Sebastiaan A L M Kooijman

List of Publications by Year
in descending order

88 papers	5,095 citations	71097 41 h-index	106340 65 g-index
90 all docs	90 docs citations	90 times ranked	4327 citing authors

#	Article	IF	Citations
1	From molecules to ecosystems through dynamic energy budget models. Journal of Animal Ecology, 2000, 69, 913-926.	2.8	317
2	FUNDAMENTAL CONNECTIONS AMONG ORGANISM C:N:P STOICHIOMETRY, MACROMOLECULAR COMPOSITION, AND GROWTH. Ecology, 2004, 85, 1217-1229.	3.2	218
3	Dynamic energy budget theory restores coherence in biology. Philosophical Transactions of the Royal Society B: Biological Sciences, 2010, 365, 3413-3428.	4.0	204
4	Making Sense of Ecotoxicological Test Results: Towards Application of Process-based Models. Ecotoxicology, 2006, 15, 305-314.	2.4	195
5	From empirical patterns to theory: a formal metabolic theory of life. Philosophical Transactions of the Royal Society B: Biological Sciences, 2008, 363, 2453-2464.	4.0	172
6	The AmP project: Comparing species on the basis of dynamic energy budget parameters. PLoS Computational Biology, 2018, 14, e1006100.	3.2	135
7	From foodâ€dependent statistics to metabolic parameters, a practical guide to the use of dynamic energy budget theory. Biological Reviews, 2008, 83, 533-552.	10.4	128
8	A biodiversityâ€inspired approach to aquatic ecosystem modeling. Limnology and Oceanography, 2007, 52, 1533-1544.	3.1	111
9	Balancing heat, water and nutrients under environmental change: a thermodynamic niche framework. Functional Ecology, 2013, 27, 950-966.	3.6	110
10	Temperature tolerance and energetics: a dynamic energy budget-based comparison of North Atlantic marine species. Philosophical Transactions of the Royal Society B: Biological Sciences, 2010, 365, 3553-3565.	4.0	98
11	A biology-based approach for mixture toxicity of multiple endpoints over the life cycle. Ecotoxicology, 2010, 19, 351-361.	2.4	96
12	Simultaneous Modeling of Multiple End Points in Life-Cycle Toxicity Tests. Environmental Science & Technology, 2004, 38, 2894-2900.	10.0	94
13	Stoichiometric food quality and herbivore dynamics. Ecology Letters, 2001, 4, 519-529.	6.4	93
14	Statistical analysis of bioassays, based on hazard modelling. Environmental and Ecological Statistics, 1994, 1, 303-314.	3.5	83
15	Reconciling theories for metabolic scaling. Journal of Animal Ecology, 2014, 83, 20-29.	2.8	81
16	From molecules to ecosystems through dynamic energy budget models. Journal of Animal Ecology, 2000, 69, 913-926.	2.8	78
17	Quantitative steps in the evolution of metabolic organisation as specified by the Dynamic Energy Budget theory. Biological Reviews, 2007, 82, 113-142.	10.4	69
18	Shedding Light on Fish Otolith Biomineralization Using a Bioenergetic Approach. PLoS ONE, 2011, 6, e27055.	2.5	66

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19	A Manipulative Test of Competing Theories for Metabolic Scaling. American Naturalist, 2011, 178, 746-754.	2.1	65
20	Waste to hurry: dynamic energy budgets explain the need of wasting to fully exploit blooming resources. Oikos, 2013, 122, 348-357.	2.7	64
21	Ecological Specialization of Mixotrophic Plankton in a Mixed Water Column. American Naturalist, 2005, 166, E45-E61.	2.1	63
22	The bijection from data to parameter space with the standard DEB model quantifies the supplyâ€“demand spectrum. Journal of Theoretical Biology, 2014, 354, 35-47.	1.7	61
23	Modeling the effects of binary mixtures on survival in time. Environmental Toxicology and Chemistry, 2007, 26, 1320-1327.	4.3	58
24	The impact of metabolism on stable isotope dynamics: a theoretical framework. Philosophical Transactions of the Royal Society B: Biological Sciences, 2010, 365, 3455-3468.	4.0	58
25	Dynamic energy budgets in syntrophic symbiotic relationships between heterotrophic hosts and photoautotrophic symbionts. Journal of Theoretical Biology, 2009, 259, 44-57.	1.7	57
26	Homoclinic and heteroclinic orbits to a cycle in a tri-trophic food chain. Journal of Mathematical Biology, 1999, 39, 19-38.	1.9	56
27	Sensitivity of animals to chemical compounds links to metabolic rate. Ecotoxicology, 2015, 24, 657-663.	2.4	54
28	An Alternative for NOEC Exists, but the Standard Model Has to Be Abandoned First. Oikos, 1996, 75, 310.	2.7	53
29	Developmental energetics of zebrafish, Danio rerio. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2011, 159, 275-283.	1.8	53
30	Quantifying impacts of plastic debris on marine wildlife identifies ecological breakpoints. Ecology Letters, 2020, 23, 1479-1487.	6.4	51
31	A dynamic energy budget for the whole lifeâ€cycle of holometabolous insects. Ecological Monographs, 2015, 85, 353-371.	5.4	50
32	What the hen can tell about her eggs: egg development on the basis of energy budgets. Journal of Mathematical Biology, 1986, 23, 163-185.	1.9	49
33	Modelling nematode life cycles using dynamic energy budgets. Functional Ecology, 2005, 19, 136-144.	3.6	49
34	A general model for multiple substrate biodegradation. Application to co-metabolism of structurally non-analogous compounds. Water Research, 2003, 37, 4843-4854.	11.3	47
35	Responses to stress of Caenorhabditis elegans populations with different reproductive strategies. Functional Ecology, 2005, 19, 656-664.	3.6	46
36	Using a biologyâ€based model (DEBtox) to analyze bioassays in ecotoxicology: Opportunities and recommendations. Environmental Toxicology and Chemistry, 2002, 21, 459-465.	4.3	45

