

Barry R Lutz

List of Publications by Year in descending order

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74
papers

4,302
citations

172207

29
h-index

114278

63
g-index

85
all docs

85
docs citations

85
times ranked

5083
citing authors

#	ARTICLE	IF	CITATIONS
1	Controlled reagent transport in disposable 2D paper networks. <i>Lab on A Chip</i> , 2010, 10, 918.	3.1	319
2	Microfluidics without pumps: reinventing the T-sensor and H-filter in paper networks. <i>Lab on A Chip</i> , 2010, 10, 2659.	3.1	296
3	Transport in two-dimensional paper networks. <i>Microfluidics and Nanofluidics</i> , 2011, 10, 29-35.	1.0	261
4	Dissolvable fluidic time delays for programming multi-step assays in instrument-free paper diagnostics. <i>Lab on A Chip</i> , 2013, 13, 2840.	3.1	243
5	Cryptic transmission of SARS-CoV-2 in Washington state. <i>Science</i> , 2020, 370, 571-575.	6.0	217
6	Enhanced Sensitivity of Lateral Flow Tests Using a Two-Dimensional Paper Network Format. <i>Analytical Chemistry</i> , 2011, 83, 7941-7946.	3.2	196
7	Spectral Analysis of Multiplex Raman Probe Signatures. <i>ACS Nano</i> , 2008, 2, 2306-2314.	7.3	191
8	Chemical signal amplification in two-dimensional paper networks. <i>Sensors and Actuators B: Chemical</i> , 2010, 149, 325-328.	4.0	172
9	Composite Organic-Inorganic Nanoparticles as Raman Labels for Tissue Analysis. <i>Nano Letters</i> , 2007, 7, 351-356.	4.5	148
10	Hydrodynamic Tweezers: 1. Noncontact Trapping of Single Cells Using Steady Streaming Microeddies. <i>Analytical Chemistry</i> , 2006, 78, 5429-5435.	3.2	147
11	Two-dimensional paper networks: programmable fluidic disconnects for multi-step processes in shaped paper. <i>Lab on A Chip</i> , 2011, 11, 4274.	3.1	145
12	A rapid, instrument-free, sample-to-result nucleic acid amplification test. <i>Lab on A Chip</i> , 2016, 16, 3777-3787.	3.1	141
13	A versatile valving toolkit for automating fluidic operations in paper microfluidic devices. <i>Lab on A Chip</i> , 2015, 15, 1432-1444.	3.1	128
14	Long-term dry storage of an enzyme-based reagent system for ELISA in point-of-care devices. <i>Analyst</i> , 2014, 139, 1456-1462.	1.7	120
15	Molecularly chemisorbed intermediates to oxygen adsorption on Pt(111): A molecular beam and electron energy-loss spectroscopy study. <i>Journal of Chemical Physics</i> , 1999, 111, 3696-3704.	1.2	118
16	Early Detection of Covid-19 through a Citywide Pandemic Surveillance Platform. <i>New England Journal of Medicine</i> , 2020, 383, 185-187.	13.9	97
17	Visualization and measurement of flow in two-dimensional paper networks. <i>Lab on A Chip</i> , 2010, 10, 2614.	3.1	75
18	One-step purification and concentration of DNA in porous membranes for point-of-care applications. <i>Lab on A Chip</i> , 2015, 15, 2647-2659.	3.1	75

