

Richard L Leask

List of Publications by Year in descending order

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112
papers

4,492
citations

117625

34
h-index

110387

64
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112
all docs

112
docs citations

112
times ranked

5437
citing authors

#	ARTICLE	IF	CITATIONS
1	Clinical and Pathophysiological Implications of a Bicuspid Aortic Valve. <i>Circulation</i> , 2002, 106, 900-904.	1.6	705
2	Leaching of the plasticizer di(2-ethylhexyl)phthalate (DEHP) from plastic containers and the question of human exposure. <i>Applied Microbiology and Biotechnology</i> , 2014, 98, 9967-9981.	3.6	316
3	3D printing materials and their use in medical education: a review of current technology and trends for the future. <i>BMJ Simulation and Technology Enhanced Learning</i> , 2018, 4, 27-40.	0.7	230
4	Local mechanical and structural properties of healthy and diseased human ascending aorta tissue. <i>Cardiovascular Pathology</i> , 2009, 18, 83-91.	1.6	188
5	Cell permeabilization using a non-thermal plasma. <i>New Journal of Physics</i> , 2009, 11, 115021.	2.9	180
6	Cell treatment and surface functionalization using a miniature atmospheric pressure glow discharge plasma torch. <i>Journal Physics D: Applied Physics</i> , 2006, 39, 3508-3513.	2.8	130
7	How Green is Your Plasticizer?. <i>Polymers</i> , 2018, 10, 834.	4.5	102
8	Designing green plasticizers: Influence of molecule geometry and alkyl chain length on the plasticizing effectiveness of diester plasticizers in PVC blends. <i>Polymer</i> , 2016, 89, 18-27.	3.8	100
9	A Comparison of Mechanical Properties of Materials Used in Aortic Arch Reconstruction. <i>Annals of Thoracic Surgery</i> , 2009, 88, 1484-1491.	1.3	98
10	Steady flow separation patterns in a 45 degree junction. <i>Journal of Fluid Mechanics</i> , 2000, 411, 1-38.	3.4	83
11	Dispersible hydrogel force sensors reveal patterns of solid mechanical stress in multicellular spheroid cultures. <i>Nature Communications</i> , 2019, 10, 144.	12.8	83
12	Intimal Thickness Is not Associated With Wall Shear Stress Patterns in the Human Right Coronary Artery. <i>Arteriosclerosis, Thrombosis, and Vascular Biology</i> , 2004, 24, 2408-2413.	2.4	76
13	Glycocalyx Degradation Induces a Proinflammatory Phenotype and Increased Leukocyte Adhesion in Cultured Endothelial Cells under Flow. <i>PLoS ONE</i> , 2016, 11, e0167576.	2.5	74
14	Endothelium and valvular diseases of the heart. <i>Microscopy Research and Technique</i> , 2003, 60, 129-137.	2.2	70
15	Miniature atmospheric pressure glow discharge torch (APGD-t) for local biomedical applications. <i>Pure and Applied Chemistry</i> , 2006, 78, 1147-1156.	1.9	68
16	Effects of di-(2-ethylhexyl) phthalate and four of its metabolites on steroidogenesis in MA-10 cells. <i>Ecotoxicology and Environmental Safety</i> , 2012, 79, 108-115.	6.0	66
17	Effects of Diffusion Coefficients and Struts Apposition Using Numerical Simulations for Drug Eluting Coronary Stents. <i>Journal of Biomechanical Engineering</i> , 2007, 129, 733-742.	1.3	64
18	Biomechanics of the Ascending Thoracic Aorta: A Clinical Perspective on Engineering Data. <i>Canadian Journal of Cardiology</i> , 2016, 32, 35-47.	1.7	62

