

# Nicola Zamboni

## List of Publications by Year in descending order

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127  
papers

15,312  
citations

28274

55  
h-index

19749

117  
g-index

138  
all docs

138  
docs citations

138  
times ranked

23183  
citing authors

#	ARTICLE	IF	CITATIONS
1	L-Arginine Modulates T Cell Metabolism and Enhances Survival and Anti-tumor Activity. <i>Cell</i> , 2016, 167, 829-842.e13.	28.9	1,077
2	Modulation of Myelopoiesis Progenitors Is an Integral Component of Trained Immunity. <i>Cell</i> , 2018, 172, 147-161.e12.	28.9	702
3	Deficiency in glutamine but not glucose induces MYC-dependent apoptosis in human cells. <i>Journal of Cell Biology</i> , 2007, 178, 93-105.	5.2	599
4	Multi-omics analysis identifies ATF4 as a key regulator of the mitochondrial stress response in mammals. <i>Journal of Cell Biology</i> , 2017, 216, 2027-2045.	5.2	590
5	Identification and Functional Expression of the Mitochondrial Pyruvate Carrier. <i>Science</i> , 2012, 337, 93-96.	12.6	588
6	Gut Microbiota Orchestrates Energy Homeostasis during Cold. <i>Cell</i> , 2015, 163, 1360-1374.	28.9	581
7	<sup>13</sup> C-based metabolic flux analysis. <i>Nature Protocols</i> , 2009, 4, 878-892.	12.0	520
8	A roadmap for interpreting <sup>13</sup> C metabolite labeling patterns from cells. <i>Current Opinion in Biotechnology</i> , 2015, 34, 189-201.	6.6	513
9	Metabolic control of adult neural stem cell activity by Fasn-dependent lipogenesis. <i>Nature</i> , 2013, 493, 226-230.	27.8	448
10	Mass spectrometry-based metabolomics: a guide for annotation, quantification and best reporting practices. <i>Nature Methods</i> , 2021, 18, 747-756.	19.0	403
11	Multidimensional Optimality of Microbial Metabolism. <i>Science</i> , 2012, 336, 601-604.	12.6	360
12	High-Throughput, Accurate Mass Metabolome Profiling of Cellular Extracts by Flow Injection- <sup>13</sup> C Time-of-Flight Mass Spectrometry. <i>Analytical Chemistry</i> , 2011, 83, 7074-7080.	6.5	324
13	Ultrahigh Performance Liquid Chromatography-Tandem Mass Spectrometry Method for Fast and Robust Quantification of Anionic and Aromatic Metabolites. <i>Analytical Chemistry</i> , 2010, 82, 4403-4412.	6.5	317
14	Acute Activation of Oxidative Pentose Phosphate Pathway as First-Line Response to Oxidative Stress in Human Skin Cells. <i>Molecular Cell</i> , 2015, 59, 359-371.	9.7	294
15	Cross-Platform Comparison of Methods for Quantitative Metabolomics of Primary Metabolism. <i>Analytical Chemistry</i> , 2009, 81, 2135-2143.	6.5	290
16	High-throughput metabolic flux analysis based on gas chromatography-mass spectrometry derived <sup>13</sup> C constraints. <i>Analytical Biochemistry</i> , 2004, 325, 308-316.	2.4	276
17	Systems proteomics of liver mitochondria function. <i>Science</i> , 2016, 352, aad0189.	12.6	257
18	A Fatty Acid Oxidation-Dependent Metabolic Shift Regulates Adult Neural Stem Cell Activity. <i>Cell Reports</i> , 2017, 20, 2144-2155.	6.4	247

