Silvia Vignolini

List of Publications by Year
in descending order

150 papers	8,030 citations	46918 47 h-index	54797 84 g-index
157 all docs	157 docs citations	157 times ranked	7712 citing authors

#	Article	IF	Citations
1	Pointillist structural color in <i>Pollia</i> fruit. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 15712-15715.	3.3	475
2	The Selfâ€Assembly of Cellulose Nanocrystals: Hierarchical Design of Visual Appearance. Advanced Materials, 2018, 30, e1704477.	11.1	363
3	Block copolymer self-assembly for nanophotonics. Chemical Society Reviews, 2015, 44, 5076-5091.	18.7	328
4	Biomimetic layer-by-layer assembly of artificial nacre. Nature Communications, 2012, 3, 966.	5.8	303
5	A 3D Optical Metamaterial Made by Selfâ€Assembly. Advanced Materials, 2012, 24, OP23-7.	11.1	288
6	Digital Color in Cellulose Nanocrystal Films. ACS Applied Materials & Interfaces, 2014, 6, 12302-12306.	4.0	222
7	Optical Properties of Gyroid Structured Materials: From Photonic Crystals to Metamaterials. Advanced Optical Materials, 2015, 3, 12-32.	3.6	213
8	Flexible Photonic Cellulose Nanocrystal Films. Advanced Materials, 2016, 28, 10042-10047.	11.1	202
9	Controlled, Bioâ€inspired Selfâ€Assembly of Celluloseâ€Based Chiral Reflectors. Advanced Optical Materials, 2014, 2, 646-650.	3.6	179
10	Analysing photonic structures in plants. Journal of the Royal Society Interface, 2013, 10, 20130394.	1.5	178
11	Bright-White Beetle Scales Optimise Multiple Scattering of Light. Scientific Reports, 2014, 4, 6075.	1.6	161
12	Hierarchical Self-Assembly of Cellulose Nanocrystals in a Confined Geometry. ACS Nano, 2016, 10, 8443-8449.	7.3	161
13	Controlling the Photonic Properties of Cholesteric Cellulose Nanocrystal Films with Magnets. Advanced Materials, 2017, 29, 1701469.	11.1	159
14	Scalable electrochromic nanopixels using plasmonics. Science Advances, 2019, 5, eaaw2205.	4.7	139
15	Large-scale fabrication of structurally coloured cellulose nanocrystal films and effect pigments. Nature Materials, 2022, 21, 352-358.	13.3	129
16	Disorder in convergent floral nanostructures enhances signalling to bees. Nature, 2017, 550, 469-474.	13.7	120
17	A heterogeneous microbial consortium producing short-chain fatty acids from lignocellulose. Science, 2020, 369, .	6.0	120
18	Rewritable photonic circuits. Applied Physics Letters, 2006, 89, 211117.	1.5	118

