# Michael John Plank

List of Publications by Year
in descending order



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|---|---|---|---|
| 120 papers | 4,512 citations | 172457 29 h-index | 128289 60 g-index |
| 142 all docs | 142 docs citations | 142 times ranked | 5183 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Effect of vaccination, border testing, and quarantine requirements on the risk of COVID-19 in New Zealand: A modelling study. Infectious Disease Modelling, 2022, 7, 184-198. | 1.9 | 12 |
| 2 | Speciesâ€rangeâ€size distributions: Integrating the effects of speciation, transformation, and extinction. Ecology and Evolution, 2022, 12, e8341. | 1.9 | 3 |
| 3 | Potential reduction in transmission of COVID-19 by digital contact tracing systems: a modelling study. Mathematical Medicine and Biology, 2022, 39, 156-168. | 1.2 | 8 |
| 4 | Comment on â€˜Government mandated lockdowns do not reduce COVID-19 deaths: implications for evaluating the stringent New Zealand responseâ€™. New Zealand Economic Papers, 2022, 56, 29-35. | 0.8 | 3 |
| 5 | A COVID-19 vaccination model for Aotearoa New Zealand. Scientific Reports, 2022, 12, 2720. | 3.3 | 25 |
| 6 | A stochastic mathematical model of 4D tumour spheroids with real-time fluorescent cell cycle labelling. Journal of the Royal Society Interface, 2022, 19, 20210903. | 3.4 | 17 |
| 7 | An assessment of the potential impact of the Omicron variant of SARS-CoV-2 in Aotearoa New Zealand. Infectious Disease Modelling, 2022, 7, 94-105. | 1.9 | 12 |
| 8 | Cooperative and non-cooperative behaviour in the exploitation of a common renewable resource with environmental stochasticity. Applied Mathematical Modelling, 2021, 89, 1041-1054. | 4.2 | 0 |
| 9 | Individual heterogeneity affects the outcome of small mammal pest eradication. Theoretical Ecology, 2021, 14, 219-231. | 1.0 | 2 |
| 10 | Mathematical modelling to inform New Zealandâ€™s COVID-19 response. Journal of the Royal Society of New Zealand, 2021, 51, S86-S106. | 1.9 | 19 |
| 11 | Model-free estimation of COVID-19 transmission dynamics from a complete outbreak. PLoS ONE, 2021, 16, e0238800. | 2.5 | 12 |
| 12 | Managing the risk of a COVID-19 outbreak from border arrivals. Journal of the Royal Society Interface, 2021, 18, 20210063. | 3.4 | 19 |
| 13 | Comment: weekly COVID-19 testing with household quarantine and contact tracing is feasible and would probably end the epidemic. Royal Society Open Science, 2021, 8, 201546. | 2.4 | 1 |
| 14 | Worldwide border interceptions provide a window into humanâ€mediated global insect movement. Ecological Applications, 2021, 31, e02412. | 3.8 | 53 |
| 15 | Vaccination and testing of the border workforce for COVID-19 and risk of community outbreaks: a modelling study. Royal Society Open Science, 2021, 8, 210686. | 2.4 | 4 |
| 16 | Commentary: Fishing Without a Trace? Assessing the Balanced Harvest Approach Using EcoTroph. Frontiers in Marine Science, 2021, 7, . | 2.5 | 3 |
| 17 | Early intervention is the key to success in COVID-19 control. Royal Society Open Science, 2021, 8, 210488. | 2.4 | 20 |
| 18 | MÄori and Pacific people in New Zealand have a higher risk of hospitalisation for COVID-19. New Zealand Medical Journal, 2021, 134, 28-43. | 0.5 | 7 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Asymptotic expansion approximation for spatial structure arising from directionally biased movement. Physica A: Statistical Mechanics and Its Applications, 2020, 541, 123290. | 2.6 | 1 |
| 20 | Kia kaua te reo e rite ki te moa, ka ngaro: do not let the language suffer the same fate as the moa. Journal of the Royal Society Interface, 2020, 17, 20190526. | 3.4 | 6 |
