

Theodore Alexandrov

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

103
papers

5,892
citations

34
h-index

76
g-index

117
ext. papers

7,974
ext. citations

8.1
avg, IF

5.74
L-index

| # | Paper | IF | Citations |
|-----|--|------|-----------|
| 103 | Sharing and community curation of mass spectrometry data with Global Natural Products Social Molecular Networking. <i>Nature Biotechnology</i> , 2016 , 34, 828-837 | 44.5 | 1566 |
| 102 | Mass spectral molecular networking of living microbial colonies. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, E1743-52 | 11.5 | 593 |
| 101 | Interspecies interactions stimulate diversification of the <i>Streptomyces coelicolor</i> secreted metabolome. <i>MBio</i> , 2013 , 4, | 7.8 | 242 |
| 100 | Molecular cartography of the human skin surface in 3D. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, E2120-9 | 11.5 | 237 |
| 99 | Feature-based molecular networking in the GNPS analysis environment. <i>Nature Methods</i> , 2020 , 17, 905-908 | 20.6 | 207 |
| 98 | Critical Role of Type III Interferon in Controlling SARS-CoV-2 Infection in Human Intestinal Epithelial Cells. <i>Cell Reports</i> , 2020 , 32, 107863 | 10.6 | 186 |
| 97 | FDR-controlled metabolite annotation for high-resolution imaging mass spectrometry. <i>Nature Methods</i> , 2017 , 14, 57-60 | 21.6 | 167 |
| 96 | Spatial segmentation of imaging mass spectrometry data with edge-preserving image denoising and clustering. <i>Journal of Proteome Research</i> , 2010 , 9, 6535-46 | 5.6 | 151 |
| 95 | MALDI imaging mass spectrometry: statistical data analysis and current computational challenges. <i>BMC Bioinformatics</i> , 2012 , 13 Suppl 16, S11 | 3.6 | 145 |
| 94 | Bioactivity-Based Molecular Networking for the Discovery of Drug Leads in Natural Product Bioassay-Guided Fractionation. <i>Journal of Natural Products</i> , 2018 , 81, 758-767 | 4.9 | 134 |
| 93 | Exploring three-dimensional matrix-assisted laser desorption/ionization imaging mass spectrometry data: three-dimensional spatial segmentation of mouse kidney. <i>Analytical Chemistry</i> , 2012 , 84, 6079-87 | 7.8 | 101 |
| 92 | The evolving field of imaging mass spectrometry and its impact on future biological research. <i>Journal of Mass Spectrometry</i> , 2011 , 46, 209-22 | 2.2 | 99 |
| 91 | Phenalenone-type phytoalexins mediate resistance of banana plants (<i>Musa</i> spp.) to the burrowing nematode <i>Radopholus similis</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 105-10 | 11.5 | 97 |
| 90 | Efficient spatial segmentation of large imaging mass spectrometry datasets with spatially aware clustering. <i>Bioinformatics</i> , 2011 , 27, i230-8 | 7.2 | 94 |
| 89 | Metabolic profiling directly from the Petri dish using nanospray desorption electrospray ionization imaging mass spectrometry. <i>Analytical Chemistry</i> , 2013 , 85, 10385-91 | 7.8 | 80 |
| 88 | Three-Dimensional Microbiome and Metabolome Cartography of a Diseased Human Lung. <i>Cell Host and Microbe</i> , 2017 , 22, 705-716.e4 | 23.4 | 74 |
| 87 | A Review of Some Modern Approaches to the Problem of Trend Extraction. <i>Econometric Reviews</i> , 2012 , 31, 593-624 | 1.1 | 67 |

