Alfred Forchel

List of Publications by Citations

126 papers	5,186 citations	36 h-index	70 g-index
162 ext. papers	5,843 ext. citations	5.7 avg, IF	4.92 L-index

#	Paper	IF	Citations
126	Quantum-dot spin-photon entanglement via frequency downconversion to telecom wavelength. *Nature*, **2012**, 491, 421-5	50.4	345
125	An electrically pumped polariton laser. *Nature*, **2013**, 497, 348-52	50.4	325
124	Superradiance of quantum dots. *Nature Physics*, **2007**, 3, 106-110	16.2	324
123	Atomically flat single-crystalline gold nanostructures for plasmonic nanocircuitry. *Nature Communications*, **2010**, 1, 150	17.4	314
122	Photon antibunching from a single quantum-dot-microcavity system in the strong coupling regime. *Physical Review Letters*, **2007**, 98, 117402	7.4	281
121	Ultrafast optical spin echo in a single quantum dot. *Nature Photonics*, **2010**, 4, 367-370	33.9	244
120	Room temperature lasing at blue wavelengths in gallium nitride microcavities. *Science*, **1999**, 285, 1905-6	33.3	203
119	Ultrafast coherent control and suppressed nuclear feedback of a single quantum dot hole qubit. *Nature Physics*, **2011**, 7, 872-878	16.2	188
118	Single vortex–antivortex pair in an exciton-polariton condensate. *Nature Physics*, **2011**, 7, 129-133	16.2	168
117	Direct comparison of catalyst-free and catalyst-induced GaN nanowires. *Nano Research*, **2010**, 3, 528-536	10	154
116	Dynamical d-wave condensation of exciton–polaritons in a two-dimensional square-lattice potential. *Nature Physics*, **2011**, 7, 681-686	16.2	122
115	Mode imaging and selection in strongly coupled nanoantennas. *Nano Letters*, **2010**, 10, 2105-10	11.5	115
114	Two-dimensional photonic crystal coupled-defect laser diode. *Applied Physics Letters*, **2003**, 82, 4-6	3.4	115
113	Properties of GaN Nanowires Grown by Molecular Beam Epitaxy. *IEEE Journal of Selected Topics in Quantum Electronics*, **2011**, 17, 878-888	3.8	99
112	Power-law decay of the spatial correlation function in exciton-polariton condensates. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 6467-72	11.5	95
111	Polarization-independent active metamaterial for high-frequency terahertz modulation. *Optics Express*, **2009**, 17, 819-27	3.3	95
110	Photonic crystal tapers for ultracompact mode conversion. *Optics Letters*, **2001**, 26, 1102-4	3	93

109	Exciton-polariton condensates with flat bands in a two-dimensional kagome lattice. *New Journal of Physics*, **2012**, 14, 065002	2.9	81
108	Optimization of photonic crystal cavity for chemical sensing. *Optics Express*, **2008**, 16, 11709-17	3.3	71
107	InAs/InP Quantum-Dash Lasers and Amplifiers. *Proceedings of the IEEE*, **2007**, 95, 1779-1790	14.3	66
106	Quantum key distribution using quantum dot single-photon emitting diodes in the red and near infrared spectral range. *New Journal of Physics*, **2012**, 14, 083001	2.9	63
105	From polariton condensates to highly photonic quantum degenerate states of bosonic matter. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 1804-9	11.5	63
104	Photonic crystal optical filter based on contra-directional waveguide coupling. *Applied Physics Letters*, **2003**, 83, 5121-5123	3.4	63
103	Gain-induced trapping of microcavity exciton polariton condensates. *Physical Review Letters*, **2010**, 104, 126403	7.4	62
102	Observing chaos for quantum-dot microlasers with external feedback. *Nature Communications*, **2011**, 2, 366	17.4	57
101	Characterization of two-threshold behavior of the emission from a GaAs microcavity. *Physical Review B*, **2012**, 85,	3.3	51
100	Downconversion quantum interface for a single quantum dot spin and 1550-nm single-photon channel. *Optics Express*, **2012**, 20, 27510-9	3.3	48
99	Algebraic order and the Berezinskii-Kosterlitz-Thouless transition in an exciton-polariton gas. *Physical Review B*, **2014**, 90,	3.3	45
98	Unconventional growth mechanism for monolithic integration of III-V on silicon. *ACS Nano*, **2013**, 7, 100-7	16.7	44
97	Pulsed nuclear pumping and spin diffusion in a single charged quantum dot. *Physical Review Letters*, **2010**, 105, 107401	7.4	44
96	Influence of the strain on the formation of GaInAs/GaAs quantum structures. *Journal of Crystal Growth*, **2006**, 286, 6-10	1.6	42
95	Fourier Transformed Photoreflectance and Photoluminescence of Mid Infrared GaSb-Based Type II Quantum Wells. *Applied Physics Express*, **2009**, 2, 126505	2.4	39
94	Scalable fabrication of optical resonators with embedded site-controlled quantum dots. *Optics Letters*, **2008**, 33, 1759-61	3	37
93	CdSe quantum dot microdisk laser. *Applied Physics Letters*, **2006**, 89, 231104	3.4	37
92	Ultrahigh-quality photonic crystal cavity in GaAs. *Optics Letters*, **2006**, 31, 1229-31	3	37

