

# Daniele Melati

## List of Publications by Year in descending order

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71  
papers

1,233  
citations

471509

17  
h-index

361022

35  
g-index

72  
all docs

72  
docs citations

72  
times ranked

1183  
citing authors

#	ARTICLE	IF	CITATIONS
1	An introduction to InP-based generic integration technology. <i>Semiconductor Science and Technology</i> , 2014, 29, 083001.	2.0	422
2	Mapping the global design space of nanophotonic components using machine learning pattern recognition. <i>Nature Communications</i> , 2019, 10, 4775.	12.8	105
3	Real photonic waveguides: guiding light through imperfections. <i>Advances in Optics and Photonics</i> , 2014, 6, 156.	25.5	72
4	Reconfigurable photonic integrated mode (de)multiplexer for SDM fiber transmission. <i>Optics Express</i> , 2016, 24, 12625.	3.4	57
5	Bragg filter bandwidth engineering in subwavelength grating metamaterial waveguides. <i>Optics Letters</i> , 2019, 44, 1043.	3.3	41
6	A unified approach for radiative losses and backscattering in optical waveguides. <i>Journal of Optics (United Kingdom)</i> , 2014, 16, 055502.	2.2	36
7	Integrated all-optical MIMO demultiplexer for mode- and wavelength-division-multiplexed transmission. <i>Optics Letters</i> , 2017, 42, 342.	3.3	34
8	Perfectly vertical surface grating couplers using subwavelength engineering for increased feature sizes. <i>Optics Letters</i> , 2020, 45, 3701.	3.3	34
9	Validation of the Building-Block-Based Approach for the Design of Photonic Integrated Circuits. <i>Journal of Lightwave Technology</i> , 2012, 30, 3610-3616.	4.6	31
10	Stochastic simulation and robust design optimization of integrated photonic filters. <i>Nanophotonics</i> , 2017, 6, 299-308.	6.0	29
11	Wideband Integrated Optical Delay Line Based on a Continuously Tunable Mach-Zehnder Interferometer. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2018, 24, 1-8.	2.9	24
12	Design of Compact and Efficient Silicon Photonic Micro Antennas With Perfectly Vertical Emission. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2021, 27, 1-10.	2.9	24
13	Compact and highly-efficient broadband surface grating antenna on a silicon platform. <i>Optics Express</i> , 2021, 29, 7003.	3.4	24
14	Highly efficient optical antenna with small beam divergence in silicon waveguides. <i>Optics Letters</i> , 2020, 45, 5668.	3.3	24
15	Compact and Low Crosstalk Echelle Grating Demultiplexer on Silicon-On-Insulator Technology. <i>Electronics (Switzerland)</i> , 2019, 8, 687.	3.1	23
16	Multimode Interference Couplers With Reduced Parasitic Reflections. <i>IEEE Photonics Technology Letters</i> , 2014, 26, 408-410.	2.5	20
17	Sensitivity Analysis and Uncertainty Mitigation of Photonic Integrated Circuits. <i>Journal of Lightwave Technology</i> , 2017, 35, 3713-3721.	4.6	20
18	Cascaded Mach-Zehnder Architectures for Photonic Integrated Delay Lines. <i>IEEE Photonics Technology Letters</i> , 2018, 30, 1830-1833.	2.5	18

#	ARTICLE	IF	CITATIONS
19	Stochastic process design kits for photonic circuits based on polynomial chaos augmented macro-modelling. <i>Optics Express</i> , 2018, 26, 5894.	3.4	18
20	Empirical model for the temperature dependence of silicon refractive index from O to C band based on waveguide measurements. <i>Optics Express</i> , 2019, 27, 27229.	3.4	18
21	Optical radiative crosstalk in integrated photonic waveguides. <i>Optics Letters</i> , 2014, 39, 3982.	3.3	15
22	Athermal echelle grating filter in silicon-on-insulator using a temperature-synchronized input. <i>Optics Express</i> , 2018, 26, 28651.	3.4	14
23	Wavelength and composition dependence of the thermo-optic coefficient for InGaAsP-based integrated waveguides. <i>Journal of Applied Physics</i> , 2016, 120, .	2.5	13
24	Waveguide-Based Technique for Wafer-Level Measurement of Phase and Group Effective Refractive Indices. <i>Journal of Lightwave Technology</i> , 2016, 34, 1293-1299.	4.6	11
25	ContactLess Integrated Photonic Probe for light monitoring in indium phosphide-based devices. <i>IET Optoelectronics</i> , 2015, 9, 146-150.	3.3	10
26	Metamaterial-Engineered Silicon Beam Splitter Fabricated with Deep UV Immersion Lithography. <i>Nanomaterials</i> , 2021, 11, 2949.	4.1	9
27	Mid-infrared Fourier-transform spectrometer based on metamaterial lateral cladding suspended silicon waveguides. <i>Optics Letters</i> , 2022, 47, 810.	3.3	9
28	Performance Variability Analysis of Photonic Circuits With Many Correlated Parameters. <i>Journal of Lightwave Technology</i> , 2021, 39, 4737-4744.	4.6	8
29	Spectrum-free integrated photonic remote molecular identification and sensing. <i>Optics Express</i> , 2020, 28, 27951.	3.4	8
30	Efficient Variability Analysis of Photonic Circuits by Stochastic Parametric Building Blocks. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2020, 26, 1-8.	2.9	7
31	Photonic temperature and wavelength metrology by spectral pattern recognition. <i>Optics Express</i> , 2020, 28, 17409.	3.4	5
32	Genetic algorithm and polynomial chaos modelling for performance optimization of photonic circuits under manufacturing variability. , 2018, , .		5
33	Statistical Process Design Kits: analysis of fabrication tolerances in integrated photonic circuits. , 2015, , .		5
34	An improved model to predict thermo-optic coefficient in InGaAsP waveguides. , 2016, , .		4
35	Anti-reflection subwavelength gratings for InP-based waveguide facets. <i>Optics Letters</i> , 2021, 46, 3701.	3.3	4
36	On-chip continuously tunable optical delay line based on cascaded Mach-Zehnder interferometers. , 2018, , .		3