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| 86 | Microbial metabolic exchange in 3D. <i>ISME Journal</i> , 2013 , 7, 770-80 | 11.9 | 63 |
| 85 | Imaging mass spectrometry reveals modified forms of histone H4 as new biomarkers of microvascular invasion in hepatocellular carcinomas. <i>Hepatology</i> , 2013 , 58, 983-94 | 11.2 | 59 |
| 84 | Biomarker discovery in MALDI-TOF serum protein profiles using discrete wavelet transformation. <i>Bioinformatics</i> , 2009 , 25, 643-9 | 7.2 | 59 |
| 83 | 3D molecular cartography using LC-MS facilitated by Optimus and Tli software. <i>Nature Protocols</i> , 2018 , 13, 134-154 | 18.8 | 53 |
| 82 | N-acyl Taurines and Acylcarnitines Cause an Imbalance in Insulin Synthesis and Secretion Provoking Cell Dysfunction in Type 2 Diabetes. <i>Cell Metabolism</i> , 2017 , 25, 1334-1347.e4 | 24.6 | 52 |
| 81 | MALDI-imaging segmentation is a powerful tool for spatial functional proteomic analysis of human larynx carcinoma. <i>Journal of Cancer Research and Clinical Oncology</i> , 2013 , 139, 85-95 | 4.9 | 51 |
| 80 | Molecular analysis of model gut microbiotas by imaging mass spectrometry and nanodesorption electrospray ionization reveals dietary metabolite transformations. <i>Analytical Chemistry</i> , 2012 , 84, 9259-67 | 7.8 | 50 |
| 79 | Spatial Metabolomics and Imaging Mass Spectrometry in the Age of Artificial Intelligence. <i>Annual Review of Biomedical Data Science</i> , 2020 , 3, 61-87 | 5.6 | 49 |
| 78 | MRI-compatible pipeline for three-dimensional MALDI imaging mass spectrometry using PAXgene fixation. <i>Journal of Proteomics</i> , 2013 , 90, 52-60 | 3.9 | 49 |
| 77 | Coupling Targeted and Untargeted Mass Spectrometry for Metabolome-Microbiome-Wide Association Studies of Human Fecal Samples. <i>Analytical Chemistry</i> , 2017 , 89, 7549-7559 | 7.8 | 46 |
| 76 | Benchmark datasets for 3D MALDI- and DESI-imaging mass spectrometry. <i>GigaScience</i> , 2015 , 4, 20 | 7.6 | 45 |
| 75 | Serial 3D imaging mass spectrometry at its tipping point. <i>Analytical Chemistry</i> , 2015 , 87, 4055-62 | 7.8 | 41 |
| 74 | Lifestyle chemistries from phones for individual profiling. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, E7645-E7654 | 11.5 | 41 |
| 73 | Analysis and interpretation of imaging mass spectrometry data by clustering mass-to-charge images according to their spatial similarity. <i>Analytical Chemistry</i> , 2013 , 85, 11189-95 | 7.8 | 40 |
| 72 | Mass Spectrometry-Based Visualization of Molecules Associated with Human Habitats. <i>Analytical Chemistry</i> , 2016 , 88, 10775-10784 | 7.8 | 38 |
| 71 | Meta-mass shift chemical profiling of metabolomes from coral reefs. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 11685-11690 | 11.5 | 37 |
| 70 | MALDI imaging mass spectrometry: discrimination of pathophysiological regions in traumatized skeletal muscle by characteristic peptide signatures. <i>Proteomics</i> , 2014 , 14, 2249-60 | 4.8 | 37 |
| 69 | Molecular and chemical dialogues in bacteria-protozoa interactions. <i>Scientific Reports</i> , 2015 , 5, 12837 | 4.9 | 34 |

