

# Sergey S Shevkoplyas

## List of Publications by Citations

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73  
papers

4,062  
citations

32  
h-index

63  
g-index

76  
ext. papers

4,569  
ext. citations

6.4  
avg, IF

5.22  
L-index

#	Paper	IF	Citations
73	Muscular thin films for building actuators and powering devices. <i>Science</i> , <b>2007</b> , 317, 1366-70	33.3	572
72	The pressure drop along rectangular microchannels containing bubbles. <i>Lab on A Chip</i> , <b>2007</b> , 7, 1479-89	7.2	290
71	Integrated separation of blood plasma from whole blood for microfluidic paper-based analytical devices. <i>Lab on A Chip</i> , <b>2012</b> , 12, 274-80	7.2	209
70	The force acting on a superparamagnetic bead due to an applied magnetic field. <i>Lab on A Chip</i> , <b>2007</b> , 7, 1294-302	7.2	187
69	A microfabricated array of clamps for immobilizing and imaging <i>C. elegans</i> . <i>Lab on A Chip</i> , <b>2007</b> , 7, 1515-23	7.2	182
68	Lifespan-on-a-chip: microfluidic chambers for performing lifelong observation of <i>C. elegans</i> . <i>Lab on A Chip</i> , <b>2010</b> , 10, 589-97	7.2	170
67	Biomimetic autoseparation of leukocytes from whole blood in a microfluidic device. <i>Analytical Chemistry</i> , <b>2005</b> , 77, 933-7	7.8	169
66	Measuring densities of solids and liquids using magnetic levitation: fundamentals. <i>Journal of the American Chemical Society</i> , <b>2009</b> , 131, 10049-58	16.4	144
65	A microfluidic apparatus for the study of ice nucleation in supercooled water drops. <i>Lab on A Chip</i> , <b>2009</b> , 9, 2293-305	7.2	122
64	Using magnetic levitation for three dimensional self-assembly. <i>Advanced Materials</i> , <b>2011</b> , 23, 4134-40	24	105
63	Cofabrication of electromagnets and microfluidic systems in poly(dimethylsiloxane). <i>Angewandte Chemie - International Edition</i> , <b>2006</b> , 45, 6877-82	16.4	105
62	Formation of bubbles and droplets in parallel, coupled flow-focusing geometries. <i>Small</i> , <b>2008</b> , 4, 1795-805	7.2	98
61	Direct measurement of the impact of impaired erythrocyte deformability on microvascular network perfusion in a microfluidic device. <i>Lab on A Chip</i> , <b>2006</b> , 6, 914-20	7.2	98
60	A detailed study of time-dependent changes in human red blood cells: from reticulocyte maturation to erythrocyte senescence. <i>British Journal of Haematology</i> , <b>2006</b> , 135, 395-404	4.5	97
59	Density-based separation in multiphase systems provides a simple method to identify sickle cell disease. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, 14864-9	11.5	92
58	Egg beater as centrifuge: isolating human blood plasma from whole blood in resource-poor settings. <i>Lab on A Chip</i> , <b>2008</b> , 8, 2032-7	7.2	92
57	Using ratchets and sorters to fractionate motile cells of <i>Escherichia coli</i> by length. <i>Lab on A Chip</i> , <b>2008</b> , 8, 1888-95	7.2	84

