

Christopher G Ellis

List of Publications by Year in descending order

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111
papers

3,953
citations

125106

35
h-index

145109

60
g-index

113
all docs

113
docs citations

113
times ranked

3728
citing authors

#	ARTICLE	IF	CITATIONS
1	Capillary module haemodynamics and mechanisms of blood flow regulation in skeletal muscle capillary networks: Experimental and computational analysis. <i>Journal of Physiology</i> , 2022, 600, 1867-1888.	1.3	3
2	Optical Method to Determine inâ€vivo Capillary Hematocrit, Hemoglobin Concentration, and 3â€D Network Geometry in Skeletal Muscle. <i>Microcirculation</i> , 2022, , e12751.	1.0	1
3	Spectroscopy detects skeletal muscle microvascular dysfunction during onset of sepsis in a rat fecal peritonitis model. <i>Scientific Reports</i> , 2022, 12, 6339.	1.6	5
4	Conducted Capillary Signaling Enables Oxygen Responses in Skeletal Muscle Independent of Metabolite Production. <i>FASEB Journal</i> , 2022, 36, .	0.2	0
5	Autocrine P2X4 receptor activation in RBCs drives oxygenâ€dependent hyperemic responses in mouse skeletal muscle capillaries. <i>FASEB Journal</i> , 2022, 36, .	0.2	1
6	Dynamic tracking of microvascular hemoglobin content for continuous perfusion monitoring in the intensive care unit: pilot feasibility study. <i>Journal of Clinical Monitoring and Computing</i> , 2021, 35, 1453-1465.	0.7	4
7	The capillary fascicle in skeletal muscle: Structural and functional physiology of RBC distribution in capillary networks. <i>Journal of Physiology</i> , 2021, 599, 2149-2168.	1.3	17
8	National Preclinical Sepsis Platform: developing a framework for accelerating innovation in Canadian sepsis research. <i>Intensive Care Medicine Experimental</i> , 2021, 9, 14.	0.9	5
9	Evidence for role of capillaries in regulation of skeletal muscle oxygen supply. <i>Microcirculation</i> , 2021, 28, e12699.	1.0	9
10	Localized Oxygen Exchange Platform for Intravital Video Microscopy Investigations of Microvascular Oxygen Regulation. <i>Frontiers in Physiology</i> , 2021, 12, 654928.	1.3	6
11	Low-flow intussusception and metastable VEGFR2 signaling launch angiogenesis in ischemic muscle. <i>Science Advances</i> , 2021, 7, eabg9509.	4.7	9
12	Hyperinsulinemia does not cause de novo capillary recruitment in rat skeletal muscle. <i>Microcirculation</i> , 2020, 27, e12593.	1.0	14
13	Reply to Letter to the Editor: Perfusion controls muscle glucose uptake by altering the rate of glucose dispersion in vivo. <i>American Journal of Physiology - Endocrinology and Metabolism</i> , 2020, 318, E313-E317.	1.8	3
14	Highâ€fat diet preâ€conditioning improves microvascular remodelling during regeneration of ischaemic mouse skeletal muscle. <i>Acta Physiologica</i> , 2020, 229, e13449.	1.8	7
15	Cerebral Blood Flow Deviations in Critically Ill Patients: Potential Insult Contributing to Ischemic and Hyperemic Injury. <i>Frontiers in Medicine</i> , 2020, 7, 615318.	1.2	6
16	Role and Molecular Mechanisms of Pericytes in Regulation of Leukocyte Diapedesis in Inflamed Tissues. <i>Mediators of Inflammation</i> , 2019, 2019, 1-9.	1.4	46
17	Microvascular Responsiveness to Pulsatile and Nonpulsatile Flow During Cardiopulmonary Bypass. <i>Annals of Thoracic Surgery</i> , 2018, 105, 1745-1753.	0.7	44
18	Using digital inpainting to estimate incident light intensity for the calculation of red blood cell oxygen saturation from microscopy images. <i>Journal of Biophotonics</i> , 2018, 11, e201800103.	1.1	0