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19	Designing green plasticizers: Influence of alkyl chain length on biodegradation and plasticization properties of succinate based plasticizers. <i>Chemosphere</i> , 2013, 91, 358-365.	8.2	60
20	Energy loss, a novel biomechanical parameter, correlates with aortic aneurysm size and histopathologic findings. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2014, 148, 1082-1089.	0.8	60
21	Robust Non-Wetting PTFE Surfaces by Femtosecond Laser Machining. <i>International Journal of Molecular Sciences</i> , 2014, 15, 13681-13696.	4.1	59
22	Hemodynamic Effects of Clot Entrapment in the TrapEase Inferior Vena Cava Filter. <i>Journal of Vascular and Interventional Radiology</i> , 2004, 15, 485-490.	0.5	58
23	Effects of Non-thermal Plasmas on DNA and Mammalian Cells. <i>Plasma Processes and Polymers</i> , 2010, 7, 899-909.	3.0	56
24	Flow dynamics control the location of sprouting and direct elongation during developmental angiogenesis. <i>Development (Cambridge)</i> , 2015, 142, 4151-7.	2.5	53
25	Evaluation of the effect of stent strut profile on shear stress distribution using statistical moments. <i>BioMedical Engineering OnLine</i> , 2009, 8, 8.	2.7	50
26	The development of 3-D, in vitro, endothelial culture models for the study of coronary artery disease. <i>BioMedical Engineering OnLine</i> , 2009, 8, 30.	2.7	48
27	Design of a 3D printer head for additive manufacturing of sugar glass for tissue engineering applications. <i>Additive Manufacturing</i> , 2017, 15, 29-39.	3.0	47
28	Mechanical heart valve prostheses. <i>Cardiovascular Pathology</i> , 2003, 12, 322-344.	1.6	46
29	Biological replacement heart valves. <i>Cardiovascular Pathology</i> , 2003, 12, 119-139.	1.6	42
30	Endothelial Cell Morphologic Response to Asymmetric Stenosis Hemodynamics: Effects of Spatial Wall Shear Stress Gradients. <i>Journal of Biomechanical Engineering</i> , 2010, 132, 081013.	1.3	42
31	The relationship between wall shear stress distributions and intimal thickening in the human abdominal aorta. <i>BioMedical Engineering OnLine</i> , 2003, 2, 18.	2.7	41
32	Designing greener plasticizers: Effects of alkyl chain length and branching on the biodegradation of maleate based plasticizers. <i>Chemosphere</i> , 2015, 134, 106-112.	8.2	38
33	In Vitro Hemodynamic Evaluation of a Simon Nitinol Vena Cava Filter: Possible Explanation of IVC Occlusion. <i>Journal of Vascular and Interventional Radiology</i> , 2001, 12, 613-618.	0.5	37
34	Empagliflozin restores the integrity of the endothelial glycocalyx in vitro. <i>Molecular and Cellular Biochemistry</i> , 2019, 459, 121-130.	3.1	36
35	Morphological findings in explanted Toronto stentless porcine valves. <i>Cardiovascular Pathology</i> , 2006, 15, 41-48.	1.6	34
36	Concentration and Time Effects of Dextran Exposure on Endothelial Cell Viability, Attachment, and Inflammatory Marker Expression In Vitro. <i>Annals of Biomedical Engineering</i> , 2010, 38, 1451-1462.	2.5	34

