David Juncker

List of Publications by Citations

98 papers	4,417 citations	32 h-index	65 g-index
114 ext. papers	5,018 ext. citations	8.9 avg, IF	5.61 L-index

#	Paper	IF	Citations
98	. *IBM Journal of Research and Development*, **2001**, 45, 697-719	2.5	399
97	Fiber-based tissue engineering: Progress, challenges, and opportunities. *Biotechnology Advances*, **2013**, 31, 669-87	17.8	330
96	Autonomous microfluidic capillary system. *Analytical Chemistry*, **2002**, 74, 6139-44	7.8	327
95	Microfluidics for Processing Surfaces and Miniaturizing Biological Assays. *Advanced Materials*, **2005**, 17, 2911-2933	24	208
94	High-sensitivity miniaturized immunoassays for tumor necrosis factor alpha using microfluidic systems. *Lab on A Chip*, **2004**, 4, 563-9	7.2	178
93	Multipurpose microfluidic probe. *Nature Materials*, **2005**, 4, 622-8	27	163
92	Simultaneous detection of C-reactive protein and other cardiac markers in human plasma using micromosaic immunoassays and self-regulating microfluidic networks. *Biosensors and Bioelectronics* , **2004**, 19, 1193-202	11.8	159
91	Microfluidic Networks Made of Poly(dimethylsiloxane), Si, and Au Coated with Polyethylene Glycol for Patterning Proteins onto Surfaces. *Langmuir*, **2001**, 17, 4090-4095	4	145
90	Capillary microfluidics in microchannels: from microfluidic networks to capillaric circuits. *Lab on A Chip*, **2018**, 18, 2323-2347	7.2	132
89	Capillarics: pre-programmed, self-powered microfluidic circuits built from capillary elements. *Lab on A Chip*, **2013**, 13, 4180-9	7.2	130
88	Fabricating microarrays of functional proteins using affinity contact printing. *Angewandte Chemie - International Edition*, **2002**, 41, 2320-3	16.4	128
87	Composite Living Fibers for Creating Tissue Constructs Using Textile Techniques. *Advanced Functional Materials*, **2014**, 24, 4060-4067	15.6	118
86	Hydrogel Templates for Rapid Manufacturing of Bioactive Fibers and 3D Constructs. *Advanced Healthcare Materials*, **2015**, 4, 2146-2153	10.1	109
85	Immunochromatographic assay on thread. *Analytical Chemistry*, **2012**, 84, 7736-43	7.8	105
84	Duplexed aptamers: history, design, theory, and application to biosensing. *Chemical Society Reviews* , **2019**, 48, 1390-1419	58.5	89
83	Microfluidics made of yarns and knots: from fundamental properties to simple networks and operations. *Lab on A Chip*, **2011**, 11, 2618-24	7.2	89
82	Cross-reactivity in antibody microarrays and multiplexed sandwich assays: shedding light on the dark side of multiplexing. *Current Opinion in Chemical Biology*, **2014**, 18, 29-37	9.7	81