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37	DYNAMIC ENERGY BUDGET REPRESENTATIONS OF STOICHIOMETRIC CONSTRAINTS ON POPULATION DYNAMICS. Ecology, 2004, 85, 1230-1243.	3.2	45
38	Modelling microbial adaptation to changing availability of substrates. Water Research, 2004, 38, 1003-1013.	11.3	45
39	A biology-based approach for quantitative structure-activity relationships (QSARs) in ecotoxicity. Ecotoxicology, 2009, 18, 187-196.	2.4	44
40	Modeling Receptor Kinetics in the Analysis of Survival Data for Organophosphorus Pesticides. Environmental Science & Technology, 2005, 39, 8307-8314.	10.0	42
41	Chronic exposure to chlorpyrifos reveals two modes of action in the springtail Folsomia candida. Environmental Pollution, 2007, 145, 452-458.	7.5	42
42	What the egg can tell about its hen: Embryonic development on the basis of dynamic energy budgets. Journal of Mathematical Biology, 2009, 58, 377-394.	1.9	40
43	A model to analyze effects of complex mixtures on survival. Ecotoxicology and Environmental Safety, 2009, 72, 669-676.	6.0	40
44	How far details are important in ecosystem modelling: the case of multi-limiting nutrients in phytoplanktonâ€“zooplankton interactions. Philosophical Transactions of the Royal Society B: Biological Sciences, 2010, 365, 3495-3507.	4.0	40
45	Effects of uranium on the metabolism of zebrafish, Danio rerio. Aquatic Toxicology, 2012, 118-119, 9-26.	4.0	40
46	ANALYSIS OF BIOASSAYS WITH TIME-VARYING CONCENTRATIONS. Water Research, 2001, 35, 3825-3832.	11.3	39
47	Where do functional traits come from? The role of theory and models. Functional Ecology, 2021, 35, 1385-1396.	3.6	38
48	On the Use of the Logistic Equation in Models of Food Chains. Bulletin of Mathematical Biology, 1998, 60, 231-246.	1.9	37
49	When do mixotrophs specialize? Adaptive dynamics theory applied to a dynamic energy budget model. Mathematical Biosciences, 2005, 193, 159-182.	1.9	37
50	A mathematical model that accounts for the effects of caloric restriction on body weight and longevity. Biogerontology, 2002, 3, 373-381.	3.9	34
51	Microbial growth dynamics on the basis of individual budgets. Antonie Van Leeuwenhoek, 1991, 60, 159-174.	1.7	33
52	Resource allocation to reproduction in animals. Biological Reviews, 2014, 89, 849-859.	10.4	33
53	Why it pays for bacteria to delete disused DNA and to maintain megaplasmids. Antonie Van Leeuwenhoek, 1993, 63, 39-43.	1.7	31
54	Juvenile food limitation in standardized tests: a warning to ecotoxicologists. Ecotoxicology, 2012, 21, 2195-2204.	2.4	31