91	Bright single photon source based on self-aligned quantum dot-cavity systems. *Optics Express*, **2014**, 22, 8136-42	3.3	36
90	Single photon emission from InGaN/GaN quantum dots up to 50 K. *Applied Physics Letters*, **2012**, 100, 061115	3.4	34
89	Ultrafast tracking of second-order photon correlations in the emission of quantum-dot microresonator lasers. *Physical Review B*, **2010**, 81,	3.3	32
88	Higher order coherence of exciton-polariton condensates. *Physical Review B*, **2010**, 81,	3.3	32
87	Ultrahigh-Q photonic crystal cavity created by modulating air hole radius of a waveguide. *Optics Express*, **2008**, 16, 4605-14	3.3	32
86	Enhanced transmission through photonic-crystal-based bent waveguides by bend engineering. *Applied Physics Letters*, **2001**, 79, 3579-3581	3.4	32
85	Stochastic formation of polariton condensates in two degenerate orbital states. *Physical Review B*, **2013**, 87,	3.3	29
84	Numerical and Experimental Study of the Q Factor of High-Q Micropillar Cavities. *IEEE Journal of Quantum Electronics*, **2010**, 46, 1470-1483	2	29
83	Tapered quantum cascade lasers. *Applied Physics Letters*, **2007**, 91, 181122	3.4	29
82	Fabrication of quantum point contacts by imprint lithography and transport studies. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **2000**, 18, 3561		29
81	Free space quantum key distribution over 500 meters using electrically driven quantum dot single-photon sources□ proof of principle experiment. *New Journal of Physics*, **2014**, 16, 043003	2.9	28
80	Complete tomography of a high-fidelity solid-state entangled spin-photon qubit pair. *Nature Communications*, **2013**, 4, 2228	17.4	26
79	Widely tunable quantum cascade lasers with coupled cavities for gas detection. *Applied Physics Letters*, **2010**, 97, 181111	3.4	25
78	Single-mode operation of coupled-cavity lasers based on two-dimensional photonic crystals. *Applied Physics Letters*, **2001**, 79, 4091-4093	3.4	21
77	Single mode quantum cascade lasers with shallow-etched distributed Bragg reflector. *Optics Express*, **2012**, 20, 3890-7	3.3	20
76	Recent advances in semiconductor quantum-dot lasers. *Comptes Rendus Physique*, **2003**, 4, 611-619	1.4	18
75	Ghost Branch Photoluminescence From a Polariton Fluid Under Nonresonant Excitation. *Physical Review Letters*, **2015**, 115, 186401	7.4	17
74	Site-controlled InP/GaInP quantum dots emitting single photons in the red spectral range. *Applied Physics Letters*, **2012**, 100, 091109	3.4	17