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37	Impact of the cell life-cycle on bacteriophage T4 infection. FEMS Microbiology Letters, 2014, 353, 63-68.	1.8	33
38	Neutrophil Adhesion on Endothelial Cells in a Novel Asymmetric Stenosis Model: Effect of Wall Shear Stress Gradients. Annals of Biomedical Engineering, 2010, 38, 2791-2804.	2.5	32
39	Effect of simvastatin on Kruppel-like factor2, endothelial nitric oxide synthase and thrombomodulin expression in endothelial cells under shear stress. Life Sciences, 2010, 87, 92-99.	4.3	32
40	The Failure Modes of Biological Prosthetic Heart Valves. Journal of Long-Term Effects of Medical Implants, 2001, 11, 21.	0.7	32
41	Histology and morphology of 59 internal thoracic artery grafts and their distal anastomoses. Annals of Thoracic Surgery, 2000, 70, 1338-1344.	1.3	31
42	Mechanical heart valve prostheses. Cardiovascular Pathology, 2003, 12, 1-22.	1.6	31
43	Normal Wound Healing in Mice Deficient for Fibulin-5, an Elastin Binding Protein Essential for Dermal Elastic Fiber Assembly. Journal of Investigative Dermatology, 2006, 126, 2707-2714.	0.7	31
44	Obtaining the biomechanical behavior of ascending aortic aneurysm via the use of novel speckle tracking echocardiography. Journal of Thoracic and Cardiovascular Surgery, 2017, 153, 781-788.	0.8	30
45	The Response of Human Aortic Endothelial Cells in a Stenotic Hemodynamic Environment: Effect of Duration, Magnitude, and Spatial Gradients in Wall Shear Stress. Journal of Biomechanical Engineering, 2010, 132, 071015.	1.3	28
46	Atmospheric Pressure Plasma Jet Deposition of Patterned Polymer Films for Cell Culture Applications. IEEE Transactions on Plasma Science, 2009, 37, 927-933.	1.3	27
47	Distribution of intimal and medial thickening in the human right coronary artery: a study of 17 RCAs. Atherosclerosis, 2001, 158, 147-153.	0.8	26
48	Human Saphenous Vein Coronary Artery Bypass Graft Morphology, Geometry and Hemodynamics. Annals of Biomedical Engineering, 2005, 33, 301-309.	2.5	26
49	Evaluating ascending aortic aneurysm tissue toughness: Dependence on collagen and elastin contents. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 64, 262-271.	3.1	24
50	Blood flow can signal during angiogenesis not only through mechanotransduction, but also by affecting growth factor distribution. Angiogenesis, 2017, 20, 373-384.	7.2	24
51	Time-dependent 3D simulations of the hemodynamics in a stented coronary artery. Biomedical Materials (Bristol), 2007, 2, S28-S37.	3.3	23
52	Regional dependency of the vascular smooth muscle cell contribution to the mechanical properties of the pig ascending aortic tissue. Journal of Biomechanics, 2010, 43, 2448-2451.	2.1	22
53	Regional variations in canine descending aortic tissue mechanical properties change with formalin fixation. Cardiovascular Pathology, 2012, 21, 390-397.	1.6	22
54	Pathologic Analysis of 19 Heart Valves With Silver-Coated Sewing Rings. Journal of Cardiac Surgery, 2006, 21, 530-538.	0.7	21

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55	Activity and stability of caffeine demethylases found in <i>Pseudomonas putida</i> IF-3. <i>Biochemical Engineering Journal</i> , 2006, 31, 8-13.	3.6	21
56	Rheology of Green Plasticizer/Poly(vinyl chloride) Blends via Time- ϵ Temperature Superposition. <i>Processes</i> , 2017, 5, 43.	2.8	21
57	Mechanical properties and microscopic findings of a Dacron graft explanted 27 years after coarctation repair. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2007, 134, 1577-1578.	0.8	20
58	Impact of degradation products of sulfamethoxazole on mammalian cultured cells. <i>Environmental Toxicology</i> , 2008, 23, 492-498.	4.0	19
59	Fully Renewable, Effective, and Highly Biodegradable Plasticizer: Di- <i>n</i> -heptyl Succinate. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 12409-12418.	6.7	19
60	Highly Flexible Polylactide Food Packaging Plasticized with Nontoxic, Biosourced Glycerol Plasticizers. <i>ACS Applied Polymer Materials</i> , 2022, 4, 3608-3617.	4.4	19
61	Comparative rheology of low- and iso-osmolarity contrast agents at different temperatures. <i>Catheterization and Cardiovascular Interventions</i> , 2008, 71, 78-83.	1.7	18
62	Simultaneous imaging of blood flow dynamics and vascular remodelling during development. <i>Development (Cambridge)</i> , 2015, 142, 4158-67.	2.5	18
63	Transesophageal echocardiographic strain imaging predicts aortic biomechanics: Beyond diameter. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2018, 156, 503-512.e1.	0.8	18
64	Artificial Chordae Tendinae: Long-Term Changes. <i>Journal of Cardiac Surgery</i> , 2005, 20, 90-92.	0.7	17
65	Development of a Novel Biodegradable Metallic Stent Based on Microgalvanic Effect. <i>Annals of Biomedical Engineering</i> , 2016, 44, 404-418.	2.5	17
66	Loss of mechanical directional dependency of the ascending aorta with severe medial degeneration. <i>Cardiovascular Pathology</i> , 2017, 26, 45-50.	1.6	16
67	The Ross procedure: biomechanical properties of the pulmonary artery according to aortic valve phenotype. <i>Interactive Cardiovascular and Thoracic Surgery</i> , 2016, 23, 371-376.	1.1	15
68	Designing Green Plasticizers: Linear Alkyl Diol Dibenzoate Plasticizers and a Thermally Reversible Plasticizer. <i>Polymers</i> , 2018, 10, 646.	4.5	15
69	Differential Response of Endothelial Cells to Simvastatin When Conditioned with Steady, Non-Reversing Pulsatile or Oscillating Shear Stress. <i>Annals of Biomedical Engineering</i> , 2011, 39, 402-413.	2.5	14
70	Use of inert gas jets to measure the forces required for mechanical gene transfection. <i>BioMedical Engineering OnLine</i> , 2012, 11, 67.	2.7	14
71	Laminar shear stress prevents simvastatin-induced adhesion molecule expression in cytokine activated endothelial cells. <i>European Journal of Pharmacology</i> , 2010, 649, 268-276.	3.5	13
72	Statin therapy influences endothelial cell morphology and F-actin cytoskeleton structure when exposed to static and laminar shear stress conditions. <i>Life Sciences</i> , 2013, 92, 859-865.	4.3	13