| 21 | Living in groups: Spatial-moment dynamics with neighbour-biased movements. Ecological Modelling, 2020, 415, 108825. | 2.5 | 12 |
| 22 | Population dynamics with spatial structure and an Allee effect. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20200501. | 2.1 | 13 |
| 23 | Considering unseen arrivals in predictions of establishment risk based on border biosecurity interceptions. Ecological Applications, 2020, 30, e02194. | 3.8 | 16 |
| 24 | Small-scale spatial structure affects predator-prey dynamics and coexistence. Theoretical Ecology, 2020, 13, 537-550. | 1.0 | 5 |
| 25 | What unmanaged fishing patterns reveal about optimal management: applied to the balanced harvesting debate. ICES Journal of Marine Science, 2020, 77, 901-910. | 2.5 | 6 |
| 26 | Identifying density-dependent interactions in collective cell behaviour. Journal of the Royal Society Interface, 2020, 17, 20200143. | 3.4 | 16 |
| 27 | Small-scale spatial structure influences large-scale invasion rates. Theoretical Ecology, 2020, 13, 277-288. | 1.0 | 5 |
| 28 | Estimated inequities in COVID-19 infection fatality rates by ethnicity for Aotearoa New Zealand. New Zealand Medical Journal, 2020, 133, 28-39. | 0.5 | 25 |
| 29 | Balanced harvest: concept, policies, evidence, and management implications. Reviews in Fish Biology and Fisheries, 2019, 29, 711-733. | 4.9 | 41 |
| 30 | Spatial structure arising from chase-escape interactions with crowding. Scientific Reports, 2019, 9, 14988. | 3.3 | 8 |
| 31 | Using family network data in child protection services. PLoS ONE, 2019, 14, e0224554. | 2.5 | 7 |
| 32 | Emergence of balanced harvesting in an agent-based model of an open-access small-scale fishery. Mathematical Biosciences, 2019, 316, 108245. | 1.9 | 4 |
| 33 | Limiting Effect of Self-Shading on the Height of Tradescantia fluminensis Mats. Bulletin of Mathematical Biology, 2019, 81, 3918-3932. | 1.9 | 0 |
| 34 | The effects of cerebral curvature on cortical spreading depression. Journal of Theoretical Biology, 2019, 472, 11-26. | 1.7 | 4 |
| 35 | Gender and societies: a grassroots approach to women in science. Royal Society Open Science, 2019, 6, 190633. | 2.4 | 33 |
| 36 | Minimal model of calcium dynamics in two heterogeneous coupled cells. Neurocomputing, 2019, 323, 128-138. | 5.9 | 1 |

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|---|---|---|---|
| 37 | Integrated models of neurovascular coupling and BOLD signals: Responses for varying neural activations. NeuroImage, 2018, 174, 69-86. | 4.2 | 25 |
| 38 | Inferring fishing intensity from contemporary and archaeological size-frequency data. Journal of Archaeological Science, 2018, 93, 42-53. | 2.4 | 6 |
| 39 | The role of astrocytic calcium and TRPV4 channels in neurovascular coupling. Journal of Computational Neuroscience, 2018, 44, 97-114. | 1.0 | 26 |
| 40 | Massively parallel simulations of neurovascular coupling with extracellular diffusion. Journal of Computational Science, 2018, 24, 116-124. | 2.9 | 6 |
| 41 | Inferring parameters for a lattice-free model of cell migration and proliferation using experimental data. Journal of Theoretical Biology, 2018, 437, 251-260. | 1.7 | 37 |
| 42 | Effects of different dispersal patterns on the presence-absence of multiple species. Communications in Nonlinear Science and Numerical Simulation, 2018, 56, 115-130. | 3.3 | 21 |
| 43 | Macro scale modelling of cortical spreading depression and the role of astrocytic gap junctions. Journal of Theoretical Biology, 2018, 458, 78-91. | 1.7 | 7 |
| 44 | Capacity to support predators scales with habitat size. Science Advances, 2018, 4, eaap7523. | 10.3 | 23 |
| 45 | Spatial Moment Description of Birthâ€“Deathâ€“Movement Processes Incorporating the Effects of Crowding and Obstacles. Bulletin of Mathematical Biology, 2018, 80, 2828-2855. | 1.9 | 20 |