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19	Microvascular Dysfunction, Inflammation and Tissue Injury in Polymicrobial Sepsis. <i>FASEB Journal</i> , 2018, 32, lb282.	0.2	0
20	Ascorbate inhibits platelet-endothelial adhesion in an in-vitro model of sepsis via reduced endothelial surface P-selectin expression. <i>Blood Coagulation and Fibrinolysis</i> , 2017, 28, 28-33.	0.5	16
21	Four-Dimensional Microvascular Analysis Reveals That Regenerative Angiogenesis in Ischemic Muscle Produces a Flawed Microcirculation. <i>Circulation Research</i> , 2017, 120, 1453-1465.	2.0	57
22	Impaired Tissue Oxygenation in Metabolic Syndrome Requires Increased Microvascular Perfusion Heterogeneity. <i>Journal of Cardiovascular Translational Research</i> , 2017, 10, 69-81.	1.1	20
23	The Effect of Sepsis on the Erythrocyte. <i>International Journal of Molecular Sciences</i> , 2017, 18, 1932.	1.8	108
24	Role of erythrocyte-released ATP in the regulation of microvascular oxygen supply in skeletal muscle. <i>Acta Physiologica</i> , 2016, 216, 265-276.	1.8	63
25	Finite Element Model of Oxygen Transport for the Design of Geometrically Complex Microfluidic Devices Used in Biological Studies. <i>PLoS ONE</i> , 2016, 11, e0166289.	1.1	4
26	Sepsis impairs microvascular autoregulation and delays capillary response within hypoxic capillaries. <i>Critical Care</i> , 2015, 19, 389.	2.5	49
27	Effect of ascorbate on plasminogen activator inhibitor-1 expression and release from platelets and endothelial cells in an in-vitro model of sepsis. <i>Blood Coagulation and Fibrinolysis</i> , 2015, 26, 436-442.	0.5	6
28	Impact of Incremental Perfusion Loss on Oxygen Transport in a Capillary Network Mathematical Model. <i>Microcirculation</i> , 2015, 22, 348-359.	1.0	9
29	Early mobilization in the critical care unit: A review of adult and pediatric literature. <i>Journal of Critical Care</i> , 2015, 30, 664-672.	1.0	203
30	Fibroblast Growth Factor 9 Imparts Hierarchy and Vasoreactivity to the Microcirculation of Renal Tumors and Suppresses Metastases. <i>Journal of Biological Chemistry</i> , 2015, 290, 22127-22142.	1.6	13
31	Effect of ascorbate on fibrinolytic factors in septic mouse skeletal muscle. <i>Blood Coagulation and Fibrinolysis</i> , 2014, 25, 745-753.	0.5	3
32	Short-term effect of ascorbate on bacterial content, plasminogen activator inhibitor-1, and myeloperoxidase in septic mice. <i>Journal of Surgical Research</i> , 2014, 191, 432-440.	0.8	5
33	Modeling steady state SO ₂ -dependent changes in capillary ATP concentration using novel O ₂ micro-delivery methods. <i>Frontiers in Physiology</i> , 2013, 4, 260.	1.3	14
34	Effect of extraluminal ATP application on vascular tone and blood flow in skeletal muscle: implications for exercise hyperemia. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2013, 305, R281-R290.	0.9	20
35	Comparison of Generated Parallel Capillary Arrays to Three-Dimensional Reconstructed Capillary Networks in Modeling Oxygen Transport in Discrete Microvascular Volumes. <i>Microcirculation</i> , 2013, 20, 748-763.	1.0	22
36	Ascorbate Reduces Mouse Platelet Aggregation and Surface P-selectin Expression in an Ex Vivo Model of Sepsis. <i>Microcirculation</i> , 2013, 20, 502-510.	1.0	12

