# Robert A Gatenby

List of Publications by Year
in descending order



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|---|---|---|---|
| 132 papers | 17,858 citations | 41627 51 h-index | 19470 122 g-index |
| 142 all docs | 142 docs citations | 142 times ranked | 23423 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Coordination games in cancer. PLoS ONE, 2022, 17, e0261578. | 1.1 | 14 |
| 2 | GLUT1 production in cancer cells: a tragedy of the commons. Npj Systems Biology and Applications, 2022, 8, . | 1.4 | 10 |
| 3 | Ecoevolutionary biology of pancreatic ductal adenocarcinoma. Pancreatology, 2022, , . | 0.5 | 2 |
| 4 | Artificial selection for host resistance to tumour growth and subsequent cancer cell adaptations: an evolutionary arms race. British Journal of Cancer, 2021, 124, 455-465. | 2.9 | 6 |
| 5 | Turnover Modulates the Need for a Cost of Resistance in Adaptive Therapy. Cancer Research, 2021, 81, 1135-1147. | 0.4 | 71 |
| 6 | The harsh microenvironment in early breast cancer selects for a Warburg phenotype. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, . | 3.3 | 78 |
| 7 | Treatment-induced evolutionary dynamics in nonmetastatic locally advanced rectal adenocarcinoma. Advances in Cancer Research, 2021, 151, 39-67. | 1.9 | 2 |
| 8 | Identifying key questions in the ecology and evolution of cancer. Evolutionary Applications, 2021, 14, 877-892. | 1.5 | 58 |
| 9 | Novel evolutionary dynamics of small populations in breast cancer adjuvant and neoadjuvant therapy. Npj Breast Cancer, 2021, 7, 26. | 2.3 | 7 |
| 10 | Frequency-dependent interactions determine outcome of competition between two breast cancer cell lines. Scientific Reports, 2021, 11, 4908. | 1.6 | 21 |
| 11 | Group phenotypic composition in cancer. ELife, 2021, 10, . | 2.8 | 18 |
| 12 | Superlinear growth reveals the Allee effect in tumors. Physical Review E, 2021, 103, 042405. | 0.8 | 8 |
| 13 | Macrophage-Derived Cholesterol Contributes to Therapeutic Resistance in Prostate Cancer. Cancer Research, 2021, 81, 5477-5490. | 0.4 | 48 |
| 14 | Is There One Key Step in the Metastatic Cascade?. Cancers, 2021, 13, 3693. | 1.7 | 26 |
| 15 | Predator-Prey in Tumor-Immune Interactions: A Wrong Model or Just an Incomplete One?. Frontiers in Immunology, 2021, 12, 668221. | 2.2 | 17 |
| 16 | Evolutionary dynamics of competing phenotype-structured populations in periodically fluctuating environments. Journal of Mathematical Biology, 2020, 80, 775-807. | 0.8 | 24 |
| 17 | Eradicating Metastatic Cancer and the Eco-Evolutionary Dynamics of Anthropocene Extinctions. Cancer Research, 2020, 80, 613-623. | 0.4 | 37 |
| 18 | Ion-Based Cellular Signal Transmission, Principles of Minimum Information Loss, and Evolution by Natural Selection. International Journal of Molecular Sciences, 2020, 21, 9. | 1.8 | 22 |

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|---|---|---|---|
| 19 | Special Collection on Ecological and Evolutionary Approaches to Cancer Control: Cancer Finds a Conceptual Home. Cancer Control, 2020, 27, 107327482094235. | 0.7 | 2 |
| 20 | Integrating evolutionary dynamics into cancer therapy. Nature Reviews Clinical Oncology, 2020, 17, 675-686. | 12.5 | 111 |
| 21 | Transmissible Cancers in an Evolutionary Perspective. IScience, 2020, 23, 101269. | 1.9 | 33 |
