

# Yuriy Fedoryshyn

## List of Publications by Year in descending order

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Version: 2024-02-01

115  
papers

4,227  
citations

117571

34  
h-index

114418

63  
g-index

116  
all docs

116  
docs citations

116  
times ranked

3551  
citing authors

#	ARTICLE	IF	CITATIONS
1	All-plasmonic Mach-Zehnder modulator enabling optical high-speed communication at the microscale. <i>Nature Photonics</i> , 2015, 9, 525-528.	15.6	466
2	Low-loss plasmon-assisted electro-optic modulator. <i>Nature</i> , 2018, 556, 483-486.	13.7	312
3	High-speed plasmonic modulator in a single metal layer. <i>Science</i> , 2017, 358, 630-632.	6.0	236
4	On-Chip Narrowband Thermal Emitter for Mid-IR Optical Gas Sensing. <i>ACS Photonics</i> , 2017, 4, 1371-1380.	3.2	190
5	500 GHz plasmonic Mach-Zehnder modulator enabling sub-THz microwave photonics. <i>APL Photonics</i> , 2019, 4, .	3.0	176
6	Quantum Cascade Detectors. <i>IEEE Journal of Quantum Electronics</i> , 2009, 45, 1039-1052.	1.0	175
7	100 GHz Plasmonic Photodetector. <i>ACS Photonics</i> , 2018, 5, 3291-3297.	3.2	146
8	Plasmonic modulator with >170 GHz bandwidth demonstrated at 100 GBd NRZ. <i>Optics Express</i> , 2017, 25, 1762.	1.7	125
9	Silicon-Organic and Plasmonic-Organic Hybrid Photonics. <i>ACS Photonics</i> , 2017, 4, 1576-1590.	3.2	123
10	Nonlinearities of organic electro-optic materials in nanoscale slots and implications for the optimum modulator design. <i>Optics Express</i> , 2017, 25, 2627.	1.7	114
11	Plasmonic IQ modulators with attojoule per bit electrical energy consumption. <i>Nature Communications</i> , 2019, 10, 1694.	5.8	112
12	Perpendicular Grating Coupler Based on a Blazed Antireflection Structure. <i>Journal of Lightwave Technology</i> , 2017, 35, 4663-4669.	2.7	103
13	The plasmonic memristor: a latching optical switch. <i>Optica</i> , 2014, 1, 198.	4.8	100
14	A monolithic bipolar CMOS electronic-plasmonic high-speed transmitter. <i>Nature Electronics</i> , 2020, 3, 338-345.	13.1	89
15	Electrically Controlled Plasmonic Switches and Modulators. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2015, 21, 276-283.	1.9	88
16	Direct Conversion of Free Space Millimeter Waves to Optical Domain by Plasmonic Modulator Antenna. <i>Nano Letters</i> , 2015, 15, 8342-8346.	4.5	85
17	Direct-Gap Gain and Optical Absorption in Germanium Correlated to the Density of Photoexcited Carriers, Doping, and Strain. <i>Physical Review Letters</i> , 2012, 109, 057402.	2.9	84
18	Silicon-plasmonic internal-photoemission detector for 40 Gbit/s data reception. <i>Optica</i> , 2016, 3, 741.	4.8	84

