Franz Hölker

List of Publications by Year in descending order

Source: https://exaly.com/author-pdf/446131/publications.pdf

Version: 2024-02-01

146 papers 7,918 citations

45 h-index ⁵⁸⁵⁸¹ 82

g-index

154 all docs

154 docs citations

154 times ranked

6128 citing authors

#	Article	IF	CITATIONS
1	Light pollution as a biodiversity threat. Trends in Ecology and Evolution, 2010, 25, 681-682.	8.7	592
2	Artificially lit surface of Earth at night increasing in radiance and extent. Science Advances, 2017, 3, e1701528.	10.3	560
3	The Dark Side of Light: A Transdisciplinary Research Agenda for Light Pollution Policy. Ecology and Society, 2010, 15, .	2.3	375
4	The biological impacts of artificial light at night: the research challenge. Philosophical Transactions of the Royal Society B: Biological Sciences, 2015, 370, 20140133.	4.0	356
5	NEW HORIZONS FOR MANAGING THE ENVIRONMENT: A REVIEW OF COUPLED SOCIALâ€ECOLOGICAL SYSTEMS MODELING. Natural Resource Modelling, 2012, 25, 219-272.	2.0	237
6	Cloud Coverage Acts as an Amplifier for Ecological Light Pollution in Urban Ecosystems. PLoS ONE, 2011, 6, e17307.	2.5	216
7	The role of winter phenology in shaping the ecology of freshwater fish and their sensitivities to climate change. Aquatic Sciences, 2012, 74, 637-657.	1.5	200
8	Aerial survey and spatial analysis of sources of light pollution in Berlin, Germany. Remote Sensing of Environment, 2012, 126, 39-50.	11.0	168
9	High-Resolution Imagery of Earth at Night: New Sources, Opportunities and Challenges. Remote Sensing, 2015, 7, 1-23.	4.0	168
10	Insect declines and agroecosystems: does light pollution matter?. Annals of Applied Biology, 2018, 173, 180-189.	2.5	137
11	The influence of artificial light on stream and riparian ecosystems: questions, challenges, and perspectives. Ecosphere, 2011, 2, art122.	2.2	133
12	Worldwide variations in artificial skyglow. Scientific Reports, 2015, 5, 8409.	3.3	133
13	Light Pollution, Circadian Photoreception, and Melatonin in Vertebrates. Sustainability, 2019, 11, 6400.	3.2	126
14	Tubeâ€dwelling invertebrates: tiny ecosystem engineers have large effects in lake ecosystems. Ecological Monographs, 2015, 85, 333-351.	5.4	122
15	Spotlight on fish: Light pollution affects circadian rhythms of European perch but does not cause stress. Science of the Total Environment, 2015, 511, 516-522.	8.0	121
16	Artificial Light at Night Affects Organism Flux across Ecosystem Boundaries and Drives Community Structure in the Recipient Ecosystem. Frontiers in Environmental Science, 2017, 5, .	3.3	112
17	Redefining efficiency for outdoor lighting. Energy and Environmental Science, 2014, 7, 1806-1809.	30.8	110
18	Microbial diversity and community respiration in freshwater sediments influenced by artificial light at night. Philosophical Transactions of the Royal Society B: Biological Sciences, 2015, 370, 20140130.	4.0	107