81	Chamber and microfluidic probe for microperfusion of organotypic brain slices. *Lab on A Chip*, **2010**, 10, 326-34	7.2	74
80	Microfluidic quadrupole and floating concentration gradient. *Nature Communications*, **2011**, 2, 464	17.4	68
79	Formation of Gradients of Proteins on Surfaces with Microfluidic Networks. *Langmuir*, **2000**, 16, 9125-9130	4	66
78	Antibody colocalization microarray: a scalable technology for multiplex protein analysis in complex samples. *Molecular and Cellular Proteomics*, **2012**, 11, M111.011460	7.6	65
77	Microfluidic direct writer with integrated declogging mechanism for fabricating cell-laden hydrogel constructs. *Biomedical Microdevices*, **2014**, 16, 387-95	3.7	57
76	Soft and rigid two-level microfluidic networks for patterning surfaces. *Journal of Micromechanics and Microengineering*, **2001**, 11, 532-541	2	56
75	Integration of shallow gradients of Shh and Netrin-1 guides commissural axons. *PLoS Biology*, **2015**, 13, e1002119	9.7	48
74	Microfluidic probes for use in life sciences and medicine. *Lab on A Chip*, **2013**, 13, 40-50	7.2	45
73	Hydrogel droplet microarrays with trapped antibody-functionalized beads for multiplexed protein analysis. *Lab on A Chip*, **2011**, 11, 528-34	7.2	40
72	Electrostatic actuator with liquid metal/elastomer compliant electrodes used for on-chip microvalving. *Journal of Micromechanics and Microengineering*, **2012**, 22, 097001	2	38
71	Minimum information about a protein affinity reagent (MIAPAR). *Nature Biotechnology*, **2010**, 28, 650-3	44.5	37
70	Ensemble multicolour FRET model enables barcoding at extreme FRET levels. *Nature Nanotechnology*, **2018**, 13, 925-932	28.7	35
69	Nonconductive polymer microresonators actuated by the Kelvin polarization force. *Applied Physics Letters*, **2006**, 89, 163506	3.4	35
68	Autonomous microfluidic capillaric circuits replicated from 3D-printed molds. *Lab on A Chip*, **2016**, 16, 3804-3814	7.2	34
67	Combination of Mechanical and Molecular Filtration for Enhanced Enrichment of Circulating Tumor Cells. *Analytical Chemistry*, **2016**, 88, 8510-7	7.8	34
66	Humidified microcontact printing of proteins: universal patterning of proteins on both low and high energy surfaces. *Langmuir*, **2014**, 30, 12002-10	4	32
65	Generation of microisland cultures using microcontact printing to pattern protein substrates. *Journal of Neuroscience Methods*, **2012**, 208, 10-7	3	32
64	Substrate-bound protein gradients to study haptotaxis. *Frontiers in Bioengineering and Biotechnology*, **2015**, 3, 40	5.8	32

63	Microfluidic Capillaric Circuit for Rapid and Facile Bacteria Detection. *Analytical Chemistry*, **2017**, 89, 6846-6853	7.8	31
62	Luminescent Iridium(III)-Containing Block Copolymers: Self-Assembly into Biotin-Labeled Micelles for Biodetection Assays. *ACS Macro Letters*, **2012**, 1, 954-959	6.6	31
61	NF-B signalling and cell fate decisions in response to a short pulse of tumour necrosis factor. *Scientific Reports*, **2016**, 6, 39519	4.9	30
60	Fabrication of large-area polymer microfilter membranes and their application for particle and cell enrichment. *Lab on A Chip*, **2017**, 17, 1960-1969	7.2	28
59	Serpentine and leading-edge capillary pumps for microfluidic capillary systems. *Microfluidics and Nanofluidics*, **2015**, 18, 357-366	2.8	28
58	Comprehensive profiling of the ligand binding landscapes of duplexed aptamer families reveals widespread induced fit. *Nature Communications*, **2018**, 9, 343	17.4	28
57	Printing Meets Lithography: Soft Approaches to High-Resolution Patterning. *Chimia*, **2002**, 56, 527-542	1.3	28
56	GAP-43 is key to mitotic spindle control and centrosome-based polarization in neurons. *Cell Cycle*, **2008**, 7, 348-57	4.7	26
55	Wet-etching of structures with straight facets and adjustable taper into glass substrates. *Lab on A Chip*, **2010**, 10, 494-8	7.2	25
54	Microarray-to-microarray transfer of reagents by snapping of two chips for cross-reactivity-free multiplex immunoassays. *Analytical Chemistry*, **2012**, 84, 4776-83	7.8	24
53	Tuning cell-surface affinity to direct cell specific responses to patterned proteins. *Biomaterials*, **2014**, 35, 727-36	15.6	23
52	Emerging Technologies in Multi-Material Bioprinting. *Advanced Materials*, **2021**, e2104730	24	23
51	Two-Aperture Microfluidic Probes as Flow Dipole: Theory and Applications. *Scientific Reports*, **2015**, 5, 11943	4.9	21
50	Taguchi design-based optimization of sandwich immunoassay microarrays for detecting breast cancer biomarkers. *Analytical Chemistry*, **2011**, 83, 5767-74	7.8	21
49	Complementary oligonucleotides regulate induced fit ligand binding in duplexed aptamers. *Chemical Science*, **2017**, 8, 2251-2256	9.4	20
48	Microfluidic multipoles theory and applications. *Nature Communications*, **2019**, 10, 1781	17.4	16
47	Fabricating Microarrays of Functional Proteins Using Affinity Contact Printing. *Angewandte Chemie*, **2002**, 114, 2426-2429	3.6	16
46	Nanocontact Printing of Proteins on Physiologically Soft Substrates to Study Cell Haptotaxis. *Langmuir*, **2016**, 32, 13525-13533	4	15