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19	Defining the Metabolome: Size, Flux, and Regulation. <i>Molecular Cell</i> , 2015, 58, 699-706.	9.7	234
20	GENETICS: Getting Closer to the Whole Picture. <i>Science</i> , 2007, 316, 550-551.	12.6	222
21	Multilayered Genetic and Omics Dissection of Mitochondrial Activity in a Mouse Reference Population. <i>Cell</i> , 2014, 158, 1415-1430.	28.9	222
22	FiatFlux—a software for metabolic flux analysis from <sup>13</sup> C-glucose experiments. <i>BMC Bioinformatics</i> , 2005, 6, 209.	2.6	216
23	Real-time metabolome profiling of the metabolic switch between starvation and growth. <i>Nature Methods</i> , 2015, 12, 1091-1097.	19.0	209
24	High-throughput discovery metabolomics. <i>Current Opinion in Biotechnology</i> , 2015, 31, 73-78.	6.6	203
25	Genome Engineering Reveals Large Dispensable Regions in <i>Bacillus subtilis</i> . <i>Molecular Biology and Evolution</i> , 2003, 20, 2076-2090.	8.9	188
26	D-Glucosamine supplementation extends life span of nematodes and of ageing mice. <i>Nature Communications</i> , 2014, 5, 3563.	12.8	181
27	Functional Metabolic Screen Identifies 6-Phosphofructo-2-Kinase/Fructose-2,6-Biphosphatase 4 as an Important Regulator of Prostate Cancer Cell Survival. <i>Cancer Discovery</i> , 2012, 2, 328-343.	9.4	174
28	Tradeoff between enzyme and metabolite efficiency maintains metabolic homeostasis upon perturbations in enzyme capacity. <i>Molecular Systems Biology</i> , 2010, 6, 356.	7.2	159
29	<sup>13</sup> C metabolic flux analysis in complex systems. <i>Current Opinion in Biotechnology</i> , 2011, 22, 103-108.	6.6	146
30	HIF-driven SF3B1 induces KHK-C to enforce fructolysis and heart disease. <i>Nature</i> , 2015, 522, 444-449.	27.8	144
31	Metabolite identification and molecular fingerprint prediction through machine learning. <i>Bioinformatics</i> , 2012, 28, 2333-2341.	4.1	143
32	Frontiers of high-throughput metabolomics. <i>Current Opinion in Chemical Biology</i> , 2017, 36, 15-23.	6.1	139
33	Temporal system-level organization of the switch from glycolytic to gluconeogenic operation in yeast. <i>Molecular Systems Biology</i> , 2013, 9, 651.	7.2	138
34	Branched-chain amino acid catabolism is a conserved regulator of physiological ageing. <i>Nature Communications</i> , 2015, 6, 10043.	12.8	132
35	Nontargeted in vitro metabolomics for high-throughput identification of novel enzymes in <i>Escherichia coli</i> . <i>Nature Methods</i> , 2017, 14, 187-194.	19.0	125
36	Novel biological insights through metabolomics and <sup>13</sup> C-flux analysis. <i>Current Opinion in Microbiology</i> , 2009, 12, 553-558.	5.1	120

