Triantafyllos Stylianopoulos

List of Publications by Year in Descending Order

117 papers	11,600 citations	47 h-index	107 g-index
127 ext. papers	13,688 ext. citations	7 avg, IF	7.02 L-index

#	Paper	IF	Citations
117	Strategies to minimize heterogeneity and optimize clinical trials in Acute Respiratory Distress Syndrome (ARDS): Insights from mathematical modelling.. *EBioMedicine*, **2022**, 75, 103809	8.8	1
116	Inducing Biomechanical Heterogeneity in Brain Tumor Modeling by MR Elastography: Effects on Tumor Growth, Vascular Density and Delivery of Therapeutics.. *Cancers*, **2022**, 14,	6.6	2
115	Normalizing tumor microenvironment with nanomedicine and metronomic therapy to improve immunotherapy.. *Journal of Controlled Release*, **2022**,	11.7	3
114	Mechanical stress signaling in pancreatic cancer cells triggers p38 MAPK- and JNK-dependent cytoskeleton remodeling and promotes cell migration via Rac1/Cdc42/Myosin II. *Molecular Cancer Research*, **2021**,	6.6	6
113	Vascular Normalization to Improve Treatment of COVID-19: Lessons from Treatment of Cancer. *Clinical Cancer Research*, **2021**, 27, 2706-2711	12.9	0
112	The Role of Tumor Microenvironment in Cancer Metastasis: Molecular Mechanisms and Therapeutic Opportunities. *Cancers*, **2021**, 13,	6.6	27
111	Comparing machine learning algorithms for predicting ICU admission and mortality in COVID-19. *Npj Digital Medicine*, **2021**, 4, 87	15.7	34
110	Endothelin Inhibition Potentiates Cancer Immunotherapy Revealing Mechanical Biomarkers Predictive of Response. *Advanced Therapeutics*, **2021**, 4, 2000289	4.9	2
109	Normalizing the Microenvironment Overcomes Vessel Compression and Resistance to Nano-immunotherapy in Breast Cancer Lung Metastasis. *Advanced Science*, **2021**, 8, 2001917	13.6	16
108	In silico dynamics of COVID-19 phenotypes for optimizing clinical management. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	14
107	Vascular Bursts Act as a Versatile Tumor Vessel Permeation Route for Blood-Borne Particles and Cells. *Small*, **2021**, 17, e2103751	11	3
106	Decompressive craniectomy of post-traumatic brain injury: an in silico modelling approach for intracranial hypertension management. *Scientific Reports*, **2020**, 10, 18673	4.9	1
105	Engineered magnetoactive collagen hydrogels with tunable and predictable mechanical response. *Materials Science and Engineering C*, **2020**, 114, 111089	8.3	5
104	Ras Suppressor-1 (RSU1) in Cancer Cell Metastasis: A Tale of a Tumor Suppressor. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	2
103	ILK silencing inhibits migration and invasion of more invasive glioblastoma cells by downregulating ROCK1 and Fascin-1. *Molecular and Cellular Biochemistry*, **2020**, 471, 143-153	4.2	8
102	Silencing of Growth Differentiation Factor-15 Promotes Breast Cancer Cell Invasion by Down-regulating Focal Adhesion Genes. *Anticancer Research*, **2020**, 40, 1375-1385	2.3	3
101	Improving cancer immunotherapy using nanomedicines: progress, opportunities and challenges. *Nature Reviews Clinical Oncology*, **2020**, 17, 251-266	19.4	196