45	High-performance low-cost antibody microarrays using enzyme-mediated silver amplification. *Journal of Proteome Research*, **2015**, 14, 1872-9	5.6	15
44	Integrated microfluidic probe station. *Review of Scientific Instruments*, **2010**, 81, 115107	1.7	15
43	Microfluidic perfusion system for culturing and imaging yeast cell microarrays and rapidly exchanging media. *Lab on A Chip*, **2010**, 10, 2449-57	7.2	14
42	Nanodot Gradients: Large Dynamic Range Digital Nanodot Gradients of Biomolecules Made by Low-Cost Nanocontact Printing for Cell Haptotaxis (Small 19/2013). *Small*, **2013**, 9, 3186-3186	11	13
41	Large dynamic range digital nanodot gradients of biomolecules made by low-cost nanocontact printing for cell haptotaxis. *Small*, **2013**, 9, 3308-13	11	12
40	Straight SU-8 pins. *Journal of Micromechanics and Microengineering*, **2010**, 20, 055001	2	12
39	Evaluating mixtures of 14 hygroscopic additives to improve antibody microarray performance. *Analytical and Bioanalytical Chemistry*, **2015**, 407, 8451-62	4.4	11
38	Serial analysis of 38 proteins during the progression of human breast tumor in mice using an antibody colocalization microarray. *Molecular and Cellular Proteomics*, **2015**, 14, 1024-37	7.6	11
37	Immunohistochemistry Microarrays. *Analytical Chemistry*, **2017**, 89, 8620-8625	7.8	10
36	Polymeric microfabricated electrochemical nanoprobe with addressable electrodes. *Sensors and Actuators B: Chemical*, **2011**, 157, 691-696	8.5	10
35	Addressable nanowell arrays formed using reversibly sealable hybrid elastomer-metal stencils. *Analytical Chemistry*, **2010**, 82, 3848-55	7.8	9
34	Protein microarray spots are modulated by patterning method, surface chemistry and processing conditions. *Biosensors and Bioelectronics*, **2019**, 130, 397-407	11.8	9
33	Neutrophil Chemotaxis in Moving Gradients. *Advanced Biology*, **2018**, 2, 1700243	3.5	8
32	Microfluidic chain reaction of structurally programmed capillary flow events.. *Nature*, **2022**, 605, 464-469	50.4	8
31	Bead-Extractor Assisted Ready-to-Use Reagent System (BEARS) for Immunoprecipitation Coupled to MALDI-MS. *Analytical Chemistry*, **2017**, 89, 3834-3839	7.8	7
30	Hydrogel droplet single-cell processing: DNA purification, handling, release, and on-chip linearization. *Biomicrofluidics*, **2018**, 12, 024107	3.2	7
29	Spatially Selective Dissection of Signal Transduction in Neurons Grown on Netrin-1 Printed Nanoarrays via Segmented Fluorescence Fluctuation Analysis. *ACS Nano*, **2017**, 11, 8131-8143	16.7	7
28	Two-level submicron high porosity membranes (2LHPM) for the capture and release of white blood cells (WBCs). *Lab on A Chip*, **2019**, 19, 589-597	7.2	6

