

Lab on a Chip

Devices and applications at the micro- and nanoscale
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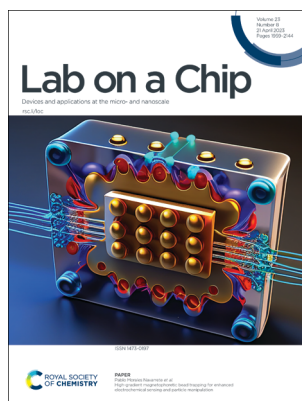
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IN THIS ISSUE

ISSN 1473-0197 CODEN LCAHAM 23(8) 1959-2144 (2023)



Cover
See Chao Li, Warren E. Rose, David J. Beebe *et al.*, pp. 2005–2015.
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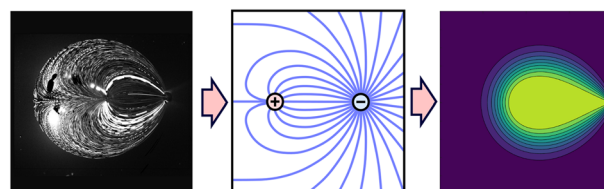
Inside cover
See Pablo Morales Navarrete *et al.*, pp. 2016–2028.
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TUTORIAL REVIEW

1967

The 2D microfluidics cookbook – modeling convection and diffusion in plane flow devices

Etienne Boulais* and Thomas Gervais*

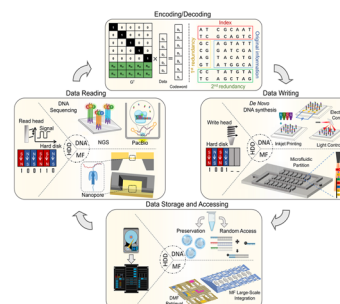


CRITICAL REVIEW

1981

The emerging landscape of microfluidic applications in DNA data storage

Yuan Luo,* Zhen Cao,* Yifan Liu,* Rong Zhang, Shijia Yang, Ning Wang, Qingyuan Shi, Jie Li, Shurong Dong, Chunhai Fan and Jianlong Zhao



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Lab on a Chip (electronic: ISSN 1473-0189) is published 24 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF.

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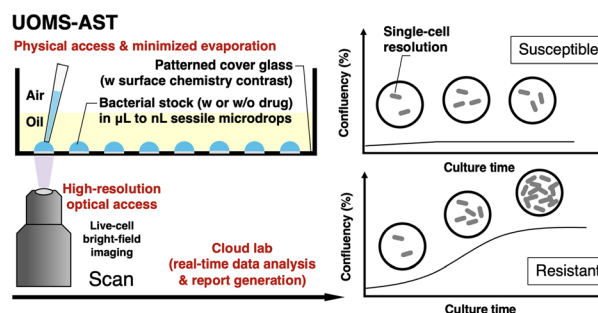


COMMUNICATION

2005

Under-oil open microfluidic systems for rapid phenotypic antimicrobial susceptibility testing

Chao Li,* Sue McCrone, Jay W. Warrick, David R. Andes, Zachary Hite, Cecilia F. Volk, Warren E. Rose* and David J. Beebe*

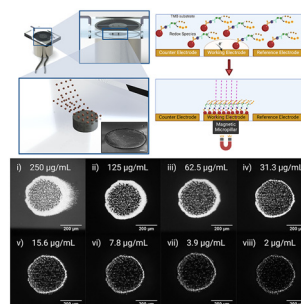


PAPERS

2016

High-gradient magnetophoretic bead trapping for enhanced electrochemical sensing and particle manipulation

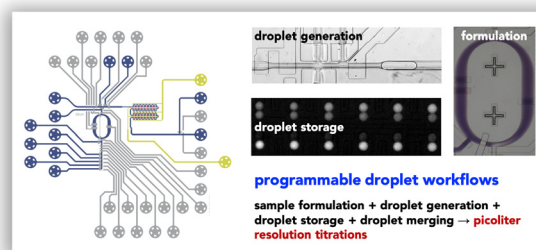
Pablo Morales Navarrete,* Kai Chun Eddie Tjon, Zahrasadat Hosseini and Jie Yuan



2029

Towards an active droplet-based microfluidic platform for programmable fluid handling

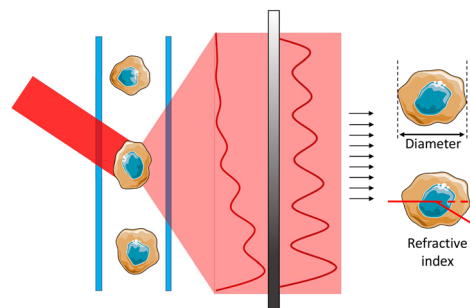
Xiaobao Cao, Tomas Buryska, Tianjin Yang, Jing Wang, Peter Fischer, Aaron Streets, Stavros Stavrakis* and Andrew deMello*