100	Combining microenvironment normalization strategies to improve cancer immunotherapy. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 3728-3737	11.5	86
99	In silico dynamics of COVID-19 phenotypes for optimizing clinical management **2020**,		2
98	TGF-inhibition combined with cytotoxic nanomedicine normalizes triple negative breast cancer microenvironment towards anti-tumor immunity. *Theranostics*, **2020**, 10, 1910-1922	12.1	52
97	Amalgamated fiber/hydrogel composites based on semi-interpenetrating polymer networks and electrospun nanocomposite fibrous mats. *European Polymer Journal*, **2020**, 140, 110041	5.2	3
96	Biomechanical modelling of spinal tumour anisotropic growth. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2020**, 476, 20190364	2.4	4
95	Mechanical Compression Regulates Brain Cancer Cell Migration Through MEK1/Erk1 Pathway Activation and GDF15 Expression. *Frontiers in Oncology*, **2019**, 9, 992	5.3	15
94	Experimental and computational analyses reveal dynamics of tumor vessel cooption and optimal treatment strategies. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 2662-2671	11.5	46
93	Solid stress-induced migration is mediated by GDF15 through Akt pathway activation in pancreatic cancer cells. *Scientific Reports*, **2019**, 9, 978	4.9	31
92	Ras suppressor-1 (RSU-1) promotes cell invasion in aggressive glioma cells and inhibits it in non-aggressive cells through STAT6 phospho-regulation. *Scientific Reports*, **2019**, 9, 7782	4.9	19
91	Collagen content and extracellular matrix cause cytoskeletal remodelling in pancreatic fibroblasts. *Journal of the Royal Society Interface*, **2019**, 16, 20190226	4.1	13
90	Dexamethasone Increases Cisplatin-Loaded Nanocarrier Delivery and Efficacy in Metastatic Breast Cancer by Normalizing the Tumor Microenvironment. *ACS Nano*, **2019**, 13, 6396-6408	16.7	55
89	On the Impact of Chemo-Mechanically Induced Phenotypic Transitions in Gliomas. *Cancers*, **2019**, 11,	6.6	5
88	NAA40 contributes to colorectal cancer growth by controlling PRMT5 expression. *Cell Death and Disease*, **2019**, 10, 236	9.8	19
87	Activin A Signaling Regulates IL13R2 Expression to Promote Breast Cancer Metastasis. *Frontiers in Oncology*, **2019**, 9, 32	5.3	18
86	Coordinated Expression of Ras Suppressor 1 (RSU-1) and Growth Differentiation Factor 15 (GDF15) Affects Glioma Cell Invasion. *Cancers*, **2019**, 11,	6.6	7
85	Depletion of Ras Suppressor-1 (RSU-1) promotes cell invasion of breast cancer cells through a compensatory upregulation of a truncated isoform. *Scientific Reports*, **2019**, 9, 10050	4.9	7
84	Losartan treatment enhances chemotherapy efficacy and reduces ascites in ovarian cancer models by normalizing the tumor stroma. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 2210-2219	11.5	99
83	Inhibition of Breast Cancer Cell Invasion by Ras Suppressor-1 (RSU-1) Silencing Is Reversed by Growth Differentiation Factor-15 (GDF-15). *International Journal of Molecular Sciences*, **2019**, 20,	6.3	14

