

# Vartan Kurtcuoglu

## List of Publications by Year in descending order

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101  
papers

3,494  
citations

159585

30  
h-index

161849

54  
g-index

110  
all docs

110  
docs citations

110  
times ranked

4557  
citing authors

#	ARTICLE	IF	CITATIONS
1	Noninvasive Monitoring of Intracranial Pulse Waves. IEEE Transactions on Biomedical Engineering, 2023, 70, 144-153.	4.2	6
2	Virtual histology of an entire mouse brain from formalin fixation to paraffin embedding. Part 2: Volumetric strain fields and local contrast changes. Journal of Neuroscience Methods, 2022, 365, 109385.	2.5	11
3	Intraoperative Monitoring of CSF Pressure in Patients with Degenerative Cervical Myelopathy (COMP-CORD Study): A Prospective Cohort Study. Journal of Neurotrauma, 2022, 39, 300-310.	3.4	4
4	Insights Into the Low Rate of In-Pump Thrombosis With the HeartMate 3: Does the Artificial Pulse Improve Washout?. Frontiers in Cardiovascular Medicine, 2022, 9, 775780.	2.4	12
5	Renal blood flow and oxygenation. Pflugers Archiv European Journal of Physiology, 2022, 474, 759-770.	2.8	22
6	Shape Trumps Size: Image-Based Morphological Analysis Reveals That the 3D Shape Discriminates Intracranial Aneurysm Disease Status Better Than Aneurysm Size. Frontiers in Neurology, 2022, 13, 809391.	2.4	5
7	Why Hydrocephalus Patients Suffer When the Weather Changes: A New Hypothesis. Acta Neurochirurgica Supplementum, 2021, 131, 315-317.	1.0	0
8	RAQ: A Noise-Resistant Calibration-Independent Compliance Surrogate. Acta Neurochirurgica Supplementum, 2021, 131, 207-210.	1.0	0
9	High-Throughput Lossy-to-Lossless 3D Image Compression. IEEE Transactions on Medical Imaging, 2021, 40, 607-620.	8.9	14
10	Non-rigid registration to determine strain fields during mouse brain fixation and embedding. , 2021, , .		3
11	Newborn Incubators Do Not Protect from High Noise Levels in the Neonatal Intensive Care Unit and Are Relevant Noise Sources by Themselves. Children, 2021, 8, 704.	1.5	6
12	Analysis of L-leucine amino acid transporter species activity and gene expression by human blood brain barrier hCMEC/D3 model reveal potential LAT1, LAT4, BOAT2 and y+LAT1 functional cooperation. Journal of Cerebral Blood Flow and Metabolism, 2021, , 0271678X2110395.	4.3	1
13	Impact of fixation and paraffin embedding on mouse brain morphology: a synchrotron radiation-based tomography study. , 2021, , .		3
14	Virtual histology of an entire mouse brain from formalin fixation to paraffin embedding. Part 1: Data acquisition, anatomical feature segmentation, tracking global volume and density changes. Journal of Neuroscience Methods, 2021, 364, 109354.	2.5	20
15	In Vitro Testing and Comparison of Additively Manufactured Polymer Impellers for the CentriMag Blood Pump. ASAIO Journal, 2021, 67, 306-313.	1.6	12
16	Thrombotic Risk of Rotor Speed Modulation Regimes of Contemporary Centrifugal Continuous-flow Left Ventricular Assist Devices. ASAIO Journal, 2021, 67, 737-745.	1.6	30
17	Assessment of the Flow Field in the HeartMate 3 Using Three-Dimensional Particle Tracking Velocimetry and Comparison to Computational Fluid Dynamics. ASAIO Journal, 2020, 66, 173-182.	1.6	15
18	Shape irregularity of the intracranial aneurysm lumen exhibits diagnostic value. Acta Neurochirurgica, 2020, 162, 2261-2270.	1.7	10