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19	Isothermal strand displacement amplification (iSDA): a rapid and sensitive method of nucleic acid amplification for point-of-care diagnosis. <i>Analyst, The</i> , 2015, 140, 7540-7549.	1.7	73
20	Progress toward multiplexed sample-to-result detection in low resource settings using microfluidic immunoassay cards. <i>Lab on A Chip</i> , 2012, 12, 1119.	3.1	70
21	Raman Nanoparticle Probes for Antibody-based Protein Detection in Tissues. <i>Journal of Histochemistry and Cytochemistry</i> , 2008, 56, 371-379.	1.3	66
22	New and improved ways to treat hydrocephalus: Pursuit of a smart shunt. , 2013, 4, 38.		60
23	Translational Energy Selection of Molecular Precursors to Oxygen Adsorption on Pt(111). <i>Physical Review Letters</i> , 1998, 81, 3179-3182.	2.9	59
24	Viral genomes reveal patterns of the SARS-CoV-2 outbreak in Washington State. <i>Science Translational Medicine</i> , 2021, 13, .	5.8	58
25	Analytical Comparison of Methods for Extraction of Short Cell-Free DNA from Urine. <i>Journal of Molecular Diagnostics</i> , 2019, 21, 1067-1078.	1.2	51
26	Direct verification of a high-translational-energy molecular precursor to oxygen dissociation on Pd(111). <i>Surface Science</i> , 1998, 419, L107-L113.	0.8	48
27	Microscopic steady streaming eddies created around short cylinders in a channel: Flow visualization and Stokes layer scaling. <i>Physics of Fluids</i> , 2005, 17, 023601.	1.6	39
28	Swab Sample Transfer for Point-Of-Care Diagnostics: Characterization of Swab Types and Manual Agitation Methods. <i>PLoS ONE</i> , 2014, 9, e105786.	1.1	38
29	Microfluidics without microfabrication. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 4395-4398.	3.3	35
30	Harmony COVID-19: A ready-to-use kit, low-cost detector, and smartphone app for point-of-care SARS-CoV-2 RNA detection. <i>Science Advances</i> , 2021, 7, eabj1281.	4.7	35
31	A disposable chemical heater and dry enzyme preparation for lysis and extraction of DNA and RNA from microorganisms. <i>Analytical Methods</i> , 2016, 8, 2880-2886.	1.3	31
32	A Rapid, Multiplexed, High-Throughput Flow-Through Membrane Immunoassay: A Convenient Alternative to ELISA. <i>Diagnostics</i> , 2013, 3, 244-260.	1.3	30
33	The Effects of Fuel Composition, System Design, and Operating Conditions on In-System Vaporization and Hot Start of a Liquid-Phase LPG Injection System. , 0, , .		29
34	Simpler and faster Covid-19 testing: Strategies to streamline SARS-CoV-2 molecular assays. <i>EBioMedicine</i> , 2021, 64, 103236.	2.7	28
35	Simplified Paper Format for Detecting HIV Drug Resistance in Clinical Specimens by Oligonucleotide Ligation. <i>PLoS ONE</i> , 2016, 11, e0145962.	1.1	28
36	Comparison of point-of-care-compatible lysis methods for bacteria and viruses. <i>Journal of Microbiological Methods</i> , 2016, 128, 80-87.	0.7	27

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37	Rapid protein depletion from complex samples using a bead-based microfluidic device for the point of care. <i>Lab on A Chip</i> , 2009, 9, 3543.	3.1	25
38	The Seattle Flu Study: a multiarm community-based prospective study protocol for assessing influenza prevalence, transmission and genomic epidemiology. <i>BMJ Open</i> , 2020, 10, e037295.	0.8	25
39	Aptamer Sandwich Lateral Flow Assay (AptaFlow) for Antibody-Free SARS-CoV-2 Detection. <i>Analytical Chemistry</i> , 2022, 94, 7278-7285.	3.2	25
40	Current Status of Point-of-Care Testing for Human Immunodeficiency Virus Drug Resistance. <i>Journal of Infectious Diseases</i> , 2017, 216, S824-S828.	1.9	23
41	Long-term dry storage of enzyme-based reagents for isothermal nucleic acid amplification in a porous matrix for use in point-of-care diagnostic devices. <i>Analyst</i> , The, 2020, 145, 6875-6886.	1.7	23
42	Diagnosing Pulmonary Tuberculosis by Using Sequence-Specific Purification of Urine Cell-Free DNA. <i>Journal of Clinical Microbiology</i> , 2021, 59, e0007421.	1.8	23
43	OLA-Simple: A software-guided HIV-1 drug resistance test for low-resource laboratories. <i>EBioMedicine</i> , 2019, 50, 34-44.	2.7	22
44	Programming paper networks for point of care diagnostics. , 2013, , .		21
45	Threshold-Based Quantification in a Multiline Lateral Flow Assay via Computationally Designed Capture Efficiency. <i>Analytical Chemistry</i> , 2018, 90, 6643-6650.	3.2	18
46	Evaluating Specimen Quality and Results from a Community-Wide, Home-Based Respiratory Surveillance Study. <i>Journal of Clinical Microbiology</i> , 2021, 59, .	1.8	17
47	Flow control using audio tones in resonant microfluidic networks: towards cell-phone controlled lab-on-a-chip devices. <i>Lab on A Chip</i> , 2016, 16, 3260-3267.	3.1	15
48	Near point-of-care, point-mutation test to detect drug resistance in HIV-1: a validation study in a Mexican cohort. <i>Aids</i> , 2020, 34, 1331-1338.	1.0	14
49	Synthesis and properties of Er ³⁺ -doped silica glass by sol-gel processing with organic complexation. <i>Journal of Materials Science</i> , 2001, 36, 985-993.	1.7	12
50	Characterizing Homogeneous Chemistry Using Well-Mixed Microeddies. <i>Analytical Chemistry</i> , 2006, 78, 1606-1612.	3.2	12
51	The Design and Evaluation of a Mobile System for Rapid Diagnostic Test Interpretation. , 2021, 5, 1-26.		12
52	Multiplex Target-Redundant RT-LAMP for Robust Detection of SARS-CoV-2 Using Fluorescent Universal Displacement Probes. <i>Microbiology Spectrum</i> , 2022, 10, .	1.2	12
53	Two-Fluorophore Mobile Phone Imaging of Biplexed Real-Time NAATs Overcomes Optical Artifacts in Highly Scattering Porous Media. <i>Analytical Chemistry</i> , 2020, 92, 13066-13072.	3.2	9
54	Isothermal Amplification with a Target-Mimicking Internal Control and Quantitative Lateral Flow Readout for Rapid HIV Viral Load Testing in Low-Resource Settings. <i>Analytical Chemistry</i> , 2022, 94, 1011-1021.	3.2	9