| 46 | Balanced harvesting could reduce fisheriesâ€induced evolution. Fish and Fisheries, 2018, 19, 1078-1091. | 5.3 | 24 |
| 47 | How should fishing mortality be distributed under balanced harvesting?. Fisheries Research, 2018, 207, 171-174. | 1.7 | 8 |
| 48 | Importance of Altered Levels of SERCA, IP 3 R, and RyR in Vascular Smooth Muscle Cell. Biophysical Journal, 2017, 112, 265-287. | 0.5 | 21 |
| 49 | Effects of biotic interactions and dispersal on the presence-absence of multiple species. Chaos, Solitons and Fractals, 2017, 99, 185-194. | 5.1 | 20 |
| 50 | Unfinished synchrony. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 201707731. | 7.1 | 2 |
| 51 | Simplified calculation of diffusivity for a lattice-based random walk with a single obstacle. Results in Physics, 2017, 7, 3346-3348. | 4.1 | 3 |
| 52 | A model of neurovascular coupling and the BOLD response: PART I. Computer Methods in Biomechanics and Biomedical Engineering, 2017, 20, 508-518. | 1.6 | 15 |
| 53 | A model of neurovascular coupling and the BOLD response PART II. Computer Methods in Biomechanics and Biomedical Engineering, 2017, 20, 519-529. | 1.6 | 11 |
| 54 | Testing and recommending methods for fitting size spectra to data. Methods in Ecology and Evolution, 2017, 8, 57-67. | 5.2 | 84 |

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|---|---|---|---|
| 55 | Balanced harvesting is the bioeconomic equilibrium of a size-structured Beverton-Holt model. ICES Journal of Marine Science, 2017, 74, 112-120. | 2.5 | 8 |
| 56 | Balanced harvesting can emerge from fishing decisions by individual fishers in a smallâ€scale fishery. Fish and Fisheries, 2017, 18, 212-225. | 5.3 | 24 |
| 57 | Effects of dispersal and stochasticity on the presenceâ€“absence of multiple species. Ecological Modelling, 2016, 342, 49-59. | 2.5 | 31 |
| 58 | Evaluating random search strategies in three mammals from distinct feeding guilds. Journal of Animal Ecology, 2016, 85, 1411-1421. | 2.8 | 27 |
| 59 | Collective Cell Behaviour with Neighbour-Dependent Proliferation, Death and Directional Bias. Bulletin of Mathematical Biology, 2016, 78, 2277-2301. | 1.9 | 30 |
| 60 | Fisheries, the inverted food pyramid. ICES Journal of Marine Science, 2016, 73, 1697-1713. | 2.5 | 54 |
| 61 | Balanced exploitation and coexistence of interacting, sizeâ€structured, fish species. Fish and Fisheries, 2016, 17, 281-302. | 5.3 | 51 |
| 62 | The Nile perch invasion in Lake Victoria: cause or consequence of the haplochromine decline?. Canadian Journal of Fisheries and Aquatic Sciences, 2016, 73, 622-643. | 1.4 | 38 |
| 63 | Evolutionarily Stable Strategies for Fecundity and Swimming Speed of Fish. Bulletin of Mathematical Biology, 2016, 78, 280-292. | 1.9 | 3 |
| 64 | Lattice-free models of directed cell motility. Physica A: Statistical Mechanics and Its Applications, 2016, 442, 110-121. | 2.6 | 9 |
| 65 | Spatial structure arising from neighbour-dependent bias in collective cell movement. PeerJ, 2016, 4, e1689. | 2.0 | 24 |
| 66 | Differentiating the LÃ©vy walk from a composite correlated random walk. Methods in Ecology and Evolution, 2015, 6, 1179-1189. | 5.2 | 32 |
| 67 | Information on Biotic Interactions Improves Transferability of Distribution Models. American Naturalist, 2015, 185, 281-290. | 2.1 | 38 |
| 68 | The effect of competition on species' distributions depends on coexistence, rather than scale alone. Ecography, 2015, 38, 1071-1079. | 4.5 | 38 |
| 69 | Spatial moment dynamics for collective cell movement incorporating a neighbour-dependent directional bias. Journal of the Royal Society Interface, 2015, 12, 20150228. | 3.4 | 35 |