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| 68 | SpaceM reveals metabolic states of single cells. <i>Nature Methods</i> , 2021 , 18, 799-805 | 21.6 | 33 |
| 67 | Where imaging mass spectrometry stands: here are the numbers. <i>Metabolomics</i> , 2016 , 12, 1 | 4.7 | 32 |
| 66 | New analysis workflow for MALDI imaging mass spectrometry: application to the discovery and identification of potential markers of childhood absence epilepsy. <i>Journal of Proteome Research</i> , 2012 , 11, 5453-63 | 5.6 | 30 |
| 65 | On the Importance of Mathematical Methods for Analysis of MALDI-Imaging Mass Spectrometry Data. <i>Journal of Integrative Bioinformatics</i> , 2012 , 9, 1-11 | 3.8 | 29 |
| 64 | Feature-based Molecular Networking in the GNPS Analysis Environment | | 29 |
| 63 | Testing for presence of known and unknown molecules in imaging mass spectrometry. <i>Bioinformatics</i> , 2013 , 29, 2335-42 | 7.2 | 27 |
| 62 | Digitizing mass spectrometry data to explore the chemical diversity and distribution of marine cyanobacteria and algae. <i>ELife</i> , 2017 , 6, | 8.9 | 26 |
| 61 | Progression from cirrhosis to cancer is associated with early ubiquitin post-translational modifications: identification of new biomarkers of cirrhosis at risk of malignancy. <i>Journal of Pathology</i> , 2014 , 234, 452-63 | 9.4 | 25 |
| 60 | Spatial segmentation of MALDI FT-ICR MSI data: a powerful tool to explore the head and neck tumor in situ lipidome. <i>Journal of the American Society for Mass Spectrometry</i> , 2015 , 26, 36-43 | 3.5 | 24 |
| 59 | SARS-CoV-2 infects the human kidney and drives fibrosis in kidney organoids.. <i>Cell Stem Cell</i> , 2021 , | 18 | 24 |
| 58 | Creating a 3D microbial and chemical snapshot of a human habitat. <i>Scientific Reports</i> , 2018 , 8, 3669 | 4.9 | 23 |
| 57 | Single-cell analyses reveal SARS-CoV-2 interference with intrinsic immune response in the human gut. <i>Molecular Systems Biology</i> , 2021 , 17, e10232 | 12.2 | 23 |
| 56 | AMASS: algorithm for MSI analysis by semi-supervised segmentation. <i>Journal of Proteome Research</i> , 2011 , 10, 4734-43 | 5.6 | 22 |
| 55 | Spatial Molecular Architecture of the Microbial Community of a Lichen. <i>MSystems</i> , 2016 , 1, | 7.6 | 22 |
| 54 | METASPACE: A community-populated knowledge base of spatial metabolomes in health and disease | | 21 |
| 53 | A multimodal and integrated approach to interrogate human kidney biopsies with rigor and reproducibility: guidelines from the Kidney Precision Medicine Project. <i>Physiological Genomics</i> , 2021 , 53, 1-11 | 3.6 | 21 |
| 52 | Data-independent microbial metabolomics with ambient ionization mass spectrometry. <i>Journal of the American Society for Mass Spectrometry</i> , 2013 , 24, 1167-76 | 3.5 | 19 |
| 51 | Integration of 3D multimodal imaging data of a head and neck cancer and advanced feature recognition. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2017 , 1865, 946-956 | 4 | 19 |