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37	Lipid signalling drives proteolytic rewiring of mitochondria by YME1L. <i>Nature</i> , 2019, 575, 361-365.	27.8	116
38	Biological insights through nontargeted metabolomics. <i>Current Opinion in Biotechnology</i> , 2015, 34, 1-8.	6.6	115
39	Integration of Metabolomics and Transcriptomics Reveals a Complex Diet of <i>Mycobacterium tuberculosis</i> during Early Macrophage Infection. <i>MSystems</i> , 2017, 2, .	3.8	112
40	Genomewide landscape of gene-metabolome associations in <i>Escherichia coli</i> . <i>Molecular Systems Biology</i> , 2017, 13, 907.	7.2	109
41	Genome-Scale CRISPR Screening in Human Intestinal Organoids Identifies Drivers of TGF- $\beta$ Resistance. <i>Cell Stem Cell</i> , 2020, 26, 431-440.e8.	11.1	103
42	Integrated multilaboratory systems biology reveals differences in protein metabolism between two reference yeast strains. <i>Nature Communications</i> , 2010, 1, 145.	12.8	100
43	The Yeast Cyclin-Dependent Kinase Routes Carbon Fluxes to Fuel Cell Cycle Progression. <i>Molecular Cell</i> , 2016, 62, 532-545.	9.7	100
44	The RNA-Binding Protein PUM2 Impairs Mitochondrial Dynamics and Mitophagy During Aging. <i>Molecular Cell</i> , 2019, 73, 775-787.e10.	9.7	100
45	Collisional fragmentation of central carbon metabolites in LC-MS/MS increases precision of <sup>13</sup> C metabolic flux analysis. <i>Biotechnology and Bioengineering</i> , 2012, 109, 763-771.	3.3	93
46	Genome-wide RNAi Screening Identifies Protein Modules Required for 40S Subunit Synthesis in Human Cells. <i>Cell Reports</i> , 2015, 13, 2879-2891.	6.4	90
47	High-Throughput Quantitative Metabolomics: Workflow for Cultivation, Quenching, and Analysis of Yeast in a Multiwell Format. <i>Analytical Chemistry</i> , 2009, 81, 3623-3629.	6.5	86
48	Peroxisome Proliferator Activated Receptor Gamma Controls Mature Brown Adipocyte Inducibility through Glycerol Kinase. <i>Cell Reports</i> , 2018, 22, 760-773.	6.4	86
49	Dynamic 3D proteomes reveal protein functional alterations at high resolution in situ. <i>Cell</i> , 2021, 184, 545-559.e22.	28.9	82
50	The thioredoxin-1 system is essential for fueling DNA synthesis during T-cell metabolic reprogramming and proliferation. <i>Nature Communications</i> , 2018, 9, 1851.	12.8	77
51	Monitoring Mitochondrial Pyruvate Carrier Activity in Real Time Using a BRET-Based Biosensor: Investigation of the Warburg Effect. <i>Molecular Cell</i> , 2015, 59, 491-501.	9.7	76
52	A Fatty Acid Oxidation-dependent Metabolic Shift Regulates the Adaptation of BRAF-mutated Melanoma to MAPK Inhibitors. <i>Clinical Cancer Research</i> , 2019, 25, 6852-6867.	7.0	74
53	Functional screening identifies MCT4 as a key regulator of breast cancer cell metabolism and survival. <i>Journal of Pathology</i> , 2015, 237, 152-165.	4.5	73
54	Commensal Clostridiales strains mediate effective anti-cancer immune response against solid tumors. <i>Cell Host and Microbe</i> , 2021, 29, 1573-1588.e7.	11.0	71

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55	anNET: a tool for network-embedded thermodynamic analysis of quantitative metabolome data. BMC Bioinformatics, 2008, 9, 199.	2.6	70
56	Reducing maintenance metabolism by metabolic engineering of respiration improves riboflavin production by <i>Bacillus subtilis</i> . Metabolic Engineering, 2003, 5, 49-55.	7.0	63
57	An integrative metabolomics and transcriptomics study to identify metabolic alterations in aged skin of humans in vivo. BMC Genomics, 2017, 18, 169.	2.8	62
58	Quantification and Mass Isotopomer Profiling of $\hat{\pm}$ -Keto Acids in Central Carbon Metabolism. Analytical Chemistry, 2014, 86, 3232-3237.	6.5	60
59	Inhibition of Mevalonate Pathway Prevents Adipocyte Browning in Mice and Men by Affecting Protein Prenylation. Cell Metabolism, 2019, 29, 901-916.e8.	16.2	59
60	6-Phosphofructo-2-kinase/fructose-2,6-biphosphatase 4 is essential for p53-null cancer cells. Oncogene, 2017, 36, 3287-3299.	5.9	58
61	Bacterial response to acetate challenge: a comparison of tolerance among species. Applied Microbiology and Biotechnology, 2000, 54, 243-247.	3.6	56
62	The <i>Bacillus subtilis</i> yqj Gene Encodes the NADP <sup>+</sup> -Dependent 6-P-Gluconate Dehydrogenase in the Pentose Phosphate Pathway. Journal of Bacteriology, 2004, 186, 4528-4534.	2.2	56
63	LRH-1-dependent programming of mitochondrial glutamine processing drives liver cancer. Genes and Development, 2016, 30, 1255-1260.	5.9	56
64	Embryonic Lethality of Mitochondrial Pyruvate Carrier 1 Deficient Mouse Can Be Rescued by a Ketogenic Diet. PLoS Genetics, 2016, 12, e1006056.	3.5	56
65	Engineering Genetically Encoded Nanosensors for Real-Time In Vivo Measurements of Citrate Concentrations. PLoS ONE, 2011, 6, e28245.	2.5	55
66	Screening of <i>Bacillus subtilis</i> transposon mutants with altered riboflavin production. Metabolic Engineering, 2008, 10, 216-226.	7.0	53
67	YtsJ Has the Major Physiological Role of the Four Paralogous Malic Enzyme Isoforms in <i>Bacillus subtilis</i> . Journal of Bacteriology, 2006, 188, 4727-4736.	2.2	52
68	Differential glucose repression in common yeast strains in response to HXK2 deletion. FEMS Yeast Research, 2010, 10, 322-332.	2.3	52
69	Metabolomic Profiling of Bradyrhizobium diazoefficiens-Induced Root Nodules Reveals Both Host Plant-Specific and Developmental Signatures. International Journal of Molecular Sciences, 2016, 17, 815.	4.1	52
70	The phosphoenolpyruvate carboxykinase also catalyzes C3 carboxylation at the interface of glycolysis and the TCA cycle of <i>Bacillus subtilis</i> . Metabolic Engineering, 2004, 6, 277-284.	7.0	49
71	MSNovelist: de novo structure generation from mass spectra. Nature Methods, 2022, 19, 865-870.	19.0	49
72	A Genome-Scale Database and Reconstruction of <i>Caenorhabditis elegans</i> Metabolism. Cell Systems, 2016, 2, 312-322.	6.2	46