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19	Hypoxia sensing by hepatic stellate cells leads to VEGF-dependent angiogenesis and may contribute to accelerated liver regeneration. <i>Scientific Reports</i> , 2020, 10, 4392.	3.3	26
20	Radiomics approach to quantify shape irregularity from crowd-based qualitative assessment of intracranial aneurysms. <i>Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization</i> , 2020, 8, 538-546.	1.9	7
21	Simultaneous Three-Dimensional Vascular and Tubular Imaging of Whole Mouse Kidneys With X-ray $\mu$ CT. <i>Microscopy and Microanalysis</i> , 2020, 26, 731-740.	0.4	7
22	Crosslinkable polymeric contrast agent for high-resolution X-ray imaging of the vascular system. <i>Chemical Communications</i> , 2020, 56, 5885-5888.	4.1	9
23	X-ray phase tomography with near-field speckles for three-dimensional virtual histology. <i>Optica</i> , 2020, 7, 1221.	9.3	37
24	RAQ: a novel surrogate for the craniospinal pressure–volume relationship. <i>Physiological Measurement</i> , 2020, 41, 094002.	2.1	4
25	Fluid Dynamics in the HeartMate 3: Influence of the Artificial Pulse Feature and Residual Cardiac Pulsation. <i>Artificial Organs</i> , 2019, 43, 363-376.	1.9	72
26	Modelling of Cerebrospinal Fluid Flow by Computational Fluid Dynamics. <i>Biological and Medical Physics Series</i> , 2019, , 215-241.	0.4	8
27	Integrated Flow Chamber System for Live Cell Microscopy. <i>Frontiers in Bioengineering and Biotechnology</i> , 2019, 7, 91.	4.1	11
28	Reduced-order modeling of blood flow for noninvasive functional evaluation of coronary artery disease. <i>Biomechanics and Modeling in Mechanobiology</i> , 2019, 18, 1867-1881.	2.8	21
29	Propagation of Plasma L-Phenylalanine Concentration Fluctuations to the Neurovascular Unit in Phenylketonuria: An in silico Study. <i>Frontiers in Physiology</i> , 2019, 10, 360.	2.8	7
30	Generation of renal Epo-producing cell lines by conditional gene tagging reveals rapid HIF-2 driven Epo kinetics, cell autonomous feedback regulation, and a telocyte phenotype. <i>Kidney International</i> , 2019, 95, 375-387.	5.2	40
31	Extending statistical learning for aneurysm rupture assessment to Finnish and Japanese populations using morphology, hemodynamics, and patient characteristics. <i>Neurosurgical Focus</i> , 2019, 47, E16.	2.3	14
32	Evaluation of metal nanoparticle- and plastic resin-based x-ray contrast agents for kidney capillary imaging. , 2019, , .		2
33	Significant Association of Slow Vasogenic ICP Waves with Normal Pressure Hydrocephalus Diagnosis. <i>Acta Neurochirurgica Supplementum</i> , 2018, 126, 243-246.	1.0	7
34	Virtual surgical planning, flow simulation, and 3-dimensional electrospinning of patient-specific grafts to optimize Fontan hemodynamics. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2018, 155, 1734-1742.	0.8	41
35	Blood Pump Design Variations and Their Influence on Hydraulic Performance and Indicators of Hemocompatibility. <i>Annals of Biomedical Engineering</i> , 2018, 46, 417-428.	2.5	64
36	Functional Polarity of Microvascular Brain Endothelial Cells Supported by Neurovascular Unit Computational Model of Large Neutral Amino Acid Homeostasis. <i>Frontiers in Physiology</i> , 2018, 9, 171.	2.8	12

