# Tian Gu

List of Publications by Year
in descending order



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|---|---|---|---|
| 122 papers | 4,035 citations | 172457 29 h-index | 123424 61 g-index |
| 126 all docs | 126 docs citations | 126 times ranked | 3401 citing authors |

| # | ARTICLE | IF | CITATIONS |
|---|---|---|---|
| 1 | Deep Convolutional Neural Networks to Predict Mutual Coupling Effects in Metasurfaces. Advanced Optical Materials, 2022, 10, 2102113. | 7.3 | 28 |
| 2 | Ultra-broadband, high-efficiency, and wafer-scale fiber-to-chip coupling using free-form micro-optical reflectors. , 2022, , . | | 1 |
| 3 | Understanding wide field-of-view metalenses. , 2022, , . | | 0 |
| 4 | Phase change materials: the 'silicon' for analog photonic computing?. , 2022, , . | | 0 |
| 5 | Deep neural network enabled active metasurface embedded design. Nanophotonics, 2022, 11, 4149-4158. | 6.0 | 18 |
| 6 | Reconfigurable Parfocal Zoom Metalens. Advanced Optical Materials, 2022, 10, . | 7.3 | 18 |
| 7 | Design of Hybrid Plasmonic Multi-Quantum-Well Electro-Reflective Modulators Towards <100 fJ/bit Photonic Links. IEEE Journal of Selected Topics in Quantum Electronics, 2021, 27, 1-8. | 2.9 | 8 |
| 8 | Multiâ€Level Electroâ€Thermal Switching of Optical Phaseâ€Change Materials Using Graphene. Advanced Photonics Research, 2021, 2, 2000034. | 3.6 | 75 |
| 9 | Multifunctional Metasurface Design with a Generative Adversarial Network. Advanced Optical Materials, 2021, 9, 2001433. | 7.3 | 78 |
| 10 | Nonlinear Midâ€Infrared Metasurface based on a Phaseâ€Change Material. Laser and Photonics Reviews, 2021, 15, 2000373. | 8.7 | 25 |
| 11 | Reconfigurable all-dielectric metalens with diffraction-limited performance. Nature Communications, 2021, 12, 1225. | 12.8 | 221 |
| 12 | On-chip optical tweezers based on freeform optics. Optica, 2021, 8, 409. | 9.3 | 37 |
| 13 | Specific detection of glucose by an optical weak measurement sensor. Biomedical Optics Express, 2021, 12, 5128. | 2.9 | 3 |
| 14 | Multifunctional Metasurface Design with a Generative Adversarial Network (Advanced Optical) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 222 | 7.3 | 1 |
| 15 | Electrically reconfigurable non-volatile metasurface using low-loss optical phase-change material. Nature Nanotechnology, 2021, 16, 661-666. | 31.5 | 298 |
| 16 | Large-area optical metasurface fabrication using nanostencil lithography. Optics Letters, 2021, 46, 2324. | 3.3 | 8 |
| 17 | Myths and truths about optical phase change materials: A perspective. Applied Physics Letters, 2021, 118, . | 3.3 | 76 |
| 18 | Transient Tap Couplers for Wafer-Level Photonic Testing Based on Optical Phase Change Materials. ACS Photonics, 2021, 8, 1903-1908. | 6.6 | 24 |

