Silvia Vignolini

List of Publications by Year in Descending Order

129 papers	5,348 citations	38 h-index	70 g-index
157 ext. papers	6,573 ext. citations	10.8 avg, IF	5.97 L-index

#	Paper	IF	Citations
129	Fast Self-Assembly of Scalable Photonic Cellulose Nanocrystal and Hybrid Films via Electrophoresis.. *Advanced Materials*, **2022**, e2109170	24	2
128	Highly-Scattering Cellulose-Based Films for Radiative Cooling.. *Advanced Science*, **2022**, e2104758	13.6	8
127	Modeling the cholesteric pitch of apolar cellulose nanocrystal suspensions using a chiral hard-bundle model.. *Journal of Chemical Physics*, **2022**, 156, 014904	3.9	4
126	PyLlama: A stable and versatile Python toolkit for the electromagnetic modelling of multilayered anisotropic media. *Computer Physics Communications*, **2022**, 273, 108256	4.2	1
125	3D-printed hierarchical pillar array electrodes for high-performance semi-artificial photosynthesis.. *Nature Materials*, **2022**,	27	3
124	The Limited Palette for Photonic Block-Copolymer Materials: A Historical Problem or a Practical Limitation?. *Angewandte Chemie - International Edition*, **2022**, e202117275	16.4	1
123	Chiral self-assembly of cellulose nanocrystals is driven by crystallite bundles.. *Nature Communications*, **2022**, 13, 2657	17.4	6
122	Large-scale fabrication of structurally coloured cellulose nanocrystal films and effect pigments. *Nature Materials*, **2021**,	27	23
121	Microcavity-like exciton-polaritons can be the primary photoexcitation in bare organic semiconductors. *Nature Communications*, **2021**, 12, 6519	17.4	5
120	Light Management with Natural Materials: From Whiteness to Transparency. *Advanced Materials*, **2021**, 33, e2001215	24	32
119	Using structural colour to track length scale of cell-wall layers in developing Pollia japonica fruits. *New Phytologist*, **2021**, 230, 2327-2336	9.8	1
118	Mechanochromic, Structurally Colored, and Edible Hydrogels Prepared from Hydroxypropyl Cellulose and Gelatin. *Advanced Materials*, **2021**, 33, e2102112	24	12
117	FullyPrinted Flexible Plasmonic Metafilms with Directional Color Dynamics. *Advanced Science*, **2021**, 8, 2002419	13.6	6
116	Does Structural Color Exist in True Fungi?. *Journal of Fungi (Basel, Switzerland)*, **2021**, 7,	5.6	1
115	Synthetic algal-bacteria consortia for space-efficient microalgal growth in a simple hydrogel system. *Journal of Applied Phycology*, **2021**, 33, 2805-2815	3.2	2
114	Effect of thermal treatments on chiral nematic cellulose nanocrystal films. *Carbohydrate Polymers*, **2021**, 272, 118404	10.3	1
113	Anisotropic silica colloids for light scattering. *Journal of Materials Chemistry C*, **2021**, 9, 2695-2700	7.1	6