82	Solid Stress Facilitates Fibroblasts Activation to Promote Pancreatic Cancer Cell Migration. *Annals of Biomedical Engineering*, **2018**, 46, 657-669	4.7	47
81	Tuning the Mechanical Properties of BIEE-Crosslinked Semi-Interpenetrating, Double-Hydrophilic Hydrogels. *Macromolecular Materials and Engineering*, **2018**, 303, 1700643	3.9	1
80	Stress alleviation strategy in cancer treatment: Insights from a mathematical model. *ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik*, **2018**, 98, 2295-2306	1	9
79	Reengineering the Physical Microenvironment of Tumors to Improve Drug Delivery and Efficacy: From Mathematical Modeling to Bench to Bedside. *Trends in Cancer*, **2018**, 4, 292-319	12.5	229
78	Transforming growth factor-□modulates pancreatic cancer associated fibroblasts cell shape, stiffness and invasion. *Biochimica Et Biophysica Acta - General Subjects*, **2018**, 1862, 1537-1546	4	36
77	Reengineering the Tumor Vasculature: Improving Drug Delivery and Efficacy. *Trends in Cancer*, **2018**, 4, 258-259	12.5	49
76	Defining the Role of Solid Stress and Matrix Stiffness in Cancer Cell Proliferation and Metastasis. *Frontiers in Oncology*, **2018**, 8, 55	5.3	108
75	Cell Adhesion and Matrix Stiffness: Coordinating Cancer Cell Invasion and Metastasis. *Frontiers in Oncology*, **2018**, 8, 145	5.3	152
74	A discussion regarding the approximation of cylindrical and spherical shaped samples as half spaces in AFM nanoindentation experiments. *Materials Research Express*, **2018**, 5, 085402	1.7	7
73	Accumulation of mechanical forces in tumors is related to hyaluronan content and tissue stiffness. *PLoS ONE*, **2018**, 13, e0193801	3.7	23
72	AFM assessing of nanomechanical fingerprints for cancer early diagnosis and classification: from single cell to tissue level. *Nanoscale*, **2018**, 10, 20930-20945	7.7	61
71	In-silico dynamic analysis of cytotoxic drug administration to solid tumours: Effect of binding affinity and vessel permeability. *PLoS Computational Biology*, **2018**, 14, e1006460	5	10
70	Double-networks based on interconnected amphiphilic □-□-□star first polymer conetworks prepared by RAFT polymerization. *Journal of Polymer Science Part A*, **2018**, 56, 2161-2174	2.5	12
69	Towards patient-specific modeling of brain tumor growth and formation of secondary nodes guided by DTI-MRI. *NeuroImage: Clinical*, **2018**, 20, 664-673	5.3	21
68	Atomic force microscopy nano-characterization of 3D collagen gels with tunable stiffness. *MethodsX*, **2018**, 5, 503-513	1.9	5
67	The Solid Mechanics of Cancer and Strategies for Improved Therapy. *Journal of Biomechanical Engineering*, **2017**, 139,	2.1	75
66	Vasodilator-Stimulated Phosphoprotein (VASP) depletion from breast cancer MDA-MB-231 cells inhibits tumor spheroid invasion through downregulation of Migfilin, □catenin and urokinase-plasminogen activator (uPA). *Experimental Cell Research*, **2017**, 352, 281-292	4.2	17
65	Role of vascular normalization in benefit from metronomic chemotherapy. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 1994-1999	11.5	97

64	Solid tumors are poroelastic solids with a chemo-mechanical feedback on growth. *Journal of Elasticity*, **2017**, 129, 107-124	1.5	32
63	Experimental measurements and mathematical modeling towards quantification of brain swelling stress. *Journal of Biomechanics*, **2017**, 56, 42-47	2.9	4
62	Tranilast-induced stress alleviation in solid tumors improves the efficacy of chemo- and nanotherapeutics in a size-independent manner. *Scientific Reports*, **2017**, 7, 46140	4.9	63
61	Multiscale biphasic modelling of peritumoural collagen microstructure: The effect of tumour growth on permeability and fluid flow. *PLoS ONE*, **2017**, 12, e0184511	3.7	8
60	A Validated Multiscale In-Silico Model for Mechano-sensitive Tumour Angiogenesis and Growth. *PLoS Computational Biology*, **2017**, 13, e1005259	5	32
59	Pirfenidone normalizes the tumor microenvironment to improve chemotherapy. *Oncotarget*, **2017**, 8, 24506-24517	3.3	98
58	Targeting Inflammation to Improve Tumor Drug Delivery. *Trends in Cancer*, **2017**, 3, 621-630	12.5	19
57	Exploring the Nano-Surface of Collagenous and Other Fibrotic Tissues with AFM. *Methods in Molecular Biology*, **2017**, 1627, 453-489	1.4	7
56	Sonic-hedgehog pathway inhibition normalizes desmoplastic tumor microenvironment to improve chemo- and nanotherapy. *Journal of Controlled Release*, **2017**, 261, 105-112	11.7	47
55	Double-networks based on pH-responsive, amphiphilic core-first star first polymer conetworks prepared by sequential RAFT polymerization. *Polymer Chemistry*, **2017**, 8, 245-259	4.9	28
54	Ras Suppressor-1 (RSU-1) in Cancer Cell Metastasis: Friend or Foe?. *Critical Reviews in Oncogenesis*, **2017**, 22, 249-253	1.3	9
53	Identification of Ras suppressor-1 (RSU-1) as a potential breast cancer metastasis biomarker using a three-dimensional in vitro approach. *Oncotarget*, **2017**, 8, 27364-27379	3.3	28
52	Intelligent drug delivery systems for the treatment of solid tumors. *European Journal of Nanomedicine*, **2016**, 8,		5
51	Atomic Force Microscopy Probing of Cancer Cells and Tumor Microenvironment Components. *BioNanoScience*, **2016**, 6, 33-46	3.4	17
50	Multiscale modelling of solid tumour growth: the effect of collagen micromechanics. *Biomechanics and Modeling in Mechanobiology*, **2016**, 15, 1079-90	3.8	13
49	Hyaluronan-Derived Swelling of Solid Tumors, the Contribution of Collagen and Cancer Cells, and Implications for Cancer Therapy. *Neoplasia*, **2016**, 18, 732-741	6.4	61
48	Mechanical Stress Regulates Tissue Oxygenation, Cancer Cell Proliferation and Drug Delivery During Progression of Solid Tumors. *IFMBE Proceedings*, **2016**, 620-623	0.2	
47	Biphasic modeling of brain tumor biomechanics and response to radiation treatment. *Journal of Biomechanics*, **2016**, 49, 1524-1531	2.9	26