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| 19 | A flexible polymer waveguide platform with low-loss optical interfaces. , 2021, , . | | 0 |
| 20 | Optimization of the Weak Measurement System by Determining the Optimal Total Phase Difference. IEEE Photonics Journal, 2021, 13, 1-8. | 2.0 | 0 |
| 21 | High-Throughput Chiral Molecule Determination Based on Multi-Channel Weak Measurement. IEEE Photonics Journal, 2021, 13, 1-12. | 2.0 | 1 |
| 22 | Reconfigurable Mid-infrared Photonics. , 2021, , . | | 1 |
| 23 | Unpaired Stain Transfer Using Pathology-Consistent Constrained Generative Adversarial Networks. IEEE Transactions on Medical Imaging, 2021, 40, 1977-1989. | 8.9 | 51 |
| 24 | Electrically-switchable foundry-processed phase change photonic devices. , 2021, , . | | 5 |
| 25 | Imaging Sensor for the Detection of the Flow Battery Via Weak Value Amplification. Analytical Chemistry, 2021, 93, 12914-12920. | 6.5 | 7 |
| 26 | A Deep Learning Approach to Explore the Mutual Coupling Effects in Metasurfaces. , 2021, , . | | 1 |
| 27 | Wide Field-of-view Achromatic Metalenses. , 2021, , . | | 1 |
| 28 | Design of broadband and wide field-of-view metalenses. Optics Letters, 2021, 46, 5735-5738. | 3.3 | 18 |
| 29 | Enhanced Third-Harmonic Generation by a Mid-Infrared Phase-Change Metasurface. , 2021, , . | | 0 |
| 30 | Hybrid Integrated Photonic Platforms: feature issue introduction. Optical Materials Express, 2021, 11, 4095. | 3.0 | 1 |
| 31 | Ge2Sb2Se4Te1 Metasurface for Enhancing Third-Harmonic Generation in the Mid-Infrared. , 2021, , . | | 0 |
| 32 | A Deep Neural Network Near-Universal Dielectric Meta-Atom Generator. , 2021, , . | | 0 |
| 33 | Spectrum Intensity Ratio Detection for Frequency Domain Weak Measurement System. IEEE Photonics Journal, 2020, 12, 1-12. | 2.0 | 3 |
| 34 | Flexible and Stretchable Photonics: The Next Stretch of Opportunities. ACS Photonics, 2020, 7, 2618-2635. | 6.6 | 49 |
| 35 | Single-Element Diffraction-Limited Fisheye Metalens. Nano Letters, 2020, 20, 7429-7437. | 9.1 | 104 |
| 36 | Low-Voltage, Coupled Multiple Quantum Well Electroreflective Modulators Towards Ultralow Power Inter-Chip Optical Interconnects. Journal of Lightwave Technology, 2020, 38, 3414-3421. | 4.6 | 8 |

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| 37 | Spectral-Domain Phase Microscopy for Thickness Encoded Suspension Array. IEEE Photonics Technology Letters, 2020, 32, 461-464. | 2.5 | 0 |
| 38 | Optical Free-Form Couplers for High-density Integrated Photonics (OFFCHIP): A Universal Optical Interface. Journal of Lightwave Technology, 2020, 38, 3358-3365. | 4.6 | 22 |
| 39 | Hydrogel-based microbeads for Raman-encoded suspension array using the reversed-phase suspension polymerization method and ultraviolet light curing. Analytical and Bioanalytical Chemistry, 2020, 412, 2731-2741. | 3.7 | 2 |
| 40 | Compact and Fabrication-Tolerant Waveguide Bends Based on Quadratic Reflectors. Journal of Lightwave Technology, 2020, 38, 4368-4373. | 4.6 | 12 |
| 41 | Deep learning modeling approach for metasurfaces with high degrees of freedom. Optics Express, 2020, 28, 31932. | 3.4 | 73 |
| 42 | High-performance graphene-integrated thermo-optic switch: design and experimental validation [Invited]. Optical Materials Express, 2020, 10, 387. | 3.0 | 13 |
| 43 | Real-time, in situ probing of gamma radiation damage with packaged integrated photonic chips. Photonics Research, 2020, 8, 186. | 7.0 | 15 |
| 44 | Design for quality: reconfigurable flat optics based on active metasurfaces. Nanophotonics, 2020, 9, 3505-3534. | 6.0 | 87 |
| 45 | What makes the best chip-scale photonic sensor?. , 2020, , . | | 0 |
| 46 | Compact and Fabrication-Tolerant Single-Mode Polymer Waveguide Bends. , 2020, , . | | 0 |
| 47 | Optical phase-change materials (O-PCMs) for reconfigurable photonics. , 2020, , . | | 1 |
| 48 | Real-time, in-situ monitoring of Gamma radiation effects in packaged silicon photonic chips. , 2020, , . | | 0 |
| 49 | Integrated Quadratic Reflectors for High-Performance Optical Interconnects. , 2020, , . | | 0 |
| 50 | Detection of Macromolecular Content in a Mixed Solution of Protein Macromolecules and Small Molecules Using a Weak Measurement Linear Differential System. Analytical Chemistry, 2019, 91, 11576-11581. | 6.5 | 11 |
| 51 | Gold-nanorod-enhanced Raman spectroscopy encoded micro-quartz pieces for the multiplex detection of biomolecules. Analytical and Bioanalytical Chemistry, 2019, 411, 5509-5518. | 3.7 | 6 |
| 52 | High-Performance Single-Mode Polymer Waveguide Devices for Chip-Scale Optical Interconnects. , 2019, , . | | 3 |
| 53 | Enhanced Interferometric Weak Value Amplification With Multiple Reflection. IEEE Photonics Technology Letters, 2019, 31, 1557-1560. | 2.5 | 0 |
| 54 | Broadband transparent optical phase change materials for high-performance nonvolatile photonics. Nature Communications, 2019, 10, 4279. | 12.8 | 349 |

