

# David A Fell

## List of Publications by Year in descending order

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137  
papers

9,326  
citations

76031

42  
h-index

46524

93  
g-index

143  
all docs

143  
docs citations

143  
times ranked

7575  
citing authors

#	ARTICLE	IF	CITATIONS
1	Overexpression of phospholipid: diacylglycerol acyltransferase in <i>Brassica napus</i> results in changes in lipid metabolism and oil accumulation. <i>Biochemical Journal</i> , 2022, 479, 805-823.	1.7	9
2	A genome-scale metabolic model of <i>Cupriavidus necator</i> H16 integrated with TraDIS and transcriptomic data reveals metabolic insights for biotechnological applications. <i>PLoS Computational Biology</i> , 2022, 18, e1010106.	1.5	10
3	Boosting Biomass Quantity and Quality by Improved Mixotrophic Culture of the Diatom <i>Phaeodactylum tricornutum</i> . <i>Frontiers in Plant Science</i> , 2021, 12, 642199.	1.7	12
4	Increase in lysophosphatidate acyltransferase activity in oilseed rape ( <i>Brassica napus</i> ) increases seed triacylglycerol content despite its low intrinsic flux control coefficient. <i>New Phytologist</i> , 2019, 224, 700-711.	3.5	17
5	Genome-scale model of <i>C. autoethanogenum</i> reveals optimal bioprocess conditions for high-value chemical production from carbon monoxide. <i>Engineering Biology</i> , 2019, 3, 32-40.	0.8	19
6	Model-assisted metabolic engineering of <i>Escherichia coli</i> for long chain alkane and alcohol production. <i>Metabolic Engineering</i> , 2018, 46, 1-12.	3.6	65
7	Stoichiometric analysis of the energetics and metabolic impact of photorespiration in C3 plants. <i>Plant Journal</i> , 2018, 96, 1228-1241.	2.8	16
8	Genotype to phenotype mapping still needs underpinning by research in metabolism and enzymology. <i>Bioscience Reports</i> , 2018, 38, .	1.1	0
9	Model-based biotechnological potential analysis of <i>Kluyveromyces marxianus</i> central metabolism. <i>Journal of Industrial Microbiology and Biotechnology</i> , 2017, 44, 1177-1190.	1.4	38
10	A Genome Scale Model of <i>Geobacillus thermoglucosidasius</i> (C56-YS93) reveals its biotechnological potential on rice straw hydrolysate. <i>Journal of Biotechnology</i> , 2017, 251, 30-37.	1.9	25
11	Modelling metabolism of the diatom <i>Phaeodactylum tricornutum</i> . <i>Biochemical Society Transactions</i> , 2015, 43, 1182-1186.	1.6	30
12	Identification of potential drug targets in <i>Salmonella enterica</i> sv. Typhimurium using metabolic modelling and experimental validation. <i>Microbiology (United Kingdom)</i> , 2014, 160, 1252-1266.	0.7	45
13	Metabolic trade-offs between biomass synthesis and photosynthate export at different light intensities in a genome-scale metabolic model of rice. <i>Frontiers in Plant Science</i> , 2014, 5, 656.	1.7	10
14	Effects of a beetroot juice with high neobetanin content on the early-phase insulin response in healthy volunteers. <i>Journal of Nutritional Science</i> , 2014, 3, e9.	0.7	57
15	A Diel Flux Balance Model Captures Interactions between Light and Dark Metabolism during Day-Night Cycles in C3 and Crassulacean Acid Metabolism Leaves. <i>Plant Physiology</i> , 2014, 165, 917-929.	2.3	181
16	Modeling of <i>Zymomonas mobilis</i> central metabolism for novel metabolic engineering strategies. <i>Frontiers in Microbiology</i> , 2014, 5, 42.	1.5	32
17	A method for accounting for maintenance costs in flux balance analysis improves the prediction of plant cell metabolic phenotypes under stress conditions. <i>Plant Journal</i> , 2013, 75, 1050-1061.	2.8	121
18	Kinetic modelling of the <i>Zymomonas mobilis</i> Entner-Doudoroff pathway: insights into control and functionality. <i>Microbiology (United Kingdom)</i> , 2013, 159, 2674-2689.	0.7	36