46	Structurally-defined semi-interpenetrating amphiphilic polymer networks with tunable and predictable mechanical response. *RSC Advances*, **2016**, 6, 43278-43283	3.7	6
45	Mechanical properties of structurally-defined magnetoactive polymer (co)networks. *RSC Advances*, **2015**, 5, 20011-20019	3.7	7
44	Evaluation of novel, cationic electrospun microfibrous membranes as adsorbents in bacteria removal. *RSC Advances*, **2015**, 5, 67617-67629	3.7	8
43	Remodeling of extracellular matrix due to solid stress accumulation during tumor growth. *Connective Tissue Research*, **2015**, 56, 345-54	3.3	14
42	Reply to Ciccolini et al.: Using mathematical modeling to predict response to antiangiogenic therapy in cancer patients. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, E3454	11.5	
41	Stress-mediated progression of solid tumors: effect of mechanical stress on tissue oxygenation, cancer cell proliferation, and drug delivery. *Biomechanics and Modeling in Mechanobiology*, **2015**, 14, 1391-402	3.8	55
40	Amphiphilic Polymer Conetworks Based on End-Linked "Core-First" Star Block Copolymers: Structure Formation with Long-Range Order. *ACS Macro Letters*, **2015**, 4, 1163-1168	6.6	43
39	Design considerations for nanotherapeutics in oncology. *Nanomedicine: Nanotechnology, Biology, and Medicine*, **2015**, 11, 1893-907	6	173
38	Role of TGFβ in regulation of the tumor microenvironment and drug delivery (review). *International Journal of Oncology*, **2015**, 46, 933-43	4.4	125
37	Remodeling Components of the Tumor Microenvironment to Enhance Cancer Therapy. *Frontiers in Oncology*, **2015**, 5, 214	5.3	81
36	Alignment of electrospun polymer fibers using a concave collector. *RSC Advances*, **2015**, 5, 104400-104407	3.7	12
35	Towards Optimal Design of Cancer Nanomedicines: Multi-stage Nanoparticles for the Treatment of Solid Tumors. *Annals of Biomedical Engineering*, **2015**, 43, 2291-300	4.7	49
34	Multiprocess dynamic modeling of tumor evolution with bayesian tumor-specific predictions. *Annals of Biomedical Engineering*, **2014**, 42, 1095-111	4.7	8
33	Evolution of osmotic pressure in solid tumors. *Journal of Biomechanics*, **2014**, 47, 3441-7	2.9	23
32	Compression of pancreatic tumor blood vessels by hyaluronan is caused by solid stress and not interstitial fluid pressure. *Cancer Cell*, **2014**, 26, 14-5	24.3	111
31	The role of mechanical forces in tumor growth and therapy. *Annual Review of Biomedical Engineering*, **2014**, 16, 321-46	12	527
30	Role of constitutive behavior and tumor-host mechanical interactions in the state of stress and growth of solid tumors. *PLoS ONE*, **2014**, 9, e104717	3.7	67
29	Angiotensin inhibition enhances drug delivery and potentiates chemotherapy by decompressing tumour blood vessels. *Nature Communications*, **2013**, 4, 2516	17.4	556

