biaxiality and Dispersion of the Optic Axis on the Calculation of Reflection Spectra of SmC* Liquid Crystal Films. Ferroelectrics, 2005, 315, 205-211.	0.3	0
75	Optical Properties of Cholesteric Materials used in Surface Stabilised Cholesteric Texture Devices. Molecular Crystals and Liquid Crystals, 2004, 411, 57-70.	0.4	9
76	Liquid Crystals, the Visual System and Polarization Sensitivity. Liquid Crystals Today, 2004, 13, 1-7.	2.3	0
77	The absorption of polarized light by vertebrate photoreceptors. Vision Research, 2004, 44, 2643-2652.	0.7	8
78	Differences in the optical properties of vertebrate photoreceptor classes leading to axial polarization sensitivity. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2004, 21, 335.	0.8	18
79	An experimental and theoretical investigation into the reflection spectra of SmC* and SmCA* phases. Journal of Materials Chemistry, 2003, 13, 353-359.	6.7	12
80	Inspiration from the reflective sides of silvery fish. SPIE Newsroom, 0, , .	0.1	0