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19	Compact Mid-Infrared Gas Sensing Enabled by an All-Metamaterial Design. <i>Nano Letters</i> , 2020, 20, 4169-4176.	4.5	83
20	Compact and ultra-efficient broadband plasmonic terahertz field detector. <i>Nature Communications</i> , 2019, 10, 5550.	5.8	77
21	Plasmonic Organic Hybrid Modulators—Scaling Highest Speed Photonics to the Microscale. <i>Proceedings of the IEEE</i> , 2016, 104, 2362-2379.	16.4	76
22	Effect of Rigid Bridge-Protection Units, Quadrupolar Interactions, and Blending in Organic Electro-Optic Chromophores. <i>Chemistry of Materials</i> , 2017, 29, 6457-6471.	3.2	76
23	108 Gbit/s Plasmonic Mach-Zehnder Modulator with > 70-GHz Electrical Bandwidth. <i>Journal of Lightwave Technology</i> , 2016, 34, 393-400.	2.7	71
24	Microwave plasmonic mixer in a transparent fibre—wireless link. <i>Nature Photonics</i> , 2018, 12, 749-753.	15.6	67
25	Plasmonic-organic hybrid (POH) modulators for OOK and BPSK signaling at 40 Gbit/s. <i>Optics Express</i> , 2015, 23, 9938.	1.7	65
26	Nano—opto-electro-mechanical switches operated at CMOS-level voltages. <i>Science</i> , 2019, 366, 860-864.	6.0	64
27	Harnessing nonlinearities near material absorption resonances for reducing losses in plasmonic modulators. <i>Optical Materials Express</i> , 2017, 7, 2168.	1.6	51
28	High speed plasmonic modulator array enabling dense optical interconnect solutions. <i>Optics Express</i> , 2015, 23, 29746.	1.7	49
29	Ultra-High-Speed 2:1 Digital Selector and Plasmonic Modulator IM/DD Transmitter Operating at 222 GBaud for Intra-Datacenter Applications. <i>Journal of Lightwave Technology</i> , 2020, 38, 2734-2739.	2.7	45
30	120 GBd plasmonic Mach-Zehnder modulator with a novel differential electrode design operated at a peak-to-peak drive voltage of 178 mV. <i>Optics Express</i> , 2019, 27, 16823.	1.7	44
31	Optimization of Plasmonic-Organic Hybrid Electro-Optics. <i>Journal of Lightwave Technology</i> , 2018, 36, 5036-5047.	2.7	41
32	Electro-optic interface for ultrasensitive intracavity electric field measurements at microwave and terahertz frequencies. <i>Optica</i> , 2020, 7, 498.	4.8	39
33	2-D Grating Couplers for Vertical Fiber Coupling in Two Polarizations. <i>IEEE Photonics Journal</i> , 2019, 11, 1-9.	1.0	38
34	Ultra compact electrochemical metallization cells offering reproducible atomic scale memristive switching. <i>Communications Physics</i> , 2019, 2, .	2.0	35
35	Plasmonic phased array feeder enabling ultra-fast beam steering at millimeter waves. <i>Optics Express</i> , 2016, 24, 25608.	1.7	32
36	Ultra-Compact Terabit Plasmonic Modulator Array. <i>Journal of Lightwave Technology</i> , 2019, 37, 1484-1491.	2.7	26

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37	Transparent Optical-THz-Optical Link at 240/192 Gbit/s Over 5/115 m Enabled by Plasmonics. Journal of Lightwave Technology, 2022, 40, 1690-1697.	2.7	24
38	Ultrahigh-Net-Bitrate 363 Gbit/s PAM-8 and 279 Gbit/s Polybinary Optical Transmission Using Plasmonic Mach-Zehnder Modulator. Journal of Lightwave Technology, 2022, 40, 3338-3346.	2.7	21
39	Characterization of Si volume- and delta-doped InGaAs grown by molecular beam epitaxy. Journal of Applied Physics, 2010, 107, 093710.	1.1	20
40	Optical Interconnect Solution With Plasmonic Modulator and Ge Photodetector Array. IEEE Photonics Technology Letters, 2017, 29, 1760-1763.	1.3	19
41	Low-loss hybrid plasmonic coupler. Optics Express, 2019, 27, 11862.	1.7	19
42	Coherent few mode demultiplexer realized as a 2D grating coupler array in silicon. Optics Express, 2020, 28, 36009.	1.7	19
43	Broadband, High-Temperature Stable Reflector for Aerospace Thermal Radiation Protection. ACS Applied Materials & Interfaces, 2020, 12, 9925-9934.	4.0	18
44	Tuning the intersubband absorption in strained AlAsSb <sup>δ</sup> -InGaAs quantum wells towards the telecommunications wavelength range. Journal of Applied Physics, 2006, 100, 116104.	1.1	16
45	Surface Chemical Tuning of Phonon and Electron Transport in Free-Standing Silicon Nanowire Arrays. Nano Letters, 2016, 16, 6364-6370.	4.5	16
46	Optical waveguide structure for an all-optical switch based on intersubband transitions in InGaAs/AlAsSb quantum wells. Optics Letters, 2007, 32, 2680.	1.7	15
47	Reduced Equalization Needs of 100 GHz Bandwidth Plasmonic Modulators. Journal of Lightwave Technology, 2019, 37, 2050-2057.	2.7	14
48	100 GBd IM/DD transmission over 14 km SMF in the C-band enabled by a plasmonic SSB MZM. Optics Express, 2020, 28, 8601.	1.7	13
49	Plasmonics <sup>2</sup> high-speed photonics for co-integration with electronics. Japanese Journal of Applied Physics, 2021, 60, SB0806.	0.8	12
50	Driver-Less Sub 1 Vpp Operation of a Plasmonic-Organic Hybrid Modulator at 100 GBd NRZ. , 2018, , .		12
51	Transparent Optical-THz-Optical Link Transmission over 5/115 m at 240/190 Gbit/s Enabled by Plasmonics. , 2021, , .		12
52	Compact, ultra-broadband plasmonic grating couplers. Optics Express, 2019, 27, 29719.	1.7	11
53	InP-based planar photonic crystal waveguide in honeycomb lattice geometry for TM-polarized light. Optics Letters, 2009, 34, 1558.	1.7	10
54	High-speed plasmonic Mach-Zehnder modulator in a waveguide. , 2014, , .		10