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19	Swimming efficiency and the influence of morphology on swimming costs in fishes. Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology, 2006, 176, 17-25.	1.5	104
20	A global agenda for advancing freshwater biodiversity research. Ecology Letters, 2022, 25, 255-263.	6.4	95
21	Impact of different colours of artificial light at night on melatonin rhythm and gene expression of gonadotropins in European perch. Science of the Total Environment, 2016, 543, 214-222.	8.0	90
22	The effects of artificial lighting on adult aquatic and terrestrial insects. Freshwater Biology, 2014, 59, 368-377.	2.4	89
23	Intraspecific temperature dependence of the scaling of metabolic rate with body mass in fishes and its ecological implications. Oikos, 2012, 121, 245-251.	2.7	88
24	Do artificially illuminated skies affect biodiversity in nocturnal landscapes?. Landscape Ecology, 2013, 28, 1637-1640.	4.2	86
25	Red is the new black: how the colour of urban skyglow varies with cloud cover. Monthly Notices of the Royal Astronomical Society, 2012, 425, 701-708.	4.4	83
26	The future distribution of river fish: The complex interplay of climate and land use changes, species dispersal and movement barriers. Global Change Biology, 2017, 23, 4970-4986.	9.5	79
27	Temperatureâ€related physiological adaptations promote ecological divergence in a sympatric species pair of temperate freshwater fish, <i>Coregonus</i>). Functional Ecology, 2008, 22, 501-508.	3.6	72
28	Tracking the dynamics of skyglow with differential photometry using a digital camera with fisheye lens. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 209, 212-223.	2.3	72
29	Citizen Science Provides Valuable Data for Monitoring Global Night Sky Luminance. Scientific Reports, 2013, 3, 1835.	3.3	66
30	Synergistic and antagonistic interactions of future land use and climate change on river fish assemblages. Global Change Biology, 2016, 22, 1505-1522.	9.5	66
31	Exploring ultimate hypotheses to predict diel vertical migrations in coregonid fish. Canadian Journal of Fisheries and Aquatic Sciences, 2007, 64, 874-886.	1.4	65
32	Imaging and mapping the impact of clouds on skyglow with all-sky photometry. Scientific Reports, 2017, 7, 6741.	3.3	65
33	Effects of temperature, swimming speed and body mass on standard and active metabolic rate in vendace (Coregonus albula). Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology, 2007, 177, 905-916.	1.5	64
34	11 Pressing Research Questions on How Light Pollution Affects Biodiversity. Frontiers in Ecology and Evolution, 2021, 9, .	2.2	64
35	Beyond All-Sky: Assessing Ecological Light Pollution Using Multi-Spectral Full-Sphere Fisheye Lens Imaging. Journal of Imaging, 2019, 5, 46.	3.0	61
36	Can feeding of fish on terrestrial insects subsidize the nutrient pool of lakes?. Limnology and Oceanography, 2005, 50, 2022-2031.	3.1	60

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37	Street lighting: sexâ€independent impacts on moth movement. Journal of Animal Ecology, 2016, 85, 1352-1360.	2.8	60
38	Energy reserves during food deprivation and compensatory growth in juvenile roach: the importance of season and temperature. Journal of Fish Biology, 2005, 66, 167-181.	1.6	58
39	Emergent properties in individual-based ecological models—introducing case studies in an ecosystem research context. Ecological Modelling, 2005, 186, 376-388.	2.5	57
40	The underestimated dynamics and impacts of water-based recreational activities on freshwater ecosystems. Environmental Reviews, 2018, 26, 199-213.	4.5	56
41	Innovation in Citizen Science – Perspectives on Science-Policy Advances. Citizen Science: Theory and Practice, 2018, 3, 4.	1.2	56
42	Size-dependent predator?prey relationships between pikeperch and their prey fish. Ecology of Freshwater Fish, 2007, 16, 307-314.	1.4	50
43	Influence of light intensity and spectral composition of artificial light at night on melatonin rhythm and mRNA expression of gonadotropins in roach Rutilus rutilus. Fish Physiology and Biochemistry, 2018, 44, 1-12.	2.3	50
44	Influence of artificially induced light pollution on the hormone system of two common fish species, perch and roach, in a rural habitat., 2018, 6, coy016.		49
45	The metabolic rate of roach in relation to body size and temperature. Journal of Fish Biology, 2003, 62, 565-579.	1.6	48
46	Dietary changes in predators and scavengers in a nocturnally illuminated riparian ecosystem. Oikos, 2018, 127, 960-969.	2.7	48
47	TRAIT-MEDIATED INDIRECT EFFECTS OF PREDATORY FISH ON MICROBIAL MINERALIZATION IN AQUATIC SEDIMENTS. Ecology, 2006, 87, 3152-3159.	3.2	47
48	Using all-sky differential photometry to investigate how nocturnal clouds darken the night sky in rural areas. Scientific Reports, 2019, 9, 1391.	3.3	46
49	Effects of piscivore-mediated habitat use on growth, diet and zooplankton consumption of roach: an individual-based modelling approach. Freshwater Biology, 2002, 47, 2345-2358.	2.4	45
50	Artificial light as a disturbance to lightâ€naÃ⁻ve streams. Freshwater Biology, 2014, 59, 2235-2244.	2.4	45
51	How dark is a river? Artificial light at night in aquatic systems and the need for comprehensive nightâ€time light measurements. Wiley Interdisciplinary Reviews: Water, 2019, 6, e1388.	6.5	45
52	Artificial light at night decreases biomass and alters community composition of benthic primary producers in a subâ€alpine stream. Limnology and Oceanography, 2017, 62, 2799-2810.	3.1	44
53	Spatial and temporal heterogeneity of trophic variables in a deep lake as reflected by repeated singular samplings. Oikos, 2005, 108, 401-409.	2.7	42
54	Artificial light at night: implications for early life stages development in four temperate freshwater fish species. Aquatic Sciences, 2011, 73, 143-152.	1.5	42