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|----|---|------|----|
| 50 | Spatial single-cell profiling of intracellular metabolomes in situ | | 19 |
| 49 | Tumoral heterogeneity of hepatic cholangiocarcinomas revealed by MALDI imaging mass spectrometry. <i>Proteomics</i> , 2014 , 14, 965-72 | 4.8 | 18 |
| 48 | Proteomic pattern analysis discriminates among multiple sclerosis-related disorders. <i>Annals of Neurology</i> , 2012 , 71, 614-23 | 9.4 | 18 |
| 47 | Critical role of type III interferon in controlling SARS-CoV-2 infection, replication and spread in primary human intestinal epithelial cells | | 18 |
| 46 | Modelling kidney disease using ontology: insights from the Kidney Precision Medicine Project. <i>Nature Reviews Nephrology</i> , 2020 , 16, 686-696 | 14.9 | 17 |
| 45 | An approach to optimize sample preparation for MALDI imaging MS of FFPE sections using fractional factorial design of experiments. <i>Analytical and Bioanalytical Chemistry</i> , 2016 , 408, 6729-40 | 4.4 | 17 |
| 44 | Molecular and Microbial Microenvironments in Chronically Diseased Lungs Associated with Cystic Fibrosis. <i>MSystems</i> , 2019 , 4, | 7.6 | 15 |
| 43 | OffsampleAI: artificial intelligence approach to recognize off-sample mass spectrometry images. <i>BMC Bioinformatics</i> , 2020 , 21, 129 | 3.6 | 15 |
| 42 | Single-cell proteo-genomic reference maps of the hematopoietic system enable the purification and massive profiling of precisely defined cell states. <i>Nature Immunology</i> , 2021 , 22, 1577-1589 | 19.1 | 14 |
| 41 | Using collective expert judgements to evaluate quality measures of mass spectrometry images. <i>Bioinformatics</i> , 2015 , 31, i375-84 | 7.2 | 13 |
| 40 | DESI-MSI and METASPACE indicates lipid abnormalities and altered mitochondrial membrane components in diabetic renal proximal tubules. <i>Metabolomics</i> , 2020 , 16, 11 | 4.7 | 12 |
| 39 | Application of matrix-assisted laser desorption/ionization mass spectrometric imaging for photolithographic structuring. <i>Analytical Chemistry</i> , 2012 , 84, 6921-5 | 7.8 | 12 |
| 38 | ColocML: machine learning quantifies co-localization between mass spectrometry images. <i>Bioinformatics</i> , 2020 , 36, 3215-3224 | 7.2 | 12 |
| 37 | Response Surface Methodology As a New Approach for Finding Optimal MALDI Matrix Spraying Parameters for Mass Spectrometry Imaging. <i>Journal of the American Society for Mass Spectrometry</i> , 2020 , 31, 508-516 | 3.5 | 10 |
| 36 | Curatr: a web application for creating, curating and sharing a mass spectral library. <i>Bioinformatics</i> , 2018 , 34, 1436-1438 | 7.2 | 10 |
| 35 | Compressed sensing in imaging mass spectrometry. <i>Inverse Problems</i> , 2013 , 29, 125015 | 2.3 | 9 |
| 34 | Application of matrix-assisted laser desorption/ionization mass spectrometric imaging to monitor surface changes of UV-irradiated poly(styrene) films. <i>Rapid Communications in Mass Spectrometry</i> , 2011 , 25, 2809-14 | 2.2 | 9 |
| 33 | Storage Conditions of Human Kidney Tissue Sections Affect Spatial Lipidomics Analysis Reproducibility. <i>Journal of the American Society for Mass Spectrometry</i> , 2020 , 31, 2538-2546 | 3.5 | 9 |

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| 32 | Segmentation of confocal Raman microspectroscopic imaging data using edge-preserving denoising and clustering. <i>Analytical Chemistry</i> , 2013 , 85, 5676-83 | 7.8 | 8 |
| 31 | DeepCycle reconstructs a cyclic cell cycle trajectory from unsegmented cell images using convolutional neural networks. <i>Molecular Systems Biology</i> , 2020 , 16, e9474 | 12.2 | 6 |
| 30 | Single-cell analyses reveal SARS-CoV-2 interference with intrinsic immune response in the human gut | | 6 |
| 29 | Public LC-Orbitrap Tandem Mass Spectral Library for Metabolite Identification. <i>Journal of Proteome Research</i> , 2021 , 20, 2089-2097 | 5.6 | 6 |
| 28 | Histomolecular interpretation of pleomorphic adenomas of the salivary gland by matrix-assisted laser desorption ionization imaging and spatial segmentation. <i>Head and Neck</i> , 2015 , 37, 1014-21 | 4.2 | 5 |
| 27 | Investigating the spatial distribution of growth anomalies affecting Montipora capitata corals in a 3-dimensional framework. <i>Journal of Invertebrate Pathology</i> , 2016 , 140, 51-57 | 2.6 | 5 |
| 26 | PySpacell: A Python Package for Spatial Analysis of Cell Images. <i>Cytometry Part A: the Journal of the International Society for Analytical Cytology</i> , 2020 , 97, 288-295 | 4.6 | 5 |
| 25 | Adaptive Pixel Mass Recalibration for Mass Spectrometry Imaging Based on Locally Endogenous Biological Signals. <i>Analytical Chemistry</i> , 2021 , 93, 4066-4074 | 7.8 | 5 |
| 24 | Data-Driven Rescoring of Metabolite Annotations Significantly Improves Sensitivity. <i>Analytical Chemistry</i> , 2018 , 90, 11636-11642 | 7.8 | 5 |
| 23 | Single-cell transcriptomics reveals immune response of intestinal cell types to viral infection | | 4 |
| 22 | Recognizing off-sample mass spectrometry images with machine and deep learning | | 4 |
| 21 | Two-Exponential Models of Gene Expression Patterns for Noisy Experimental Data. <i>Journal of Computational Biology</i> , 2018 , 25, 1220-1230 | 1.7 | 4 |
| 20 | Single-cell transcriptomics reveals immune response of intestinal cell types to viral infection. <i>Molecular Systems Biology</i> , 2021 , 17, e9833 | 12.2 | 4 |
| 19 | HERMES: a molecular-formula-oriented method to target the metabolome. <i>Nature Methods</i> , 2021 , 18, 1370-1376 | 21.6 | 3 |
| 18 | The community ecology of microbial molecules. <i>Journal of Chemical Ecology</i> , 2014 , 40, 1161-2 | 2.7 | 2 |
| 17 | Magnification of label maps with a topology-preserving level-set method. <i>IEEE Transactions on Image Processing</i> , 2012 , 21, 4040-53 | 8.7 | 2 |
| 16 | A reference tissue atlas for the human kidney | | 2 |
| 15 | ColocAI: artificial intelligence approach to quantify co-localization between mass spectrometry images | | 2 |