73	Temperature Dependence of Highly Excited Exciton Polaritons in Semiconductor Microcavities. *Journal of the Physical Society of Japan*, **2013**, 82, 084709	1.5	17
72	Single-photon emitters based on epitaxial isolated InP/InGaP quantum dots. *Applied Physics Letters*, **2012**, 100, 023116	3.4	17
71	Preamplified planar microcoil on GaAs substrates for microspectroscopy. *Review of Scientific Instruments*, **2003**, 74, 4855-4857	1.7	17
70	High Performance 1.3 μm Quantum-Dot Lasers. *Japanese Journal of Applied Physics*, **2002**, 41, 1158-1161	1.4	17
69	Microthermography of diode lasers: The impact of light propagation on image formation. *Journal of Applied Physics*, **2009**, 105, 014502	2.5	15
68	High brightness GaInAs/(Al)GaAs quantum-dot tapered lasers at 980 nm with high wavelength stability. *Applied Physics Letters*, **2004**, 84, 2238-2240	3.4	15
67	Transmission spectroscopy of photonic crystal based waveguides with resonant cavities. *Journal of Applied Physics*, **2002**, 91, 4791-4794	2.5	15
66	High-energy side-peak emission of exciton-polariton condensates in high density regime. *Scientific Reports*, **2016**, 6, 25655	4.9	14
65	In(Ga)As/GaAs site-controlled quantum dots with tailored morphology and high optical quality. *Physica Status Solidi (A) Applications and Materials Science*, **2012**, 209, 2379-2386	1.6	14
64	Temperature dependence of pulsed polariton lasing in a GaAs microcavity. *New Journal of Physics*, **2012**, 14, 083014	2.9	13
63	Highly excited exciton-polariton condensates. *Physical Review B*, **2017**, 95,	3.3	12
62	Height-driven linear polarization of the surface emission from quantum dashes. *Semiconductor Science and Technology*, **2012**, 27, 105022	1.8	12
61	Electrically Driven Quantum Dot Micropillar Light Sources. *IEEE Journal of Selected Topics in Quantum Electronics*, **2011**, 17, 1670-1680	3.8	12
60	Spatial photon trapping: tailoring the optical properties of semiconductor microcavities. *Semiconductor Science and Technology*, **2003**, 18, S339-S350	1.8	12
59	Frequency-Dependent Linewidth Enhancement Factor of Quantum-Dot Lasers. *IEEE Photonics Technology Letters*, **2008**, 20, 1736-1738	2.2	11
58	High-Performance Short-Wavelength (sim760 nm) AlGaInAs Quantum-Dot Lasers. *IEEE Photonics Technology Letters*, **2007**, 19, 1380-1382	2.2	11
57	GaInNAs-Based High-Power and Tapered Laser Diodes for Pumping Applications. *IEEE Journal of Selected Topics in Quantum Electronics*, **2009**, 15, 968-972	3.8	10
56	2-mu m Mode-Locked Semiconductor Disk Laser Synchronously Pumped Using an Amplified Diode Laser. *IEEE Photonics Technology Letters*, **2008**, 20, 1332-1334	2.2	10