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55	Adaptive behaviour of chironomid larvae (Chironomus riparius) in response to chemical stimuli from predators and resource density. Behavioral Ecology and Sociobiology, 2005, 58, 256-263.	1.4	41
56	Bright nights and social interactions: a neglected issue. Behavioral Ecology, 2015, 26, 334-339.	2.2	41
57	Species-specific responses of planktivorous fish to the introduction of a new piscivore: implications for prey fitness. Freshwater Biology, 2007, 52, 1793-1806.	2.4	39
58	Artificial Light at Night Influences Clock-Gene Expression, Activity, and Fecundity in the Mosquito Culex pipiens f. molestus. Sustainability, 2019, 11, 6220.	3.2	39
59	Mapping the brightness and color of urban to rural skyglow with all-sky photometry. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 250, 106988.	2.3	39
60	Artificial Light at Night Affects Emergence from a Refuge and Space Use in Guppies. Scientific Reports, 2018, 8, 14131.	3.3	38
61	Lunar skylight polarization signal polluted by urban lighting. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	37
62	A transition to white LED increases ecological impacts of nocturnal illumination on aquatic primary producers in a lowland agricultural drainage ditch. Environmental Pollution, 2018, 240, 630-638.	7.5	37
63	Modelling energetic costs of fish swimming. Journal of Experimental Zoology Part A, Comparative Experimental Biology, 2005, 303A, 657-664.	1.3	36
64	Influence of activity in a heterogeneous environment on the dynamics of fish growth: an individual-based model of roacl. Journal of Fish Biology, 2002, 60, 1170-1189.	1.6	35
65	The concepts of emergent and collective properties in individual-based models—Summary and outlook of the Bornhöved case studies. Ecological Modelling, 2005, 186, 489-501.	2.5	35
66	Biology of Ruffe (Gymnocephalus cernuus (L.))—A Review of Selected Aspects from European Literature. Journal of Great Lakes Research, 1998, 24, 186-204.	1.9	34
67	Response of the residential piscivorous fish community to introduction of a new predator type in a mesotrophic lake. Canadian Journal of Fisheries and Aquatic Sciences, 2006, 63, 2202-2212.	1.4	34
68	Is ecological segregation in a pair of sympatric coregonines supported by divergent feeding efficiencies?. Canadian Journal of Fisheries and Aquatic Sciences, 2008, 65, 2105-2113.	1.4	34
69	Working with Inadequate Tools: Legislative Shortcomings in Protection against Ecological Effects of Artificial Light at Night. Sustainability, 2020, 12, 2551.	3.2	34
70	Revisiting global trends in freshwater insect biodiversity. Wiley Interdisciplinary Reviews: Water, 2021, 8, e1506.	6.5	34
71	Evaluating the summer night sky brightness at a research field site on Lake Stechlin in northeastern Germany. Journal of Quantitative Spectroscopy and Radiative Transfer, 2016, 181, 24-32.	2.3	33
72	Can skyglow reduce nocturnal melatonin concentrations in Eurasian perch?. Environmental Pollution, 2020, 262, 114324.	7.5	33

