Wilbur A Lam

List of Publications by Year
in descending order

120	5,376	109264 35	88593 70
papers	citations	h-index	g-index

125	125	125	7806
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Mobile Phone Based Clinical Microscopy for Global Health Applications. PLoS ONE, 2009, 4, e6320.	1.1	606
2	Force Microscopy of Nonadherent Cells: A Comparison of Leukemia Cell Deformability. Biophysical Journal, 2006, 90, 2994-3003.	0.2	447
3	Mechanics and contraction dynamics of single platelets and implications for clot stiffening. Nature Materials, 2011, 10, 61-66.	13.3	289
4	Analyzing cell mechanics in hematologic diseases with microfluidic biophysical flow cytometry. Lab on A Chip, 2008, 8, 1062.	3.1	258
5	In vitro modeling of the microvascular occlusion and thrombosis that occur in hematologic diseases using microfluidic technology. Journal of Clinical Investigation, 2012, 122, 408-418.	3.9	238
6	Chemotherapy exposure increases leukemia cell stiffness. Blood, 2007, 109, 3505-3508.	0.6	231
7	Ultrasoft microgels displaying emergent platelet-like behaviours. Nature Materials, 2014, 13, 1108-1114.	13.3	181
8	Platelet mechanosensing of substrate stiffness during clot formation mediates adhesion, spreading, and activation. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 14430-14435.	3.3	166
9	Platelet integrins exhibit anisotropic mechanosensing and harness piconewton forces to mediate platelet aggregation. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 325-330.	3.3	134
10	Magnetic forces enable controlled drug delivery by disrupting endothelial cell-cell junctions. Nature Communications, 2017, 8, 15594.	5.8	132
11	Smartphone app for non-invasive detection of anemia using only patient-sourced photos. Nature Communications, 2018, 9, 4924.	5.8	127
12	Factor XIIIa-dependent retention of red blood cells in clots is mediated by fibrin Î±-chain crosslinking. Blood, 2015, 126, 1940-1948.	0.6	121
13	Microvasculature-on-a-chip for the long-term study of endothelial barrier dysfunction and microvascular obstruction in disease. Nature Biomedical Engineering, 2018, 2, 453-463.	11.6	118
14	Actin Cytoskeletal Disruption following Cryopreservation Alters the Biodistribution of Human Mesenchymal Stromal Cells InÂVivo. Stem Cell Reports, 2014, 3, 60-72.	2.3	111
15	Mapping the 3D orientation of piconewton integrin traction forces. Nature Methods, 2018, 15, 115-118.	9.0	105
16	â€œDo-it-yourself in vitro vasculature that recapitulates in vivo geometries for investigating endothelial-blood cell interactionsâ€• Scientific Reports, 2015, 5, 12401.	1.6	100
17	Extracellular matrix rigidity modulates neuroblastoma cell differentiation and N-myc expression. Molecular Cancer, 2010, 9, 35.	7.9	93
18	Single-platelet nanomechanics measured by high-throughput cytometry. Nature Materials, 2017, 16, 230-235.	13.3	88