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55	All-Plasmonic IQ Modulator With a 36 $\lambda/4$ m Fiber-to-Fiber Pitch. Journal of Lightwave Technology, 2019, 37, 1492-1497.	2.7	10
56	Plasmonic-MZM-based Short-Reach Transmission up to 10 km Supporting $\geq$ 304 GBd Polybinary or 432 Gbit/s PAM-8 Signaling. , 2021, , .		10
57	Growth of AlAsSb/InGaAs MBE-layers for all-optical switches. Journal of Crystal Growth, 2005, 278, 544-547.	0.7	9
58	Resistive switching of alkanethiolated nanoparticle monolayers patterned by electron-beam exposure. Physical Chemistry Chemical Physics, 2016, 18, 22783-22788.	1.3	8
59	Complementary split-ring resonator antenna coupled quantum dot infrared photodetector. Applied Physics Letters, 2017, 110, 091106.	1.5	8
60	Three Operation Modes for Tb/s All-Optical Switching With Intersubband Transitions in InGaAs/AlAs/AlAsSb Quantum Wells. IEEE Journal of Quantum Electronics, 2012, 48, 885-890.	1.0	7
61	Ultra-compact plasmonic IQ-modulator. , 2015, , .		7
62	Plasmonic devices for communications. , 2015, , .		7
63	Evidence for faster etching at the mask-substrate interface: atomistic simulation of complex cavities at the micron-/submicron-scale by the continuous cellular automaton. Journal of Micromechanics and Microengineering, 2016, 26, 045013.	1.5	7
64	Water-Mediated Assembly of Gold Nanoparticles into Aligned One-Dimensional Superstructures. Langmuir, 2015, 31, 7220-7227.	1.6	6
65	300 GHz Plasmonic Mixer. , 2019, , .		6
66	High Speed Photoconductive Plasmonic Germanium Detector. , 2017, , .		6
67	Ultrafast all-optical switching based on cross modulation utilizing intersubband transitions in InGaAs/AlAs/AlAsSb coupled quantum wells with DFB grating waveguides. Optics Express, 2011, 19, 9461.	1.7	5
68	Antenna Coupled Plasmonic Modulator. , 2015, , .		5
69	Photonic integration for high-density and multifunctionality in the InP-material system. , 2006, , .		3
70	Compact Inline Resonant Photonic Crystal Fabry-Pérot Cavities for TM-Polarized Light. IEEE Photonics Technology Letters, 2011, 23, 224-226.	1.3	3
71	Plasmonic Internal Photoemission Detectors with Responsivities above 0.12 A/W. , 2015, , .		3
72	Ultra-Compact 0.8 Tbit/s Plasmonic Modulator Array. , 2018, , .		3