| 22 | Evolutionary strategies to overcome cancer cell resistance to treatment. , 2020, , 691-703. | | 1 |
| 23 | High School Internship Program in Integrated Mathematical Oncology (HIP IMO): Five-Year Experience at Moffitt Cancer Center. Bulletin of Mathematical Biology, 2020, 82, 91. | 0.9 | 4 |
| 24 | Characterizing the ecological and evolutionary dynamics of cancer. Nature Genetics, 2020, 52, 759-767. | 9.4 | 77 |
| 25 | Insights From the Ecology of Information to Cancer Control. Cancer Control, 2020, 27, 107327482094598. | 0.7 | 2 |
| 26 | Searching for Goldilocks: How Evolution and Ecology Can Help Uncover More Effective Patient-Specific Chemotherapies. Cancer Research, 2020, 80, 5147-5154. | 0.4 | 11 |
| 27 | Comparative study between discrete and continuum models for the evolution of competing phenotype-structured cell populations in dynamical environments. Physical Review E, 2020, 102, 042404. | 0.8 | 11 |
| 28 | Sex-specific impact of patterns of imageable tumor growth on survival of primary glioblastoma patients. BMC Cancer, 2020, 20, 447. | 1.1 | 20 |
| 29 | A Mathematical Dissection of the Adaptation of Cell Populations to Fluctuating Oxygen Levels. Bulletin of Mathematical Biology, 2020, 82, 81. | 0.9 | 20 |
| 30 | An evolutionary framework for treating pediatric sarcomas. Cancer, 2020, 126, 2577-2587. | 2.0 | 29 |
| 31 | Towards Multidrug Adaptive Therapy. Cancer Research, 2020, 80, 1578-1589. | 0.4 | 142 |
| 32 | Integrating genetic and nongenetic drivers of somatic evolution during carcinogenesis: The biplane model. Evolutionary Applications, 2020, 13, 1651-1659. | 1.5 | 7 |
| 33 | The Evolution and Ecology of Resistance in Cancer Therapy. Cold Spring Harbor Perspectives in Medicine, 2020, 10, a040972. | 2.9 | 30 |
| 34 | Optimal control to reach eco-evolutionary stability in metastatic castrate-resistant prostate cancer. PLoS ONE, 2020, 15, e0243386. | 1.1 | 39 |
| 35 | Optimizing Cancer Treatment Using Game Theory. JAMA Oncology, 2019, 5, 96. | 3.4 | 136 |
| 36 | Acidity promotes tumour progression by altering macrophage phenotype in prostate cancer. British Journal of Cancer, 2019, 121, 556-566. | 2.9 | 86 |

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|---|---|---|---|
| 37 | The Goldilocks Window of Personalized Chemotherapy: Getting the Immune Response Just Right. Cancer Research, 2019, 79, 5302-5315. | 0.4 | 38 |
| 38 | Cancer treatment innovators discover Charles Darwin. Evolution, Medicine and Public Health, 2019, 2019, 108-110. | 1.1 | 1 |
| 39 | The Role of Cell Membrane Information Reception, Processing, and Communication in the Structure and Function of Multicellular Tissue. International Journal of Molecular Sciences, 2019, 20, 3609. | 1.8 | 28 |
| 40 | Cytoplasmic convection currents and intracellular temperature gradients. PLoS Computational Biology, 2019, 15, e1007372. | 1.5 | 16 |
| 41 | Leveraging transcriptional dynamics to improve BRAF inhibitor responses in melanoma. EBioMedicine, 2019, 48, 178-190. | 2.7 | 66 |
| 42 | First Strikeâ€“Second Strike Strategies in Metastatic Cancer: Lessons from the Evolutionary Dynamics of Extinction. Cancer Research, 2019, 79, 3174-3177. | 0.4 | 46 |
| 43 | The Physics of Cancer. Cancer Research, 2019, 79, 2107-2110. | 0.4 | 22 |
| 44 | The 2019 mathematical oncology roadmap. Physical Biology, 2019, 16, 041005. | 0.8 | 147 |