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19	Cellular softening mediates leukocyte demargination and trafficking, thereby increasing clinical blood counts. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 1987-1992.	3.3	82
20	A microengineered vascularized bleeding model that integrates the principal components of hemostasis. Nature Communications, 2018, 9, 509.	5.8	70
21	Resolving the multifaceted mechanisms of the ferric chloride thrombosis model using an interdisciplinary microfluidic approach. Blood, 2015, 126, 817-824.	0.6	66
22	Microfluidic platform for studying osteocyte mechanoregulation of breast cancer bone metastasis. Integrative Biology (United Kingdom), 2019, 11, 119-129.	0.6	61
23	The biophysics and mechanics of blood from a materials perspective. Nature Reviews Materials, 2019, 4, 294-311.	23.3	61
24	3D microvascular model recapitulates the diffuse large B-cell lymphoma tumor microenvironment in vitro. Lab on A Chip, 2017, 17, 407-414.	3.1	60
25	Microfluidic Sorting of Cells by Viability Based on Differences in Cell Stiffness. Scientific Reports, 2017, 7, 1997.	1.6	59
26	Multidisciplinary assessment of the Abbott BinaxNOW SARS-CoV-2 point-of-care antigen test in the context of emerging viral variants and self-administration. Scientific Reports, 2021, 11, 14604.	1.6	59
27	Platelet Mechanotransduction. Annual Review of Biomedical Engineering, 2018, 20, 253-275.	5.7	57
28	Platelets and physics: How platelets â€œfeelâ€•and respond to their mechanical microenvironment. Blood Reviews, 2015, 29, 377-386.	2.8	52
29	Microfluidic cell sorting by stiffness to examine heterogenic responses of cancer cells to chemotherapy. Cell Death and Disease, 2018, 9, 239.	2.7	52
30	Protein Corona in Response to Flow: Effect on Protein Concentration and Structure. Biophysical Journal, 2018, 115, 209-216.	0.2	48
31	Disposable platform provides visual and color-based point-of-care anemia self-testing. Journal of Clinical Investigation, 2014, 124, 4387-4394.	3.9	48
32	Extracellular fluid tonicity impacts sickle red blood cell deformability and adhesion. Blood, 2017, 130, 2654-2663.	0.6	47
33	Endothelialized Microfluidics for Studying Microvascular Interactions in Hematologic Diseases. Journal of Visualized Experiments, 2012, , .	0.2	42
34	Microenvironmental Geometry Guides Platelet Adhesion and Spreading: A Quantitative Analysis at the Single Cell Level. PLoS ONE, 2011, 6, e26437.	1.1	40
35	Platelet geometry sensing spatially regulates Î±-granule secretion to enable matrix self-deposition. Blood, 2015, 126, 531-538.	0.6	38
36	Label-free hematology analysis using deep-ultraviolet microscopy. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 14779-14789.	3.3	38

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37	Biomechanics of haemostasis and thrombosis in health and disease: from the macroâ€•to molecular scale. Journal of Cellular and Molecular Medicine, 2013, 17, 579-596.	1.6	35
38	Ptpn21 Controls Hematopoietic Stem Cell Homeostasis and Biomechanics. Cell Stem Cell, 2019, 24, 608-620.e6.	5.2	35
39	Mitochondrially Mediated Integrin Î±IIbÎ²3 Protein Inactivation Limits Thrombus Growth. Journal of Biological Chemistry, 2013, 288, 30672-30681.	1.6	34
40	Assessment of a Smartphone Otoscope Device for the Diagnosis and Management of Otitis Media. Clinical Pediatrics, 2016, 55, 800-810.	0.4	32
41	A blueprint for academic laboratories to produce SARS-CoV-2 quantitative RT-PCR test kits. Journal of Biological Chemistry, 2020, 295, 15438-15453.	1.6	31
42	Ultraviolet Hyperspectral Interferometric Microscopy. Scientific Reports, 2018, 8, 9913.	1.6	31
43	MASP-1 of the complement system enhances clot formation in a microvascular whole blood flow model. PLoS ONE, 2018, 13, e0191292.	1.1	31
44	Platelet Mechanosensing of Collagen Matrices. PLoS ONE, 2015, 10, e0126624.	1.1	30
45	Simultaneous point-of-care detection of anemia and sickle cell disease in Tanzania: the RAPID study. Annals of Hematology, 2018, 97, 239-246.	0.8	29
46	Integrated automated particle tracking microfluidic enables highâ€throughput cell deformability cytometry for red cell disorders. American Journal of Hematology, 2019, 94, 189-199.	2.0	26
47	Vascularized Microfluidics and the Bloodâ€“Endothelium Interface. Micromachines, 2020, 11, 18.	1.4	26
48	Normal saline is associated with increased sickle red cell stiffness and prolonged transit times in a microfluidic model of the capillary system. Microcirculation, 2017, 24, e12353.	1.0	23
49	Vascularized Microfluidics and Their Untapped Potential for Discovery in Diseases of the Microvasculature. Annual Review of Biomedical Engineering, 2021, 23, 407-432.	5.7	23
50	Feeling the Force: Measurements of Platelet Contraction and Their Diagnostic Implications. Seminars in Thrombosis and Hemostasis, 2019, 45, 285-296.	1.5	22
51	Pathologically stiff erythrocytes impede contraction of blood clots. Journal of Thrombosis and Haemostasis, 2021, 19, 1990-2001.	1.9	22
52	Endothelial cell culture in microfluidic devices for investigating microvascular processes. Biomicrofluidics, 2018, 12, 042203.	1.2	21
53	Towards remote assessment and screening of acute abdominal pain using only a smartphone with native accelerometers. Scientific Reports, 2017, 7, 12750.	1.6	20
54	Flow-induced segregation and dynamics of red blood cells in sickle cell disease. Physical Review Fluids, 2020, 5, .	1.0	18