56	Incorporation of prefabricated screw, pneumatic, and solenoid valves into microfluidic devices. <i>Lab on A Chip</i> , <b>2009</b> , 9, 79-86	7.2	83
55	Anaerobic storage of red blood cells. <i>Blood Transfusion</i> , <b>2010</b> , 8, 220-36	3.6	77
54	The core apoptotic executioner proteins CED-3 and CED-4 promote initiation of neuronal regeneration in <i>Caenorhabditis elegans</i> . <i>PLoS Biology</i> , <b>2012</b> , 10, e1001331	9.7	72
53	Using magnetic levitation to distinguish atomic-level differences in chemical composition of polymers, and to monitor chemical reactions on solid supports. <i>Journal of the American Chemical Society</i> , <b>2008</b> , 130, 17678-80	16.4	71
52	Prototype of an in vitro model of the microcirculation. <i>Microvascular Research</i> , <b>2003</b> , 65, 132-6	3.7	67
51	A simple, rapid, low-cost diagnostic test for sickle cell disease. <i>Lab on A Chip</i> , <b>2013</b> , 13, 1464-7	7.2	63
50	Simple paper-based test for measuring blood hemoglobin concentration in resource-limited settings. <i>Clinical Chemistry</i> , <b>2013</b> , 59, 1506-13	5.5	56
49	Measuring binding of protein to gel-bound ligands using magnetic levitation. <i>Journal of the American Chemical Society</i> , <b>2012</b> , 134, 5637-46	16.4	53
48	The relationship between red blood cell deformability metrics and perfusion of an artificial microvascular network. <i>Clinical Hemorheology and Microcirculation</i> , <b>2014</b> , 57, 275-89	2.5	47
47	Washing stored red blood cells in an albumin solution improves their morphologic and hemorheologic properties. <i>Transfusion</i> , <b>2015</b> , 55, 1872-81	2.9	41
46	Spontaneous oscillations of capillary blood flow in artificial microvascular networks. <i>Microvascular Research</i> , <b>2012</b> , 84, 123-32	3.7	41
45	Artificial microvascular network: a new tool for measuring rheologic properties of stored red blood cells. <i>Transfusion</i> , <b>2012</b> , 52, 1010-23	2.9	35
44	Traffic of leukocytes in microfluidic channels with rectangular and rounded cross-sections. <i>Lab on A Chip</i> , <b>2011</b> , 11, 3231-40	7.2	35
43	Systemic lupus erythematosus serum deposits C4d on red blood cells, decreases red blood cell membrane deformability, and promotes nitric oxide production. <i>Arthritis and Rheumatism</i> , <b>2011</b> , 63, 503-12		35
42	Cofabrication of Electromagnets and Microfluidic Systems in Poly(dimethylsiloxane). <i>Angewandte Chemie</i> , <b>2006</b> , 118, 7031-7036	3.6	35
41	Effect of osmolality on erythrocyte rheology and perfusion of an artificial microvascular network. <i>Microvascular Research</i> , <b>2015</b> , 98, 102-7	3.7	32
40	Shape matters: the effect of red blood cell shape on perfusion of an artificial microvascular network. <i>Transfusion</i> , <b>2016</b> , 56, 844-51	2.9	29
39	Ligation of complement receptor 1 increases erythrocyte membrane deformability. <i>Blood</i> , <b>2010</b> , 116, 6063-71	2.2	28

38	Validation of a Low-Cost Paper-Based Screening Test for Sickle Cell Anemia. <i>PLoS ONE</i> , <b>2016</b> , 11, e0144901	3.7	28
37	A Paper-Based Test for Screening Newborns for Sickle Cell Disease. <i>Scientific Reports</i> , <b>2017</b> , 7, 45488	4.9	24
36	Deterioration of red blood cell mechanical properties is reduced in anaerobic storage. <i>Blood Transfusion</i> , <b>2016</b> , 14, 80-8	3.6	22
35	Passive recruitment of circulating leukocytes into capillary sprouts from existing capillaries in a microfluidic system. <i>Lab on A Chip</i> , <b>2011</b> , 11, 1924-32	7.2	20
34	A rapid paper-based test for quantifying sickle hemoglobin in blood samples from patients with sickle cell disease. <i>American Journal of Hematology</i> , <b>2015</b> , 90, 478-82	7.1	18
33	A high-throughput microfluidic approach for 1000-fold leukocyte reduction of platelet-rich plasma. <i>Scientific Reports</i> , <b>2016</b> , 6, 35943	4.9	15
32	C4d deposits on the surface of RBCs in trauma patients and interferes with their function. <i>Critical Care Medicine</i> , <b>2014</b> , 42, e364-72	1.4	14
31	Influence of red blood cell aggregation on perfusion of an artificial microvascular network. <i>Microcirculation</i> , <b>2017</b> , 24, e12317	2.9	13
30	A high-resolution, double-labeling method for the study of in vivo red blood cell aging. <i>Transfusion</i> , <b>2006</b> , 46, 578-88	2.9	13
29	Ligation of Glycophorin A Generates Reactive Oxygen Species Leading to Decreased Red Blood Cell Function. <i>PLoS ONE</i> , <b>2016</b> , 11, e0141206	3.7	12
28	Quantifying morphological heterogeneity: a study of more than 1 000 000 individual stored red blood cells. <i>Vox Sanguinis</i> , <b>2015</b> , 109, 221-30	3.1	11
27	Controlled incremental filtration: a simplified approach to design and fabrication of high-throughput microfluidic devices for selective enrichment of particles. <i>Lab on A Chip</i> , <b>2014</b> , 14, 4496-505	7.2	11
26	Optimal hematocrit in an artificial microvascular network. <i>Transfusion</i> , <b>2017</b> , 57, 2257-2266	2.9	10
25	Influence of feeding hematocrit and perfusion pressure on hematocrit reduction (Fåhræus effect) in an artificial microvascular network. <i>Microcirculation</i> , <b>2017</b> , 24, e12396	2.9	10
24	Traditional and emerging technologies for washing and volume reducing blood products. <i>Journal of Blood Medicine</i> , <b>2019</b> , 10, 37-46	2.3	9
23	White Paper: Pathways to Progress in Newborn Screening for Sickle Cell Disease in Sub-Saharan Africa. <i>Journal of Tropical Diseases</i> , <b>2018</b> , 6, 260	0	9
22	Blood rheology biomarkers in sickle cell disease. <i>Experimental Biology and Medicine</i> , <b>2020</b> , 245, 155-165	3.7	8
21	PDMS well platform for culturing millimeter-size tumor spheroids. <i>Biotechnology Progress</i> , <b>2013</b> , 29, 1265-9	2.8	8