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73	Yin Yang 1 Orchestrates a Metabolic Program Required for Both Neural Crest Development and Melanoma Formation. <i>Cell Stem Cell</i> , 2019, 24, 637-653.e9.	11.1	44
74	Vegan diet in young children remodels metabolism and challenges the statuses of essential nutrients. <i>EMBO Molecular Medicine</i> , 2021, 13, e13492.	6.9	43
75	FOXC2 controls adult lymphatic endothelial specialization, function, and gut lymphatic barrier preventing multiorgan failure. <i>Science Advances</i> , 2021, 7, .	10.3	43
76	Non-stationary <sup>13</sup> C metabolic flux ratio analysis. <i>Biotechnology and Bioengineering</i> , 2013, 110, 3164-3176.	3.3	41
77	An analytic and systematic framework for estimating metabolic flux ratios from <sup>13</sup> C tracer experiments. <i>BMC Bioinformatics</i> , 2008, 9, 266.	2.6	40
78	Dynamic exometabolome analysis reveals active metabolic pathways in non-replicating mycobacteria. <i>Environmental Microbiology</i> , 2015, 17, 4802-4815.	3.8	40
79	Nrf2 Activation Promotes Keratinocyte Survival during Early Skin Carcinogenesis via Metabolic Alterations. <i>Cancer Research</i> , 2015, 75, 4817-4829.	0.9	40
80	SUMOFLUX: A Generalized Method for Targeted <sup>13</sup> C Metabolic Flux Ratio Analysis. <i>PLoS Computational Biology</i> , 2016, 12, e1005109.	3.2	40
81	Knockout of the high-coupling cytochrome aa <sub>3</sub> oxidase reduces TCA cycle fluxes in <i>Bacillus subtilis</i> . <i>FEMS Microbiology Letters</i> , 2003, 226, 121-126.	1.8	39
82	Non-targeted LC-MS based metabolomics analysis of the urinary steroidal profile. <i>Analytica Chimica Acta</i> , 2017, 964, 112-122.	5.4	38
83	Astrocyte glutathione maintains endothelial barrier stability. <i>Redox Biology</i> , 2020, 34, 101576.	9.0	38
84	Transient expression and flux changes during a shift from high to low riboflavin production in continuous cultures of <i>Bacillus subtilis</i> . <i>Biotechnology and Bioengineering</i> , 2005, 89, 219-232.	3.3	32
85	Dietary excess regulates absorption and surface of gut epithelium through intestinal PPAR $\alpha$ . <i>Nature Communications</i> , 2021, 12, 7031.	12.8	32
86	Molecular pathways behind acquired obesity: Adipose tissue and skeletal muscle multiomics in monozygotic twin pairs discordant for BMI. <i>Cell Reports Medicine</i> , 2021, 2, 100226.	6.5	31
87	Model-independent fluxome profiling from <sup>2</sup> H and <sup>13</sup> C experiments for metabolic variant discrimination. <i>Genome Biology</i> , 2004, 5, R99.	9.6	30
88	Dynamic flux responses in riboflavin overproducing <i>Bacillus subtilis</i> to increasing glucose limitation in fed-batch culture. <i>Biotechnology and Bioengineering</i> , 2010, 105, 795-804.	3.3	29
89	A genetically encoded Förster resonance energy transfer sensor for monitoring in vivo trehalose-6-phosphate dynamics. <i>Analytical Biochemistry</i> , 2015, 474, 1-7.	2.4	28
90	Metabolomics Identifies a Biomarker Revealing In Vivo Loss of Functional $\beta$ -Cell Mass Before Diabetes Onset. <i>Diabetes</i> , 2019, 68, 2272-2286.	0.6	28