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19	Lightâ€Directed Writing of Chemically Tunable Narrowâ€Band Holographic Sensors. Advanced Optical Materials, 2014, 2, 250-254.	3.6	110
20	Hierarchical Photonic Pigments <i>via</i> the Confined Self-Assembly of Bottlebrush Block Copolymers. ACS Nano, 2019, 13, 1764-1771.	7.3	107
21	Natural Helicoidal Structures: Morphology, Self-assembly and Optical Properties. Materials Today: Proceedings, 2014, 1, 177-185.	0.9	100
22	Engineering of light confinement in strongly scattering disordered media. Nature Materials, 2014, 13, 720-725.	13.3	98
23	The flower of <i><scp>H</scp>ibiscus trionum</i> is both visibly and measurably iridescent. New Phytologist, 2015, 205, 97-101.	3.5	97
24	Roll-to-roll fabrication of touch-responsive cellulose photonic laminates. Nature Communications, 2018, 9, 4632.	5.8	96
25	Evolutionaryâ€Optimized Photonic Network Structure in White Beetle Wing Scales. Advanced Materials, 2018, 30, e1702057.	11.1	95
26	Biocompatible and Sustainable Optical Strain Sensors for Largeâ€Area Applications. Advanced Optical Materials, 2016, 4, 1950-1954.	3.6	94
27	Light Management with Natural Materials: From Whiteness to Transparency. Advanced Materials, 2021, 33, e2001215.	11.1	91
28	Structural Color and Iridescence in Transparent Sheared Cellulosic Films. Macromolecular Chemistry and Physics, 2013, 214, 25-32.	1.1	89
29	Printing of Responsive Photonic Cellulose Nanocrystal Microfilm Arrays. Advanced Functional Materials, 2019, 29, 1804531.	7.8	87
30	Anomalousâ€Diffusionâ€Assisted Brightness in White Cellulose Nanofibril Membranes. Advanced Materials, 2018, 30, e1704050.	11.1	83
31	Tunable 3D Extended Selfâ€Assembled Gold Metamaterials with Enhanced Light Transmission. Advanced Materials, 2013, 25, 2713-2716.	11.1	80
32	Enhancing Photoluminescence and Mobilities in WS₂ Monolayers with Oleic Acid Ligands. Nano Letters, 2019, 19, 6299-6307.	4.5	80
33	Bionic 3D printed corals. Nature Communications, 2020, 11, 1748.	5.8	78
34	Bioâ€inspired Highly Scattering Networks via Polymer Phase Separation. Advanced Functional Materials, 2018, 28, 1706901.	7.8	75
35	Angularâ€Independent Photonic Pigments via the Controlled Micellization of Amphiphilic Bottlebrush Block Copolymers. Advanced Materials, 2020, 32, e2002681.	11.1	73
36	Shape Memory Cellulose-Based Photonic Reflectors. ACS Applied Materials & Interfaces, 2016, 8, 31935-31940.	4.0	68

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37	Visual Appearance of Chiral Nematic Celluloseâ€Based Photonic Films: Angular and Polarization Independent Color Response with a Twist. Advanced Materials, 2019, 31, e1905151.	11.1	67
38	Anderson localization of near-visible light in two dimensions. Optics Letters, 2011, 36, 127.	1.7	65
39	So much more than paper. Nature Photonics, 2019, 13, 365-367.	15.6	64
40	Highlyâ€Scattering Celluloseâ€Based Films for Radiative Cooling. Advanced Science, 2022, 9, e2104758.	5.6	63
41	Anisotropic Light Transport in White Beetle Scales. Advanced Optical Materials, 2015, 3, 1337-1341.	3.6	62
42	Spectral tuning and near-field imaging of photonic crystal microcavities. Physical Review B, 2008, 78, .	1.1	60
43	Chiral self-assembly of cellulose nanocrystals is driven by crystallite bundles. Nature Communications, 2022, 13, 2657.	5.8	60
44	Unexpected stability of aqueous dispersions of raspberry-like colloids. Nature Communications, 2018, 9, 3614.	5.8	57
45	Structural colour from helicoidal cell-wall architecture in fruits of<i>Margaritaria nobilis</i>. Journal of the Royal Society Interface, 2016, 13, 20160645.	1.5	55
46	The limitations of extending natureâ€™s color palette in correlated, disordered systems. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 23345-23349.	3.3	55
47	Recent Advances in Block Copolymer Selfâ€Assembly for the Fabrication of Photonic Films and Pigments. Advanced Optical Materials, 2021, 9, 2100519.	3.6	54
48	Magnetic Imaging in Photonic Crystal Microcavities. Physical Review Letters, 2010, 105, 123902.	2.9	52
49	Photonic Resins: Designing Optical Appearance via Block Copolymer Self-Assembly. Macromolecules, 2018, 51, 2395-2400.	2.2	52
50	Mechanochromic, Structurally Colored, and Edible Hydrogels Prepared from Hydroxypropyl Cellulose and Gelatin. Advanced Materials, 2021, 33, e2102112.	11.1	50
51	Structurally Colored Radiative Cooling Cellulosic Films. Advanced Science, 2022, 9, .	5.6	49
52	Controlling the Self-Assembly Behavior of Aqueous Chitin Nanocrystal Suspensions. Biomacromolecules, 2019, 20, 2830-2838.	2.6	48
53	3D-printed hierarchical pillar array electrodes for high-performance semi-artificial photosynthesis. Nature Materials, 2022, 21, 811-818.	13.3	48
54	The mirror crack'd: both pigment and structure contribute to the glossy blue appearance of the mirror orchid, <i>Ophrys speculum</i>. New Phytologist, 2012, 196, 1038-1047.	3.5	47