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55	Ultrasensitive hybridization capture: Reliable detection of ≤ 1 copy/mL short cell-free DNA from large-volume urine samples. PLoS ONE, 2021, 16, e0247851.	1.1	8
56	A Systematic Review of Clinical Prediction Rules for the Diagnosis of Influenza. Journal of the American Board of Family Medicine, 2021, 34, 1123-1140.	0.8	8
57	Frequency tuning allows flow direction control in microfluidic networks with passive features. Lab on A Chip, 2017, 17, 1552-1558.	3.1	7
58	Diagnostic accuracy of an app-guided, self-administered test for influenza among individuals presenting to general practice with influenza-like illness: study protocol. BMJ Open, 2020, 10, e036298.	0.8	7
59	Flu@home: the Comparative Accuracy of an At-Home Influenza Rapid Diagnostic Test Using a Prepositioned Test Kit, Mobile App, Mail-in Reference Sample, and Symptom-Based Testing Trigger. Journal of Clinical Microbiology, 2022, 60, JCM0207021.	1.8	6
60	Evidence of a molecular chemisorption-mediated mechanism for high translational energy oxygen adsorption on Pt(100)-hex-R0.7Å ² . Chemical Physics Letters, 1999, 309, 111-116.	1.2	5
61	Diagnostic Accuracy of an At-Home, Rapid Self-test for Influenza: Prospective Comparative Accuracy Study. JMIR Public Health and Surveillance, 2022, 8, e28268.	1.2	5
62	Rapid Near Point-of-Care Assay for <i>HLA-B*57:01</i> Genotype Associated with Severe Hypersensitivity Reaction to Abacavir. AIDS Research and Human Retroviruses, 2021, 37, 930-935.	0.5	4
63	A physical framework for implementing virtual models of intracranial pressure and cerebrospinal fluid dynamics in hydrocephalus shunt testing. Journal of Neurosurgery: Pediatrics, 2016, 18, 296-305.	0.8	3
64	Urine Biomarker Assessment of Infant Adherence to Isoniazid Prophylaxis. Pediatric Infectious Disease Journal, 2021, 40, e43-e45.	1.1	3
65	Evaluating an app-guided self-test for influenza: lessons learned for improving the feasibility of study designs to evaluate self-tests for respiratory viruses. BMC Infectious Diseases, 2021, 21, 617.	1.3	3
66	Mobile Tuberculosis Treatment Support Tools to Increase Treatment Success in Patients with Tuberculosis in Argentina: Protocol for a Randomized Controlled Trial. JMIR Research Protocols, 2021, 10, e28094.	0.5	3
67	Characterizing the molecular composition and diagnostic potential of Mycobacterium tuberculosis urinary cell-free DNA using next-generation sequencing. International Journal of Infectious Diseases, 2021, 112, 330-337.	1.5	3
68	Frequency characterization of flow magnitude and phase in resonant microfluidic circuits. Analytical Methods, 2017, 9, 5425-5432.	1.3	2
69	Technical Advances in the Treatment of Hydrocephalus: Current and Future State. , 2019, , 363-380.		2
70	The impact of a rapid home test on telehealth decision-making for influenza: a clinical vignette study. , 2022, 23, 75.		2
71	1775. A Community-wide Study to Evaluate the Accuracy of Self-testing for Influenza: Works in Progress. Open Forum Infectious Diseases, 2019, 6, S654-S654.	0.4	1
72	Implementation of an interactive mobile application to pilot a rapid assay to detect HIV drug resistance mutations in Kenya. PLOS Global Public Health, 2022, 2, e0000185.	0.5	1

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73	Requirements and Study Designs for U.S. Regulatory Approval of Influenza Home Tests. Journal of Clinical Microbiology, 2022, 60, JCM0188421.	1.8	1
74	Simultaneous monitoring of HIV viral load and screening of SARS- CoV-2 employing a low-cost RT-qPCR test workflow. Analyst, The, 0, , .	1.7	1