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37	A Computational Model of a Microfluidic Device to Measure the Dynamics of Oxygen-Dependent ATP Release from Erythrocytes. PLoS ONE, 2013, 8, e81537.	1.1	9
38	Mapping 3-D functional capillary geometry in rat skeletal muscle in vivo. American Journal of Physiology - Heart and Circulatory Physiology, 2012, 302, H654-H664.	1.5	32
39	Toward a Multiscale Description of Microvascular Flow Regulation: O ₂ -Dependent Release of ATP from Human Erythrocytes and the Distribution of ATP in Capillary Networks. Frontiers in Physiology, 2012, 3, 246.	1.3	21
40	Microvascular Flow Modeling using <i>In Vivo</i> Hemodynamic Measurements in Reconstructed 3D Capillary Networks. Microcirculation, 2012, 19, 510-520.	1.0	27
41	S-Nitrosoglutathione Acts as a Small Molecule Modulator of Human Fibrin Clot Architecture. PLoS ONE, 2012, 7, e43660.	1.1	15
42	What is the Efficiency of ATP Signaling from Erythrocytes to Regulate Distribution of O ₂ Supply Within the Microvasculature?. Microcirculation, 2012, 19, 440-450.	1.0	32
43	Computational Analysis of a Microfluidic Device for Measuring Oxygen-Dependent ATP Release from Erythrocytes. FASEB Journal, 2012, 26, .	0.2	0
44	Mathematical Model of Mixed Venous SO ₂ Transients at Onset of Exercise in Discrete Capillary Networks. FASEB Journal, 2012, 26, 1142.12.	0.2	0
45	Influence of tissue metabolism and capillary oxygen supply on arteriolar oxygen transport: A computational model. Mathematical Biosciences, 2011, 232, 1-10.	0.9	25
46	A Micro-Delivery Approach for Studying Microvascular Responses to Localized Oxygen Delivery. Microcirculation, 2011, 18, 646-654.	1.0	16
47	Fibroblast growth factor 9 delivery during angiogenesis produces durable, vasoresponsive microvessels wrapped by smooth muscle cells. Nature Biotechnology, 2011, 29, 421-427.	9.4	107
48	A selective phosphodiesterase 3 inhibitor rescues low P _{o₂} -induced ATP release from erythrocytes of humans with type 2 diabetes: implication for vascular control. American Journal of Physiology - Heart and Circulatory Physiology, 2011, 301, H2466-H2472.	1.5	37
49	Impaired microvascular perfusion in sepsis requires activated coagulation and P-selectin-mediated platelet adhesion in capillaries. Intensive Care Medicine, 2010, 36, 1928-1934.	3.9	88
50	Estrogen modulates the contribution of neuropeptide Y to baseline hindlimb blood flow control in female Sprague-Dawley rats. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2010, 298, R1351-R1357.	0.9	10
51	Defects in oxygen supply to skeletal muscle of prediabetic ZDF rats. American Journal of Physiology - Heart and Circulatory Physiology, 2010, 298, H1661-H1670.	1.5	48
52	Divergent effects of low-O ₂ tension and iloprost on ATP release from erythrocytes of humans with type 2 diabetes: implications for O ₂ supply to skeletal muscle. American Journal of Physiology - Heart and Circulatory Physiology, 2010, 299, H566-H573.	1.5	41
53	Investigating the hemodynamic parameters involved in microvasculature O ₂ regulation in skeletal muscle of Zucker Diabetic Fatty rat exposed to surface hypoxia. FASEB Journal, 2010, 24, 973.13.	0.2	0
54	Efficacy of Parallel Capillary Arrays in Modelling Oxygen Transport in Discrete Microvascular Networks. FASEB Journal, 2010, 24, 973.5.	0.2	0