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73	A spatiotemporal individual-based fish model to investigate emergent properties at the organismal and the population level. Ecological Modelling, 2005, 186, 406-426.	2.5	32
74	Out of the Dark: Establishing a Large-Scale Field Experiment to Assess the Effects of Artificial Light at Night on Species and Food Webs. Sustainability, 2015, 7, 15593-15616.	3.2	32
75	An unintended experiment in fisheries science: a marine area protected by war results in Mexican waves in fish numbers-at-age. Die Naturwissenschaften, 2010, 97, 797-808.	1.6	31
76	Snowglow—The Amplification of Skyglow by Snow and Clouds can Exceed Full Moon Illuminance in Suburban Areas. Journal of Imaging, 2019, 5, 69.	3.0	31
77	Assessing longâ€term effects of artificial light at night on insects: what is missing and how to get there. Insect Conservation and Diversity, 2021, 14, 260-270.	3.0	31
78	Improved river continuity facilitates fishes' abilities to track future environmental changes. Journal of Environmental Management, 2018, 208, 169-179.	7.8	29
79	Evidence That Reduced Air and Road Traffic Decreased Artificial Night-Time Skyglow during COVID-19 Lockdown in Berlin, Germany. Remote Sensing, 2020, 12, 3412.	4.0	29
80	Microplastic inclusion in birch tree roots. Science of the Total Environment, 2022, 808, 152085.	8.0	28
81	Estimating the active metabolic rate (AMR) in fish based on tail beat frequency (TBF) and body mass. Journal of Experimental Zoology, 2007, 307A, 296-300.	1.2	27
82	Measuring Light Pollution with Fisheye Lens Imagery from A Moving Boat – A Proof of Concept. International Journal of Sustainable Lighting, 2017, 19, 15-25.	1.9	27
83	Night Matters—Why the Interdisciplinary Field of "Night Studies―ls Needed. J, 2020, 3, 1-6.	0.9	26
84	Life in turbulent flows: interactions between hydrodynamics and aquatic organisms in rivers. Wiley Interdisciplinary Reviews: Water, 2017, 4, e1213.	6.5	25
85	Citizen science technologies and new opportunities for participation. , 2018, , 303-320.		23
86	Eutrophication, Research and Management History of the Shallow YpacaraÃ-Lake (Paraguay). Sustainability, 2018, 10, 2426.	3.2	22
87	What makes the Asian bush mosquito Aedes japonicus japonicus feel comfortable in Germany? A fuzzy modelling approach. Parasites and Vectors, 2019, 12, 106.	2.5	22
88	A plea for a worldwide development of dark infrastructure for biodiversity – Practical examples and ways to go forward. Landscape and Urban Planning, 2022, 219, 104332.	7.5	22
89	An individual-based approach to depict the influence of the feeding strategy on the population structure of roach (Rutilus rutilus L.). Limnologica, 2001, 31, 69-78.	1.5	21
90	Dietary niche partitioning in a piscivorous fish guild in response to stocking of an additional competitor – The role of diet specialisation. Limnologica, 2012, 42, 56-64.	1.5	21