112	Cell wall composition determines handedness reversal in helicoidal cellulose architectures of fruits.. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	1
111	Protocol for Extraction and Electron Microscopy Visualization of Lipids in Fruit Using Cryo-Ultramicrotomy. *STAR Protocols*, **2020**, 1, 100201	1.4	0
110	Hereditary Character of Photonics Structure in Pachyrhynchus sarcitis Weevils: Color Changes via One Generation Hybridization. *Advanced Optical Materials*, **2020**, 8, 2000432	8.1	4
109	Complex photonic response reveals three-dimensional self-organization of structural coloured bacterial colonies. *Journal of the Royal Society Interface*, **2020**, 17, 20200196	4.1	9
108	Plant-Inspired PolyaleuritateNanocellulose Composite Photonic Films. *ACS Applied Polymer Materials*, **2020**, 2, 1528-1534	4.3	6
107	Disordered wax platelets on leaves create golden shine. *Faraday Discussions*, **2020**, 223, 207-215	3.6	6
106	Nanotechnology in a shrimp eye's view. *Nature Nanotechnology*, **2020**, 15, 87-88	28.7	2
105	Retrieving the Coassembly Pathway of Composite Cellulose Nanocrystal Photonic Films from their Angular Optical Response. *Advanced Materials*, **2020**, 32, e1906889	24	20
104	Cellulose Nanocrystal-Templated Tin Dioxide Thin Films for Gas Sensing. *ACS Applied Materials & Interfaces*, **2020**, 12, 12639-12647	9.5	13
103	Optics and photonics in nature: general discussion. *Faraday Discussions*, **2020**, 223, 107-124	3.6	
102	Angular-Independent Photonic Pigments via the Controlled Micellization of Amphiphilic Bottlebrush Block Copolymers. *Advanced Materials*, **2020**, 32, e2002681	24	36
101	Viburnum tinus Fruits Use Lipids to Produce Metallic Blue Structural Color. *Current Biology*, **2020**, 30, 3804-3810.e2	6.3	8
100	Hyperspectral Imaging of Photonic Cellulose Nanocrystal Films: Structure of Local Defects and Implications for Self-Assembly Pathways. *ACS Nano*, **2020**, 14, 15361-15373	16.7	13
99	A heterogeneous microbial consortium producing short-chain fatty acids from lignocellulose. *Science*, **2020**, 369,	33.3	53
98	The limitations of extending nature's color palette in correlated, disordered systems. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 23345-23349	11.5	24
97	Bionic 3D printed corals. *Nature Communications*, **2020**, 11, 1748	17.4	32
96	Cellulose, so much more than paper. *Nature Photonics*, **2019**, 13, 365-367	33.9	38
95	Ab initio nonrigid X-ray nanotomography. *Nature Communications*, **2019**, 10, 2600	17.4	12

94	Controlling the Self-Assembly Behavior of Aqueous Chitin Nanocrystal Suspensions. *Biomacromolecules*, **2019**, 20, 2830-2838	6.9	26
93	Scalable electrochromic nanopixels using plasmonics. *Science Advances*, **2019**, 5, eaaw2205	14.3	83
92	Living light : optics, ecology and design principles of natural photonic structures. *Interface Focus*, **2019**, 9, 20180071	3.9	1
91	Coherent backscattering of light by an anisotropic biological network. *Interface Focus*, **2019**, 9, 20180050	3.9	18
90	Structural colours in the frond of. *Interface Focus*, **2019**, 9, 20180055	3.9	8
89	Coupled Photonic Crystal Nanocavities as a Tool to Tailor and Control Photon Emission. *Ceramics*, **2019**, 2, 34-55	1.7	1
88	Enhancing Photoluminescence and Mobilities in WS Monolayers with Oleic Acid Ligands. *Nano Letters*, **2019**, 19, 6299-6307	11.5	48
87	Long-Wavelength Reflecting Filters Found in the Larval Retinas of One Mantis Shrimp Family (Nannosquillidae). *Current Biology*, **2019**, 29, 3101-3108.e4	6.3	9
86	Role of Anisotropy and Refractive Index in Scattering and Whiteness Optimization. *Advanced Optical Materials*, **2019**, 7, 1900980	8.1	19
85	The angular optical response of cellulose nanocrystal films explained by the distortion of the arrested suspension upon drying. *Physical Review Materials*, **2019**, 3,	3.2	27
84	Visual Appearance of Chiral Nematic Cellulose-Based Photonic Films: Angular and Polarization Independent Color Response with a Twist. *Advanced Materials*, **2019**, 31, e1905151	24	30
83	A Storable Mediatorless Electrochemical Biosensor for Herbicide Detection. *Microorganisms*, **2019**, 7,	4.9	10
82	Hierarchical Photonic Pigments via the Confined Self-Assembly of Bottlebrush Block Copolymers. *ACS Nano*, **2019**, 13, 1764-1771	16.7	71
81	Printing of Responsive Photonic Cellulose Nanocrystal Microfilm Arrays. *Advanced Functional Materials*, **2019**, 29, 1804531	15.6	66
80	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	11.5	23
79	Bio-inspired Highly Scattering Networks via Polymer Phase Separation. *Advanced Functional Materials*, **2018**, 28, 1706901	15.6	44
78	Block Copolymer Micelles for Photonic Fluids and Crystals. *ACS Nano*, **2018**, 12, 3149-3158	16.7	28
77	Photonic Resins: Designing Optical Appearance via Block Copolymer Self-Assembly. *Macromolecules*, **2018**, 51, 2395-2400	5.5	39