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19	Biotechnological potential of respiring <i>Zymomonas mobilis</i> : A stoichiometric analysis of its central metabolism. <i>Journal of Biotechnology</i> , 2013, 165, 1-10.	1.9	55
20	Responses to Light Intensity in a Genome-Scale Model of Rice Metabolism. <i>Plant Physiology</i> , 2013, 162, 1060-1072.	2.3	117
21	Abstract 4942: Can three-dimensional cell cultures be used to predict in vivo drug response and synergistic combinations. , 2012, , .		0
22	Abstract 4933: Modeling the sequence-sensitive gemcitabine/docetaxel combination using the Virtual Tumor. , 2011, , .		1
23	Systems Biology Approaches to Cancer Drug Development. , 2011, , 367-380.		0
24	A Genome-Scale Metabolic Model Accurately Predicts Fluxes in Central Carbon Metabolism under Stress Conditions. <i>Plant Physiology</i> , 2010, 154, 311-323.	2.3	124
25	Building and analysing genome-scale metabolic models. <i>Biochemical Society Transactions</i> , 2010, 38, 1197-1201.	1.6	30
26	Evolution of Central Carbon Metabolism. <i>Molecular Cell</i> , 2010, 39, 663-664.	4.5	4
27	A Genome-Scale Metabolic Model of Arabidopsis and Some of Its Properties. <i>Plant Physiology</i> , 2009, 151, 1570-1581.	2.3	273
28	Response to comment on 'Can sugars be produced from fatty acids? A test case for pathway analysis tools'. <i>Bioinformatics</i> , 2009, 25, 3330-3331.	1.8	7
29	Can sugars be produced from fatty acids? A test case for pathway analysis tools. <i>Bioinformatics</i> , 2009, 25, 152-158.	1.8	36
30	SysBioMed report: Advancing systems biology for medical applications. <i>IET Systems Biology</i> , 2009, 3, 131-136.	0.8	27
31	Contribution of NADH Increases to Ethanol's Inhibition of Retinol Oxidation by Human ADH Isoforms. <i>Alcoholism: Clinical and Experimental Research</i> , 2009, 33, 571-580.	1.4	20
32	Abstract A35: Computer modeling of nocodazole exposure on cell cultures in vitro. , 2009, , .		0
33	Is maximization of molar yield in metabolic networks favoured by evolution?. <i>Journal of Theoretical Biology</i> , 2008, 252, 497-504.	0.8	181
34	Detection of stoichiometric inconsistencies in biomolecular models. <i>Bioinformatics</i> , 2008, 24, 2245-2251.	1.8	85
35	Can sugars be produced from fatty acids? A test case for pathway analysis tools. <i>Bioinformatics</i> , 2008, 24, 2615-2621.	1.8	36
36	Getting to grips with the plant metabolic network. <i>Biochemical Journal</i> , 2008, 409, 27-41.	1.7	84