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91	Temperature Stability of the Sky Quality Meter. Sensors, 2013, 13, 12166-12174.	3.8	21
92	The Use of Sentinel-2 for Chlorophyll-a Spatial Dynamics Assessment: A Comparative Study on Different Lakes in Northern Germany. Remote Sensing, 2021, 13, 1542.	4.0	21
93	The Impact Of Light Pollution On Bats Varies According To Foraging Guild And Habitat Context. BioScience, 2021, 71, 1103-1109.	4.9	21
94	Artificial light and nocturnal activity in gammarids. PeerJ, 2014, 2, e279.	2.0	21
95	Effects of body size and temperature on metabolism of bream compared to sympatric roach. Animal Biology, 2006, 56, 23-37.	1.0	20
96	Impact of Different Wavelengths of Artificial Light at Night on Phototaxis in Aquatic Insects. Integrative and Comparative Biology, 2021, 61, 1182-1190.	2.0	20
97	Population Density of the Crayfish,Orconectes limosus, in Relation to Fish and Macroinvertebrate Densities in a Small Mesotrophic Lake - Implications for the Lake's Food Web. International Review of Hydrobiology, 2005, 90, 523-533.	0.9	19
98	Long-Term Comparison of Attraction of Flying Insects to Streetlights after the Transition from Traditional Light Sources to Light-Emitting Diodes in Urban and Peri-Urban Settings. Sustainability, 2019, 11, 6198.	3.2	19
99	Simulation of trait- and density-mediated indirect effects induced by piscivorous predators. Basic and Applied Ecology, 2005, 6, 289-300.	2.7	18
100	Comment on "Impacts of Biodiversity Loss on Ocean Ecosystem Services". Science, 2007, 316, 1285c-1285c.	12.6	18
101	Study of Biological Action of Light on Fish. Journal of Light and Visual Environment, 2013, 37, 194-204.	0.2	18
102	High Female Survival Promotes Evolution of Protogyny and Sexual Conflict. PLoS ONE, 2015, 10, e0118354.	2.5	18
103	Urban Lighting Research Transdisciplinary Frameworkâ€"A Collaborative Process with Lighting Professionals. International Journal of Environmental Research and Public Health, 2021, 18, 624.	2.6	18
104	A Systematic Review for Establishing Relevant Environmental Parameters for Urban Lighting: Translating Research into Practice. Sustainability, 2022, 14, 1107.	3.2	18
105	Determinants of habitat use in large roach. Journal of Fish Biology, 2006, 69, 1136-1150.	1.6	17
106	Slugs (<i>Arionidae</i>) benefit from nocturnal artificial illumination. Journal of Experimental Zoology Part A: Ecological and Integrative Physiology, 2018, 329, 429-433.	1.9	16
107	Impact of <i>Chaoborus flavicans</i> â€Predation on the Zooplankton in a Mesotrophic Lake – a Three Year Study. International Review of Hydrobiology, 2011, 96, 191-208.	0.9	15
108	Two camera system for measurement of urban uplight angular distribution. AIP Conference Proceedings, 2013, , .	0.4	15

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109	The ecological effect of phenotypic plasticity — Analyzing complex interaction networks (COIN) with agent-based models. Ecological Informatics, 2008, 3, 35-45.	5.2	12
110	Impact of Lighting on Flora and Fauna. , 2016, , 1-33.		12
111	Misbalance of thyroid hormones after two weeks of exposure to artificial light at night in Eurasian perch <i>Perca fluviatilis</i> ., 2021, 9, coaa124.		11
112	Impact of artificial illumination on the development of a leafmining moth in urban trees. International Journal of Sustainable Lighting, 2019, 21, 1-10.	1.9	11
113	Light intensity and spectral distribution affect chytrid infection of cyanobacteria <i>via</i> modulation of host fitness. Parasitology, 2020, 147, 1206-1215.	1.5	10
114	Application of a bioenergetics model to roach. Journal of Applied Ichthyology, 2004, 20, 548-550.	0.7	9
115	A pigment composition analysis reveals community changes in pre-established stream periphyton under low-level artificial light at night. Limnologica, 2018, 69, 55-58.	1.5	9
116	Can data from native mosquitoes support determining invasive species habitats? Modelling the climatic niche of Aedes japonicus japonicus (Diptera, Culicidae) in Germany. Parasitology Research, 2020, 119, 31-42.	1.6	9
117	PARASITE COMMUNITY AND MORTALITY OF OVERWINTERING YOUNG-OF-THE-YEAR ROACH (RUTILUS) TJ ETQq	1 10.784	314 ₈ rgBT /Ove
118	Impact of Lighting on Flora and Fauna., 2017,, 957-989.		8
119	Light Pollution Reduction. , 2017, , 991-1010.		8
120	Ecological commonalities among pelagic fishes: comparison of freshwater ciscoes and marine herring and sprat. Marine Biology, 2012, 159, 2583-2603.	1.5	7
121	Altered sexâ€specific mortality and female mating success: ecological effects and evolutionary responses. Ecosphere, 2017, 8, e01820.	2.2	7
122	Light Pollution Reduction. , 2014, , 1-17.		7
123	Large-scale sampling of the freshwater microbiome suggests pollution-driven ecosystem changes. Environmental Pollution, 2022, 308, 119627.	7.5	7
124	SMART Research: Toward Interdisciplinary River Science in Europe. Frontiers in Environmental Science, 2020, 8, .	3.3	6
125	Impact of light pollution on moth morphology–A 137-year study in Germany. Basic and Applied Ecology, 2021, 56, 1-10.	2.7	6
126	The role of insectivorous fish in fostering the allochthonous subsidy of lakes. Limnology and Oceanography, 2007, 52, 2718-2721.	3.1	5

