

# Robert L Hester

## List of Publications by Citations

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100  
papers

1,268  
citations

22  
h-index

32  
g-index

109  
ext. papers

1,377  
ext. citations

3.3  
avg, IF

4.26  
L-index

#	Paper	IF	Citations
100	HumMod: A Modeling Environment for the Simulation of Integrative Human Physiology. <i>Frontiers in Physiology</i> , <b>2011</b> , 2, 12	4.6	79
99	Insulin resistance and impaired functional vasodilation in obese Zucker rats. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2008</b> , 294, H1658-66	5.2	69
98	Systemic hemodynamics and regional blood flow during chronic nitric oxide synthesis inhibition in pregnant rats. <i>Hypertension</i> , <b>1998</b> , 31, 315-20	8.5	61
97	Quantitative Circulatory Physiology: an integrative mathematical model of human physiology for medical education. <i>American Journal of Physiology - Advances in Physiology Education</i> , <b>2007</b> , 31, 202-10	1.9	59
96	Exercise-induced increase in skeletal muscle vasodilatory responses in obese Zucker rats. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , <b>2005</b> , 288, R987-91	3.2	51
95	Enhanced role for RhoA-associated kinase in adrenergic-mediated vasoconstriction in gracilis arteries from obese Zucker rats. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , <b>2006</b> , 290, R154-61	3.2	44
94	Hemodynamic alterations in hypertensive obese rabbits. <i>Hypertension</i> , <b>1995</b> , 26, 465-70	8.5	43
93	Altered arachidonic acid metabolism impairs functional vasodilation in metabolic syndrome. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , <b>2006</b> , 290, R134-8	3.2	42
92	Systems biology and integrative physiological modelling. <i>Journal of Physiology</i> , <b>2011</b> , 589, 1053-60	3.9	40
91	Venular-arteriolar communication in the regulation of blood flow. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , <b>2002</b> , 282, R1280-5	3.2	40
90	Validation of a computational platform for the analysis of the physiologic mechanisms of a human experimental model of hemorrhage. <i>Resuscitation</i> , <b>2009</b> , 80, 1405-10	4	39
89	Role of nitric oxide, adenosine, and ATP-sensitive potassium channels in insulin-induced vasodilation. <i>Hypertension</i> , <b>1996</b> , 28, 202-8	8.5	38
88	Uptake of metabolites by postcapillary venules: mechanism for the control of arteriolar diameter. <i>Microvascular Research</i> , <b>1993</b> , 46, 254-61	3.7	35
87	The determination of hemodialysis blood recirculation using blood urea nitrogen measurements. <i>American Journal of Kidney Diseases</i> , <b>1992</b> , 20, 598-602	7.4	35
86	Influence of venular prostaglandin release on arteriolar diameter during functional hyperemia. <i>Hypertension</i> , <b>1998</b> , 31, 213-7	8.5	34
85	ATP-mediated release of arachidonic acid metabolites from venular endothelium causes arteriolar dilation. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2001</b> , 280, H2616-22	5.2	32
84	Regulation of muscle blood flow in obesity. <i>Microcirculation</i> , <b>2007</b> , 14, 273-88	2.9	31

