Sergey S Shevkoplyas

List of Publications by Year
in descending order

75	4,925	117453	91712
papers	citations	34 h-index	69 g-index

76	76	76	6196
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Muscular Thin Films for Building Actuators and Powering Devices. Science, 2007, 317, 1366-1370.	6.0	662
2	The pressure drop along rectangular microchannels containing bubbles. Lab on A Chip, 2007, 7, 1479.	3.1	334
3	Integrated separation of blood plasma from whole blood for microfluidic paper-based analytical devices. Lab on A Chip, 2012, 12, 274-280.	3.1	240
4	A microfabricated array of clamps for immobilizing and imaging C. elegans. Lab on A Chip, 2007, 7, 1515.	3.1	222
5	The force acting on a superparamagnetic bead due to an applied magnetic field. Lab on A Chip, 2007, 7, 1294.	3.1	221
6	Lifespan-on-a-chip: microfluidic chambers for performing lifelong observation of C. elegans. Lab on A Chip, 2010, 10, 589-597.	3.1	219
7	Biomimetic Autoseparation of Leukocytes from Whole Blood in a Microfluidic Device. Analytical Chemistry, 2005, 77, 933-937.	3.2	197
8	Measuring Densities of Solids and Liquids Using Magnetic Levitation: Fundamentals. Journal of the American Chemical Society, 2009, 131, 10049-10058.	6.6	181
9	A microfluidic apparatus for the study of ice nucleation in supercooled water drops. Lab on A Chip, 2009, 9, 2293.	3.1	151
10	Using Magnetic Levitation for Three Dimensional Selfâ€Assembly. Advanced Materials, 2011, 23, 4134-4140.	11.1	131
11	Egg beater as centrifuge: isolating human blood plasma from whole blood in resource-poor settings. Lab on A Chip, 2008, 8, 2032.	3.1	126
12	A detailed study of time-dependent changes in human red blood cells: from reticulocyte maturation to erythrocyte senescence. British Journal of Haematology, 2006, 135, 395-404.	1.2	124
13	Formation of Bubbles and Droplets in Parallel, Coupled Flowâ€Focusing Geometries. Small, 2008, 4, 1795-1805.	5.2	116
14	Cofabrication of Electromagnets and Microfluidic Systems in Poly(dimethylsiloxane). Angewandte Chemie - International Edition, 2006, 45, 6877-6882.	7.2	114
15	Direct measurement of the impact of impaired erythrocyte deformability on microvascular network perfusion in a microfluidic device. Lab on A Chip, 2006, 6, 914.	3.1	109
16	Density-based separation in multiphase systems provides a simple method to identify sickle cell disease. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 14864-14869.	3.3	107
17	Anaerobic storage of red blood cells. Blood Transfusion, 2010, 8, 220-36.	0.3	101
18	Incorporation of prefabricated screw, pneumatic, and solenoid valves into microfluidic devices. Lab on A Chip, 2009, 9, 79-86.	3.1	91