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55	Buckling as an origin of ordered cuticular patterns in flower petals. Journal of the Royal Society Interface, 2013, 10, 20120847.	1.5	46
56	Scalable and controlled self-assembly of aluminum-based random plasmonic metasurfaces. Light: Science and Applications, 2017, 6, e17015-e17015.	7.7	43
57	Angular optical response of cellulose nanocrystal films explained by the distortion of the arrested suspension upon drying. Physical Review Materials, 2019, 3, .	0.9	43
58	Disordered Cellulose-Based Nanostructures for Enhanced Light Scattering. ACS Applied Materials & Interfaces, 2017, 9, 7885-7890.	4.0	41
59	Near-field imaging of coupled photonic-crystal microcavities. Applied Physics Letters, 2009, 94, 151103.	1.5	40
60	Directional scattering from the glossy flower of <i>Ranunculus</i> : how the buttercup lights up your chin. Journal of the Royal Society Interface, 2012, 9, 1295-1301.	1.5	40
61	Genetic manipulation of structural color in bacterial colonies. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 2652-2657.	3.3	40
62	Retrieving the Coassembly Pathway of Composite Cellulose Nanocrystal Photonic Films from their Angular Optical Response. Advanced Materials, 2020, 32, e1906889.	11.1	40
63	3D Printing of Liquid Crystalline Hydroxypropyl Celluloseâ€"toward Tunable and Sustainable Volumetric Photonic Structures. Advanced Functional Materials, 2022, 32, .	7.8	38
64	Cellulose photonic pigments. Nature Communications, 2022, 13, .	5.8	38
65	Ultrafast Nonlinear Response of Gold Gyroid Three-Dimensional Metamaterials. Physical Review Applied, 2014, 2, .	1.5	37
66	Role of Anisotropy and Refractive Index in Scattering and Whiteness Optimization. Advanced Optical Materials, 2019, 7, 1900980.	3.6	37
67	Colour formation on the wings of the butterfly Hypolimnas salmacis by scale stacking. Scientific Reports, 2016, 6, 36204.	1.6	36
68	Block Copolymer Micelles for Photonic Fluids and Crystals. ACS Nano, 2018, 12, 3149-3158.	7.3	36
69	Recent Progress in Production Methods for Cellulose Nanocrystals: Leading to More Sustainable Processes. Advanced Sustainable Systems, 2022, 6, .	2.7	36
70	Tuning of photonic crystal cavities by controlled removal of locally infiltrated water. Applied Physics Letters, 2009, 95, 173112.	1.5	32
71	Development of structural colour in leaf beetles. Scientific Reports, 2017, 7, 1373.	1.6	32
72	Structural Color in Marine Algae. Advanced Optical Materials, 2017, 5, 1600646.	3.6	32