83	Differential inhibition of functional dilation of small arterioles by indomethacin and glibenclamide. <i>Hypertension</i> , <b>2001</b> , 37, 599-603	8.5	30
82	Mechanisms of blood pressure salt sensitivity: new insights from mathematical modeling. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , <b>2017</b> , 312, R451-R466	3.2	24
81	K(ATP)-mediated vasodilation is impaired in obese Zucker rats. <i>Microcirculation</i> , <b>2008</b> , 15, 485-94	2.9	24
80	Role of endothelium-derived relaxing factors in arteriolar dilation during muscle contraction elicited by electrical field stimulation. <i>Microcirculation</i> , <b>1994</b> , 1, 195-201	2.9	23
79	Attenuated PGI <sub>2</sub> synthesis in obese Zucker rats. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , <b>2009</b> , 296, R715-21	3.2	22
78	Inhibition of NADPH oxidase prevents acute lung injury in obese rats following severe trauma. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2014</b> , 306, H684-9	5.2	19
77	Inhibition of phospholipase A2 attenuates functional hyperemia in the hamster cremaster muscle. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>1999</b> , 276, H1289-94	5.2	19
76	Oxidative stress contributes to orthopedic trauma-induced acute kidney injury in obese rats. <i>American Journal of Physiology - Renal Physiology</i> , <b>2015</b> , 308, F157-63	4.3	18
75	Efficient, physiologically realistic lung airflow simulations. <i>IEEE Transactions on Biomedical Engineering</i> , <b>2011</b> , 58, 3016-9	5	16
74	Hyperglycemia-Mediated Oxidative Stress Increases Pulmonary Vascular Permeability. <i>Microcirculation</i> , <b>2016</b> , 23, 221-9	2.9	15
73	Physiologic Mechanisms of Water and Electrolyte Disturbances After Transsphenoidal Pituitary Surgery. <i>World Neurosurgery</i> , <b>2017</b> , 107, 429-436	2.1	15
72	Chronic hyperglycemia impairs functional vasodilation via increasing thromboxane-receptor-mediated vasoconstriction. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2007</b> , 292, H231-6	5.2	15
71	Improved functional vasodilation in obese Zucker rats following exercise training. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2011</b> , 301, H1090-6	5.2	14
70	Functional vasodilation in the rat spinotrapezius muscle: role of nitric oxide, prostanoids and epoxyeicosatrienoic acids. <i>Clinical and Experimental Pharmacology and Physiology</i> , <b>2008</b> , 35, 617-24	3	14
69	β <sub>2</sub> -Adrenoreceptor blockade improves early posttrauma hyperglycemia and pulmonary injury in obese rats. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2014</b> , 307, H621-7	5.2	13
68	Impaired vascular KATP function attenuates exercise capacity in obese zucker rats. <i>Microcirculation</i> , <b>2013</b> , 20, 662-9	2.9	13
67	Oxidative stress increases pulmonary vascular permeability in diabetic rats through activation of transient receptor potential melastatin 2 channels. <i>Microcirculation</i> , <b>2014</b> , 21, 754-60	2.9	12
66	Calcium-dependent synthesis of prostacyclin in ATP-stimulated venous endothelial cells. <i>Hypertension</i> , <b>2002</b> , 39, 581-5	8.5	12

65	Orthopedic trauma-induced pulmonary injury in the obese Zucker rat. <i>Microcirculation</i> , <b>2010</b> , 17, 650-9	2.9	11
64	Alpha-adrenoceptor-mediated vasoconstriction is not involved in impaired functional vasodilation in the obese Zucker rat. <i>Clinical and Experimental Pharmacology and Physiology</i> , <b>2008</b> , 35, 611-6	3	11
63	ATP stimulates the release of prostacyclin from perfused veins isolated from the hamster hindlimb. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , <b>2003</b> , 285, R193-9	3.2	11
62	Sex hormones and aortic wall remodeling in an arteriovenous fistula. <i>Gender Medicine</i> , <b>2007</b> , 4, 157-69		9
61	Blood flow control during exercise: role for the venular endothelium?. <i>Exercise and Sport Sciences Reviews</i> , <b>2002</b> , 30, 147-51	6.7	9
60	The Creation of Surrogate Models for Fast Estimation of Complex Model Outcomes. <i>PLoS ONE</i> , <b>2016</b> , 11, e0156574	3.7	9
59	Sex-specific responses to mineralocorticoid receptor antagonism in hypertensive African American males and females. <i>Biology of Sex Differences</i> , <b>2019</b> , 10, 24	9.3	8
58	Validating the Physiologic Model HumMod as a Substitute for Clinical Trials Involving Acute Normovolemic Hemodilution. <i>Anesthesia and Analgesia</i> , <b>2018</b> , 126, 93-101	3.9	8
57	A mathematical model of long-term renal sympathetic nerve activity inhibition during an increase in sodium intake. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , <b>2014</b> , 306, R234-47	3.2	8
56	Validation of an integrative mathematical model of dehydration and rehydration in virtual humans. <i>Physiological Reports</i> , <b>2016</b> , 4, e13015	2.6	8
55	Role of the heart in blood pressure lowering during chronic baroreflex activation: insight from an in silico analysis. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2018</b> , 315, H1368-H1382	5.2	7
54	A novel experimental model of orthopedic trauma with acute kidney injury in obese Zucker rats. <i>Physiological Reports</i> , <b>2013</b> , 1, e00097	2.6	7
53	Impaired blood pressure recovery to hemorrhage in obese Zucker rats with orthopedic trauma. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2012</b> , 302, H340-8	5.2	7
52	A population model of integrative cardiovascular physiology. <i>PLoS ONE</i> , <b>2013</b> , 8, e74329	3.7	6
51	Adipocyte-derived factor reduces vasodilatory capability in ob/ob- mice. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2009</b> , 297, H689-95	5.2	6
50	Simulating a virtual population's sensitivity to salt and uninephrectomy. <i>Interface Focus</i> , <b>2018</b> , 8, 20160134	3.4	6
49	Preventing and Treating Hypoxia: Using a Physiology Simulator to Demonstrate the Value of Pre-Oxygenation and the Futility of Hyperventilation. <i>International Journal of Medical Sciences</i> , <b>2015</b> , 12, 625-32	3.7	5
48	Enhanced maximal exercise capacity, vasodilation to electrical muscle contraction, and hind limb vascular density in ASIC1a null mice. <i>Physiological Reports</i> , <b>2017</b> , 5, e13368	2.6	4