55	Gain Studies on Quantum-Dot Lasers With Temperature-Stable Emission Wavelength. *IEEE Journal of Quantum Electronics*, **2008**, 44, 175-181	2	10
54	Elimination of cross-talk in waveguide intersections of triangular lattice photonic crystals. *Optics Express*, **2008**, 16, 11399-404	3.3	9
53	Optical Study of Intermixing in CdTe/CdMgTe Quantum Wells. *Japanese Journal of Applied Physics*, **1994**, 33, L247-L249	1.4	9
52	f-band condensates in exciton-polariton lattice systems. *Physical Review B*, **2014**, 89,	3.3	8
51	Short-Wavelength (760920 nm) AlGaInAs Quantum Dot Lasers. *IEEE Journal of Selected Topics in Quantum Electronics*, **2009**, 15, 792-798	3.8	8
50	Influence of arsenic flux on the annealing properties of GaInNAs quantum wells for long wavelength laser applications around 1.6h. *Journal of Crystal Growth*, **2009**, 311, 1715-1718	1.6	8
49	Widely Tunable Photonic Crystal Coupled Cavity Lasers on GaSb. *IEEE Photonics Technology Letters*, **2008**, 20, 1100-1102	2.2	8
48	Single mode emitting ridge waveguide quantum cascade lasers coupled to an active ring resonator filter. *Applied Physics Letters*, **2008**, 93, 211106	3.4	8
47	Spatial dynamics of stepwise homogeneously pumped polariton condensates. *Physical Review B*, **2012**, 86,	3.3	7
46	Extrapolation of the intensity autocorrelation function of a quantum-dot micropillar laser into the thermal emission regime. *Journal of the Optical Society of America B: Optical Physics*, **2011**, 28, 1404	1.7	7
45	Highly indistinguishable photons from a quantum dot in a microcavity. *Physica Status Solidi (B): Basic Research*, **2011**, 248, 867-871	1.3	7
44	Magnetic-field asymmetry of nonlinear transport in narrow channels with asymmetric hybrid confinement. *Applied Physics Letters*, **2009**, 95, 062106	3.4	7
43	Glass supported ZnSe microring strongly coupled to a single CdSe quantum dot. *Applied Physics Letters*, **2008**, 93, 151109	3.4	7
42	Widely Tunable Coupled Cavity Lasers at 1.9 mum on GaSb. *IEEE Photonics Technology Letters*, **2007**, 19, 592-594	2.2	7
41	Structural and optical properties of position-retrievable low-density GaAs droplet epitaxial quantum dots for application to single photon sources with plasmonic optical coupling. *Nanoscale Research Letters*, **2015**, 10, 114	5	6
40	Distributed feedback quantum cascade lasers at 13.8 h on indium phosphide. *Applied Physics Letters*, **2011**, 98, 211118	3.4	6
39	DFB Lasers With Deeply Etched Vertical Grating Based on InAshP Quantum-Dash Structures. *IEEE Photonics Technology Letters*, **2007**, 19, 264-266	2.2	6
38	Spatial correlation of two-dimensional bosonic multimode condensates. *Physical Review A*, **2016**, 93,	2.6	5

37	Modal Analysis of Large Spot Size, Low Output Beam Divergence Quantum-Dot Lasers. *IEEE Photonics Technology Letters*, **2007**, 19, 916-918	2.2	5
36	Immersion Layer in Columnar Quantum Dash Structure as a Polarization Insensitive Light Emitter at 1.55 μm. *Applied Physics Express*, **2009**, 2, 061102	2.4	4
35	High-Power Frequency Stabilized GaSb DBR Tapered Laser. *IEEE Photonics Technology Letters*, **2008**, 20, 2162-2164	2.2	4
34	2 watt 2 μm Tm/Ho fiber laser system passively Q-switched by antimonide semiconductor saturable absorber **2008**,		4
33	First-order gain-coupled (Ga,In)As/(Al,Ga)As distributed feedback lasers by focused ion beam implantation and in situ overgrowth. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **1995**, 13, 2714		4
32	Mode-Controlled Tapered Lasers Based on Quantum Dots. *IEEE Journal of Selected Topics in Quantum Electronics*, **2009**, 15, 780-784	3.8	3
31	Quantum Cascade Microlasers With Two-Dimensional Photonic Crystal Reflectors. *IEEE Photonics Technology Letters*, **2007**, 19, 1937-1939	2.2	3
30	Optical characterization of ZnSe/ZnMgSSe microdisks with embedded CdSe quantum dots. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2007**, 4, 3289-3296		3
29	Planar High Index-Contrast Photonic Crystals for Telecom Applications **2006**, 308-328		3
28	High-power and low-noise 1.55 μm InP-based quantum dash lasers **2004**, 5452, 22		3
27	Many-Body Effects in the Magnetoplasma of In0.13Ga0.87As/GaAs Quantum Wires. *Japanese Journal of Applied Physics*, **1995**, 34, 4408-4410	1.4	3
26	Investigation of Random and Channeling Ar+Implantation-Induced Damage in Al(In)GaAs/GaAs Quantum Wells. *Japanese Journal of Applied Physics*, **1992**, 31, 4428-4432	1.4	3
25	Exciton-Polariton Condensates in Zero-, One-, and Two-Dimensional Lattices. *Springer Series in Solid-state Sciences*, **2013**, 157-175	0.4	3
24	Spatial and temporal dynamics of the crossover from exciton-polariton condensation to photon lasing. *Japanese Journal of Applied Physics*, **2015**, 54, 092801	1.4	2
23	Microcavity mode structure investigations with high spatial resolution. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2011**, 8, 1239-1241		2
22	Codirectional couplers in GaAs-based planar photonic crystals. *Applied Physics Letters*, **2005**, 86, 081108	3.4	2
21	AlGaInAs Quantum Dots for Intermediate Band Formation in Solar Cell Devices. *Lecture Notes in Nanoscale Science and Technology*, **2014**, 167-186	0.3	1
20	An electrically pumped polariton laser **2015**,		1