| 70 | Constructing Random Matrices to Represent Real Ecosystems. American Naturalist, 2015, 185, 680-692. | 2.1 | 31 |
| 71 | Spatial Point Processes and Moment Dynamics in the Life Sciences: A Parsimonious Derivation and Some Extensions. Bulletin of Mathematical Biology, 2015, 77, 586-613. | 1.9 | 33 |
| 72 | Squaring the circle: reconciling fishing and conservation of aquatic ecosystems. Fish and Fisheries, 2015, 16, 160-174. | 5.3 | 47 |

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|---|---|---|---|
| 73 | ModellingTradescantia fluminensisto assess long term survival. PeerJ, 2015, 3, e1013. | 2.0 | 3 |
| 74 | Distinguishing between LÃ©vy walks and strong alternative models: comment. Ecology, 2014, 95, 1104-1109. | 3.2 | 4 |
| 75 | On the growth of locally interacting plants: differential equations for the dynamics of spatial moments. Ecology, 2013, 94, 2732-2743. | 3.2 | 19 |
| 76 | Lattice-Free Models of Cell Invasion: Discrete Simulations and Travelling Waves. Bulletin of Mathematical Biology, 2013, 75, 2150-2166. | 1.9 | 13 |
| 77 | Of mast and mean: differentialâ€temperature cue makes mast seeding insensitive to climate change. Ecology Letters, 2013, 16, 90-98. | 6.4 | 195 |
| 78 | LÃ©vy or Not? Analysing Positional Data from Animal Movement Paths. Lecture Notes in Mathematics, 2013, , 33-52. | 0.2 | 19 |
| 79 | Modeling Secondary Messenger Pathways in Neurovascular Coupling. Bulletin of Mathematical Biology, 2013, 75, 428-443. | 1.9 | 11 |
| 80 | James et al. reply. Nature, 2013, 500, E2-E3. | 27.8 | 16 |
| 81 | Lattice-free descriptions of collective motion with crowding and adhesion. Physical Review E, 2013, 88, 062720. | 2.1 | 29 |
| 82 | Models of collective cell behaviour with crowding effects: comparing lattice-based and lattice-free approaches. Journal of the Royal Society Interface, 2012, 9, 2983-2996. | 3.4 | 62 |
| 83 | EPIDEMIC DYNAMICS ON RANDOM AND SCALE-FREE NETWORKS. ANZIAM Journal, 2012, 54, 3-22. | 0.2 | 7 |
| 84 | On balanced exploitation of marine ecosystems: results from dynamic size spectra. ICES Journal of Marine Science, 2012, 69, 602-614. | 2.5 | 102 |
| 85 | Taylor's law and body size in exploited marine ecosystems. Ecology and Evolution, 2012, 2, 3168-3178. | 1.9 | 12 |
| 86 | Habitat fragmentation: Simple models for local persistence and the spread of invasive species. Journal of Theoretical Biology, 2012, 310, 231-238. | 1.7 | 8 |
| 87 | Disentangling nestedness from models of ecological complexity. Nature, 2012, 487, 227-230. | 27.8 | 195 |
| 88 | Ecological drivers of stability and instability in marine ecosystems. Theoretical Ecology, 2012, 5, 465-480. | 1.0 | 28 |
| 89 | Sampling rate and misidentification of LÃ©vy and non-LÃ©vy movement paths: reply. Ecology, 2011, 92, 1701-1702. | 3.2 | 8 |
| 90 | A stability analysis of the power-law steady state of marine size spectra. Journal of Mathematical Biology, 2011, 63, 779-799. | 1.9 | 32 |

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|---|---|---|---|
| 91 | Turn designation, sampling rate and the misidentification of power laws in movement path data using maximum likelihood estimates. Theoretical Ecology, 2011, 4, 397-406. | 1.0 | 37 |
| 92 | Group by subject or by ability? Tertiary mathematics for engineering students. International Journal of Mathematical Education in Science and Technology, 2011, 42, 857-865. | 1.4 | 2 |
| 93 | EFFECTS OF PREDATOR DIET BREADTH ON STABILITY OF SIZE SPECTRA. ANZIAM Journal, 2011, 53, 38-47. | 0.2 | 0 |
| 94 | A mathematical framework for modelling cambial surface evolution using a level set method. Annals of Botany, 2011, 108, 1001-1011. | 2.9 | 9 |
| 95 | Assessing LÃ©vy walks as models of animal foraging. Journal of the Royal Society Interface, 2011, 8, 1233-1247. | 3.4 | 139 |