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37	METABOLIC NETWORKS. Complex Systems and Interdisciplinary Science, 2007, , 163-197.	0.2	2
38	How can we understand metabolism?. , 2007, , 87-101.		3
39	Modular decomposition of metabolic systems via null-space analysis. Journal of Theoretical Biology, 2007, 249, 691-705.	0.8	34
40	Using a mammalian cell cycle simulation to interpret differential kinase inhibition in anti-tumour pharmaceutical development. BioSystems, 2006, 83, 91-97.	0.9	37
41	Challenges to be faced in the reconstruction of metabolic networks from public databases. IET Systems Biology, 2006, 153, 379.	2.0	61
42	Metabolic Control Analysis for the NMR Spectroscopist. , 2005, , 31-44.		0
43	Phosphorylation of Allosteric Enzymes Can Serve Homeostasis rather than Control Flux: The Example of Glycogen Synthase. , 2005, , 59-71.		2
44	Myocardial energy metabolism in ischemic preconditioning and cardioplegia: A metabolic control analysis. Molecular and Cellular Biochemistry, 2005, 278, 223-232.	1.4	10
45	Protein phosphorylation can regulate metabolite concentrations rather than control flux: The example of glycogen synthase. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 1485-1490.	3.3	27
46	Applications of metabolic modelling to plant metabolism. Journal of Experimental Botany, 2004, 55, 1177-1186.	2.4	54
47	Enzymes, metabolites and fluxes. Journal of Experimental Botany, 2004, 56, 267-272.	2.4	76
48	A method for the determination of flux in elementary modes, and its application to Lactobacillus rhamnosus. Biotechnology and Bioengineering, 2004, 88, 601-612.	1.7	61
49	Metabolic pathways in the post-genome era. Trends in Biochemical Sciences, 2003, 28, 250-258.	3.7	347
50	Elementary modes analysis of photosynthate metabolism in the chloroplast stroma. FEBS Journal, 2003, 270, 430-439.	0.2	59
51	Dynamic simulation of pollutant effects on the threonine pathway in Escherichia coli. Comptes Rendus - Biologies, 2003, 326, 501-508.	0.1	12
52	Regulation of Glycolytic Flux in Ischemic Preconditioning. Journal of Biological Chemistry, 2002, 277, 24411-24419.	1.6	38
53	Metabolic control analysis of anaerobic glycolysis in human hibernating myocardium replaces traditional concepts of flux control. FEBS Letters, 2002, 517, 245-250.	1.3	14
54	Metabolic pathway analysis of a recombinant yeast for rational strain development. Biotechnology and Bioengineering, 2002, 79, 121-134.	1.7	109

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55	Dependence of Control Coefficient Distribution on the Boundaries of a Metabolic System: A Generalized Analysis of the Effects of Additional Input and Output reactions to a Linear Pathway. <i>Journal of Theoretical Biology</i> , 2002, 215, 239-251.	0.8	1
56	Reaction routes in biochemical reaction systems: Algebraic properties, validated calculation procedure and example from nucleotide metabolism. <i>Journal of Mathematical Biology</i> , 2002, 45, 153-181.	0.8	204
57	Flux control of sulphate assimilation in <i>Arabidopsis thaliana</i> : adenosine 5'-phosphosulphate reductase is more susceptible than ATP sulphurylase to negative control by thiols. <i>Plant Journal</i> , 2002, 31, 729-740.	2.8	252
58	The small world inside large metabolic networks. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2001, 268, 1803-1810.	1.2	798
59	RELEVANT CYCLES IN CHEMICAL REACTION NETWORKS. <i>International Journal of Modeling, Simulation, and Scientific Computing</i> , 2001, 04, 207-226.	0.9	61
60	Threonine synthesis from aspartate in <i>Escherichia coli</i> cell-free extracts: pathway dynamics. <i>Biochemical Journal</i> , 2001, 356, 425-432.	1.7	23
61	Control of the threonine-synthesis pathway in <i>Escherichia coli</i> : a theoretical and experimental approach. <i>Biochemical Journal</i> , 2001, 356, 433-444.	1.7	55
62	An integrated study of threonine-pathway enzyme kinetics in <i>Escherichia coli</i> . <i>Biochemical Journal</i> , 2001, 356, 415-423.	1.7	73
63	Computer modelling and experimental evidence for two steady states in the photosynthetic Calvin cycle. <i>FEBS Journal</i> , 2001, 268, 2810-2816.	0.2	49
64	Beyond genomics. <i>Trends in Genetics</i> , 2001, 17, 680-682.	2.9	49
65	An integrated study of threonine-pathway enzyme kinetics in <i>Escherichia coli</i> . <i>Biochemical Journal</i> , 2001, 356, 415.	1.7	44
66	Threonine synthesis from aspartate in <i>Escherichia coli</i> cell-free extracts: pathway dynamics. <i>Biochemical Journal</i> , 2001, 356, 425.	1.7	13
67	Control of the threonine-synthesis pathway in <i>Escherichia coli</i> : a theoretical and experimental approach. <i>Biochemical Journal</i> , 2001, 356, 433.	1.7	38
68	A general definition of metabolic pathways useful for systematic organization and analysis of complex metabolic networks. <i>Nature Biotechnology</i> , 2000, 18, 326-332.	9.4	860
69	The small world of metabolism. <i>Nature Biotechnology</i> , 2000, 18, 1121-1122.	9.4	367
70	Modelling photosynthesis and its control. <i>Journal of Experimental Botany</i> , 2000, 51, 319-328.	2.4	150
71	Signal transduction and the control of expression of enzyme activity. <i>Advances in Enzyme Regulation</i> , 2000, 40, 35-46.	2.9	12
72	Differential feedback regulation of the MAPK cascade underlies the quantitative differences in EGF and NGF signalling in PC12 cells. <i>FEBS Letters</i> , 2000, 482, 169-174.	1.3	210