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37	Renal arteriovenous oxygen shunting. <i>Current Opinion in Nephrology and Hypertension</i> , 2017, 26, 290-295.	2.0	7
38	Rapid adaptation to microgravity in mammalian macrophage cells. <i>Scientific Reports</i> , 2017, 7, 43.	3.3	50
39	Quantifying the relative contributions of different solute carriers to aggregate substrate transport. <i>Scientific Reports</i> , 2017, 7, 40628.	3.3	12
40	Comparison of anti-siphon devices—how do they affect CSF dynamics in supine and upright posture?. <i>Acta Neurochirurgica</i> , 2017, 159, 1389-1397.	1.7	24
41	Is posture-related craniospinal compliance shift caused by jugular vein collapse? A theoretical analysis. <i>Fluids and Barriers of the CNS</i> , 2017, 14, 5.	5.0	33
42	Barrier dysfunction or drainage reduction: differentiating causes of CSF protein increase. <i>Fluids and Barriers of the CNS</i> , 2017, 14, 14.	5.0	15
43	The breakup of intravascular microbubbles and its impact on the endothelium. <i>Biomechanics and Modeling in Mechanobiology</i> , 2017, 16, 611-624.	2.8	9
44	Influence of Standard Laboratory Procedures on Measures of Erythrocyte Damage. <i>Frontiers in Physiology</i> , 2017, 8, 731.	2.8	18
45	The Bohr Effect Is Not a Likely Promoter of Renal Preglomerular Oxygen Shunting. <i>Frontiers in Physiology</i> , 2016, 7, 482.	2.8	9
46	Glymphatic solute transport does not require bulk flow. <i>Scientific Reports</i> , 2016, 6, 38635.	3.3	231
47	Drug deposition in coronary arteries with overlapping drug-eluting stents. <i>Journal of Controlled Release</i> , 2016, 238, 1-9.	9.9	27
48	B-waves revisited. <i>Interdisciplinary Neurosurgery: Advanced Techniques and Case Management</i> , 2016, 6, 13-17.	0.3	48
49	InÂvivo characterization of the integration and vascularization of a silk-derived surgical scaffold. <i>Journal of Plastic, Reconstructive and Aesthetic Surgery</i> , 2016, 69, 1141-1150.	1.0	14
50	Patient Specific Hardware-in-the-Loop Testing of Cerebrospinal Fluid Shunt Systems. <i>IEEE Transactions on Biomedical Engineering</i> , 2016, 63, 348-358.	4.2	11
51	Patient-Specific Surgical Planning, Where Do We Stand? The Example of the Fontan Procedure. <i>Annals of Biomedical Engineering</i> , 2016, 44, 174-186.	2.5	26
52	How astrocyte networks may contribute to cerebral metabolite clearance. <i>Scientific Reports</i> , 2015, 5, 15024.	3.3	74
53	Reply to ‘Letter to the editor: ‘The plausibility of arterial-to-venous oxygen shunting in the kidney: it all depends on radial geometry’’. <i>American Journal of Physiology - Renal Physiology</i> , 2015, 309, F181-F182.	2.7	7
54	Frequently asked questions in hypoxia research. <i>Hypoxia (Auckland, N Z)</i> , 2015, 3, 35.	1.9	167