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55	Sympathetic modulation of baseline hindlimb blood flow and vascular conductance in a model of prediabetes using young Zucker Diabetic Fatty rats. <i>FASEB Journal</i> , 2010, 24, 976.15.	0.2	0
56	Erythrocytes: Oxygen Sensors and Modulators of Vascular Tone. <i>Physiology</i> , 2009, 24, 107-116.	1.6	247
57	Transfusion of stored red blood cells adhere in the rat microvasculature. <i>Transfusion</i> , 2009, 49, 2304-2310.	0.8	40
58	Characterizing the Response of Skeletal Muscle Microvasculature to Imposed Oxygen Variations. <i>FASEB Journal</i> , 2009, 23, 949.8.	0.2	0
59	Erythrocyte (RBC)â€Released ATP and Vascular Control: When it Works and What if it Does Not?. <i>FASEB Journal</i> , 2009, 23, 948.5.	0.2	0
60	Inhibiting nitric oxide overproduction during hypotensive sepsis increases local oxygen consumption in rat skeletal muscle*. <i>Critical Care Medicine</i> , 2008, 36, 225-231.	0.4	53
61	Modeling the hemodynamic response due to vasodilatory signals conducted upstream along the arteriolar tree. <i>FASEB Journal</i> , 2008, 22, 1207.6.	0.2	0
62	Mathematical Model of Tissue Oxygenation in Early Sepsis. <i>FASEB Journal</i> , 2008, 22, 1141.19.	0.2	0
63	Local regulation of oxygen supply in rat skeletal muscle in vivo: variations in hemodynamic response. <i>FASEB Journal</i> , 2007, 21, A481.	0.2	2
64	Modeling the hemodynamic response in capillaries to an altered tissue oxygen environment. <i>FASEB Journal</i> , 2007, 21, A480.	0.2	0
65	Characterization of Impaired Microvascular Oxygen Delivery in Early Septic Injury. <i>FASEB Journal</i> , 2007, 21, A480.	0.2	0
66	High-Resolution Intravital NADH Fluorescence Microscopy Allows Measurements of Tissue Bioenergetics in Rat Ileal Mucosa. <i>Microcirculation</i> , 2006, 13, 41-47.	1.0	11
67	Effect of decreased O2 supply on skeletal muscle oxygenation and O2 consumption during sepsis: role of heterogeneous capillary spacing and blood flow. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2006, 290, H2277-H2285.	1.5	105
68	Microvascular oxygen transport in rat skeletal muscle: temporal variability. <i>FASEB Journal</i> , 2006, 20, A278.	0.2	1
69	A New Video Image Analysis System to Study Red Blood Cell Dynamics and Oxygenation in Capillary Networks. <i>Microcirculation</i> , 2005, 12, 489-506.	1.0	54
70	Automated Method for Tracking Individual Red Blood Cells Within Capillaries to Compute Velocity and Oxygen Saturation. <i>Microcirculation</i> , 2005, 12, 507-515.	1.0	36
71	Mapping of the functional microcirculation in vital organs using contrast-enhanced in vivo video microscopy. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2005, 288, H185-H193.	1.5	28
72	The microcirculation as a functional system. <i>Critical Care</i> , 2005, 9, S3.	2.5	130

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73	Effect of nitric oxide on capillary hemodynamics and cell injury in the pancreas during Pseudomonas pneumonia-induced sepsis. American Journal of Physiology - Heart and Circulatory Physiology, 2004, 286, H340-H345.	1.5	10
74	Flow Visualization Tools for Image Analysis of Capillary Networks. Microcirculation, 2004, 11, 39-54.	1.0	46
75	Effect of sepsis on skeletal muscle oxygen consumption and tissue oxygenation: interpreting capillary oxygen transport data using a mathematical model. American Journal of Physiology - Heart and Circulatory Physiology, 2004, 287, H2535-H2544.	1.5	85
76	In vivo videomicroscopy reveals differential effects of the vascular-targeting agent ZD6126 and the anti-angiogenic agent ZD6474 on vascular function in a liver metastasis model. Angiogenesis, 2004, 7, 157-164.	3.7	22
77	Bench-to-bedside review: microvascular dysfunction in sepsis—hemodynamics, oxygen transport, and nitric oxide. Critical Care, 2003, 7, 359.	2.5	242
78	A finite difference model of O ₂ transport in aortic valve cusps: importance of intrinsic microcirculation. American Journal of Physiology - Heart and Circulatory Physiology, 2003, 285, H2099-H2104.	1.5	13
79	Optimization of Nitric Oxide Chemiluminescence Operating Conditions for Measurement of Plasma Nitrite and Nitrate. Clinical Chemistry, 2002, 48, 570-573.	1.5	43
80	Effect of a maldistribution of microvascular blood flow on capillary O ₂ extraction in sepsis. American Journal of Physiology - Heart and Circulatory Physiology, 2002, 282, H156-H164.	1.5	264
81	Aortic valve cusp vessel density: Relationship with tissue thickness. Journal of Thoracic and Cardiovascular Surgery, 2002, 123, 333-340.	0.4	42
82	A precise radiographic technique for the measurement of dimensional changes in heart valve biomaterials following fixation. Journal of Biomechanics, 2002, 35, 983-987.	0.9	5
83	Optimization of nitric oxide chemiluminescence operating conditions for measurement of plasma nitrite and nitrate. Clinical Chemistry, 2002, 48, 570-3.	1.5	14
84	Erythrocyte deformability is a nitric oxide-mediated factor in decreased capillary density during sepsis. American Journal of Physiology - Heart and Circulatory Physiology, 2001, 280, H2848-H2856.	1.5	110
85	Effect of Hemolyzed Plasma on the Batch Measurement of Nitrate by Nitric Oxide Chemiluminescence. Clinical Chemistry, 2001, 47, 1847-1851.	1.5	4
86	Effect of prophylactic transfusion of stored RBCs on oxygen reserve in response to acute isovolemic hemorrhage in a rodent model. Transfusion, 2001, 41, 950-956.	0.8	45
87	A comparison of biochemical and functional alterations of rat and human erythrocytes stored in CPDA-1 for 29 days: implications for animal models of transfusion. Transfusion Medicine, 2000, 10, 291-303.	0.5	141
88	Vascularization of bioprosthetic valve material. , 1999, , .		0
89	Fibroblast Growth Factor-2 Potentiates Vascular Smooth Muscle Cell Migration to Platelet-Derived Growth Factor. Circulation Research, 1997, 80, 627-637.	2.0	66
90	Decreased Capillary Density in Vivo in Bowel Mucosa of Rats with Normotensive Sepsis. Journal of Surgical Research, 1996, 61, 190-196.	0.8	216