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73	Recent Developments in Metabolic Pathway Analysis and Their Potential Implications for Biotechnology and Medicine. , 2000, , 57-66.		4
74	Multisite Modulation in the Control of Glycolysis. , 2000, , 259-266.		0
75	Exercising Control When Control is Distributed. , 2000, , 267-274.		1
76	Detection of elementary flux modes in biochemical networks: a promising tool for pathway analysis and metabolic engineering. Trends in Biotechnology, 1999, 17, 53-60.	4.9	609
77	Simulation of The Epidermal Growth Factor Signal Transduction Pathway. Biochemical Society Transactions, 1999, 27, A48-A48.	1.6	0
78	Traditional concepts of metabolic control mislead more than enlighten. Biochemical Society Transactions, 1999, 27, A20-A20.	1.6	0
79	Computer simulation and evolution strategies in the study of rat heart glucose metabolism. Biochemical Society Transactions, 1999, 27, A48-A48.	1.6	0
80	Increasing the flux in a metabolic pathway: a metabolic control analysis perspective. , 1999, , 257-273.		2
81	A control analysis exploration of the role of ATP utilisation in glycolytic-flux control and glycolytic-metabolite-concentration regulation. FEBS Journal, 1998, 258, 956-967.	0.2	61
82	Increasing the flux in metabolic pathways: A metabolic control analysis perspective. , 1998, 58, 121-124.		116
83	The role of multiple enzyme activation in metabolic flux control. Advances in Enzyme Regulation, 1998, 38, 65-85.	2.9	62
84	Increasing the flux in metabolic pathways: A metabolic control analysis perspective. , 1998, 58, 121.		2
85	Metabolic Control Analysis of glycolysis in tuber tissue of potato ( <i>Solanum tuberosum</i> ): explanation for the low control coefficient of phosphofructokinase over respiratory flux. Biochemical Journal, 1997, 322, 119-127.	1.7	75
86	Finite change analysis of glycolytic intermediates in tuber tissue of lines of transgenic potato ( <i>Solanum tuberosum</i> ) overexpressing phosphofructokinase. Biochemical Journal, 1997, 322, 111-117.	1.7	43
87	Dr Henrik Kacser (1918â€“1995). Journal of Theoretical Biology, 1996, 182, 193-194.	0.8	2
88	Design of Metabolic Control for Large Flux Changes. Journal of Theoretical Biology, 1996, 182, 285-298.	0.8	43
89	Distribution control of metabolic flux. Cell Biochemistry and Function, 1996, 14, 229-236.	1.4	14
90	Physiological control of metabolic flux: the requirement for multisite modulation. Biochemical Journal, 1995, 311, 35-39.	1.7	213