| 96 | Efficient or Inaccurate? Analytical and Numerical Modelling of Random Search Strategies. Bulletin of Mathematical Biology, 2010, 72, 896-913. | 1.9 | 29 |
| 97 | Sizeâ€spectra dynamics from stochastic predation and growth of individuals. Ecology, 2009, 90, 802-811. | 3.2 | 98 |
| 98 | Sampling rate and misidentification of LÃ©vy and non-LÃ©vy movement paths. Ecology, 2009, 90, 3546-3553. | 3.2 | 78 |
| 99 | Modelling the dynamic response of oxygen uptake to exercise. Discrete and Continuous Dynamical Systems - Series B, 2009, 12, 361-370. | 0.9 | 1 |
| 100 | Modelling biological invasions over homogeneous and inhomogeneous landscapes using level set methods. Biological Invasions, 2008, 10, 157-167. | 2.4 | 4 |
| 101 | Random walk models in biology. Journal of the Royal Society Interface, 2008, 5, 813-834. | 3.4 | 1,101 |
| 102 | Optimal foraging: LÃ©vy pattern or process?. Journal of the Royal Society Interface, 2008, 5, 1077-1086. | 3.4 | 107 |
| 103 | Dynamic myogenic autoregulation in the rat kidney: a whole-organ model. American Journal of Physiology - Renal Physiology, 2008, 294, F1453-F1464. | 2.7 | 23 |
| 104 | Endothelial Nitric Oxide Synthase and Calcium Production in Arterial Geometries: An Integrated Fluid Mechanics/Cell Model. Journal of Biomechanical Engineering, 2008, 130, 011010. | 1.3 | 39 |
| 105 | Optimizing the encounter rate in biological interactions: Ballistic versus LÃ©vy versus Brownian strategies. Physical Review E, 2008, 78, 051128. | 2.1 | 67 |
| 106 | An event-based model of superspreading in epidemics. Proceedings of the Royal Society B: Biological Sciences, 2007, 274, 741-747. | 2.6 | 64 |
| 107 | A nonlinear model of age and size-structured populations with applications to cell cycles. ANZIAM Journal, 2007, 49, 151-169. | 0.2 | 13 |
| 108 | The role of endothelial calcium and nitric oxide in the localisation of atherosclerosis. Mathematical Biosciences, 2007, 207, 26-39. | 1.9 | 25 |

| # | Article | IF | Citations |
|---|---|---|---|
| 109 | A dynamical model of honeydew droplet production by sooty-beech scale insects (Ultracoelostoma) Tj ETQq1 1 0.784314 rgBT /Overlo | 2.5 | 9 |
| 110 | Modelling the Early Stages of Atherosclerosis. , 2007, , 263-274. | | 2 |
| 111 | Concentration of blood-borne agonists at the endothelium. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2006, 462, 671-688. | 2.1 | 9 |
| 112 | Effects of Arterial Bifurcation Geometry on Nucleotide Concentration at the Endothelium. Annals of Biomedical Engineering, 2006, 34, 605-617. | 2.5 | 11 |
| 113 | Atherosclerosis and calcium signalling in endothelial cells. Progress in Biophysics and Molecular Biology, 2006, 91, 287-313. | 2.9 | 67 |
| 114 | A mathematical model of tumour angiogenesis, regulated by vascular endothelial growth factor and the angiopoietins. Journal of Theoretical Biology, 2004, 229, 435-454. | 1.7 | 62 |
| 115 | Lattice and non-lattice models of tumour angiogenesis. Bulletin of Mathematical Biology, 2004, 66, 1785-1819. | 1.9 | 114 |
| 116 | The Role of the Angiopoietins in Tumour Angiogenesis. Growth Factors, 2004, 22, 1-11. | 1.7 | 32 |
| 117 | Tumour-Induced Angiogenesis: A Review. Journal of Theoretical Medicine, 2003, 5, 137-153. | 0.5 | 33 |
| 118 | A reinforced random walk model of tumour angiogenesis and anti-angiogenic strategies. Mathematical Medicine and Biology, 2003, 20, 135-181. | 1.2 | 100 |
| 119 | A Mathematical Model of anIn VitroExperiment to Investigate Endothelial Cell Migration. Journal of Theoretical Medicine, 2002, 4, 251-270. | 0.5 | 8 |
| 120 | Exploring tradeâ€offs in mixed fisheries by integrating fleet dynamics into multispecies sizeâ€spectrum models. Journal of Applied Ecology, 0, , . | 4.0 | 4 |