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| 14 | Data for spatial analysis of growth anomaly lesions on coral colonies using 3D reconstruction techniques. <i>Data in Brief</i> , 2016 , 9, 460-462 | 1.2 | 2 |
| 13 | Probing metabolism in time and space. <i>Science</i> , 2020 , 368, 241-242 | 33.3 | 2 |
| 12 | Single-cell proteo-genomic reference maps of the hematopoietic system enable the purification and massive profiling of precisely defined cell states | | 2 |
| 11 | Dependence of accuracy of ESPRIT estimates on signal eigenvalues: the case of a noisy sum of two real exponentials. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2009 , 8, 10761-10762 | 0.2 | 1 |
| 10 | A Multimodal and Integrated Approach to Interrogate Human Kidney Biopsies with Rigor and Reproducibility: The Kidney Precision Medicine Project | | 1 |
| 9 | Facilitating Imaging Mass Spectrometry of Microbial Specialized Metabolites with METASPACE. <i>Metabolites</i> , 2021 , 11, | 5.6 | 1 |
| 8 | Metabolic decisions in development and disease-a Keystone Symposia report. <i>Annals of the New York Academy of Sciences</i> , 2021 , | 6.5 | 1 |
| 7 | Cadherin-11, Sparc-related modular calcium binding protein-2, and Pigment epithelium-derived factor are promising non-invasive biomarkers of kidney fibrosis. <i>Kidney International</i> , 2021 , 100, 672-683 ^{9.9} | | 1 |
| 6 | Rapid Automated Annotation and Analysis of N-Glycan Mass Spectrometry Imaging Data Sets Using NGlycDB in METASPACE. <i>Analytical Chemistry</i> , 2021 , 93, 13421-13425 | 7.8 | 1 |
| 5 | The young PI buzz: learning from the organizers of the Junior Principal Investigator Meeting at ISMB-ECCB 2013. <i>PLoS Computational Biology</i> , 2013 , 9, e1003350 | 5 | 0 |
| 4 | Mapping the epithelial-immune cell interactome upon infection in the gut and the upper airways.. <i>Npj Systems Biology and Applications</i> , 2022 , 8, 15 | 5 | 0 |
| 3 | Efficient Spatial Segmentation of Hyper-spectral 3D Volume Data. <i>Studies in Classification, Data Analysis, and Knowledge Organization</i> , 2013 , 95-103 | 0.2 | |
| 2 | Quantification of Duloxetine in the Bacterial Culture and Medium to Study Drug-gut Microbiome Interactions. <i>Bio-protocol</i> , 2021 , 11, e4214 | 0.9 | |
| 1 | Quantification reveals early dynamics in Drosophila maternal gradients. <i>PLoS ONE</i> , 2021 , 16, e0244701 | 3.7 | |