| 45 | Multidrug Cancer Therapy in Metastatic Castrate-Resistant Prostate Cancer: An Evolution-Based Strategy. Clinical Cancer Research, 2019, 25, 4413-4421. | 3.2 | 85 |
| 46 | Illuminating the Numbers: Integrating Mathematical Models to Optimize Photomedicine Dosimetry and Combination Therapies. Frontiers in Physics, 2019, 7, . | 1.0 | 3 |
| 47 | Integrating evolutionary dynamics into treatment of metastatic castrate-resistant prostate cancer (mCRPC): Updated analysis of the adaptive abiraterone (abi) study (NCT02415621).. Journal of Clinical Oncology, 2019, 37, 5041-5041. | 0.8 | 14 |
| 48 | Economic benefits of adaptive abiraterone therapy for advanced prostate cancer.. Journal of Clinical Oncology, 2019, 37, e18343-e18343. | 0.8 | 2 |
| 49 | La thÃ©orie de lâ€™Ã©volution, nouvelle arme contre le cancer. Pourlascience Fr, 2019, NÂ° 505 - novembre, 26-32. | 0.0 | 2 |
| 50 | Spatial Heterogeneity and Evolutionary Dynamics Modulate Time to Recurrence in Continuous and Adaptive Cancer Therapies. Cancer Research, 2018, 78, 2127-2139. | 0.4 | 210 |
| 51 | Adaptation to Stochastic Temporal Variations in Intratumoral Blood Flow: The Warburg Effect as a Bet Hedging Strategy. Bulletin of Mathematical Biology, 2018, 80, 954-970. | 0.9 | 30 |
| 52 | The Evolution and Ecology of Resistance in Cancer Therapy. Cold Spring Harbor Perspectives in Medicine, 2018, 8, a033415. | 2.9 | 114 |
| 53 | Radiomics in Brain Tumor: Image Assessment, Quantitative Feature Descriptors, and Machine-Learning Approaches. American Journal of Neuroradiology, 2018, 39, 208-216. | 1.2 | 281 |
| 54 | Radiologic Pearls for Internists: A Case-Based Review. American Journal of Medicine, 2018, 131, 9-16. | 0.6 | 3 |

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| 55 | Cancer Foraging Ecology: Diet Choice, Patch Use, and Habitat Selection of Cancer Cells. Current Pathobiology Reports, 2018, 6, 209-218. | 1.6 | 15 |
| 56 | Optimal control to develop therapeutic strategies for metastatic castrate resistant prostate cancer. Journal of Theoretical Biology, 2018, 459, 67-78. | 0.8 | 87 |
| 57 | Is adaptive therapy natural?. PLoS Biology, 2018, 16, e2007066. | 2.6 | 23 |
| 58 | Eco-evolutionary causes and consequences of temporal changes in intratumoural blood flow. Nature Reviews Cancer, 2018, 18, 576-585. | 12.8 | 106 |
| 59 | Defining Cancer Subpopulations by Adaptive Strategies Rather Than Molecular Properties Provides Novel Insights into Intratumoral Evolution. Cancer Research, 2017, 77, 2242-2254. | 0.4 | 110 |
| 60 | Is the Genetic Paradigm of Cancer Complete?. Radiology, 2017, 284, 1-3. | 3.6 | 21 |
| 61 | Mutations, evolution and the central role of a self-defined fitness function in the initiation and progression of cancer. Biochimica Et Biophysica Acta: Reviews on Cancer, 2017, 1867, 162-166. | 3.3 | 43 |
| 62 | Spatial vs. non-spatial eco-evolutionary dynamics in a tumor growth model. Journal of Theoretical Biology, 2017, 435, 78-97. | 0.8 | 60 |
| 63 | Classifying the evolutionary and ecological features of neoplasms. Nature Reviews Cancer, 2017, 17, 605-619. | 12.8 | 303 |
| 64 | Integrating evolutionary dynamics into treatment of metastatic castrate-resistant prostate cancer. Nature Communications, 2017, 8, 1816. | 5.8 | 412 |