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19	Using ratchets and sorters to fractionate motile cells of Escherichia coli by length. Lab on A Chip, 2008, 8, 1888.	3.1	90
20	Using Magnetic Levitation To Distinguish Atomic-Level Differences in Chemical Composition of Polymers, and To Monitor Chemical Reactions on Solid Supports. Journal of the American Chemical Society, 2008, 130, 17678-17680.	6.6	85
21	The Core Apoptotic Executioner Proteins CED-3 and CED-4 Promote Initiation of Neuronal Regeneration in Caenorhabditis elegans. PLoS Biology, 2012, 10, e1001331.	2.6	85
22	Prototype of an in vitro model of the microcirculation. Microvascular Research, 2003, 65, 132-136.	1.1	74
23	Simple Paper-Based Test for Measuring Blood Hemoglobin Concentration in Resource-Limited Settings. Clinical Chemistry, 2013, 59, 1506-1513.	1.5	74
24	A simple, rapid, low-cost diagnostic test for sickle cell disease. Lab on A Chip, 2013, 13, 1464.	3.1	72
25	Measuring Binding of Protein to Gel-Bound Ligands Using Magnetic Levitation. Journal of the American Chemical Society, 2012, 134, 5637-5646.	6.6	61
26	The relationship between red blood cell deformability metrics and perfusion of an artificial microvascular network. Clinical Hemorheology and Microcirculation, 2014, 57, 275-289.	0.9	61
27	Washing stored red blood cells in an albumin solution improves their morphologic and hemorheologic properties. Transfusion, 2015, 55, 1872-1881.	0.8	51
28	Spontaneous oscillations of capillary blood flow in artificial microvascular networks. Microvascular Research, 2012, 84, 123-132.	1.1	50
29	Artificial microvascular network: a new tool for measuring rheologic properties of stored red blood cells. Transfusion, 2012, 52, 1010-1023.	0.8	43
30	Systemic lupus erythematosus serum deposits C4d on red blood cells, decreases red blood cell membrane deformability, and promotes nitric oxide production. Arthritis and Rheumatism, 2011, 63, 503-512.	6.7	41
31	Traffic of leukocytes in microfluidic channels with rectangular and rounded cross-sections. Lab on A Chip, 2011, 11, 3231.	3.1	39
32	Effect of osmolality on erythrocyte rheology and perfusion of an artificial microvascular network. Microvascular Research, 2015, 98, 102-107.	1.1	38
33	Shape matters: the effect of red blood cell shape on perfusion of an artificial microvascular network. Transfusion, 2016, 56, 844-851.	0.8	37
34	Ligation of complement receptor 1 increases erythrocyte membrane deformability. Blood, 2010, 116, 6063-6071.	0.6	34
35	Validation of a Low-Cost Paper-Based Screening Test for Sickle Cell Anemia. PLoS ONE, 2016, 11, e0144901.	1.1	33
36	Microfluidics: streamlining discovery in worm biology. Nature Methods, 2008, 5, 589-590.	9.0	31

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37	Deterioration of red blood cell mechanical properties is reduced in anaerobic storage. Blood Transfusion, 2016, 14, 80-8.	0.3	29
38	A Paper-Based Test for Screening Newborns for Sickle Cell Disease. Scientific Reports, 2017, 7, 45488.	1.6	27
39	C4d Deposits on the Surface of RBCs in Trauma Patients and Interferes With Their Function*. Critical Care Medicine, 2014, 42, e364-e372.	0.4	24
40	Traditional and emerging technologies for washing and volume reducing blood products. Journal of Blood Medicine, 2019, Volume 10, 37-46.	0.7	24
41	Passive recruitment of circulating leukocytes into capillary sprouts from existing capillaries in a microfluidic system. Lab on A Chip, 2011, 11, 1924.	3.1	21
42	A high-throughput microfluidic approach for 1000-fold leukocyte reduction of platelet-rich plasma. Scientific Reports, 2016, 6, 35943.	1.6	21
43	A rapid paperâ€based test for quantifying sickle hemoglobin in blood samples from patients with sickle cell disease. American Journal of Hematology, 2015, 90, 478-482.	2.0	20
44	Influence of red blood cell aggregation on perfusion of an artificial microvascular network. Microcirculation, 2017, 24, e12317.	1.0	20
45	White Paper: Pathways to Progress in Newborn Screening for Sickle Cell Disease in Sub-Saharan Africa. Journal of Tropical Diseases, 2018, 06, 260.	0.1	19
46	Microfluidic capillary networks are more sensitive than ektacytometry to the decline of red blood cell deformability induced by storage. Scientific Reports, 2021, 11, 604.	1.6	19
47	Ligation of Glycophorin A Generates Reactive Oxygen Species Leading to Decreased Red Blood Cell Function. PLoS ONE, 2016, 11, e0141206.	1.1	19
48	Influence of feeding hematocrit and perfusion pressure on hematocrit reduction (FÃ¥hrÃ¦us effect) in an artificial microvascular network. Microcirculation, 2017, 24, e12396.	1.0	18
49	Controlled incremental filtration: a simplified approach to design and fabrication of high-throughput microfluidic devices for selective enrichment of particles. Lab on A Chip, 2014, 14, 4496-4505.	3.1	17
50	Quantifying morphological heterogeneity: a study of more than 1Â000Â000 individual stored red blood cells. Vox Sanguinis, 2015, 109, 221-230.	0.7	15
51	A portable system for processing donated whole blood into high quality components without centrifugation. PLoS ONE, 2018, 13, e0190827.	1.1	15
52	A high-resolution, double-labeling method for the study of in vivo red blood cell aging. Transfusion, 2006, 46, 578-588.	0.8	14
53	Blood rheology biomarkers in sickle cell disease. Experimental Biology and Medicine, 2020, 245, 155-165.	1.1	14
54	Optimal hematocrit in an artificial microvascular network. Transfusion, 2017, 57, 2257-2266.	0.8	13