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73	Morphological findings in 192 surgically excised native mitral valves. Canadian Journal of Cardiology, 2006, 22, 1055-1061.	1.7	12
74	Anatomical Considerations for the Development of a New Transcatheter Aortopulmonary Shunt Device in Patients with Severe Pulmonary Arterial Hypertension. Pulmonary Circulation, 2013, 3, 639-646.	1.7	12
75	Small molecule plasticizers for improved migration resistance: Investigation of branching and leaching behaviour in PVC blends. Materials Today Communications, 2021, 29, 102874.	1.9	11
76	Prosthetic heart valves with silver-coated sewing cuff fabric: early morphological features in two patients. Canadian Journal of Cardiology, 2002, 18, 733-8.	1.7	11
77	Stenosis Hemodynamics Disrupt the Endothelial Cell Glycocalyx by MMP Activity Creating a Proinflammatory Environment. Annals of Biomedical Engineering, 2017, 45, 2234-2243.	2.5	10
78	Increased MMP activity in curved geometries disrupts the endothelial cell glycocalyx creating a proinflammatory environment. PLoS ONE, 2018, 13, e0202526.	2.5	9
79	Poly(ϵ -caprolactone)-based additives: Plasticization efficacy and migration resistance. Journal of Vinyl and Additive Technology, 2021, 27, 821-832.	3.4	9
80	Genetic abnormalities of the endothelium. Microscopy Research and Technique, 2003, 60, 30-37.	2.2	8
81	Second harmonic generation microscopy to investigate collagen configuration: a pericarditis case study. Cardiovascular Pathology, 2010, 19, e125-e128.	1.6	8
82	Histopathological and biomechanical properties of the aortic wall in 2 patients with chronic type A aortic dissection. Cardiovascular Pathology, 2017, 29, 48-52.	1.6	7
83	Bio-based glycerol plasticizers for flexible poly(vinyl chloride) blends. Journal of Applied Polymer Science, 2022, 139, .	2.6	7
84	Investigation on the Regional Loss Factor and Its Anisotropy for Aortic Aneurysms. Materials, 2016, 9, 867.	2.9	6
85	Host tissue overgrowth in a mitral valve conserving procedure. Cardiovascular Pathology, 2003, 12, 91-93.	1.6	5
86	Wall stresses of early remodeled pulmonary autografts. Journal of Thoracic and Cardiovascular Surgery, 2022, 164, 1728-1738.e2.	0.8	5
87	Experimental Study on Local Mass Transfer in a Simplified Bifurcation Model: Potential Role in Atherosclerosis. Annals of Biomedical Engineering, 2004, 32, 1504-1518.	2.5	4
88	Remodelling and pathology development associated with aneurysmal ascending aortic tissues. Canadian Journal of Chemical Engineering, 2011, 89, 13-22.	1.7	4
89	The effect of simvastatin treatment on endothelial cell response to shear stress and tumor necrosis factor alpha stimulation. BioMedical Engineering OnLine, 2015, 14, 58.	2.7	4
90	Additives to prevent the formation of surface defects during poly(vinyl chloride) calendering. Polymer Engineering and Science, 2021, 61, 1209-1219.	3.1	3