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91	The control of flux. <i>Biochemical Society Transactions</i> , 1995, 23, 341-366.	1.6	367
92	Error and bias in control coefficients calculated from elasticities. <i>Biochemical Society Transactions</i> , 1995, 23, 294S-294S.	1.6	0
93	Design of experiments to measure elasticity coefficients. <i>Biochemical Society Transactions</i> , 1995, 23, 297S-297S.	1.6	0
94	Simulation of free radical reactions: a multi-compartment Monte Carlo approach. <i>Biochemical Society Transactions</i> , 1995, 23, 298S-298S.	1.6	0
95	Henrik Kacser, 1918â€“1995. <i>Trends in Biochemical Sciences</i> , 1995, 20, 297-298.	3.7	2
96	Reply from E-D. Schulze. <i>Trends in Ecology and Evolution</i> , 1995, 10, 245.	4.2	0
97	Metabolic Control Analysis: Sensitivity of Control Coefficients to Experimentally Determined Variables. <i>Journal of Theoretical Biology</i> , 1994, 167, 175-200.	0.8	16
98	MetaCon - A Computer Program for the Algebraic Evaluation of Control Coefficients of Metabolic Networks. , 1993, , 473-478.		1
99	A computer program for the algebraic determination of control coefficients in Metabolic Control Analysis. <i>Biochemical Journal</i> , 1993, 292, 351-360.	1.7	15
100	Simulation of dioxygen free radical reactions. <i>Biochemical Society Transactions</i> , 1993, 21, 256S-256S.	1.6	4
101	The analysis of flux in substrate cycles. <i>Biochemical Society Transactions</i> , 1993, 21, 257S-257S.	1.6	3
102	The Analysis of Flux in Substrate Cycles. , 1993, , 97-101.		3
103	Metabolic control analysis: a survey of its theoretical and experimental development. <i>Biochemical Journal</i> , 1992, 286, 313-330.	1.7	761
104	SCAMP: A metabolic simulator and control analysis program. <i>Mathematical and Computer Modelling</i> , 1991, 15, 15-28.	2.0	43
105	Physiological significance of metabolite channelling. <i>Journal of Theoretical Biology</i> , 1991, 152, 109-110.	0.8	5
106	Covalent modification and metabolic control analysis. Modification to the theorems and their application to metabolic systems containing covalently modifiable enzymes. <i>FEBS Journal</i> , 1990, 191, 405-411.	0.2	38
107	Metabolic control analysis. Sensitivity of control coefficients to elasticities. <i>FEBS Journal</i> , 1990, 191, 413-420.	0.2	17
108	Metabolic control analysis. The effects of high enzyme concentrations. <i>FEBS Journal</i> , 1990, 192, 183-187.	0.2	41