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91	Yin Yang 1 sustains biosynthetic demands during brain development in a stage-specific manner. <i>Nature Communications</i> , 2019, 10, 2192.	12.8	28
92	Involvement of circulating factors in the transmission of paternal experiences through the germline. <i>EMBO Journal</i> , 2020, 39, e104579.	7.8	28
93	The oxygen sensor PHD3 limits glycolysis under hypoxia via direct binding to pyruvate kinase. <i>Cell Research</i> , 2011, 21, 983-986.	12.0	26
94	Metabotypes of breast cancer cell lines revealed by non-targeted metabolomics. <i>Metabolic Engineering</i> , 2017, 43, 173-186.	7.0	26
95	Nontargeted Profiling of Coenzyme A thioesters in biological samples by tandem mass spectrometry. <i>Analytical Chemistry</i> , 2013, 85, 8284-8290.	6.5	24
96	Metabolite Identification through Machine Learning – Tackling CASMI Challenge Using FingerID. <i>Metabolites</i> , 2013, 3, 484-505.	2.9	24
97	Multiomic profiling of the liver across diets and age in a diverse mouse population. <i>Cell Systems</i> , 2022, 13, 43-57.e6.	6.2	24
98	Targeting glioma-initiating cells via the tyrosine metabolic pathway. <i>Journal of Neurosurgery</i> , 2021, 134, 721-732.	1.6	23
99	The coenzyme thiamine diphosphate displays a daily rhythm in the Arabidopsis nucleus. <i>Communications Biology</i> , 2020, 3, 209.	4.4	21
100	SLAW: A Scalable and Self-Optimizing Processing Workflow for Untargeted LC-MS. <i>Analytical Chemistry</i> , 2021, 93, 15024-15032.	6.5	21
101	ADAMTS18+ villus tip telocytes maintain a polarized VEGFA signaling domain and fenestrations in nutrient-absorbing intestinal blood vessels. <i>Nature Communications</i> , 2022, 13, .	12.8	20
102	The integrated response of primary metabolites to gene deletions and the environment. <i>Molecular BioSystems</i> , 2013, 9, 440.	2.9	19
103	Rapid, randomized development of genetically encoded FRET sensors for small molecules. <i>Analyst</i> , The, 2015, 140, 4540-4548.	3.5	17
104	Liposome-supported peritoneal dialysis in the treatment of severe hyperammonemia: An investigation on potential interactions. <i>Journal of Controlled Release</i> , 2018, 278, 57-65.	9.9	16
105	Dynamic tracing of sugar metabolism reveals the mechanisms of action of synthetic sugar analogs. <i>Glycobiology</i> , 2022, 32, 239-250.	2.5	15
106	The RNA binding protein human antigen R is a gatekeeper of liver homeostasis. <i>Hepatology</i> , 2022, 75, 881-897.	7.3	14
107	From biomarkers to integrated network responses. <i>Nature Biotechnology</i> , 2008, 26, 1090-1092.	17.5	12
108	Quantification of Cellular Folate Species by LC-MS after Stabilization by Derivatization. <i>Analytical Chemistry</i> , 2018, 90, 7349-7356.	6.5	12