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55	Microfluidic Transduction Harnesses Mass Transport Principles to Enhance Gene Transfer Efficiency. Molecular Therapy, 2017, 25, 2372-2382.	3.7	17
56	Enhancing size based size separation through vertical focus microfluidics using secondary flow in a ridged microchannel. Scientific Reports, 2017, 7, 17375.	1.6	15
57	Platelet heterogeneity enhances blood clot volumetric contraction: An example of asynchrono-mechanical amplification. Biomaterials, 2021, 274, 120828.	5.7	15
58	In vitro flowâ€based assay: From simple toward more sophisticated models for mimicking hemostasis and thrombosis. Journal of Thrombosis and Haemostasis, 2021, 19, 582-587.	1.9	14
59	Assessment of the Abbott BinaxNOW SARS-CoV-2 rapid antigen test against viral variants of concern. IScience, 2022, 25, 103968.	1.9	14
60	Physical forces regulating hemostasis and thrombosis: Vessels, cells, and molecules in illustrated review. Research and Practice in Thrombosis and Haemostasis, 2021, 5, e12548.	1.0	12
61	Noninvasive optical assessment of resting-state cerebral blood flow in children with sickle cell disease. Neurophotonics, 2019, 6, 1.	1.7	12
62	Correlation of SARS-CoV-2 Subgenomic RNA with Antigen Detection in Nasal Midturbinate Swab Specimens. Emerging Infectious Diseases, 2021, 27, 2887-2891.	2.0	12
63	Feature tracking microfluidic analysis reveals differential roles of viscosity and friction in sickle cell blood. Lab on A Chip, 2022, 22, 1565-1575.	3.1	12
64	Simplified prototyping of perfusable polystyrene microfluidics. Biomicrofluidics, 2014, 8, 046501.	1.2	11
65	Variations in pediatric emergency medicine physician practices for intravenous fluid management in children with sickle cell disease and vasoâ€occlusive pain: A single institution experience. Pediatric Blood and Cancer, 2018, 65, e26742.	0.8	11
66	The RADx Tech Test Verification Core and the ACME POCT in the Evaluation of COVID-19 Testing Devices: A Model for Progress and Change. IEEE Open Journal of Engineering in Medicine and Biology, 2021, 2, 142-151.	1.7	11
67	Significant differences in single-platelet biophysics exist across species but attenuate during clot formation. Blood Advances, 2021, 5, 432-437.	2.5	11
68	The Platelet and the Biophysical Microenvironment: Lessons from Cellular Mechanics. Thrombosis Research, 2014, 133, 532-537.	0.8	10
69	Clinical Implications of Single-Cell Microfluidic Devices for Hematological Disorders. Analytical Chemistry, 2017, 89, 11881-11892.	3.2	10
70	Impact of repeated nasal sampling on detection and quantification of SARS-CoV-2. Scientific Reports, 2021, 11, 14903.	1.6	10
71	Dynamics of deformable straight and curved prolate capsules in simple shear flow. Physical Review Fluids, 2019, 4, .	1.0	10
72	Resolving the missing link between single platelet force and clot contractile force. IScience, 2022, 25, 103690.	1.9	10