20	A portable system for processing donated whole blood into high quality components without centrifugation. <i>PLoS ONE</i> , <b>2018</b> , 13, e0190827	3.7	7
19	Washing in hypotonic saline reduces the fraction of irreversibly-damaged cells in stored blood: a proof-of-concept study. <i>Blood Transfusion</i> , <b>2017</b> , 15, 463-471	3.6	7
18	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. <i>Biosensors</i> , <b>2017</b> , 7,	5.9	6
17	The unusual symmetric reopening effect induced by pulmonary surfactant. <i>Journal of Applied Physiology</i> , <b>2014</b> , 116, 635-44	3.7	6
16	Microfluidic capillary networks are more sensitive than ektacytometry to the decline of red blood cell deformability induced by storage. <i>Scientific Reports</i> , <b>2021</b> , 11, 604	4.9	6
15	Histamine reduces GPIIb/IIIa-mediated adhesion of platelets to TNF- $\alpha$ -activated vascular endothelium. <i>Thrombosis Research</i> , <b>2013</b> , 131, 150-7	8.2	5
14	Improved expansion of T cells in culture when isolated with an equipment-free, high-throughput, flow-through microfluidic module versus traditional density gradient centrifugation. <i>Cytotherapy</i> , <b>2019</b> , 21, 234-245	4.8	4
13	Centrifugation-free washing: A novel approach for removing immunoglobulin A from stored red blood cells. <i>American Journal of Hematology</i> , <b>2018</b> , 93, 518-526	7.1	4
12	Towards bedside washing of stored red blood cells: a prototype of a simple apparatus based on microscale sedimentation in normal gravity. <i>Vox Sanguinis</i> , <b>2018</b> , 113, 31-39	3.1	4
11	Development of a flow standard to enable highly reproducible measurements of deformability of stored red blood cells in a microfluidic device. <i>Transfusion</i> , <b>2020</b> , 60, 1032-1041	2.9	3
10	A Simple, Rapid, Low-Cost Test for the Diagnosis of Sickle Cell Disease Using a Paper-Based Hemoglobin Solubility Assay. <i>Blood</i> , <b>2012</b> , 120, 245-245	2.2	3
9	Paper-Based Diagnostics: Rethinking Conventional Sickle Cell Screening to Improve Access to High-Quality Health Care in Resource-Limited Settings. <i>IEEE Pulse</i> , <b>2017</b> , 8, 42-46	0.7	2
8	Dynamics of shape recovery by stored red blood cells during washing at the single cell level. <i>Transfusion</i> , <b>2020</b> , 60, 2370-2378	2.9	2
7	Centrifugation-free washing reduces buildup of potassium and free hemoglobin in washed red blood cells after the procedure. <i>American Journal of Hematology</i> , <b>2018</b> , 93, E389-E391	7.1	2
6	Rheological Assessments of Sickle Cell Patients Post Allogeneic Hematopoietic Cell Transplant. <i>Blood</i> , <b>2019</b> , 134, 996-996	2.2	1
5	Concurrent Assessment of Deformability and Adhesiveness of Sickle Red Blood Cells by Measuring Perfusion of an Adhesive Artificial Microvascular Network. <i>Frontiers in Physiology</i> , <b>2021</b> , 12, 633080	4.6	1
4	LDL-Based Lipid Nanoparticle Derived for Blood Plasma Accumulates Preferentially in Atherosclerotic Plaque.. <i>Frontiers in Bioengineering and Biotechnology</i> , <b>2021</b> , 9, 794676	5.8	0
3	Self-Assembly in 3D Using Magnetic Levitation: Using Magnetic Levitation for Three Dimensional Self-Assembly (Adv. Mater. 36/2011). <i>Advanced Materials</i> , <b>2011</b> , 23, 4128-4128	24	

- 2 Paper-Based Assay for Quantification of HbS in Blood of Sickle Cell Disease Patients. *Blood*, **2014**, 124, 1371-1371 2.2
- 1 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 2.2