28	Coevolution of solid stress and interstitial fluid pressure in tumors during progression: implications for vascular collapse. *Cancer Research*, **2013**, 73, 3833-41	10.1	263
27	Combining two strategies to improve perfusion and drug delivery in solid tumors. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 18632-7	11.5	280
26	Cationic nanoparticles have superior transvascular flux into solid tumors: insights from a mathematical model. *Annals of Biomedical Engineering*, **2013**, 41, 68-77	4.7	87
25	Benefits of vascular normalization are dose and time dependent--letter. *Cancer Research*, **2013**, 73, 7144-6	10.1	67
24	Design rules for cancer nanomedicines **2012**,		1
23	Tensile mechanical properties and hydraulic permeabilities of electrospun cellulose acetate fiber meshes. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2012**, 100, 2222-30	3.5	23
22	Normalization of tumour blood vessels improves the delivery of nanomedicines in a size-dependent manner. *Nature Nanotechnology*, **2012**, 7, 383-8	28.7	766
21	Causes, consequences, and remedies for growth-induced solid stress in murine and human tumors. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 15101-8	11.5	512
20	Multistage nanoparticles for improved delivery into tumor tissue. *Methods in Enzymology*, **2012**, 508, 109-30	1.7	37
19	Delivery of molecular and nanoscale medicine to tumors: transport barriers and strategies. *Annual Review of Chemical and Biomolecular Engineering*, **2011**, 2, 281-98	8.9	407
18	Multistage nanoparticle delivery system for deep penetration into tumor tissue. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 2426-31	11.5	808
17	Scaling rules for diffusive drug delivery in tumor and normal tissues. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 1799-803	11.5	126
16	Diffusion of particles in the extracellular matrix: the effect of repulsive electrostatic interactions. *Biophysical Journal*, **2010**, 99, 1342-9	2.9	273
15	Diffusion anisotropy in collagen gels and tumors: the effect of fiber network orientation. *Biophysical Journal*, **2010**, 99, 3119-28	2.9	142
14	Delivering nanomedicine to solid tumors. *Nature Reviews Clinical Oncology*, **2010**, 7, 653-64	19.4	2279
13	Image-based multiscale modeling predicts tissue-level and network-level fiber reorganization in stretched cell-compacted collagen gels. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 17675-80	11.5	122
12	Mathematical modeling of herpes simplex virus distribution in solid tumors: implications for cancer gene therapy. *Clinical Cancer Research*, **2009**, 15, 2352-60	12.9	63
11	Image-based biomechanics of collagen-based tissue equivalents. *IEEE Engineering in Medicine and Biology Magazine*, **2009**, 28, 10-8		38

10	Multiscale computation for bioartificial soft tissues with complex geometries. *Engineering With Computers*, **2009**, 25, 87-95	4.5	12
9	Three-dimensional microscopy of the tumor microenvironment in vivo using optical frequency domain imaging. *Nature Medicine*, **2009**, 15, 1219-23	50.5	544
8	A structural, kinetic model of soft tissue thermomechanics. *Biophysical Journal*, **2008**, 94, 717-25	2.9	9
7	Microstructure-Based, Multiscale Modeling for the Mechanical Behavior of Hydrated Fiber Networks. *Multiscale Modeling and Simulation*, **2008**, 7, 22-43	1.8	16
6	Computational predictions of the tensile properties of electrospun fibre meshes: effect of fibre diameter and fibre orientation. *Journal of the Mechanical Behavior of Biomedical Materials*, **2008**, 1, 326-35	4.1	112
5	Permeability calculations in three-dimensional isotropic and oriented fiber networks. *Physics of Fluids*, **2008**, 20, 123601	4.4	68
4	Multiscale, structure-based modeling for the elastic mechanical behavior of arterial walls. *Journal of Biomechanical Engineering*, **2007**, 129, 611-8	2.1	87
3	Volume-averaging theory for the study of the mechanics of collagen networks. *Computer Methods in Applied Mechanics and Engineering*, **2007**, 196, 2981-2990	5.7	142
2	Uniaxial and biaxial mechanical behavior of human amnion. *Journal of Materials Research*, **2005**, 20, 2902-2909	2.5	49
1	Uniaxial and Biaxial Mechanical Behavior of Human Amnion. *Materials Research Society Symposia Proceedings*, **2004**, 844, 1		0