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55	Development of a flow standard to enable highly reproducible measurements of deformability of stored red blood cells in a microfluidic device. Transfusion, 2020, 60, 1032-1041.	0.8	13
56	PDMS well platform for culturing millimeterâ€size tumor spheroids. Biotechnology Progress, 2013, 29, 1265-1269.	1.3	9
57	Improved expansion of T cells in culture when isolated with an equipment-free, high-throughput, flow-through microfluidic module versus traditional density gradient centrifugation. Cytotherapy, 2019, 21, 234-245.	0.3	9
58	Washing in hypotonic saline reduces the fraction of irreversibly-damaged cells in stored blood: a proof-of-concept study. Blood Transfusion, 2017, 15, 463-471.	0.3	9
59	Substituting Sodium Hydrosulfite with Sodium Metabisulfite Improves Long-Term Stability of a Distributable Paper-Based Test Kit for Point-of-Care Screening for Sickle Cell Anemia. Biosensors, 2017, 7, 39.	2.3	8
60	The unusual symmetric reopening effect induced by pulmonary surfactant. Journal of Applied Physiology, 2014, 116, 635-644.	1.2	7
61	Histamine reduces GPIbÎ±-mediated adhesion of platelets to TNF-Î±-activated vascular endothelium. Thrombosis Research, 2013, 131, 150-157.	0.8	6
62	Centrifugationâ€free washing: A novel approach for removing immunoglobulin A from stored red blood cells. American Journal of Hematology, 2018, 93, 518-526.	2.0	6
63	Dynamics of shape recovery by stored red blood cells during washing at the single cell level. Transfusion, 2020, 60, 2370-2378.	0.8	5
64	Towards bedside washing of stored red blood cells: a prototype of a simple apparatus based on microscale sedimentation in normal gravity. Vox Sanguinis, 2018, 113, 31-39.	0.7	4
65	Centrifugationâ€free washing reduces buildup of potassium and free hemoglobin in washed red blood cells after the procedure. American Journal of Hematology, 2018, 93, E389-E391.	2.0	4
66	Concurrent Assessment of Deformability and Adhesiveness of Sickle Red Blood Cells by Measuring Perfusion of an Adhesive Artificial Microvascular Network. Frontiers in Physiology, 2021, 12, 633080.	1.3	4
67	A Simple, Rapid, Low-Cost Test for the Diagnosis of Sickle Cell Disease Using a Paper-Based Hemoglobin Solubility Assay. Blood, 2012, 120, 245-245.	0.6	4
68	Paper-Based Diagnostics: Rethinking Conventional Sickle Cell Screening to Improve Access to High-Quality Health Care in Resource-Limited Settings. IEEE Pulse, 2017, 8, 42-46.	0.1	3
69	LDL-Based Lipid Nanoparticle Derived for Blood Plasma Accumulates Preferentially in Atherosclerotic Plaque. Frontiers in Bioengineering and Biotechnology, 2021, 9, 794676.	2.0	3
70	Rheological Assessments of Sickle Cell Patients Post Allogeneic Hematopoietic Cell Transplant. Blood, 2019, 134, 996-996.	0.6	1
71	Ligation of complement receptor 1 increases red blood cell membrane deformability. Molecular Immunology, 2010, 47, 2228-2228.	1.0	0
72	Self-Assembly in 3D Using Magnetic Levitation: Using Magnetic Levitation for Three Dimensional Self-Assembly (Adv. Mater. 36/2011). Advanced Materials, 2011, 23, 4128-4128.	11.1	0

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73	Rheologic Assessments of Sickle Cell Patients Post Allogeneic Hematopoietic Cell Transplant. Biology of Blood and Marrow Transplantation, 2020, 26, S209.	2.0	0
74	Paper-Based Assay for Quantification of HbS in Blood of Sickle Cell Disease Patients. Blood, 2014, 124, 1371-1371.	0.6	0
75	Initial Clinical Validation of a Rapid, Low-Cost, Paper-Based Diagnostic Test for Sickle Cell Anemia As a Tool to Facilitate Newborn Screening in Resource-Limited Settings. Blood, 2015, 126, 979-979.	0.6	0