47	Cyclic Breathing Simulations in Large-Scale Models of the Lung Airway From the Oronasal Opening to the Terminal Bronchioles. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , <b>2014</b> , 136,	2.1	4
46	Microcirculatory Effects of Botulinum Toxin A in the Rat: Acute and Chronic Vasodilation. <i>Annals of Plastic Surgery</i> , <b>2017</b> , 79, 82-85	1.7	3
45	Comment on Sato et al. Improving type 2 diabetes through a distinct adrenergic signaling pathway involving mTORC2 that mediates glucose uptake in skeletal muscle. <i>Diabetes</i> 2014;63:4115-4129. <i>Diabetes</i> , <b>2014</b> , 63, e20-1	0.9	3
44	Hummod browser: An exploratory visualization tool for the analysis of whole-body physiology simulation data <b>2013</b> ,		3
43	Simulations of Cyclic Breathing in the Conducting Zone of the Human Lung <b>2012</b> ,		3
42	A rat model of orthopedic injury-induced hypercoagulability and fibrinolytic shutdown. <i>Journal of Trauma and Acute Care Surgery</i> , <b>2020</b> , 89, 926-931	3.3	3
41	Physics-Based Modeling for the Physiome <b>2016</b> , 127-148		2
40	Preeminent role of the cardiorenal axis in the antihypertensive response to an arteriovenous fistula: an in silico analysis. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2019</b> , 317, H1002-H1012	5.2	2
39	$\alpha$ -adrenergic regulation of stress hyperglycemia following hemorrhage in the obese Zucker rat. <i>Physiological Reports</i> , <b>2014</b> , 2, e12215	2.6	2
38	Parathyroid hormone secretion by multiple distinct cell populations, a time dynamic mathematical model. <i>Physiological Reports</i> , <b>2014</b> , 2, e00231	2.6	2
37	Early treatment with GLP-1 after severe trauma preserves renal function in obese Zucker rats. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , <b>2019</b> , 316, R621-R627 <sup>2</sup>	3.2	1
36	Cardiovascular Responses to Exercise. <i>Colloquium Series on Integrated Systems Physiology From Molecule To Function</i> , <b>2011</b> , 3, 1-124		1
35	In silico trial of baroreflex activation therapy for the treatment of obesity-induced hypertension. <i>PLoS ONE</i> , <b>2021</b> , 16, e0259917	3.7	1
34	Effects of Acute and Chronic Hyperglycemia on Lung Capillary Permeability. <i>FASEB Journal</i> , <b>2015</b> , 29, 863.22	0.9	1
33	Cardiovascular Responses to Exercise, Second Edition. <i>Colloquium Series on Integrated Systems Physiology From Molecule To Function</i> , <b>2016</b> , 8, i-122		1
32	DigitalLung: application of high-performance computing to biological system simulation. <i>Advances in Experimental Medicine and Biology</i> , <b>2010</b> , 680, 573-84	3.6	1
31	Use of Computer Simulations to Understand Female Physiology: Where's the Data?. <i>Physiology</i> , <b>2015</b> , 30, 404-5	9.8	0
30	Physiological Modeling and Simulation-Validation, Credibility, and Application. <i>Annual Review of Biomedical Engineering</i> , <b>2020</b> , 22, 185-206	12	0