| 65 | CellularÂinformation dynamics through transmembrane flow of ions. Scientific Reports, 2017, 7, 15075. | 1.6 | 19 |
| 66 | Aggregation Effects and Population-Based Dynamics as a Source of Therapy Resistance in Cancer. IEEE Transactions on Biomedical Engineering, 2017, 64, 512-518. | 2.5 | 23 |
| 67 | Synthetic minority image over-sampling technique: How to improve AUC for glioblastoma patient survival prediction. , 2017, , . | | 14 |
| 68 | Transmissible Cancer: The Evolution of Interindividual Metastasis. , 2017, , 167-179. | | 21 |
| 69 | The Warburg effect as an adaptation of cancer cells to rapid fluctuations in energy demand. PLoS ONE, 2017, 12, e0185085. | 1.1 | 124 |
| 70 | Coevolution of Tumor Cells and Their Microenvironment: â€œNiche Construction in Cancerâ€ , 2017, , 111-117. | | 10 |
| 71 | Innovations in Diagnostic Imaging and the Transformation of the Clinical Practice of Radiology in Collaborative, Multidisciplinary Cancer Care. Cancer Control, 2017, 24, 115-117. | 0.7 | 0 |
| 72 | Subcellular and in-vivo Nano-Endoscopy. Scientific Reports, 2016, 6, 34400. | 1.6 | 9 |

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| 73 | Transmissible cancers, are they more common than thought?. Evolutionary Applications, 2016, 9, 633-634. | 1.5 | 20 |
| 74 | Darwinian Dynamics of Intratumoral Heterogeneity: Not Solely Random Mutations but Also Variable Environmental Selection Forces. Cancer Research, 2016, 76, 3136-3144. | 0.4 | 205 |
| 75 | The evolutionary ecology of transmissible cancers. Infection, Genetics and Evolution, 2016, 39, 293-303. | 1.0 | 58 |
| 76 | Exploiting evolutionary principles to prolong tumor control in preclinical models of breast cancer. Science Translational Medicine, 2016, 8, 327ra24. | 5.8 | 260 |
| 77 | Investigating Information Dynamics in Living Systems through the Structure and Function of Enzymes. PLoS ONE, 2016, 11, e0154867. | 1.1 | 11 |
| 78 | a Combination of Ex Vivo and Computational Models Predicts Clinical Response in MM Treatment Combinations of Proteasome Inhibitors, Imids, Nuclear Export Inhibitors and Alkylating Agents. Blood, 2016, 128, 3291-3291. | 0.6 | 0 |
| 79 | Sweat but no gain: Inhibiting proliferation of multidrug resistant cancer cells with â€œersatzdrogesâ€• International Journal of Cancer, 2015, 136, E188-96. | 2.3 | 54 |
| 80 | Evolutionary perspective of cancer: myth, metaphors, and reality. Evolutionary Applications, 2015, 8, 541-544. | 1.5 | 29 |
| 81 | Quantitative Computed Tomographic Descriptors Associate Tumor Shape Complexity and Intratumor Heterogeneity with Prognosis in Lung Adenocarcinoma. PLoS ONE, 2015, 10, e0118261. | 1.1 | 207 |
| 82 | The multiple facets of Peto's paradox: a life-history model for the evolution of cancer suppression. Philosophical Transactions of the Royal Society B: Biological Sciences, 2015, 370, 20140221. | 1.8 | 21 |
| 83 | Control vs. eradication: Applying infectious disease treatment strategies to cancer. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 937-938. | 3.3 | 35 |
| 84 | Divergent and convergent evolution in metastases suggest treatment strategies based on specific metastatic sites. Evolution, Medicine and Public Health, 2015, 2015, 76-87. | 1.1 | 20 |
| 85 | Impact of Metabolic Heterogeneity on Tumor Growth, Invasion, and Treatment Outcomes. Cancer Research, 2015, 75, 1567-1579. | 0.4 | 256 |