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91	An in vitro Perfused Macroencapsulation Device to Study Hemocompatibility and Survival of Islet-Like Cell Clusters. <i>Frontiers in Bioengineering and Biotechnology</i> , 2021, 9, 674125.	4.1	3
92	Permeabilization of Adhered Cells Using an Inert Gas Jet. <i>Journal of Visualized Experiments</i> , 2013, , .	0.3	2
93	Distinct Expression of Nonmuscle Myosin IIB in Pulmonary Arteries of Patients With Aortic Stenosis vs Insufficiency Undergoing a Ross Procedure. <i>Canadian Journal of Cardiology</i> , 2021, 37, 47-56.	1.7	2
94	3D printed ascending aortic simulators with physiological fidelity for surgical simulation. <i>BMJ Simulation and Technology Enhanced Learning</i> , 2021, 7, 536-542.	0.7	2
95	Tunable 3D printed multi-material composites to enhance tissue fidelity for surgical simulation. <i>Journal of Surgical Simulation</i> , 2018, 5, 87-98.	0.0	2
96	Stentless porcine valves: new mode of failure. <i>Canadian Journal of Cardiology</i> , 2003, 19, 185-6.	1.7	2
97	Invited commentary. <i>Annals of Thoracic Surgery</i> , 2006, 81, 927.	1.3	1
98	Evaluation of the Effect of Stent Strut Profile on Shear Stress Distribution. , 2007, , 773.		1
99	Effect of in vivo flow dynamics on angiogenesis by computational modeling. , 2015, 2015, 961-4.		1
100	Derivation of Surrogate Variables to Assess Pathological Conditions Using a 3D Model of the Aortic Valve. , 2009, , .		1
101	Acute Mitral Regurgitation Due to a Torn Porcine Bioprosthetic Cusp. <i>Circulation</i> , 2002, 105, , .	1.6	1
102	Improving the 3D Printability of Sugar Glass to Engineer Sacrificial Vascular Templates. <i>3D Printing and Additive Manufacturing</i> , 0, , .	2.9	1
103	Fluid Shear Stress Reduces Simvastatin Induced Adhesion Molecule Expression in Cytokine Activated Endothelial Cells. , 2009, , .		0
104	Development of a 3D FSI Model of the Aortic Root Incorporating Coronary Structure. , 2010, , .		0
105	Effect of Statins and Wall Shear Stress on Endothelial Cells: Morphology and F-Actin Cytoskeleton Arrangement. , 2012, , .		0
106	Assessment of the Effect of Coronary Occlusion on Aortic Valve Dynamics Using a Global 3D FSI Model. , 2012, , .		0
107	Making it stick: the role of structural design in implantable technologies. <i>Integrative Biology (United Tj ETQq1 1 0.784314 rgBT /Over</i>	1.3	0
108	The Significance of Flow Unsteadiness on the Near-Wall Flow of a Stented Artery. <i>IFMBE Proceedings</i> , 2009, , 1947-1950.	0.3	0

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109	Inflammatory Response of Endothelial Cells to Wall Shear Stress in Three Dimensional Stenotic Models. , 2009, , .		0
110	Multiphoton Microscopy of Healthy and Aneurismal Human Ascending Aorta. , 2009, , .		0
111	Transient and Non-Newtonian Effects on the Wall Shear Stress Distribution of a Stented Artery. , 2009, , .		0
112	Effect of Aortic Distensibility on Coronary Flow: A 3D FSI Model of Aortic Valve With the Inclusion of Coronary Arteries. , 2011, , .		0