29	Influence of Renal Sympathetic Nerve Activity on Sodium Excretion during Sodium Restriction. <i>FASEB Journal</i> , <b>2013</b> , 27, lb891	0.9	0
28	The apparent hysteresis in hormone-agonist relationships. <i>Journal of Theoretical Biology</i> , <b>2012</b> , 296, 1-5	2.3	
27	Drop interval flowmeter for low flow rate measurement. <i>Microvascular Research</i> , <b>1989</b> , 38, 309-13	3.7	
26	REFRESHER COURSE FOR TEACHING MUSCLE PHYSIOLOGY. <i>American Journal of Physiology - Advances in Physiology Education</i> , <b>2003</b> , 27, 170-170	1.9	
25	Lack of Sympathetic-mediated Restraint of Hypoxic Vasodilation. <i>FASEB Journal</i> , <b>2006</b> , 20, A278	0.9	
24	The Obese Zucker Rat is Not a Model of Obesity-Associated Pulmonary Hypertension. <i>FASEB Journal</i> , <b>2006</b> , 20, A446	0.9	
23	PGI2 synthesis is impaired in obese Zucker rats. <i>FASEB Journal</i> , <b>2008</b> , 22, 1141.4	0.9	
22	Reducing Disparities in the Treatment of Hypertension in African Americans Using Computational Modeling. <i>FASEB Journal</i> , <b>2018</b> , 32, 844.5	0.9	
21	Beta2-adrenoreceptor blockade reduces early post-trauma hyperglycemia and pulmonary injury in obese rats (859.1). <i>FASEB Journal</i> , <b>2014</b> , 28, 859.1	0.9	
20	Attenuation of Post-Trauma Hyperglycemia Prevents Acute Kidney Injury in Obese Rats. <i>FASEB Journal</i> , <b>2015</b> , 29, 800.6	0.9	
19	Nonresponse to Renal Denervation in a Simulated Cohort of Resistant Hypertensive Men. <i>FASEB Journal</i> , <b>2015</b> , 29, 811.29	0.9	
18	Dynamic Response to Long-Term Sodium Loading and Restriction. <i>FASEB Journal</i> , <b>2015</b> , 29, 968.9	0.9	
17	Predicting salt and diuretic sensitivity in a virtual population using topological data analysis. <i>FASEB Journal</i> , <b>2016</b> , 30, 1216.14	0.9	
16	Modeling of gender differences in respiratory function during exercise using Quantitative Human Physiology. <i>FASEB Journal</i> , <b>2009</b> , 23, LB118	0.9	
15	Modeling of gender differences in cardiovascular function during exercise using Quantitative Human Physiology. <i>FASEB Journal</i> , <b>2009</b> , 23, LB117	0.9	
14	Exercise training improves oxygen consumption and exercise performance in Obese Zucker rats. <i>FASEB Journal</i> , <b>2010</b> , 24, 973.8	0.9	
13	Autonomic Impairment During Severe Hemorrhage in Obese Zucker Rats. <i>FASEB Journal</i> , <b>2012</b> , 26, 853.27.9	0.9	
12	Orthopedic trauma reduces renal hemodynamics in the STZ-induced diabetic rat. <i>FASEB Journal</i> , <b>2012</b> , 26, 876.5	0.9	

- 11 Impaired Blood Pressure Compensation after Hemorrhage in Obesity. *FASEB Journal*, **2012**, 26, 684.23 0.9
- 10 Influence of Renal Sympathetic Nerve Activity on Mean Arterial Pressure during Reduced Renal Perfusion Pressure. *FASEB Journal*, **2012**, 26, 1104.11 0.9
- 9 A mathematical model of calcium and phosphate homeostasis and early chronic kidney disease. *FASEB Journal*, **2012**, 26, 1098.4 0.9
- 8 TNF- $\alpha$ -mediated hyperglycemia in Obese Zucker rats following orthopedic trauma. *FASEB Journal*, **2013**, 27, 1154.14 0.9
- 7 The assumption of heterogeneity in a mathematical model of the parathyroids leads to improved qualitative and quantitative responses to complex stimuli. *FASEB Journal*, **2013**, 27, 1217.17 0.9
- 6 Bifurcating response to hemorrhage in a population of mathematical models of the circulation. *FASEB Journal*, **2013**, 27, 903.7 0.9
- 5 Acute kidney injury following orthopedic trauma in obese Zucker rats. *FASEB Journal*, **2013**, 27, 1114.6 0.9
- 4 Hemorrhage-induced Hyperglycemia Improved with Acute TNF $\beta$ blockade in the Obese Zucker Rat. *FASEB Journal*, **2013**, 27, 1193.4 0.9
- 3 Impaired Autonomic Regulation during Exercise in Obese Zucker Rats. *FASEB Journal*, **2013**, 27, 943.22 0.9
- 2 ASIC1a opposes exercise induced hyperemia and maximal exercise capacity. *FASEB Journal*, **2013**, 27, 924.7 0.9
- 1 Thomas George Coleman, PhD (1940-2021). *Hypertension*, **2021**, 77, 1800-1803 8.5