

Zachary J Smith

List of Publications by Year in descending order

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Version: 2024-02-01

82
papers

1,843
citations

361413

20
h-index

276875

41
g-index

82
all docs

82
docs citations

82
times ranked

3119
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 1 | Cell-Phone-Based Platform for Biomedical Device Development and Education Applications. PLoS ONE, 2011, 6, e17150. | 2.5 | 301 |
| 2 | Single exosome study reveals subpopulations distributed among cell lines with variability related to membrane content. Journal of Extracellular Vesicles, 2015, 4, 28533. | 12.2 | 240 |
| 3 | 3D plasmonic nanobowl platform for the study of exosomes in solution. Nanoscale, 2015, 7, 9290-9297. | 5.6 | 138 |
| 4 | Nanogap Plasmonic Structures Fabricated by Switchable Capillary-Force Driven Self-Assembly for Localized Sensing of Anticancer Medicines with Microfluidic SERS. Advanced Functional Materials, 2020, 30, 1909467. | 14.9 | 91 |
| 5 | Multispectral Optical Tweezers for Biochemical Fingerprinting of CD9-Positive Exosome Subpopulations. Analytical Chemistry, 2017, 89, 5357-5363. | 6.5 | 69 |
| 6 | Image reconstruction for structured-illumination microscopy with low signal level. Optics Express, 2014, 22, 8687. | 3.4 | 65 |
| 7 | Direct comparison of fatty acid ratios in single cellular lipid droplets as determined by comparative Raman spectroscopy and gas chromatography. Analyst, The, 2013, 138, 6662. | 3.5 | 54 |
| 8 | Development of a time-gated system for Raman spectroscopy of biological samples. Optics Express, 2010, 18, 20049. | 3.4 | 47 |
| 9 | Validation of an integrated Raman- and angular-scattering microscopy system on heterogeneous bead mixtures and single human immune cells. Applied Optics, 2009, 48, D109. | 2.1 | 38 |
| 10 | Single-step preparation and image-based counting of minute volumes of human blood. Lab on A Chip, 2014, 14, 3029. | 6.0 | 38 |
| 11 | Subnanometer-resolved chemical imaging via multivariate analysis of tip-enhanced Raman maps. Light: Science and Applications, 2017, 6, e17098-e17098. | 16.6 | 36 |
| 12 | Integrated Raman- and angular-scattering microscopy. Optics Letters, 2008, 33, 714. | 3.3 | 35 |
| 13 | A modular, open-source, slide-scanning microscope for diagnostic applications in resource-constrained settings. PLoS ONE, 2018, 13, e0194063. | 2.5 | 31 |
| 14 | Single particle analysis: Methods for detection of platelet extracellular vesicles in suspension (excluding flow cytometry). Platelets, 2017, 28, 249-255. | 2.3 | 30 |
| 15 | Raman Plus X: Biomedical Applications of Multimodal Raman Spectroscopy. Sensors, 2017, 17, 1592. | 3.8 | 29 |
| 16 | Morphology and structure of ZIF-8 during crystallisation measured by dynamic angle-resolved second harmonic scattering. Nature Communications, 2018, 9, 3418. | 12.8 | 29 |
| 17 | A low-cost, automated parasite diagnostic system via a portable, robotic microscope and deep learning. Journal of Biophotonics, 2019, 12, e201800410. | 2.3 | 28 |
| 18 | Structured illumination microscopy with interleaved reconstruction (SIMILR). Journal of Biophotonics, 2018, 11, e201700090. | 2.3 | 25 |