76	Anomalous-Diffusion-Assisted Brightness in White Cellulose Nanofibril Membranes. *Advanced Materials*, **2018**, 30, e1704050	24	61
75	Evolutionary-Optimized Photonic Network Structure in White Beetle Wing Scales. *Advanced Materials*, **2018**, 30, e1702057	24	61
74	Ultrastructure and optics of the prism-like petal epidermal cells of Eschscholzia californica (California poppy). *New Phytologist*, **2018**, 219, 1124-1133	9.8	15
73	The Self-Assembly of Cellulose Nanocrystals: Hierarchical Design of Visual Appearance. *Advanced Materials*, **2018**, 30, e1704477	24	240
72	Roll-to-roll fabrication of touch-responsive cellulose photonic laminates. *Nature Communications*, **2018**, 9, 4632	17.4	60
71	Unexpected stability of aqueous dispersions of raspberry-like colloids. *Nature Communications*, **2018**, 9, 3614	17.4	35
70	Disordered Cellulose-Based Nanostructures for Enhanced Light Scattering. *ACS Applied Materials & Interfaces*, **2017**, 9, 7885-7890	9.5	33
69	Controlling the Photonic Properties of Cholesteric Cellulose Nanocrystal Films with Magnets. *Advanced Materials*, **2017**, 29, 1701469	24	117
68	Disorder in convergent floral nanostructures enhances signalling to bees. *Nature*, **2017**, 550, 469-474	50.4	73
67	Development of structural colour in leaf beetles. *Scientific Reports*, **2017**, 7, 1373	4.9	21
66	Scalable and controlled self-assembly of aluminum-based random plasmonic metasurfaces. *Light: Science and Applications*, **2017**, 6, e17015	16.7	33
65	Structural Color in Marine Algae. *Advanced Optical Materials*, **2017**, 5, 1600646	8.1	25
64	Photonics in Nature: From Order to Disorder. *Biologically-inspired Systems*, **2017**, 53-89	0.7	10
63	Hierarchical Self-Assembly of Cellulose Nanocrystals in a Confined Geometry. *ACS Nano*, **2016**, 10, 8443-9	16.7	122
62	Biocompatible and Sustainable Optical Strain Sensors for Large-Area Applications. *Advanced Optical Materials*, **2016**, 4, 1950-1954	8.1	65
61	Flexible Photonic Cellulose Nanocrystal Films. *Advanced Materials*, **2016**, 28, 10042-10047	24	153
60	Shape Memory Cellulose-Based Photonic Reflectors. *ACS Applied Materials & Interfaces*, **2016**, 8, 31935-31940	9.5	54
59	Colour formation on the wings of the butterfly Hypolimnas salmacis by scale stacking. *Scientific Reports*, **2016**, 6, 36204	4.9	27