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| 55 | Fast and accurate decoding of Raman spectra-encoded suspension arrays using deep learning. Analyst, The, 2019, 144, 4312-4319. | 3.5 | 27 |
| 56 | A Differential Detection Method Based on a Linear Weak Measurement System. Sensors, 2019, 19, 2473. | 3.8 | 1 |
| 57 | Multifunctional weak measurement system that can measure the refractive index and optical rotation of a solution. Applied Physics Letters, 2019, 114, . | 3.3 | 21 |
| 58 | The real-time determination of d- and l-lactate based on optical weak measurement. Analytical Methods, 2019, 11, 2223-2230. | 2.7 | 4 |
| 59 | Chalcogenide glass metasurfaces from fluid instabilities. Nature Nanotechnology, 2019, 14, 309-311. | 31.5 | 3 |
| 60 | Micro-Prism Spectrum Splitting Optics for Lateral-Arrayed Multi Junction Micro CPV. , 2019, , . | | 1 |
| 61 | A Deep Learning Approach for Objective-Driven All-Dielectric Metasurface Design. ACS Photonics, 2019, 6, 3196-3207. | 6.6 | 212 |
| 62 | In situ mapping of activity distribution and oxygen evolution reaction in vanadium flow batteries. Nature Communications, 2019, 10, 5286. | 12.8 | 45 |
| 63 | Spectral-optical-tweezer-assisted fluorescence multiplexing system for QDs-encoded bead-array bioassay. Biosensors and Bioelectronics, 2019, 129, 107-117. | 10.1 | 12 |
| 64 | Reversible Switching of Optical Phase Change Materials Using Graphene Microheaters. , 2019, , . | | 9 |
| 65 | Low loss, flexible single-mode polymer photonics. Optics Express, 2019, 27, 11152. | 3.4 | 41 |
| 66 | Seamless Hybrid-integrated Interconnect NEtwork (SHINE). , 2019, , . | | 9 |
| 67 | Compact spectrum splitter for laterally arrayed multi-junction concentrator photovoltaic modules. Optics Letters, 2019, 44, 3274. | 3.3 | 7 |
| 68 | Understanding aging in chalcogenide glass thin films using precision resonant cavity refractometry. Optical Materials Express, 2019, 9, 2252. | 3.0 | 12 |
| 69 | Chip-scale Digital Fourier Transform Spectroscopy. , 2019, , . | | 0 |
| 70 | Single-layer Planar Metasurface Lens with >170Â° Field of View. , 2019, , . | | 3 |
| 71 | Electrically Reconfigurable Nonvolatile Metasurface Using Optical Phase Change Materials. , 2019, , . | | 3 |
| 72 | Integrated photonics put at full stretch: flexible and stretchable photonic devices enabled by optical and mechanical co-design. , 2019, , . | | 0 |