| 86 | Application of Evolutionary Principles to Cancer Therapy. Cancer Research, 2015, 75, 4675-4680. | 0.4 | 127 |
| 87 | A Multidisciplinary Model Predicts Clinical Response in Relapsed Multiple Myeloma. Blood, 2015, 126, 501-501. | 0.6 | 1 |
| 88 | Radiologically Defined Ecological Dynamics and Clinical Outcomes in Glioblastoma Multiforme: Preliminary Results. Translational Oncology, 2014, 7, 5-13. | 1.7 | 82 |
| 89 | Evolutionary Strategy for Systemic Therapy of Metastatic Breast Cancer: Balancing Response with Suppression of Resistance. Women's Health, 2014, 10, 423-430. | 0.7 | 15 |
| 90 | Separation of metabolic supply and demand: aerobic glycolysis as a normal physiological response to fluctuating energetic demands in the membrane. Cancer & Metabolism, 2014, 2, 7. | 2.4 | 110 |

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| 91 | Life history trade-offs in cancer evolution. Nature Reviews Cancer, 2013, 13, 883-892. | 12.8 | 207 |
| 92 | Quantitative Imaging in Cancer Evolution and Ecology. Radiology, 2013, 269, 8-14. | 3.6 | 354 |
| 93 | The Critical Roles of Information and Nonequilibrium Thermodynamics in Evolution of Living Systems. Bulletin of Mathematical Biology, 2013, 75, 589-601. | 0.9 | 22 |
| 94 | Acidity Generated by the Tumor Microenvironment Drives Local Invasion. Cancer Research, 2013, 73, 1524-1535. | 0.4 | 1,036 |
| 95 | A physical sciences network characterization of non-tumorigenic and metastatic cells. Scientific Reports, 2013, 3, 1449. | 1.6 | 146 |
| 96 | Evolutionary Ecology of Human Papillomavirus: Trade-offs, Coexistence, and Origins of High-Risk and Low-Risk Types. Journal of Infectious Diseases, 2012, 205, 272-279. | 1.9 | 41 |
| 97 | Evolutionary Approaches to Prolong Progression-Free Survival in Breast Cancer. Cancer Research, 2012, 72, 6362-6370. | 0.4 | 130 |
| 98 | Exploiting Evolution To Treat Drug Resistance: Combination Therapy and the Double Bind. Molecular Pharmaceutics, 2012, 9, 914-921. | 2.3 | 133 |
| 99 | Evolutionary dynamics of carcinogenesis and why targeted therapy does not work. Nature Reviews Cancer, 2012, 12, 487-493. | 12.8 | 573 |
| 100 | Evolutionary Dynamics in Cancer Therapy. Molecular Pharmaceutics, 2011, 8, 2094-2100. | 2.3 | 73 |
| 101 | Of cancer and cave fish. Nature Reviews Cancer, 2011, 11, 237-238. | 12.8 | 93 |
| 102 | Reduction of metastasis using a non-volatile buffer. Clinical and Experimental Metastasis, 2011, 28, 841-849. | 1.7 | 87 |
| 103 | Information Dynamics in Living Systems: Prokaryotes, Eukaryotes, and Cancer. PLoS ONE, 2011, 6, e22085. | 1.1 | 41 |
| 104 | A theoretical quantitative model for evolution of cancer chemotherapy resistance. Biology Direct, 2010, 5, 25. | 1.9 | 69 |
| 105 | The evolutionary dynamics of cancer prevention. Nature Reviews Cancer, 2010, 10, 526-527. | 12.8 | 78 |
| 106 | Coulomb Interactions between Cytoplasmic Electric Fields and Phosphorylated Messenger Proteins Optimize Information Flow in Cells. PLoS ONE, 2010, 5, e12084. | 1.1 | 20 |
| 107 | Lessons from Applied Ecology: Cancer Control Using an Evolutionary Double Bind. Cancer Research, 2009, 69, 7499-7502. | 0.4 | 132 |
| 108 | The Potential Role of Systemic Buffers in Reducing Intratumoral Extracellular pH and Acid-Mediated Invasion. Cancer Research, 2009, 69, 2677-2684. | 0.4 | 183 |