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55	Continuous positive airway pressure alters cranial blood flow and cerebrospinal fluid dynamics at the craniovertebral junction. <i>Interdisciplinary Neurosurgery: Advanced Techniques and Case Management</i> , 2015, 2, 152-159.	0.3	12
56	Renal oxygenation: preglomerular vasculature is an unlikely contributor to renal oxygen shunting. <i>American Journal of Physiology - Renal Physiology</i> , 2015, 308, F671-F688.	2.7	23
57	Letter to the Editor: Assessment of intracranial dynamics in hydrocephalus. <i>Journal of Neurosurgery</i> , 2014, 120, 1246.	1.6	3
58	Three-dimensional registration of synchrotron radiation-based micro-computed tomography images with advanced laboratory micro-computed tomography data from murine kidney casts. , 2014, , .		1
59	Arterial, Venous, and Cerebrospinal Fluid Flow: Simultaneous Assessment with Bayesian Multipoint Velocity-encoded MR Imaging. <i>Radiology</i> , 2014, 270, 566-573.	7.3	10
60	Hemodynamics in coronary arteries with overlapping stents. <i>Journal of Biomechanics</i> , 2014, 47, 505-511.	2.1	48
61	Complementary X-ray tomography techniques for histology-validated 3D imaging of soft and hard tissues using plaque-containing blood vessels as examples. <i>Nature Protocols</i> , 2014, 9, 1401-1415.	12.0	55
62	Modeling the interaction of microbubbles: Effects of proximity, confinement, and excitation amplitude. <i>Physics of Fluids</i> , 2014, 26, .	4.0	9
63	Flow induced by ependymal cilia dominates near-wall cerebrospinal fluid dynamics in the lateral ventricles. <i>Journal of the Royal Society Interface</i> , 2014, 11, 20131189.	3.4	93
64	A Robust Algorithm for Segmenting and Tracking Clustered Cells in Time-Lapse Fluorescent Microscopy. <i>IEEE Journal of Biomedical and Health Informatics</i> , 2013, 17, 862-869.	6.3	18
65	Accelerated endothelial wound healing on microstructured substrates under flow. <i>Biomaterials</i> , 2013, 34, 1488-1497.	11.4	71
66	Assessment of intracranial dynamics in hydrocephalus: effects of viscoelasticity on the outcome of infusion tests. <i>Journal of Neurosurgery</i> , 2013, 119, 1511-1519.	1.6	15
67	Compound Ex Vivo and In Silico Method for Hemodynamic Analysis of Stented Arteries. <i>PLoS ONE</i> , 2013, 8, e58147.	2.5	27
68	Craniospinal Pressureâ€Volume Dynamics in Phantom Models. <i>IEEE Transactions on Biomedical Engineering</i> , 2012, 59, 3482-3490.	4.2	8
69	Choosing the optimal wall shear parameter for the prediction of plaque locationâ€A patient-specific computational study in human left coronary arteries. <i>Atherosclerosis</i> , 2012, 221, 432-437.	0.8	92
70	Topography-mediated apical guidance in epidermal wound healing. <i>Soft Matter</i> , 2012, 8, 6922.	2.7	30
71	Cell Image Velocimetry (CIV): boosting the automated quantification of cell migration in wound healing assays. <i>Integrative Biology (United Kingdom)</i> , 2012, 4, 1437-1447.	1.3	38
72	Phosphorylation of VE-cadherin is modulated by haemodynamic forces and contributes to the regulation of vascular permeability in vivo. <i>Nature Communications</i> , 2012, 3, 1208.	12.8	387