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127	Assessing how uncertainty and stochasticity affect the dispersal of fish in river networks. Ecological Modelling, 2017, 359, 220-228.	2.5	5
128	Turbulence, instream wood and fish: Ecohydraulic interactions under field conditions. Ecohydrology, 2020, 13, e2211.	2.4	5
129	Innate immunity, oxidative stress and body indices of Eurasian perch <i>Perca fluviatilis</i> two weeks of exposure to artificial light at night. Journal of Fish Biology, 2021, 99, 118-130.	1.6	5
130	The rising moon promotes mate finding in moths. Communications Biology, 2022, 5, 393.	4.4	5
131	The effect of temperature on mortality in small perch marked with coded wire tags. Journal of Fish Biology, 2006, 69, 1255-1260.	1.6	4
132	European Wilderness in a Time of Farmland Abandonment. , 2015, , 25-46.		4
133	Linking a compartment model for West Nile virus with a flight simulator for vector mosquitoes. Ecological Modelling, 2022, 464, 109840.	2.5	4
134	Design and implementation of an illumination system to mimic skyglow at ecosystem level in a large-scale lake enclosure facility. Scientific Reports, 2021, 11, 23478.	3.3	4
135	Towards Insect-Friendly Road Lighting—A Transdisciplinary Multi-Stakeholder Approach Involving Citizen Scientists. Insects, 2021, 12, 1117.	2.2	4
136	In situ estimation of gastric evacuation and consumption rates of burbot (Lota lota) in a summer-warm lowland river. Journal of Applied Ichthyology, 2011, 27, 1236-1241.	0.7	3
137	Window Illumination Should be Expected to Poorly Correlate With Satellite Brightness Measurements. Chronobiology International, 2012, 29, 87-88.	2.0	3
138	Citizen science to monitor light pollution $\hat{a}\in$ a useful tool for studying human impacts on the environment. , 2018, , 353-366.		3
139	Welcome to the Dark Side: Partial Nighttime Illumination Affects Night-and Daytime Foraging Behavior of a Small Mammal. Frontiers in Ecology and Evolution, 2022, 9, .	2.2	3
140	Evaluating Multiple Stressor Effects on Benthic–Pelagic Freshwater Communities in Systems of Different Complexities: Challenges in Upscaling. Water (Switzerland), 2022, 14, 581.	2.7	3
141	Spatial and seasonal patterns of water isotopes in northeastern German lakes. Earth System Science Data, 2022, 14, 1857-1867.	9.9	2
142	Influence of activity in a heterogeneous environment on the dynamics of fish growth: an individual-based model of roach. Journal of Fish Biology, 2002, 60, 1170-1189.	1.6	1
143	Resources of dark skies in German climatic health resorts. International Journal of Biometeorology, 2017, 61, 11-22.	3.0	1
144	Hitting the sweet spot of complexity: Reasons why the development of new custom-tailored models is still warranted and should be encouraged in aquatic sciences. Journal of Limnology, 0, , .	1.1	1

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145	Angular distribution of uplight at 10,000 ft over Berlin. Proceedings of the International Astronomical Union, 2012, 10, 738-738.	0.0	O
146	Response to Letter to the Editor "Instigating reflections on microplastics uptake and translocations― Science of the Total Environment, 2022, 825, 154873.	8.0	0