19	Recent advances in GaSb-based structures for mid-infrared emitting lasers: spectroscopic study **2013**,		1
18	Tunable Long Wavelength (sim2.8 mum) GaInAsSb□GaSb Quantum-Well Binary Superimposed Grating Lasers. *IEEE Photonics Technology Letters*, **2010**,	2.2	1
17	Magnetic-field asymmetry of nonlinear mesoscopic transport in channels coupled to a single metallic gate. *Physica E: Low-Dimensional Systems and Nanostructures*, **2010**, 42, 2055-2057	3	1
16	Photonic Crystal Based Active Optoelectronic Devices **2006**, 329-346		1
15	Nanostructured semiconductors for optoelectronic applications **2006**,		1
14	Recent advances in nanophotonics□rom physics to devices. *Current Applied Physics*, **2006**, 6, e166-e171	2.6	1
13	Low-loss photonic crystal and monolithic InP integration: bands, bends, lasers, and filters **2004**, 5360, 119		1
12	Ballistic transport in nanoscale field effect transistors revealed by four-terminal DC characterization. *Superlattices and Microstructures*, **2003**, 34, 271-275	2.8	1
11	System performance of a modern hollow-core optical fiber coupled to a quantum cascade laser: transmission efficiency and relative intensity noise **2005**,		1
10	GaAs/AlGaAs-Quantenkaskaden-Laser (GaAs/AlGaAs Quantum Cascade Lasers). *TM Technisches Messen*, **2005**, 72,	0.7	1
9	Transient Oscillatory Behaviors of Polariton Condensates. *Journal of the Physical Society of Japan*, **2018**, 87, 094401	1.5	1
8	Design and Continuous-Wave Room-Temperature Performance of Ga(AlInAs)Sb DFB Lasers at 2.8 mu m. *IEEE Photonics Technology Letters*, **2009**, 21, 36-38	2.2	0
7	Optical Properties of Quantum Dashes. *Solid State Phenomena*, **2014**, 213, 3-11	0.4	
6	Optical properties of well-isolated single InP/InGaP quantum dots. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2012**, 9, 1288-1291		
5	Coherence length of high-□emiconductor microcavity lasers. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2009**, 6, 568-571		
4	Non-resonant cavity-quantum dot coupling. *Journal of Physics: Conference Series*, **2010**, 210, 012058	0.3	
3	High-brightness GaInAs/(Al)GaAs quantum dot tapered lasers at 980 nm with a high wavelength stability **2004**, 5365, 60		
2	Strained InAs/AlxGa0.48 □In0.52As heterostructures: a tunable quantum well materials system for light emission from the near-IR to the mid-IR. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **1993**, 21, 288-292	3.1	

1 Nonlinear Transport Properties of Electron Y-Branch Switches. *Advances in Solid State Physics*, **2009**, 305-316