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|----|--|------|-----------|
| 19 | Combined Morpho-Chemical Profiling of Individual Extracellular Vesicles and Functional Nanoparticles without Labels. <i>Analytical Chemistry</i> , 2020, 92, 5585-5594. | 6.5 | 25 |
| 20 | Recent advances in structured illumination microscopy. <i>JPhys Photonics</i> , 2021, 3, 024009. | 4.6 | 25 |
| 21 | Quantitative phase microscopy with enhanced contrast and improved resolution through ultra-oblique illumination (UO-QPM). <i>Journal of Biophotonics</i> , 2019, 12, e201900011. | 2.3 | 23 |
| 22 | Surface-sensitive polarized Raman spectroscopy of biological tissue. <i>Optics Letters</i> , 2005, 30, 1363. | 3.3 | 22 |
| 23 | The effects of laser repetition rate on femtosecond laser ablation of dry bone: a thermal and LIBS study. <i>Journal of Biophotonics</i> , 2016, 9, 171-180. | 2.3 | 22 |
| 24 | Integrated Raman and angular scattering microscopy reveals chemical and morphological differences between activated and nonactivated CD8+ T lymphocytes. <i>Journal of Biomedical Optics</i> , 2010, 15, 036021. | 2.6 | 21 |
| 25 | Lin28 enhances de novo fatty acid synthesis to promote cancer progression via SREBP $\Delta 1$. <i>EMBO Reports</i> , 2019, 20, e48115. | 4.5 | 21 |
| 26 | Dual-phone illumination-imaging system for high resolution and large field of view multi-modal microscopy. <i>Lab on A Chip</i> , 2019, 19, 825-836. | 6.0 | 21 |
| 27 | Multivariate optical computing using a digital micromirror device for fluorescence and Raman spectroscopy. <i>Optics Express</i> , 2011, 19, 16950. | 3.4 | 20 |
| 28 | Azo-Enhanced Raman Scattering for Enhancing the Sensitivity and Tuning the Frequency of Molecular Vibrations. <i>ACS Central Science</i> , 2021, 7, 768-780. | 11.3 | 20 |
| 29 | Organelle-specific phase contrast microscopy enables gentle monitoring and analysis of mitochondrial network dynamics. <i>Biomedical Optics Express</i> , 2021, 12, 4363. | 2.9 | 18 |
| 30 | Long term Raman spectral study of power-dependent photodamage in red blood cells. <i>Applied Physics Letters</i> , 2014, 104, . | 3.3 | 17 |
| 31 | Smart and Fast Blood Counting of Trace Volumes of Body Fluids from Various Mammalian Species Using a Compact, Custom-Built Microscope Cytometer. <i>Analytical Chemistry</i> , 2015, 87, 11854-11862. | 6.5 | 17 |
| 32 | Fs-laser ablation of teeth is temperature limited and provides information about the ablated components. <i>Journal of Biophotonics</i> , 2017, 10, 1292-1304. | 2.3 | 17 |
| 33 | A new red cell index and portable RBC analyzer for screening of iron deficiency and Thalassemia minor in a Chinese population. <i>Scientific Reports</i> , 2017, 7, 10510. | 3.3 | 17 |
| 34 | Nanometer-Scale Sizing Accuracy of Particle Suspensions on an Unmodified Cell Phone Using Elastic Light Scattering. <i>PLoS ONE</i> , 2012, 7, e46030. | 2.5 | 17 |
| 35 | Modern Trends in Imaging VI: Raman Scattering in Pathology. <i>Analytical Cellular Pathology</i> , 2012, 35, 145-163. | 1.4 | 16 |
| 36 | Characterization of Femtosecond Laser-Induced Breakdown Spectroscopy (fsLIBS) and Applications for Biological Samples. <i>Applied Spectroscopy</i> , 2014, 68, 949-954. | 2.2 | 15 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 37 | Fast confocal Raman imaging <i>via</i> context-aware compressive sensing. <i>Analyst, The</i> , 2021, 146, 2348-2357. | 3.5 | 15 |
| 38 | Label-free imaging of intracellular organelle dynamics using flat-fielding quantitative phase contrast microscopy (FF-QPCM). <i>Optics Express</i> , 2022, 30, 9505. | 3.4 | 13 |
| 39 | Construction of an integrated Raman- and angular-scattering microscope. <i>Review of Scientific Instruments</i> , 2009, 80, 044302. | 1.3 | 11 |
| 40 | Simple adaptive mobile phone screen illumination for dual phone differential phase contrast (DPDPC) microscopy. <i>Biomedical Optics Express</i> , 2019, 10, 4369. | 2.9 | 11 |
| 41 | Performance of a cost-effective and automated blood counting system for resource-limited settings operated by trained and untrained users. <i>Journal of Biophotonics</i> , 2018, 11, e201700030. | 2.3 | 10 |
| 42 | Improving the limit of detection in portable luminescent assay readers through smart optical design. <i>Journal of Biophotonics</i> , 2020, 13, e201900241. | 2.3 | 10 |
| 43 | A smart preparation strategy for point-of-care cellular counting of trace volumes of human blood. <i>Analytical and Bioanalytical Chemistry</i> , 2019, 411, 2767-2780. | 3.7 | 9 |
| 44 | Low resolution Raman: the impact of spectral resolution on limit of detection and imaging speed in hyperspectral imaging. <i>Analyst, The</i> , 2020, 145, 6607-6616. | 3.5 | 9 |
| 45 | Development of inexpensive blood imaging systems: where are we now?. <i>Expert Review of Medical Devices</i> , 2015, 12, 613-627. | 2.8 | 7 |
| 46 | Automated morphometry toolbox for analysis of microscopic model organisms using simple bright-field imaging. <i>Biology Open</i> , 2019, 8, . | 1.2 | 7 |
| 47 | Raman scattering in pathology. <i>Analytical Cellular Pathology</i> , 2012, 35, 145-63. | 1.4 | 7 |
| 48 | Vibrational Fingerprint Analysis of an Azo-based Resonance Raman Scattering Probe for Imaging Proton Distribution in Cellular Lysosomes. <i>Analytical Chemistry</i> , 2021, 93, 15659-15666. | 6.5 | 6 |
| 49 | Super-resolved spatial light interference microscopy. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2012, 29, 344. | 1.5 | 5 |
| 50 | Optical volumetric projection for fast 3D imaging through circularly symmetric pupil engineering. <i>Biomedical Optics Express</i> , 2018, 9, 437. | 2.9 | 5 |
| 51 | A sample-preparation-free, automated, sample-to-answer system for cell counting in human body fluids. <i>Analytical and Bioanalytical Chemistry</i> , 2021, 413, 5025-5035. | 3.7 | 5 |
| 52 | Epilumination dark-field microscopy enables direct visualization of unlabeled small organisms with high spatial and temporal resolution. <i>Journal of Biophotonics</i> , 2022, 15, e202100185. | 2.3 | 5 |
| 53 | Precise Monitoring of Chemical Changes through Localization Analysis of Dynamic Spectra (LADS). <i>Applied Spectroscopy</i> , 2013, 67, 187-195. | 2.2 | 4 |
| 54 | Editorial: Plasmonic Technologies for Bioanalytical Applications. <i>Frontiers in Chemistry</i> , 2019, 7, 865. | 3.6 | 4 |