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73	Diagnosis of acute serious illness: the role of point-of-care technologies. Current Opinion in Biomedical Engineering, 2019, 11, 22-34.	1.8	9
74	Diabetes affects endothelial cell function and alters fibrin clot formation in a microvascular flow model: A pilot study. Diabetes and Vascular Disease Research, 2020, 17, 147916412090304.	0.9	9
75	Hematocrit significantly confounds diffuse correlation spectroscopy measurements of blood flow. Biomedical Optics Express, 2020, 11, 4786.	1.5	9
76	Pathologic mechanobiological interactions between red blood cells and endothelial cells directly induce vasculopathy in iron deficiency anemia. IScience, 2022, 25, 104606.	1.9	9
77	Decreased cell stiffness enhances leukemia development and progression. Leukemia, 2020, 34, 2493-2497.	3.3	8
78	Label-free automated neutropenia detection and grading using deep-ultraviolet microscopy. Biomedical Optics Express, 2021, 12, 6115.	1.5	8
79	Stiffness based enrichment of leukemia cells using microfluidics. APL Bioengineering, 2020, 4, 036101.	3.3	7
80	Donâ€™t forget about human factors: Lessons learned from COVID-19 point-of-care testing. Cell Reports Methods, 2022, 2, 100222.	1.4	7
81	Point-of-Care Diagnostic Assays and Novel Preclinical Technologies for Hemostasis and Thrombosis. Seminars in Thrombosis and Hemostasis, 2021, 47, 120-128.	1.5	6
82	Miniaturized Vascularized Bleeding Model of Hemostasis. Methods in Molecular Biology, 2022, 2373, 159-175.	0.4	6
83	RADx Variant Task Force Program for Assessing the Impact of Variants on SARS-CoV-2 Molecular and Antigen Tests. IEEE Open Journal of Engineering in Medicine and Biology, 2021, 2, 1-1.	1.7	6
84	Using Microfluidics to Investigate Hematopoietic Stem Cell and Microniche Interactions at the Single Cell Level. Methods in Molecular Biology, 2014, 1185, 223-233.	0.4	4
85	Clot Contraction-Mediated Erythrocyte Packing Is Significantly Altered in Sickle Cell Disease. Blood, 2015, 126, 215-215.	0.6	4
86	Vessel Geometry Interacts with Red Blood Cell Stiffness to Promote Endothelial Dysfunction in Sickle Cell Disease. Blood, 2015, 126, 965-965.	0.6	4
87	Thrombosis-on-a-Chip: A New Way to Model a Complex Process. Blood, 2017, 130, SCI-10-SCI-10.	0.6	4
88	Stiff Erythrocyte Subpopulations Biomechanically Induce Endothelial Inflammation in Sickle Cell Disease. Blood, 2019, 134, 3560-3560.	0.6	4
89	Highâ€throughput onâ€chip human mesenchymal stromal cell potency prediction. Advanced Healthcare Materials, 2021, , 2101995.	3.9	4
90	Enabling mesenchymal stromal cell immunomodulatory analysis using scalable platforms. Integrative Biology (United Kingdom), 2019, 11, 154-162.	0.6	3