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109	Metabolic control analysis of mammalian serine metabolism. <i>Advances in Enzyme Regulation</i> , 1990, 30, 13-32.	2.9	45
110	Control Coefficients and the Matrix Method. , 1990, , 139-148.		1
111	The matrix method of metabolic control analysis: its validity for complex pathway structures. <i>Journal of Theoretical Biology</i> , 1989, 136, 181-197.	0.8	47
112	Control analysis of mammalian serine biosynthesis. Feedback inhibition on the final step. <i>Biochemical Journal</i> , 1988, 256, 97-101.	1.7	93
113	The role of co-operativity in metabolism. <i>Biochemical Society Transactions</i> , 1987, 15, 234-235.	1.6	6
114	Responses of metabolic systems: application of control analysis to yeast glycolysis. <i>Biochemical Society Transactions</i> , 1987, 15, 238-238.	1.6	1
115	A sensitivity issue. <i>Trends in Biochemical Sciences</i> , 1987, 12, 217-218.	3.7	1
116	Metabolic control and its analysis. Extensions to the theory and matrix method. <i>FEBS Journal</i> , 1987, 165, 215-221.	0.2	108
117	A program for the analysis of students' enzyme kinetics results with diagnosis of experimental inadequacies. <i>Biochemical Society Transactions</i> , 1986, 14, 466-466.	1.6	1
118	Theoretical aspects of covalent modification in metabolic control. <i>Biochemical Society Transactions</i> , 1986, 14, 623-624.	1.6	4
119	Non-equilibrium/equilibrium reactions: which controls?. <i>Biochemical Society Transactions</i> , 1986, 14, 624-625.	1.6	6
120	Teaching the TCA cycle. <i>Biochemical Education</i> , 1986, 14, 173-174.	0.1	1
121	Substrate cycles: do they really cause amplification?. <i>Biochemical Society Transactions</i> , 1985, 13, 762-763.	1.6	3
122	Metabolic control and its analysis. Additional relationships between elasticities and control coefficients. <i>FEBS Journal</i> , 1985, 148, 555-561.	0.2	273
123	Phosphofructokinase and glycolytic flux. <i>Trends in Biochemical Sciences</i> , 1984, 9, 515-516.	3.7	9
124	Microcomputer-controlled collection of haemoglobin's oxygen binding curves. <i>Biochemical Society Transactions</i> , 1984, 12, 1094-1095.	1.6	0
125	Comparison of the applicability of several allosteric models to the pH and 2,3-bis(phospho)glycerate dependence of oxygen binding by human blood. <i>Journal of Molecular Biology</i> , 1982, 156, 863-889.	2.0	8
126	Subunit Interactions and Catalytic Activity of Triose Phosphate Isomerase. <i>Enzyme</i> , 1982, 28, 287-293.	0.7	0



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127	Computer simulations of the rate of change of concentration of adenosine 3'5'-cyclic monophosphate after stimulation of adenylate cyclase activity. <i>Biochemical Society Transactions</i> , 1980, 8, 139-140.	1.6	8
128	Theoretical analyses of the functioning of the high- and low-K <sub>m</sub> cyclic nucleotide phosphodiesterases in the regulation of the concentration of adenosine 3'5'-cyclic monophosphate in animal cells. <i>Journal of Theoretical Biology</i> , 1980, 84, 361-385.	0.8	40
129	Theoretical Studies of the Control of Adenosine 3'5'-Cyclic Monophosphate by the High- and Low-K <sub>m</sub> Phosphodiesterases. <i>Biochemical Society Transactions</i> , 1979, 7, 1039-1040.	1.6	4
130	Computer simulation studies of the mixing technique and nonlinear optimizations used in the analysis of oxyhemoglobin dissociation. <i>Mathematical Biosciences</i> , 1979, 46, 59-69.	0.9	3
131	A Correction to Weber's Description of Ligand Binding by Allosteric Proteins. <i>Biochemical Society Transactions</i> , 1978, 6, 1264-1266.	1.6	0
132	Evidence that the Monomers of Dimeric Triose Phosphate Isomerase are Active. <i>Biochemical Society Transactions</i> , 1976, 4, 620-622.	1.6	1
133	Evidence for the activity of immobilised monomers of triose phosphate isomerase. <i>Biochemical and Biophysical Research Communications</i> , 1975, 67, 1013-1018.	1.0	12
134	The preparation and properties of pyruvate kinase from yeast. <i>Biochemical Journal</i> , 1974, 139, 665-675.	1.7	5
135	Proton-Relaxation-Enhancement Studies on the Binding to Yeast Pyruvate Kinase of a Substrate and Effectors. <i>FEBS Journal</i> , 1972, 29, 128-133.	0.2	3
136	Metabolic Control Analysis. , 0, , 69-80.		15
137	Modeling and Simulating Metabolic Networks. , 0, , 755-805.		11