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| 109 | A change of strategy in the war on cancer. Nature, 2009, 459, 508-509. | 13.7 | 335 |
| 110 | Environment-mediated drug resistance: a major contributor to minimal residual disease. Nature Reviews Cancer, 2009, 9, 665-674. | 12.8 | 740 |
| 111 | Bicarbonate Increases Tumor pH and Inhibits Spontaneous Metastases. Cancer Research, 2009, 69, 2260-2268. | 0.4 | 574 |
| 112 | Adaptive Therapy. Cancer Research, 2009, 69, 4894-4903. | 0.4 | 701 |
| 113 | A microenvironmental model of carcinogenesis. Nature Reviews Cancer, 2008, 8, 56-61. | 12.8 | 651 |
| 114 | Inducing catastrophe in malignant growth. Mathematical Medicine and Biology, 2008, 25, 267-283. | 0.8 | 17 |
| 115 | SOMATIC EVOLUTION OF CANCER. International Game Theory Review, 2008, 10, 101-118. | 0.3 | 0 |
| 116 | Mathematical Models of Tumour Invasion Mediated by Transformation-Induced Alteration of Microenvironmental pH. Novartis Foundation Symposium, 2008, 240, 85-99. | 1.2 | 19 |
| 117 | Glycolysis in cancer: A potential target for therapy. International Journal of Biochemistry and Cell Biology, 2007, 39, 1358-1366. | 1.2 | 265 |
| 118 | Information Theory in Living Systems, Methods, Applications, and Challenges. Bulletin of Mathematical Biology, 2007, 69, 635-657. | 0.9 | 78 |
| 119 | Some Mathematical Modelling Challenges and Approaches in Cancer. , 2006, , 95-107. | | 6 |
| 120 | Commentary: Carcinogenesis as Darwinian evolution? Do the math!. International Journal of Epidemiology, 2006, 35, 1165-1167. | 0.9 | 12 |
| 121 | Acid-Mediated Tumor Invasion: a Multidisciplinary Study. Cancer Research, 2006, 66, 5216-5223. | 0.4 | 674 |
| 122 | EVOLUTIONARY DYNAMICS IN CARCINOGENESIS. Mathematical Models and Methods in Applied Sciences, 2005, 15, 1619-1638. | 1.7 | 46 |
| 123 | MODELING CANCER AS AN EVOLUTIONARY GAME. International Game Theory Review, 2005, 07, 331-346. | 0.3 | 5 |
| 124 | The Role of Non-Genomic Information in Maintaining Thermodynamic Stability in Living Systems. Mathematical Biosciences and Engineering, 2005, 2, 43-51. | 1.0 | 17 |
| 125 | Why do cancers have high aerobic glycolysis?. Nature Reviews Cancer, 2004, 4, 891-899. | 12.8 | 4,181 |
| 126 | Information dynamics in carcinogenesis and tumor growth. Mutation Research - Fundamental and Molecular Mechanisms of Mutagenesis, 2004, 568, 259-273. | 0.4 | 48 |

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| 127 | Mathematical oncology: Cancer summed up. Nature, 2003, 421, 321-321. | 13.7 | 201 |
| 128 | The glycolytic phenotype in carcinogenesis and tumor invasion: insights through mathematical models. Cancer Research, 2003, 63, 3847-54. | 0.4 | 210 |
| 129 | Application of quantitative models from population biology and evolutionary game theory to tumor therapeutic strategies. Molecular Cancer Therapeutics, 2003, 2, 919-27. | 1.9 | 73 |
| 130 | An evolutionary model of carcinogenesis. Cancer Research, 2003, 63, 6212-20. | 0.4 | 218 |
| 131 | Application of information theory and extreme physical information to carcinogenesis. Cancer Research, 2002, 62, 3675-84. | 0.4 | 54 |
| 132 | Evolution-based mathematical models significantly prolong response to abiraterone in metastatic castrate-resistant prostate cancer and identify strategies to further improve outcomes. ELife, 0, 11, . | 2.8 | 36 |