58	Chapter 17:Bio-mimetic Structural Colour using Biopolymers. *RSC Polymer Chemistry Series*, **2016**, 555-585	1.3	3
57	Structural colour from helicoidal cell-wall architecture in fruits of. *Journal of the Royal Society Interface*, **2016**, 13,	4.1	41
56	Block copolymer self-assembly for nanophotonics. *Chemical Society Reviews*, **2015**, 44, 5076-91	58.5	248
55	Is floral iridescence a biologically relevant cue in plant-pollinator signalling? A response to van der Kooi et al. (2014b). *New Phytologist*, **2015**, 205, 21-2	9.8	7
54	Optical Properties of Gyroid Structured Materials: From Photonic Crystals to Metamaterials. *Advanced Optical Materials*, **2015**, 3, 12-32	8.1	169
53	The flower of Hibiscus trionum is both visibly and measurably iridescent. *New Phytologist*, **2015**, 205, 97-101	9.8	73
52	A high transmission wave-guide wire network made by self-assembly. *Nanoscale*, **2015**, 7, 1032-6	7.7	9
51	Anisotropic Light Transport in White Beetle Scales. *Advanced Optical Materials*, **2015**, 3, 1337-1341	8.1	46
50	Light Transport: Anisotropic Light Transport in White Beetle Scales (Advanced Optical Materials 10/2015). *Advanced Optical Materials*, **2015**, 3, 1336-1336	8.1	1
49	Structural colour in Chondrus crispus. *Scientific Reports*, **2015**, 5, 11645	4.9	18
48	Engineering of light confinement in strongly scattering disordered media. *Nature Materials*, **2014**, 13, 720-5	27	80
47	Light-Directed Writing of Chemically Tunable Narrow-Band Holographic Sensors. *Advanced Optical Materials*, **2014**, 2, 250-254	8.1	98
46	Bright-white beetle scales optimise multiple scattering of light. *Scientific Reports*, **2014**, 4, 6075	4.9	123
45	Digital color in cellulose nanocrystal films. *ACS Applied Materials & Interfaces*, **2014**, 6, 12302-6	9.5	177
44	Ultrafast Nonlinear Response of Gold Gyroid Three-Dimensional Metamaterials. *Physical Review Applied*, **2014**, 2,	4.3	27
43	Controlled, Bio-inspired Self-Assembly of Cellulose-Based Chiral Reflectors. *Advanced Optical Materials*, **2014**, 2, 646-650	8.1	134
42	Natural Helicoidal Structures: Morphology, Self-assembly and Optical Properties. *Materials Today: Proceedings*, **2014**, 1, 177-185	1.4	84
41	Tunable 3D extended self-assembled gold metamaterials with enhanced light transmission. *Advanced Materials*, **2013**, 25, 2713-6	24	76

40	Structural Color and Iridescence in Transparent Sheared Cellulosic Films. *Macromolecular Chemistry and Physics*, **2013**, 214, 25-32	2.6	71
39	The influence of pigmentation patterning on bumblebee foraging from flowers of Antirrhinum majus. *Die Naturwissenschaften*, **2013**, 100, 249-56	2	13
38	Hierarchical Orientation of Crystallinity by Block-Copolymer Patterning and Alignment in an Electric Field. *Chemistry of Materials*, **2013**, 25, 1063-1070	9.6	24
37	Buckling as an origin of ordered cuticular patterns in flower petals. *Journal of the Royal Society Interface*, **2013**, 10, 20120847	4.1	31
36	Analysing photonic structures in plants. *Journal of the Royal Society Interface*, **2013**, 10, 20130394	4.1	133
35	Simultaneous near field imaging of electric and magnetic field in photonic crystal nanocavities. *Photonics and Nanostructures - Fundamentals and Applications*, **2012**, 10, 251-255	2.6	1
34	Ideal homoatomic and heteroatomic photonic crystal molecules. *Photonics and Nanostructures - Fundamentals and Applications*, **2012**, 10, 271-275	2.6	
33	A 3D optical metamaterial made by self-assembly. *Advanced Materials*, **2012**, 24, OP23-7	24	245
32	The mirror crackUd: both pigment and structure contribute to the glossy blue appearance of the mirror orchid, Ophrys speculum. *New Phytologist*, **2012**, 196, 1038-1047	9.8	34
31	Biomimetic layer-by-layer assembly of artificial nacre. *Nature Communications*, **2012**, 3, 966	17.4	264
30	Directional scattering from the glossy flower of Ranunculus: how the buttercup lights up your chin. *Journal of the Royal Society Interface*, **2012**, 9, 1295-301	4.1	29
29	Enhanced downconversion of UV light by resonant scattering of aluminum nanoparticles. *Optics Letters*, **2012**, 37, 368-70	3	12
28	Post-fabrication control of evanescent tunnelling in photonic crystal molecules. *Applied Physics Letters*, **2012**, 101, 211108	3.4	17
27	Pointillist structural color in Pollia fruit. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 15712-5	11.5	369
26	Mode tuning of photonic crystal nanocavities by photoinduced non-thermal oxidation. *Applied Physics Letters*, **2012**, 100, 033116	3.4	25
25	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	11.5	1
24	Photonic Structures in Plants. *Series in Optics and Optoelectronics*, **2012**, 1-18		0
23	Anderson localization of near-visible light in two dimensions. *Optics Letters*, **2011**, 36, 127-9	3	49