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109	Mitochondrial spongiotic brain disease: astrocytic stress and harmful rapamycin and ketosis effect. <i>Life Science Alliance</i> , 2020, 3, e202000797.	2.8	12
110	Mitochondrial cell cycle cross-talk drives endoreplication in heart disease. <i>Science Translational Medicine</i> , 2021, 13, eabi7964.	12.4	12
111	Metabolomics and Transcriptomics Identify Multiple Downstream Targets of <i>Paraburkholderia phymatum</i> If54 During Symbiosis with <i>Phaseolus vulgaris</i> . <i>International Journal of Molecular Sciences</i> , 2018, 19, 1049.	4.1	11
112	Genome-wide RNAi screen identifies novel players in human 60S subunit biogenesis including key enzymes of polyamine metabolism. <i>Nucleic Acids Research</i> , 2022, 50, 2872-2888.	14.5	11
113	A high-throughput metabolomics method to predict high concentration cytotoxicity of drugs from low concentration profiles. <i>Metabolomics</i> , 2012, 8, 433-443.	3.0	10
114	Metabolic network segmentation: A probabilistic graphical modeling approach to identify the sites and sequential order of metabolic regulation from non-targeted metabolomics data. <i>PLoS Computational Biology</i> , 2017, 13, e1005577.	3.2	10
115	<i>Paraburkholderia phymatum</i> Homocitrate Synthase NifV Plays a Key Role for Nitrogenase Activity during Symbiosis with Papilionoids and in Free-Living Growth Conditions. <i>Cells</i> , 2021, 10, 952.	4.1	9
116	<i>Bradyrhizobium diazoefficiens</i> Requires Chemical Chaperones To Cope with Osmotic Stress during Soybean Infection. <i>MBio</i> , 2021, 12, .	4.1	8
117	Bifunctional Malic/Malolactic Enzyme Provides a Novel Mechanism for NADPH-Balancing in <i>Bacillus subtilis</i> . <i>MBio</i> , 2021, 12, .	4.1	6
118	Toward metabolome-based 13C flux analysis: a universal tool for measuring in vivo metabolic activity. <i>Topics in Current Genetics</i> , 2007, , 129-157.	0.7	4
119	2-Deoxy-D-glucose Restore Glucocorticoid Sensitivity in Acute Lymphoblastic Leukemia via Modification of N-Linked Glycosylation in an Oxygen Tension-Independent Manner. <i>Oxidative Medicine and Cellular Longevity</i> , 2017, 2017, 1-15.	4.0	4
120	Identification of HIF-dependent alternative splicing in gastrointestinal cancers and characterization of a long, coding isoform of SLC35A3. <i>Genomics</i> , 2021, 113, 515-529.	2.9	4
121	Fluxome Profiling in Microbes. , 2005, , 307-322.		3
122	Metabolomics and Dual RNA-Sequencing on Root Nodules Revealed New Cellular Functions Controlled by <i>Paraburkholderia phymatum</i> NifA. <i>Metabolites</i> , 2021, 11, 455.	2.9	3
123	SPHN/PHRT: Forming a Swiss-Wide Infrastructure for Data-Driven Sepsis Research. <i>Studies in Health Technology and Informatics</i> , 2020, 270, 1163-1167.	0.3	3
124	Metabolomics reveals tepotinib-related mitochondrial dysfunction in MET-activating mutations-driven models. <i>FEBS Journal</i> , 2019, 286, 2692-2710.	4.7	2
125	Editorial overview: Analytical biotechnology. <i>Current Opinion in Biotechnology</i> , 2015, 31, iv-vi.	6.6	0
126	CBMT-41. GLIOBLASTOMA CLONES DERIVED FROM TUMOR CORE AND EDGE DISPLAY SPATIAL METABOLIC HETEROGENEITY. <i>Neuro-Oncology</i> , 2018, 20, vi41-vi41.	1.2	0



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127	Hippocampal neural stem cells rapidly change their metabolic profile during neuronal differentiation &nbsp; in cell culture &nbsp;. Matters Select, 0, , .	3.0	0