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| 73 | Reshaping light: reconfigurable photonics enabled by broadband low-loss optical phase change materials. , 2019, , . | | 3 |
| 74 | Chip-scale high-performance digital Fourier Transform (dFT) spectrometers. , 2019, , . | | 1 |
| 75 | Designing nonvolatile integrated photonics with low-loss optical phase change materials. , 2019, , . | | 3 |
| 76 | Ultra-thin high-efficiency mid-infrared transmissive Huygens meta-optics. Nature Communications, 2018, 9, 1481. | 12.8 | 126 |
| 77 | Monolithically integrated stretchable photonics. Light: Science and Applications, 2018, 7, 17138-17138. | 16.6 | 94 |
| 78 | A chiral sensor based on weak measurement for the determination of Proline enantiomers in diverse measuring circumstances. Biosensors and Bioelectronics, 2018, 110, 103-109. | 10.1 | 36 |
| 79 | Rapid Separation of Enantiomeric Impurities in Chiral Molecules by a Self-Referential Weak Measurement System. Sensors, 2018, 18, 3788. | 3.8 | 5 |
| 80 | Passive directional sub-ambient daytime radiative cooling. Nature Communications, 2018, 9, 5001. | 12.8 | 179 |
| 81 | High-performance and scalable on-chip digital Fourier transform spectroscopy. Nature Communications, 2018, 9, 4405. | 12.8 | 173 |
| 82 | Optimization of a quantum weak measurement system with digital filtering technology. Applied Optics, 2018, 57, 7956. | 1.8 | 13 |
| 83 | Ultra-thin, high-efficiency mid-infrared Huygens metasurface optics. , 2018, , . | | 1 |
| 84 | Optical rotation based chirality detection of enantiomers via weak measurement in frequency domain. Applied Physics Letters, 2018, 112, . | 3.3 | 41 |
| 85 | Dual-spectra encoded suspension array using reversed-phase microemulsion UV curing and electrostatic self-assembling. RSC Advances, 2018, 8, 21272-21279. | 3.6 | 4 |
| 86 | High-performance flexible waveguide-integrated photodetectors. Optica, 2018, 5, 44. | 9.3 | 54 |
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| 91 | Stretchable Integrated Microphotonics. , 2018, , . | | 1 |
| 92 | Reconfigurable photonics enabled by optical phase change materials (Conference Presentation). , 2018, , . | | 1 |
| 93 | A new twist on glass: A brittle material enabling flexible integrated photonics. International Journal of Applied Glass Science, 2017, 8, 61-68. | 2.0 | 27 |
| 94 | Nondisturbing transverse acoustic sensor based on weak measurement in Machâ€“Zehnder interferometer. Optical Engineering, 2017, 56, 034107. | 1.0 | 4 |
| 95 | Chalcogenide glass-on-graphene photonics. Nature Photonics, 2017, 11, 798-805. | 31.4 | 190 |
| 96 | Mid-infrared integrated photonics on silicon: a perspective. Nanophotonics, 2017, 7, 393-420. | 6.0 | 280 |
| 97 | On-Chip Infrared Spectroscopic Sensing: Redefining the Benefits of Scaling. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 340-349. | 2.9 | 49 |
| 98 | Wafer Integrated Micro-scale Concentrating Photovoltaics. , 2017, , . | | 2 |
| 99 | Broadband Transparent Optical Phase Change Materials. , 2017, , . | | 25 |
| 100 | Optical demodulation system for digitally encoded suspension array in fluoroimmunoassay. Journal of Biomedical Optics, 2017, 22, 1. | 2.6 | 1 |
| 101 | Suspended chalcogenide microcavities for ultra-sensitive chemical detection. , 2016, , . | | 0 |
| 102 | Wafer-level Integrated Micro-Concentrating Photovoltaics. , 2016, , . | | 10 |
| 103 | Micro-concentrator module for Microsystems-Enabled Photovoltaics: Optical performance characterization, modelling and analysis. , 2015, , . | | 4 |
| 104 | Micro-concentrators for a microsystems-enabled photovoltaic system. Optics Express, 2014, 22, A521. | 3.4 | 36 |
| 105 | Chip-to-chip optical interconnects based on flexible integrated photonics. Proceedings of SPIE, 2014, , . | 0.8 | 1 |
| 106 | Hybrid micro-scale CPV/PV architecture. , 2014, , . | | 17 |
| 107 | Energy-per-bit advantages of chip-scale hybrid-integrated optical interconnects using surface-normal electro-aborption MQW modulators. , 2013, , . | | 2 |
| 108 | Chip-Level Multiple Quantum Well Modulator-Based Optical Interconnects. Journal of Lightwave Technology, 2013, 31, 4166-4174. | 4.6 | 9 |

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| 109 | A Fully-Integrated Flexible Photonic Platform for Chip-to-Chip Optical Interconnects. Journal of Lightwave Technology, 2013, 31, 4080-4086. | 4.6 | 57 |
| 110 | Surface-normal electro-aborption MQW modulator-based chip-scale optical interconnects. , 2013, , . | | 0 |
| 111 | Vertical optical power delivery and inter-chip interconnect concept based on surface-normal MQW modulators. , 2013, , . | | 1 |
| 112 | A fully-integrated flexible photonic platform for chip-to-chip optical interconnects. , 2013, , . | | 0 |
| 113 | Chip-scale optical interconnects based on hybrid integrated multiple quantum well devices. , 2012, , . | | 2 |
| 114 | Integrated free-space optical interconnects: All optical communications on- and off-chip. , 2012, , . | | 2 |
| 115 | Hybrid chip-scale optical interconnects using multiple quantum well devices bonded to silicon. , 2012, , . | | 5 |
| 116 | Chip-scale integrated optical interconnects: a key enabler for future high-performance computing. Proceedings of SPIE, 2012, , . | 0.8 | 9 |
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| 118 | Demonstration of chip-scale optical interconnects based on the integration of polymer waveguides and multiple quantum well modulators on silicon. , 2011, , . | | 4 |
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| 120 | Prismatic Coupling Structure for Intrachip Global Communication. IEEE Journal of Quantum Electronics, 2009, 45, 388-395. | 1.9 | 8 |
| 121 | Multiscale free-space optical interconnects for intrachip global communication: motivation, analysis, and experimental validation. Applied Optics, 2006, 45, 6358. | 2.1 | 29 |
| 122 | Coupling Structure for Intrachip Optical Global Communication: Design and Simulation. , 2006, , . | | 1 |