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73	On ultrasound-induced microbubble oscillation in a capillary blood vessel and its implications for the blood-brain barrier. <i>Physics in Medicine and Biology</i> , 2012, 57, 1019-1045.	3.0	32
74	Cutaneous Heat Transfer and Its Effect on Contact Heat Evoked Brain Potentials. <i>Experimental Heat Transfer</i> , 2012, 25, 341-362.	3.2	2
75	Pulsatile cerebrospinal fluid flow in the cranial subarachnoid space. <i>Neurology Psychiatry and Brain Research</i> , 2012, 18, 66-67.	2.0	1
76	Phantom Model of Physiologic Intracranial Pressure and Cerebrospinal Fluid Dynamics. <i>IEEE Transactions on Biomedical Engineering</i> , 2012, 59, 1532-1538.	4.2	29
77	Age-Specific Characteristics and Coupling of Cerebral Arterial Inflow and Cerebrospinal Fluid Dynamics. <i>PLoS ONE</i> , 2012, 7, e37502.	2.5	41
78	Control of initial endothelial spreading by topographic activation of focal adhesion kinase. <i>Soft Matter</i> , 2011, 7, 7313.	2.7	85
79	Computed high concentrations of low-density lipoprotein correlate with plaque locations in human coronary arteries. <i>Journal of Biomechanics</i> , 2011, 44, 2466-2471.	2.1	31
80	Computational Fluid Dynamics for the Assessment of Cerebrospinal Fluid Flow and Its Coupling with Cerebral Blood Flow. <i>Biological and Medical Physics Series</i> , 2011, , 169-188.	0.4	12
81	Wall stress of the cervical carotid artery in patients with carotid dissection: a case-control study. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2011, 300, H1451-H1458.	3.2	23
82	Long-term follow-up, computed tomography, and computational fluid dynamics of the Cabrol procedure. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2010, 139, 1602-1608.	0.8	32
83	A mathematical method for the 3D analysis of rotating deformable systems applied on lumen-forming MDCK cell aggregates. <i>Cytoskeleton</i> , 2010, 67, 224-240.	2.0	18
84	Cerebrospinal fluid dynamics in the human cranial subarachnoid space: an overlooked mediator of cerebral disease. I. Computational model. <i>Journal of the Royal Society Interface</i> , 2010, 7, 1195-1204.	3.4	83
85	Cerebrospinal fluid dynamics in the human cranial subarachnoid space: an overlooked mediator of cerebral disease. II. In vitro arachnoid outflow model. <i>Journal of the Royal Society Interface</i> , 2010, 7, 1205-1218.	3.4	24
86	Choosing the optimal wall shear parameter for the prediction of plaque location—A patient-specific computational study in human right coronary arteries. <i>Atherosclerosis</i> , 2010, 211, 445-450.	0.8	89
87	Three-Dimensional Computational Modeling of Subject-Specific Cerebrospinal Fluid Flow in the Subarachnoid Space. <i>Journal of Biomechanical Engineering</i> , 2009, 131, 021010.	1.3	101
88	Patient-specific three-dimensional simulation of LDL accumulation in a human left coronary artery in its healthy and atherosclerotic states. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2009, 296, H1969-H1982.	3.2	90
89	The role of the carotid sinus in the reduction of arterial wall stresses due to head movements—potential implications for cervical artery dissection. <i>Journal of Biomechanics</i> , 2009, 42, 755-761.	2.1	8
90	Ex vivo and in vivo coronary ostial locations in humans. <i>Surgical and Radiologic Anatomy</i> , 2009, 31, 597-604.	1.2	29

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91	Remodelling of the aortic root in severe tricuspid aortic stenosis: implications for transcatheter aortic valve implantation. <i>European Radiology</i> , 2009, 19, 1316-1323.	4.5	53
92	MODELING OF BLOOD-WALL LOW-DENSITY LIPOPROTEIN MASS TRANSPORT IN DEPENDENCE OF SHEAR STRESS. <i>Journal of Biomechanics</i> , 2008, 41, S277.	2.1	2
93	Analytical solution for pulsatile viscous flow in a straight elliptic annulus and application to the motion of the cerebrospinal fluid. <i>Physics of Fluids</i> , 2008, 20, .	4.0	25
94	In-vitro measurement of ventricular cerebrospinal fluid flow using particle tracking velocimetry and magnetic resonance imaging. , 2008, , .		2
95	Computational modeling of coupled blood-wall mass transport of LDL: effects of local wall shear stress. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2008, 294, H909-H919.	3.2	107
96	Identification of Atherosclerotic Lesion-Prone Sites through Patient-Specific Simulation of Low-Density Lipoprotein Accumulation. <i>Lecture Notes in Computer Science</i> , 2008, 11, 774-781.	1.3	11
97	Mixing and Modes of Mass Transfer in the Third Cerebral Ventricle: A Computational Analysis. <i>Journal of Biomechanical Engineering</i> , 2007, 129, 695-702.	1.3	27
98	Computational investigation of subject-specific cerebrospinal fluid flow in the third ventricle and aqueduct of Sylvius. <i>Journal of Biomechanics</i> , 2007, 40, 1235-1245.	2.1	92
99	Purification of metallurgical grade silicon by a solar process. <i>Solar Energy Materials and Solar Cells</i> , 2006, 90, 2099-2106.	6.2	76
100	Computational Modeling of the Mechanical Behavior of the Cerebrospinal Fluid System. <i>Journal of Biomechanical Engineering</i> , 2005, 127, 264-269.	1.3	55
101	Reconstruction of Cerebrospinal Fluid Flow in the Third Ventricle Based on MRI Data. <i>Lecture Notes in Computer Science</i> , 2005, 8, 786-793.	1.3	13