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73	Microcavity-like exciton-polaritons can be the primary photoexcitation in bare organic semiconductors. Nature Communications, 2021, 12, 6519.	5.8	32
74	Local nanofluidic light sources in silicon photonic crystal microcavities. Physical Review E, 2008, 78, 045603.	0.8	31
75	Polarization-sensitive near-field investigation of photonic crystal microcavities. Applied Physics Letters, 2009, 94, 163102.	1.5	29
76	Ultrastructure and optics of the prismâ€like petal epidermal cells of <i>Eschscholzia californica</i> (California poppy). New Phytologist, 2018, 219, 1124-1133.	3.5	28
77	Mode tuning of photonic crystal nanocavities by photoinduced non-thermal oxidation. Applied Physics Letters, 2012, 100, 033116.	1.5	27
78	Hierarchical Orientation of Crystallinity by Block-Copolymer Patterning and Alignment in an Electric Field. Chemistry of Materials, 2013, 25, 1063-1070.	3.2	27
79	Structural colour in Chondrus crispus. Scientific Reports, 2015, 5, 11645.	1.6	27
80	Ab initio nonrigid X-ray nanotomography. Nature Communications, 2019, 10, 2600.	5.8	25
81	Nanofluidic control of coupled photonic crystal resonators. Applied Physics Letters, 2010, 96, 141114.	1.5	24
82	Interplay of index contrast with periodicity in polymer photonic crystals. Applied Physics Letters, 2011, 99, .	1.5	24
83	Hyperspectral Imaging of Photonic Cellulose Nanocrystal Films: Structure of Local Defects and Implications for Self-Assembly Pathways. ACS Nano, 2020, 14, 15361-15373.	7.3	24
84	The sustainable materials roadmap. JPhys Materials, 2022, 5, 032001.	1.8	24
85	Mode hybridization in photonic crystal molecules. Applied Physics Letters, 2010, 97, 063101.	1.5	23
86	Youngâ€™s Type Interference for Probing the Mode Symmetry in Photonic Structures. Physical Review Letters, 2011, 106, 143901.	2.9	23
87	Coherent backscattering of light by an anisotropic biological network. Interface Focus, 2019, 9, 20180050.	1.5	23
88	A Storable Mediatorless Electrochemical Biosensor for Herbicide Detection. Microorganisms, 2019, 7, 630.	1.6	23
89	The influence of pigmentation patterning on bumblebee foraging from flowers of Antirrhinum majus. Die Naturwissenschaften, 2013, 100, 249-256.	0.6	20
90	FullyPrinted Flexible Plasmonic Metafilms with Directional Color Dynamics. Advanced Science, 2021, 8, 2002419.	5.6	20

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91	Synthetic algal-bacteria consortia for space-efficient microalgal growth in a simple hydrogel system. Journal of Applied Phycology, 2021, 33, 2805-2815.	1.5	20
92	Cellulose Nanocrystal-Templated Tin Dioxide Thin Films for Gas Sensing. ACS Applied Materials & Interfaces, 2020, 12, 12639-12647.	4.0	19
93	Revealing the Structural Coloration of Selfâ€Assembled Chitin Nanocrystal Films. Advanced Materials, 2022, 34, .	11.1	19
94	Post-fabrication control of evanescent tunnelling in photonic crystal molecules. Applied Physics Letters, 2012, 101, 211108.	1.5	17
95	Modeling the cholesteric pitch of apolar cellulose nanocrystal suspensions using a chiral hard-bundle model. Journal of Chemical Physics, 2022, 156, 014904.	1.2	17
96	Fast Selfâ€Assembly of Scalable Photonic Cellulose Nanocrystals and Hybrid Films via Electrophoresis. Advanced Materials, 2022, 34, e2109170.	11.1	17
97	Nonlinear optical tuning of photonic crystal microcavities by near-field probe. Applied Physics Letters, 2008, 93, .	1.5	16
98	Viburnum tinus Fruits Use Lipids to Produce Metallic Blue Structural Color. Current Biology, 2020, 30, 3804-3810.e2.	1.8	16
99	Complex photonic response reveals three-dimensional self-organization of structural coloured bacterial colonies. Journal of the Royal Society Interface, 2020, 17, 20200196.	1.5	16
100	Anisotropic silica colloids for light scattering. Journal of Materials Chemistry C, 2021, 9, 2695-2700.	2.7	16
101	Photonics in Nature: From Order to Disorder. Biologically-inspired Systems, 2017, , 53-89.	0.4	14
102	Bioinspiration Across All Length Scales of Materials. Advanced Materials, 2018, 30, e1801687.	11.1	14
103	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
104	Bioprinted Living Coral Microenvironments Mimicking Coralâ€Algal Symbiosis. Advanced Functional Materials, 2022, 32, .	7.8	14
105	Enhanced downconversion of UV light by resonant scattering of aluminum nanoparticles. Optics Letters, 2012, 37, 368.	1.7	13
106	A high transmission wave-guide wire network made by self-assembly. Nanoscale, 2015, 7, 1032-1036.	2.8	13
107	Precise Tailoring of Polyester Bottlebrush Amphiphiles toward Ecoâ€Friendly Photonic Pigments via Interfacial Selfâ€Assembly. Angewandte Chemie - International Edition, 2022, 61, .	7.2	13
108	Plant-Inspired Polyaleuritateâ€"Nanocellulose Composite Photonic Films. ACS Applied Polymer Materials, 2020, 2, 1528-1534.	2.0	10