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73	Sub-V Opto-Electro-Mechanical Switch. , 2019, , .		3
74	500 GHz Plasmonic Mach-Zehnder Modulator. , 2019, , .		3
75	Broadband Plasmonic Modulator Enabling Single Carrier Operation Beyond 100 Gbit/s. , 2017, , .		3
76	Plasmonics for Communications. , 2018, , .		3
77	Microwave plasmonics: A novel platform for RF photonics. , 2016, , .		3
78	180 GBd Electronic-Plasmonic IC Transmitter. , 2022, , .		3
79	Modeling of ultrafast recovery times and saturation intensities of the intersubband absorption in InGaAs/AlAs/AlAsSb coupled double quantum wells. Proceedings of SPIE, 2011, , .	0.8	2
80	Latching Plasmonic Switch with High Extinction Ratio. , 2014, , .		2
81	Growth parameter optimization and interface treatment for enhanced electron mobility in heavily strained GaInAs/AlInAs high electron mobility transistor structures. Journal of Applied Physics, 2014, 115, 043718.	1.1	2
82	Monitoring the transformation of aliphatic and fullerene molecules by high-energy electrons using surface-enhanced Raman spectroscopy. Nanotechnology, 2017, 28, 165701.	1.3	2
83	Visualizing Local Morphology and Conductivity Switching in Interface-Assembled Nanoporous C <sub>60</sub> Thin Films. ACS Applied Materials & Interfaces, 2017, 9, 27166-27172.	4.0	2
84	Novel applications of plasmonics and photonics devices to sub-THz wireless. , 2020, , .		2
85	Wired and wireless high-speed communications enabled by plasmonics. , 2016, , .		1
86	PIPED: A silicon-plasmonic high-speed photodetector. , 2017, , .		1
87	Nonlinear Distortions in Plasmonic Mach-Zehnder Modulators. , 2018, , .		1
88	100 GBd Ultra-Compact Plasmonic Graphene Photodetector. , 2018, , .		1
89	Bypassing Loss in Plasmonic Modulators. , 2018, , .		1
90	Photonic-Plasmonic Hybrid Waveguide Couplers with a 91% Efficiency. , 2018, , .		1

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91	Perfect Vertical Grating Coupler with Directionality of 97% on a Standard SOI Platform. , 2017, , .		1
92	Ultra-Compact All-Metamaterial NDIR CO2 Sensor. , 2019, , .		1
93	Plasmonic Data Center Interconnects (DCIs). , 2021, , .		1
94	Plasmonic Modulators for Microwave Photonics Applications. , 2017, , .		1
95	Plasmonic-Organic Hybrid Modulators for Optical Interconnects beyond 100G/ŕ. , 2018, , .		1
96	Ultrafast Beam Steering Enabled by Photonics & Plasmonics. , 2018, , .		1
97	Multi-scale theory-assisted nano-engineering of plasmonic-organic hybrid electro-optic device performance. , 2018, , .		1
98	Integrated photonic and plasmonic technologies for microwave signal processing enabling mm-wave and sub-THz wireless communication systems. , 2019, , .		1
99	Low-Power Data Center Transponders Enabled by Micrometer-scale Plasmonic Modulators. , 2020, , .		1
100	Powerful light pulse formation in passive cavities. , 2003, , .		0
101	Atomic scale plasmonic devices. , 2016, , .		0
102	Plasmonic interconnects - a dense and fast interconnect solution. , 2017, , .		0
103	What can Plasmonics Bring to Microwave Photonics?. , 2018, , .		0
104	Plasmonics for Next-Generation Wireless Systems. , 2018, , .		0
105	Vertical Metallic Grating Couplers Enabling Direct Access to Plasmonic Devices. , 2017, , .		0
106	Plasmonics for RF Photonics. , 2018, , .		0
107	Dual-Drive Plasmonic Transmitter with Co-Designed Driver Electronics operated at 120 GBd On-Off Keying. , 2019, , .		0
108	All-Plasmonic 100 GBd Optical Communication Link. , 2019, , .		0

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109	Atomic-Scale Photonic Memristive and Nano-Opto-Electro-Mechanical Devices Enabled by Plasmonics. , 2020, , .		0
110	MEMS Plasmonics and Memristive Plasmonics for Optical Communications. , 2020, , .		0
111	Integrated Plasmonic Terahertz Field Detector. , 2020, , .		0
112	Broadband, Temperature-Stable, Reflective Additives to Enhance Thermal Radiation Protection Systems. , 2020, , .		0
113	Plasmonic phased array feeder enabling symbol-by-symbol mm-wave beam steering at 60 GHz. , 2016, , .		0
114	Electro-optic interface for ultrasensitive intra-cavity electric field sensing. , 2020, , .		0
115	Plasmonics in Future Radio Communications: Potential and Challenges. , 2022, , .		0