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|----|---|-----|-----------|
| 55 | Optical volumetric projection with large NA objectives for fast high-resolution 3D imaging of neural signals. Biomedical Optics Express, 2020, 11, 3769. | 2.9 | 4 |
| 56 | Preliminary fsLIBS study on bone tumors. Biomedical Optics Express, 2015, 6, 4850. | 2.9 | 3 |
| 57 | Nanometer precise red blood cell sizing using a cost-effective quantitative dark field imaging system. Biomedical Optics Express, 2020, 11, 5950. | 2.9 | 3 |
| 58 | Screening of nutritional and genetic anemias using elastic light scattering. Lab on A Chip, 2018, 18, 3263-3271. | 6.0 | 2 |
| 59 | Simultaneous recovery of both bright and dim structures from noisy fluorescence microscopy images using a modified TV constraint. Journal of Microscopy, 2019, 275, 24-35. | 1.8 | 2 |
| 60 | In-plane rotation classification for coherent X-ray imaging of single biomolecules. Optics Express, 2011, 19, 11691. | 3.4 | 1 |
| 61 | Rejection of Fluorescence Background in Resonance and Spontaneous Raman Microspectroscopy. Journal of Visualized Experiments, 2011, , . | 0.3 | 1 |
| 62 | Comment on "Label-Free Single Exosome Detection Using Frequency Locked Microtoroid Optical Resonators". ACS Photonics, 2016, 3, 716-717. | 6.6 | 1 |
| 63 | Time-resolved SERS for characterizing extracellular vesicles. , 2017, , . | | 1 |
| 64 | Applying limiting entropy to quantify the alignment of collagen fibers by polarized light imaging. Mathematical Biosciences and Engineering, 2021, 18, 2331-2356. | 1.9 | 1 |
| 65 | Benchtop and animal validation of a portable fluorescence microscopic imaging system for potential use in cholecystectomy. Journal of Biomedical Optics, 2018, 23, 1. | 2.6 | 1 |
| 66 | Microscopy and Spectroscopy on a Cell Phone. , 2011, , . | | 1 |
| 67 | Simultaneous 3D deconvolution and halo removal for spatial light interference microscopy through a two-edge apodized Wiener filter. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2022, 39, 287. | 1.5 | 1 |
| 68 | Integrated Raman and angular scattering microscopy (IRAM). , 2008, , . | | 0 |
| 69 | Time-Gated Raman Spectra of Living Samples. , 2011, , . | | 0 |
| 70 | Smart fast blood counting of trace volumes of body fluids from various mammalian species using a compact custom-built microscope cytometer (Conference Presentation). , 2016, , . | | 0 |
| 71 | Raman spectroscopy of single extracellular vesicles reveals subpopulations with varying membrane content (Conference Presentation). , 2016, , . | | 0 |
| 72 | In vivo detection of cervical intraepithelial neoplasia by multimodal colposcopy. , 2016, , . | | 0 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 73 | Evaluation of anemia diagnosis based on elastic light scattering (Conference Presentation). , 2017, , . | | 0 |
| 74 | Field performance of a low-cost and fully-automated blood counting system operated by trained and untrained users (Conference Presentation). , 2017, , . | | 0 |
| 75 | Raman Spectroscopy of Single PDT Treated Cells. , 2006, , . | | 0 |
| 76 | New Twists and Turns for Confocal Raman Microscopy. , 2006, , . | | 0 |
| 77 | Studying Single Cells Using Integrated Raman and Angular-Scattering Microscopy. , 2008, , . | | 0 |
| 78 | Integrated Raman and Angular-scatter Microscopy (IRAM). , 2008, , . | | 0 |
| 79 | Multivariate Optical Computing for Biological Samples using a Digital Micromirror Device. , 2011, , . | | 0 |
| 80 | Simple, cost effective blood counting without needing trained users. , 2017, , . | | 0 |
| 81 | Morphology and structure of the metal-organic framework ZIF-8 during crystallisation measured by a new technique: dynamic angle-resolved second-harmonic scattering (AD-SHS). Acta Crystallographica Section A: Foundations and Advances, 2019, 75, e671-e671. | 0.1 | 0 |
| 82 | Asymmetrical Illumination Enables Lipid Droplets Segmentation in Caenorhabditis elegans Using Epi-Illumination Dark Field Microscopy. Frontiers in Physics, 0, 10, . | 2.1 | 0 |