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91	Microfluidic Approach for Highly Efficient Viral Transduction. Methods in Molecular Biology, 2020, 2097, 55-65.	0.4	3
92	Characterizing Cellular Interactions Contributing to Vaso-Occlusion in Patients with Sickle Cell Disease Utilizing a Novel Endothelialized Microfluidic Device. Blood, 2015, 126, 3381-3381.	0.6	3
93	Vascular Geometry and Flow Profile Mediate Pathological Cell-Cell Interactions in Sickle Cell Disease As Measured with "Do-It-Yourself" "Endothelial-Ized" Microfluidics. Blood, 2014, 124, 454-454.	0.6	3
94	Novel in vivo and in vitro techniques to image and model the cerebral vasculature in sickle cell disease. Blood Cells, Molecules, and Diseases, 2017, 67, 114-119.	0.6	2
95	3D in vitro microvascular model-based lymphoma model. Methods in Cell Biology, 2018, 146, 149-158.	0.5	2
96	The need for new test verification and regulatory support for innovative diagnostics. Nature Biotechnology, 2021, 39, 1060-1062.	9.4	2
97	Designing for simplicity: lessons from Mesa Biotech for microfluidic entrepreneurs and early-stage companies. Lab on A Chip, 2022, 22, 1469-1473.	3.1	2
98	Creating Social Value via Undergraduate Design Thinking Course with K-12 STEM Education Outreach in Various Community Settings. Biomedical Engineering Education, 2022, 2, 253-263.	0.6	2
99	Membrane curvature and PS localize coagulation proteins to filopodia and retraction fibers of endothelial cells. Blood Advances, 2023, 7, 60-72.	2.5	2
100	Getting a good view: in vitro imaging of platelets under flow. Platelets, 2020, 31, 570-579.	1.1	1
101	Plateletâ€rich plasma as endothelial rocket fuel for engineered in vitro microvasculature. Journal of Thrombosis and Haemostasis, 2020, 18, 1239-1241.	1.9	1
102	Chemotherapy Exposure Decreases Leukemia Cell Deformability as Determined by Atomic Force Microscopy: Implications for Leukostasis in Acute Leukemia.. Blood, 2006, 108, 2359-2359.	0.6	1
103	Introducing a Novel Biophysical Platelet Function Panel to Investigate Disorders of Primary Hemostasis and Bleeding of Unknown Cause. Blood, 2021, 138, 2072-2072.	0.6	1
104	Assessment of Cerebral Blood Flow and Oxygen Extraction in Pediatric Sickle Cell Disease with Non-Invasive Diffuse Optical Spectroscopies. Blood, 2020, 136, 7-8.	0.6	1
105	STEM Education for Children with Sickle Cell Disease: Unique Educational Outreach Program Taught By Near-Peer Undergraduate Students. Blood, 2020, 136, 12-13.	0.6	1
106	Predictive Value of Isolated Symptoms for Diagnosis of Severe Acute Respiratory Syndrome Coronavirus 2 Infection in Children Tested During Peak Circulation of the Delta Variant. Clinical Infectious Diseases, 2022, 75, 1131-1139.	2.9	1
107	A combined magnetophoresis/dielectrophoresis based microbead array as high-throughput biomolecular tweezers. Technology, 2014, 02, 23-27.	1.4	0
108	Pathologically stiff erythrocytes impede contraction of blood clots: Reply to comment. Journal of Thrombosis and Haemostasis, 2021, 19, 2894-2895.	1.9	0

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109	White Blood Cell Mechanics Mediate Glucocorticoid- and Catecholamine-Induced Demargination. Blood, 2013, 122, 3459-3459.	0.6	0
110	â€œSelf-Depositionâ€•of Matrix Proteins from Platelet Î±-Granules Enable Extended Adhesion and Spreading on Micron/Submicron-Scale Fibrinogen and Collagen Substrates.. Blood, 2014, 124, 2764-2764.	0.6	0
111	Engineering a "Self-Healing" Hydrogel-Based Microvasculature-on-a-Chip for Investigating the Effects of Cellular and Biomolecular Interactions on Endothelial Permeability in Sickle Cell Disease. Blood, 2015, 126, 240-240.	0.6	0
112	Leveraging the Contractile Force of Platelets for Targeted Factor VIII Delivery in Hemophilia with Inhibitors. Blood, 2016, 128, 81-81.	0.6	0
113	Real-Time Visualization of Shear-Dependent Erythrocyte Deformation into Schistocytes Using Single Micron Microfluidics. Blood, 2018, 132, 1030-1030.	0.6	0
114	A Simple, Rapid, and Inexpensive Color-Based Hemoglobin Assay As a Robust Screening Test for Severe Anemia in Limited Resource Settings. Blood, 2018, 132, 4724-4724.	0.6	0
115	Visualizing Sickle Cell Disease Whole Blood Flow and Viscosity through Modifications to Hemoglobin Levels from a Simple Blood Transfusion. Blood, 2021, 138, 3244-3244.	0.6	0
116	Use of Red Blood Cell Phenotypes for Second Line Therapy Selection in Sickle Cell Disease. Blood, 2021, 138, 2053-2053.	0.6	0
117	Incorporating Hemoglobin Levels to Map Leukostasis Risk in Acute Leukemia Using Microvasculature-on-Chip Technologies. Blood, 2020, 136, 9-10.	0.6	0
118	Building the foundation of healthâ€related knowledge via nearâ€peer education for children with sickle cell disease. Pediatric Blood and Cancer, 2022, , e29566.	0.8	0
119	Microfluidic Methods to Advance Mechanistic Understanding and Translational Research in Sickle Cell Disease. Translational Research, 2022, , .	2.2	0
120	148. Single-amplicon, Multiplex Real-time RT-PCR with Tiled Probes to Detect SARS-CoV-2 spike Mutations Associated with Variants of Concern. Open Forum Infectious Diseases, 2021, 8, S89-S89.	0.4	0