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55	Consequences of symbiosis for food web dynamics. Journal of Mathematical Biology, 2004, 49, 227-71.	1.9	30
56	Optimal allocation between nutrient uptake and growth in a microbial trichome. Journal of Mathematical Biology, 1998, 37, 28-48.	1.9	29
57	Quantitative steps in symbiogenesis and the evolution of homeostasis. Biological Reviews, 2003, 78, 435-463.	10.4	29
58	Biological carbon pump revisited: Feedback mechanisms between climate and the Redfield ratio. Geophysical Research Letters, 2006, 33, .	4.0	29
59	Stylized facts in microalgal growth: interpretation in a dynamic energy budget context. Philosophical Transactions of the Royal Society B: Biological Sciences, 2010, 365, 3509-3521.	4.0	26
60	Stoichiometry and food-chain dynamics. Theoretical Population Biology, 2004, 66, 323-339.	1.1	25
61	Thermodynamics of organisms in the context of dynamic energy budget theory. Physical Review E, 2006, 74, 051901.	2.1	25
62	Ecotoxicological Applications of Dynamic Energy Budget Theory. Emerging Topics in Ecotoxicology, 2009, , 237-259.	1.5	25
63	Light-induced Mass Turnover in a Mono-species Community of Mixotrophs. Journal of Theoretical Biology, 2002, 214, 233-254.	1.7	22
64	Scaling relationships based on partition coefficients and body sizes have similarities and interactionsâ€. SAR and QSAR in Environmental Research, 2007, 18, 315-330.	2.2	20
65	Modelling long-term ecotoxicological effects on an algal population under dynamic nutrient stress. Water Research, 2009, 43, 3292-3300.	11.3	19
66	Model-based experimental design for assessing effects of mixtures of chemicals. Environmental Pollution, 2010, 158, 115-120.	7.5	19
67	No-Effect Concentration as a Basis for Ecological Risk Assessment. Risk Analysis, 1996, 16, 445-447.	2.7	18
68	The relationship between elimination rates and partition coefficients. Chemosphere, 2004, 57, 745-753.	8.2	18
69	Two parameters account for the flocculated growth of microbes in biodegradation assays. Biotechnology and Bioengineering, 2000, 70, 677-684.	3.3	17
70	The embedded tumour: host physiology is important for the evaluation of tumour growth. British Journal of Cancer, 2003, 89, 2254-2263.	6.4	16
71	A new class of non-linear stochastic population models with mass conservation. Mathematical Biosciences, 2007, 210, 378-394.	1.9	16
72	A kinetic inhibition mechanism for maintenance. Journal of Theoretical Biology, 2007, 244, 576-587.	1.7	16

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73	Prediction of Daphnid Survival after in Situ Exposure to Complex Mixtures. Environmental Science & Technology, 2009, 43, 6064-6069.	10.0	16
74	Subcellular metabolic organization in the context of dynamic energy budget and biochemical systems theories. Philosophical Transactions of the Royal Society B: Biological Sciences, 2010, 365, 3429-3442.	4.0	15
75	A mathematical model for yeast respiro-fermentative physiology. Yeast, 2000, 16, 423-437.	1.7	13
76	The Symbiontic Nature of Metabolic Evolution. , 2005, , 159-202.		12
77	Effects of chronic exposure to environmentally relevant concentrations of waterborne depleted uranium on the digestive tract of zebrafish, Danio rerio. Journal of Environmental Radioactivity, 2015, 142, 45-53.	1.7	12
78	Comment on the ecophysiology of the Greenland shark, Somniosus microcephalus. Polar Biology, 2017, 40, 2429-2433.	1.2	10
79	The Influence of Design Characteristics on Statistical Inference in Nonlinear Estimation: A Simulation Study Based on Survival Data and Hazard Modeling. Journal of Agricultural, Biological, and Environmental Statistics, 2000, 5, 323.	1.4	9
80	How growth affects the fate of cellular metabolites. Bulletin of Mathematical Biology, 2005, 67, 57-77.	1.9	9
81	Multidimensional scaling for animal traits in the context of dynamic energy budget theory. , 2021, 9, .		5
82	The comparative energetics of the turtles and crocodiles. Ecology and Evolution, 2022, 12, .	1.9	4
83	Iteroparous Reproduction Strategies and Population Dynamics. Bulletin of Mathematical Biology, 2001, 63, 769-794.	1.9	3
84	Yolky eggs prepare for metabolic acceleration. Journal of Mathematical Biology, 2013, 66, 795-805.	1.9	3
85	Homeostasis and the fuelling of metabolism. Physics of Life Reviews, 2017, 20, 60-62.	2.8	2
86	A comment on the growth model of Sibly and Brown (2020). Journal of Zoology, 2020, 312, 145-146.	1.7	1
87	Life Engine - Creating Artificial Life for Scientific and Entertainment Purposes. Lecture Notes in Computer Science, 2011, , 278-285.	1.3	0
88	The tradeâ€off between maturation and growth during accelerated vertebrate development. FASEB Journal, 2012, 26, 886.15.	0.5	0