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91	Sepsis depresses the metabolic oxygen reserve of the coronary circulation in mature sheep.. American Journal of Respiratory and Critical Care Medicine, 1996, 153, 1577-1584.	2.5	31
92	Capillary Network Morphology and Capillary Flow. International Journal of Microcirculation, Clinical and Experimental, 1995, 15, 223-230.	0.6	26
93	Measurement of Tissue Viability Using Intravital Microscopy and Fluorescent Nuclear Dyes. Journal of Surgical Research, 1995, 59, 521-526.	0.8	11
94	RBC dynamics in reuniting capillary bifurcations. Biorheology, 1995, 32, 282-282.	1.2	1
95	Role of Microvessels in Oxygen Supply to Tissue. Physiology, 1994, 9, 119-123.	1.6	27
96	Effect of Superoxide Dismutase and 21-Aminosteroids (Lazaroids) on Microvascular Perfusion following Ischemia-Reperfusion in Skeletal Muscle. International Journal of Microcirculation, Clinical and Experimental, 1994, 14, 313-318.	0.6	6
97	Heterogeneity of red blood cell perfusion in capillary networks supplied by a single arteriole in resting skeletal muscle.. Circulation Research, 1994, 75, 357-368.	2.0	90
98	Application of image analysis for evaluation of red blood cell dynamics in capillaries. Microvascular Research, 1992, 44, 214-225.	1.1	88
99	The Functional Microcirculation in a Glioma Model. International Journal of Radiation Biology, 1991, 60, 131-137.	1.0	15
100	Effect of sarcomere length on total capillary length in skeletal muscle: In vivo evidence for longitudinal stretching of capillaries. Microvascular Research, 1990, 40, 63-72.	1.1	39
101	Variation in Axial Velocity Profile of Red Cells Passing Through A Single Capillary. Advances in Experimental Medicine and Biology, 1989, 248, 543-550.	0.8	4
102	Capillary configuration and fiber shortening in muscles of the rat hindlimb: Correlation between corrosion casts and stereological measurements. Microvascular Research, 1988, 36, 40-55.	1.1	38
103	Quantification of red cell movement in microvessels: A new application of interactive computer graphics. Microvascular Research, 1987, 33, 428-432.	1.1	10
104	Measurement of the lineal density of red blood cells in capillaries in vivo, using a computerized frame-by-frame analysis of video images. Microvascular Research, 1984, 27, 1-13.	1.1	22
105	Microvascular Geometry in Relation to Modeling Oxygen Transport in Contracted Skeletal Muscle. The American Review of Respiratory Disease, 1984, 129, S6-S9.	2.9	11
106	Television-computer method for in vivo measurement of capillary diameter, based on the passage of red cells. Microvascular Research, 1983, 26, 139-150.	1.1	12
107	Heterogeneity of capillary diameters in skeletal muscle of the frog. Microvascular Research, 1983, 26, 151-156.	1.1	10
108	Temporal and spatial distributions of red cell velocity in capillaries of resting skeletal muscle, including estimates of red cell transit times. Microvascular Research, 1981, 22, 14-31.	1.1	37

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109	Mass transport to walls of stenosed arteries: Variation with Reynolds number and blood flow separation. Journal of Biomechanics, 1979, 12, 869-877.	0.9	36
110	Ability of man to detect increases in his breathing. Journal of Applied Physiology, 1975, 39, 372-376.	1.2	27
111	An experiment-based model of oxygen transport in capillary networks under normal and septic conditions. , 0, , .		1