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37	Design of multi-parameter photonic devices using machine learning pattern recognition. , 2020, , .		3
38	Athermal echelle grating and tunable echelle grating demultiplexers using a Mach-Zehnder interferometer launch structure. Optics Express, 2022, 30, 14202.	3.4	3
39	Building block based design of photonic integrated circuits for generic photonic foundries. , 2012, , .		2
40	Modeling reflections induced by waveguide transitions. Optical and Quantum Electronics, 2013, 45, 309-316.	3.3	2
41	ContactLess Integrated Photonic Probe: Concept, Technology and Applications. , 2016, , .		2
42	Stochastic simulation and sensitivity analysis of photonic circuit through Morris and Sobol method. , 2017, , .		2
43	A polynomial-chaos-expansion-based building block approach for stochastic analysis of photonic circuits. , 2018, , .		2
44	Uncertainty quantification and stochastic modelling of photonic device from experimental data through polynomial chaos expansion. , 2018, , .		2
45	An Improved Model to Predict the Temperature Dependence of Refractive Index of InP-based Compounds. Wireless Personal Communications, 2017, 95, 607-615.	2.7	1
46	Integrated all-optical MIMO demultiplexer for 8-channel MDM-WDM transmission. , 2017, , .		1
47	Stochastic photonics: Tools and approaches for the analysis and optimization of integrated circuits. , 2017, , .		1
48	Wideband continuously tunable integrated delay line based on cascaded Mach-Zehnder. , 2018, , .		1
49	Subwavelength Silicon Photonic Metamaterial Waveguide Devices. , 2018, , .		1
50	Design of compact silicon antennas based on high directionality gratings. , 2020, , .		1
51	Efficient Bloch mode calculation of periodic systems with arbitrary geometry and open boundary conditions in the complex wavevector domain. Optics Express, 2021, 29, 26233.	3.4	1
52	Performance robustness analysis in machine-assisted design of photonic devices. , 2019, , .		1
53	Reaping the benefits of machine learning pattern recognition in nanophotonic component design. , 2019, , .		1
54	Optical crosstalk on Rx/Tx photonic integration platform. , 2014, , .		0

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55	Rethinking the surface of optical waveguides. Proceedings of SPIE, 2015, , .	0.8	0
56	Tuning and locking of integrated optical filters and circuits. , 2017, , .		0
57	Uncertainty aware design of photonic integrated circuits in presence of correlated manufacturing uncertainties. AIP Conference Proceedings, 2019, , .	0.4	0
58	Prediction of thermal variation in InP and GaAs material for photonic integrated waveguides. AIP Conference Proceedings, 2019, , .	0.4	0
59	Machine learning design of subwavelength integrated photonic devices. , 2019, , .		0
60	Exoplanetary Atmosphere Spectroscopy using Silicon Waveguide Ring Resonators. , 2019, , .		0
61	Machine learning pattern recognition in integrated silicon photonics design. , 2020, , .		0
62	Integrated Photonic Ring Resonator Correlation Filters For Remote HCN Sensing. , 2020, , .		0
63	Point Reflector Optical Waveguides for on-wafer process qualification. , 2014, , .		0
64	Integrated Indium-Phosphide-Based Mode Multiplexer and Demultiplexer for Reconfigurable Mode Division Multiplexing Transmission. , 2016, , .		0
65	Stochastic Optimization of Photonic Circuits by Combined Generalized Polynomial Chaos Model. , 2016, , .		0
66	Subwavelength grating metamaterial waveguides for silicon photonic integrated circuits. , 2017, , .		0
67	Temperature-insensitive echelle wavelength demultiplexer on standard silicon-on-insulator platform. , 2019, , .		0
68	Navigating through complex photonic design space using machine learning methods. , 2019, , .		0
69	Efficient silicon photonic micro-antenna for waveguide-to-free-space coupling. , 2020, , .		0
70	Perfectly vertical silicon-on-insulator grating couplers with low broadband back-reflection and increased feature sizes. , 2020, , .		0
71	Dimensionality reduction for the on-chip integration of advanced photonic devices and functionalities. , 2021, , .		0