27	A versatile snap chip for high-density sub-nanoliter chip-to-chip reagent transfer. *Scientific Reports*, **2015**, 5, 11688	4.9	6
26	A microfluidic chamber to study the dynamics of muscle-contraction-specific molecular interactions. *Analytical Chemistry*, **2015**, 87, 2582-7	7.8	6
25	PDMS microfluidic capillary systems for patterning proteins on surfaces and performing miniaturized immunoassays. *Methods in Molecular Biology*, **2011**, 671, 177-94	1.4	6
24	Mechanically Matched Silicone Brain Implants Reduce Brain Foreign Body Response. *Advanced Materials Technologies*, **2021**, 6, 2000909	6.8	6
23	Patchiness in a microhabitat chip affects evolutionary dynamics of bacterial cooperation. *Lab on A Chip*, **2015**, 15, 3723-9	7.2	5
22	Parallelized cytoindentation using convex micropatterned surfaces. *BioTechniques*, **2016**, 61, 73-82	2.5	5
21	A wireless implantable passive strain sensor system		5
20	Energetics of reactions in a dielectric barrier discharge with argon carrier gas: VI PEG-like coatings. *Plasma Processes and Polymers*, **2018**, 15, 1700132	3.4	4
19	Antibody Colocalization Microarray for Cross-Reactivity-Free Multiplexed Protein Analysis. *Methods in Molecular Biology*, **2017**, 1619, 239-261	1.4	4
18	The microfluidic probe: operation and use for localized surface processing. *Journal of Visualized Experiments*, **2009**,	1.6	4
17	Ordered, random, monotonic and non-monotonic digital nanodot gradients. *PLoS ONE*, **2014**, 9, e106541	3.7	4
16	Snap Chip for Cross-reactivity-free and Spotter-free Multiplexed Sandwich Immunoassays. *Journal of Visualized Experiments*, **2017**,	1.6	3
15	Combinatorial nanodot stripe assay to systematically study cell haptotaxis. *Microsystems and Nanoengineering*, **2020**, 6, 114	7.7	3
14	Bioactive Fibers: Hydrogel Templates for Rapid Manufacturing of Bioactive Fibers and 3D Constructs (Adv. Healthcare Mater. 14/2015). *Advanced Healthcare Materials*, **2015**, 4, 2050	10.1	2
13	Digitizing immunoassay on an antibody nanoarray to improve assay sensitivity **2013**,		2
12	Design and Fabrication of Novel Compliant Electrostatically Actuated Microvalves. *Advanced Materials Research*, **2009**, 74, 179-182	0.5	2
11	Microsqueeze force sensor useful as contact-free profilometer and viscometer. *Applied Physics Letters*, **2005**, 86, 063507	3.4	2
10	Systematic analysis of microfluidic probe design and operation. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2014**, 2014, 1567-70	0.9	1

9	Neutrophil dynamics during migration in microfluidic concentration gradients **2014**,		1
8	Microfabricated electrochemical probe for the rapid detection of proteins released by cells **2009**,		1
7	Preparation and Shear Modulus of Polyacrylamide Gels as Nerve Cell Culture. *AIP Conference Proceedings*, **2008**,	0	1
6	Precise Chip-to-Chip Reagent Transfer for Cross-Reactivity-Free Multiplex Sandwich Immunoassays. *Methods in Molecular Biology*, **2021**, 2237, 141-149	1.4	1
5	3D-Printed Autonomous Capillaric Circuits		1
4	Gravity-based microfiltration reveals unexpected prevalence of circulating tumor cell clusters in ovarian cancer		1
3	Closing the system: production of viral antigen-presenting dendritic cells eliciting specific CD8 T cell activation in fluorinated ethylene propylene cell culture bags. *Journal of Translational Medicine*, **2020**, 18, 383	8.5	1
2	Spatial Bias in Antibody Microarrays May Be an Underappreciated Source of Variability. *ACS Sensors*, **2021**, 6, 1796-1806	9.2	0
1	Microfluidic Probe for Neural Organotypic Brain Tissue and Cell Perfusion **2018**, 139-154		