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109	The Limited Palette for Photonic Blockâ€Copolymer Materials: A Historical Problem or a Practical Limitation?. Angewandte Chemie - International Edition, 2022, 61, e202117275.	7.2	10
110	Structural colours in the frond of <i>Microsorum thailandicum</i>. Interface Focus, 2019, 9, 20180055.	1.5	9
111	Cellulose-Based Scattering Enhancers for Light Management Applications. ACS Nano, 2022, 16, 7373-7379.	7.3	9
112	Hereditary Character of Photonics Structure in <i>Pachyrhynchus sarcitis</i> Weevils: Color Changes via One Generation Hybridization. Advanced Optical Materials, 2020, 8, 2000432.	3.6	8
113	PyLlama: A stable and versatile Python toolkit for the electromagnetic modelling of multilayered anisotropic media. Computer Physics Communications, 2022, 273, 108256.	3.0	8
114	Is floral iridescence a biologically relevant cue in plantâ€"pollinator signalling? A response to van der Kooi <i>etÂal</i>. (2014b). New Phytologist, 2015, 205, 21-22.	3.5	7
115	Disordered wax platelets on<i>Tradescantia pallida</i>leaves create golden shine. Faraday Discussions, 2020, 223, 207-215.	1.6	7
116	Does Structural Color Exist in True Fungi?. Journal of Fungi (Basel, Switzerland), 2021, 7, 141.	1.5	7
117	Effect of thermal treatments on chiral nematic cellulose nanocrystal films. Carbohydrate Polymers, 2021, 272, 118404.	5.1	7
118	Cell wall composition determines handedness reversal in helicoidal cellulose architectures of <i>Pollia condensata</i> fruits. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	7
119	Deconvoluting the Optical Response of Biocompatible Photonic Pigments. Angewandte Chemie - International Edition, 2022, 61, .	7.2	7
120	Near-field mapping of quantum dot emission from single-photonic crystal cavity modes. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 1965-1967.	1.3	5
121	Observation of vortices and field correlations in the near-field speckle of a three-dimensional photonic crystal. Optics Letters, 2010, 35, 2001.	1.7	5
122	Using structural colour to track length scale of cellâ€wall layers in developing <i>Pollia japonica</i> fruits. New Phytologist, 2021, 230, 2327-2336.	3.5	4
123	Bio-mimetic Structural Colour using Biopolymers. RSC Polymer Chemistry Series, 2016, , 555-585.	0.1	4
124	The Limited Palette for Photonic Blockâ€Copolymer Materials: A Historical Problem or a Practical Limitation?. Angewandte Chemie, 0, , .	1.6	4
125	<i>Living light</i> : optics, ecology and design principles of natural photonic structures. Interface Focus, 2019, 9, 20180071.	1.5	3
126	Publisherâ€™s Note: Magnetic Imaging in Photonic Crystal Microcavities [Phys. Rev. Lett.105, 123902 (2010)]. Physical Review Letters, 2010, 105, .	2.9	2