22	Youngʼs type interference for probing the mode symmetry in photonic structures. *Physical Review Letters*, **2011**, 106, 143901	7.4	23
21	Interplay of index contrast with periodicity in polymer photonic crystals. *Applied Physics Letters*, **2011**, 99, 261913	3.4	19
20	Nanofluidic control of coupled photonic crystal resonators. *Applied Physics Letters*, **2010**, 96, 141114	3.4	22
19	Mode hybridization in photonic crystal molecules. *Applied Physics Letters*, **2010**, 97, 063101	3.4	18
18	Near field mapping of coupled photonic crystal microcavities. *Journal of Physics: Conference Series*, **2010**, 210, 012059	0.3	
17	Observation of vortices and field correlations in the near-field speckle of a three-dimensional photonic crystal. *Optics Letters*, **2010**, 35, 2001-3	3	5
16	Magnetic imaging in photonic crystal microcavities. *Physical Review Letters*, **2010**, 105, 123902	7.4	43
15	Experimental mapping of the spatial and angular emission patterns in photonic crystal microcavities. *Physica E: Low-Dimensional Systems and Nanostructures*, **2010**, 42, 1148-1150	3	1
14	Sub-wavelength probing and modification of photonic crystal nano-cavities. *Photonics and Nanostructures - Fundamentals and Applications*, **2010**, 8, 78-85	2.6	
13	Near-field imaging of coupled photonic-crystal microcavities. *Applied Physics Letters*, **2009**, 94, 151103	3.4	37
12	Tuning of photonic crystal cavities by controlled removal of locally infiltrated water. *Applied Physics Letters*, **2009**, 95, 173112	3.4	29
11	Polarization-sensitive near-field investigation of photonic crystal microcavities. *Applied Physics Letters*, **2009**, 94, 163102	3.4	26
10	Nonlinear optical tuning of photonic crystal microcavities by near-field probe. *Applied Physics Letters*, **2008**, 93, 023124	3.4	16
9	Local nanofluidic light sources in silicon photonic crystal microcavities. *Physical Review E*, **2008**, 78, 045603	2.4	24
8	Spectral tuning and near-field imaging of photonic crystal microcavities. *Physical Review B*, **2008**, 78,	3.3	54
7	Near-field mapping of quantum dot emission from single-photonic crystal cavity modes. *Physica E: Low-Dimensional Systems and Nanostructures*, **2008**, 40, 1965-1967	3	5
6	Rewritable photonic circuits. *Applied Physics Letters*, **2006**, 89, 211117	3.4	92
5	3D Printing of Liquid Crystalline Hydroxypropyl CelluloseToward Tunable and Sustainable Volumetric Photonic Structures. *Advanced Functional Materials*,2108566	15.6	8

4	Recent Progress in Production Methods for Cellulose Nanocrystals: Leading to More Sustainable Processes. *Advanced Sustainable Systems*,2100100	5.9	0
3	Microcavity-Like Exciton-Polaritons can be the Primary Photoexcitation in Bare Organic Semiconductors		3
2	Recent Advances in Block Copolymer Self-Assembly for the Fabrication of Photonic Films and Pigments. *Advanced Optical Materials*,2100519	8.1	14
1	Revealing the Structural Coloration of Self-Assembled Chitin Nanocrystal Films. *Advanced Materials*,2203300	24	3