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127	Coupled Photonic Crystal Nanocavities as a Tool to Tailor and Control Photon Emission. Ceramics, 2019, 2, 34-55.	1.0	2
128	Protocol for Extraction and Electron Microscopy Visualization of Lipids in Viburnum tinus Fruit Using Cryo-Ultramicrotomy. STAR Protocols, 2020, 1, 100201.	0.5	2
129	Nanotechnology in a shrimp eyeâ€™s view. Nature Nanotechnology, 2020, 15, 87-88.	15.6	2
130	Photonic Structures in Plants. Series in Optics and Optoelectronics, 2012, , 1-18.	0.0	2
131	Convergent evolution of disordered lipidic structural colour in the fruits of <i>Lantana strigocamara</i> (syn. <i>L. camara</i> hybrid cultivar). New Phytologist, 2022, 235, 898-906.	3.5	2
132	Polysaccharide metabolism regulates structural colour in bacterial colonies. Journal of the Royal Society Interface, 2022, 19, .	1.5	2
133	Precise Tailoring of Polyester Bottlebrush Amphiphiles toward Ecoâ€Friendly Photonic Pigments via Interfacial Selfâ€Assembly. Angewandte Chemie, 2022, 134, .	1.6	2
134	Experimental mapping of the spatial and angular emission patterns in photonic crystal microcavities. Physica E: Low-Dimensional Systems and Nanostructures, 2010, 42, 1148-1150.	1.3	1
135	Reply to Roberts et al.: Reflectivity and pointillist structural color on land and in water. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E3388-E3388.	3.3	1
136	Simultaneous near field imaging of electric and magnetic field in photonic crystal nanocavities. Photonics and Nanostructures - Fundamentals and Applications, 2012, 10, 251-255.	1.0	1
137	Light Transport: Anisotropic Light Transport in White Beetle Scales (Advanced Optical Materials) Tj ETQq1 1 0.784314 rgBT /Overlock 1	3.6	1
138	Optics and photonics in nature: general discussion. Faraday Discussions, 2020, 223, 107-124.	1.6	1
139	Sub-wavelength probing and modification of photonic crystal nano-cavities. Photonics and Nanostructures - Fundamentals and Applications, 2010, 8, 78-85.	1.0	0
140	Near field mapping of coupled photonic crystal microcavities. Journal of Physics: Conference Series, 2010, 210, 012059.	0.3	0
141	Tunable homo- and hetero-atomic photonic molecules. , 2010, , .		0
142	Low-cost approach for broadband enhancement of ultraviolet to visible light downconversion in fluorescent media. , 2012, , .		0
143	Ideal homoatomic and heteroatomic photonic crystal molecules. Photonics and Nanostructures - Fundamentals and Applications, 2012, 10, 271-275.	1.0	0
144	Cellulose Bio-inspired Hierarchical Structures. , 2016, , .		0

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145	A flower's nano-powers. Physics World, 2018, 31, 28-37.	0.0	0
146	The role of structure: order <i>vs.</i> disorder in bio-photonic systems: general discussion. Faraday Discussions, 2020, 223, 233-246.	1.6	0
147	Interplay between order and disorder in natural photonic structures. , 2021, , .		0
148	Tuning and imaging random photonic modes. , 2015, , .		0
149	Light scattering optimization of chitin random network in ultrawhite beetle scales. , 2017, , .		0
150	Deconvoluting the Optical Response of Biocompatible Photonic Pigments. Angewandte Chemie, 0, , .	1.6	0