2039

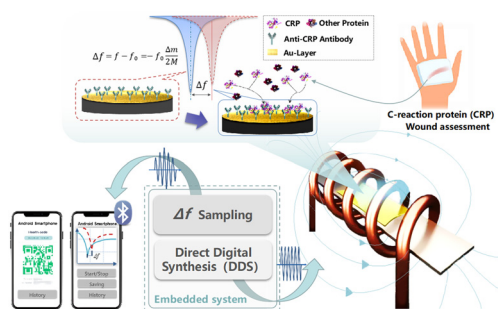
A low-cost, label-free microfluidic scanning flow cytometer for high-accuracy quantification of size and refractive index of particles

Riccardo Reale,* Giovanna Peruzzi, Maryamsadat Ghoreishi, Helena Stabile, Giancarlo Ruocco and Marco Leonetti



PAPERS

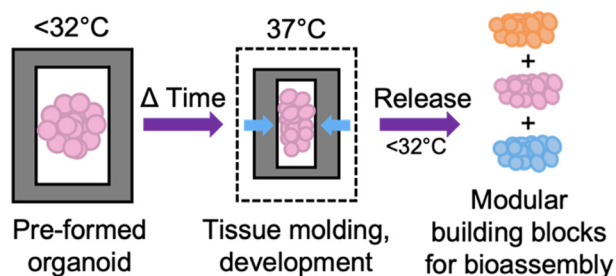
2048



A cost-effective smartphone-based device for rapid C-reactive protein (CRP) detection using magnetoelastic immunosensor

Zhongyun Yuan, Mengshu Han, Donghao Li, Runfang Hao, Xing Guo, Shengbo Sang,* Hongpeng Zhang, Xingyi Ma, Hu Jin, Zhijin Xing and Chun Zhao*

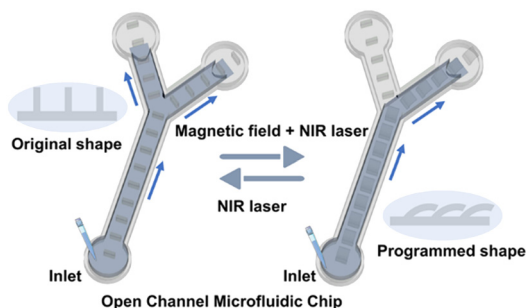
2057



Compressive molding of engineered tissues via thermoresponsive hydrogel devices

Camille Cassel de Camps, Stephanie Mok, Emily Ashby, Chen Li, Paula Lépine, Thomas M. Durcan and Christopher Moraes*

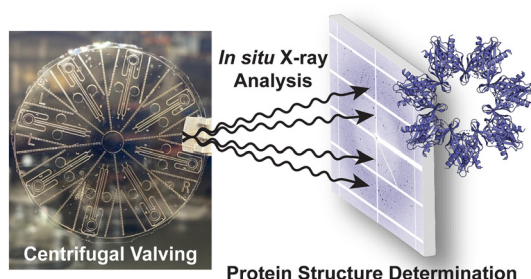
2068



Open-channel microfluidic chip based on shape memory polymer for controllable liquid transport

Wen-Qi Ye, Xiao-Peng Liu, Ruo-Fei Ma, Chun-Guang Yang and Zhang-Run Xu*

2075



Polymer-based microfluidic device for on-chip counter-diffusive crystallization and *in situ* X-ray crystallography at room temperature

Sarthak Saha, Can Özden, Alfred Samkutty, Silvia Russi, Aina Cohen, Margaret M. Stratton and Sarah L. Perry*

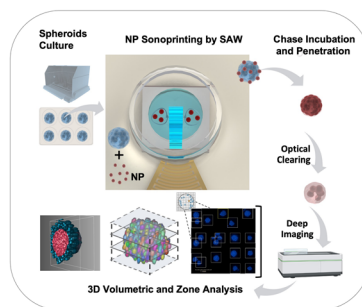


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Sonoprinting nanoparticles on cellular spheroids *via* surface acoustic waves for enhanced nanotherapeutics delivery

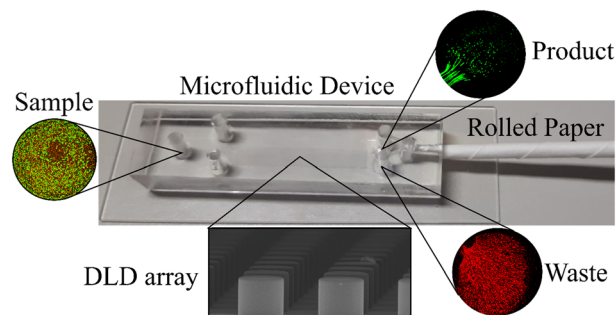
Reza Rasouli, Radu Alexandru Paun and Maryam Tabrizian*



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Pumpless deterministic lateral displacement separation using a paper capillary wick

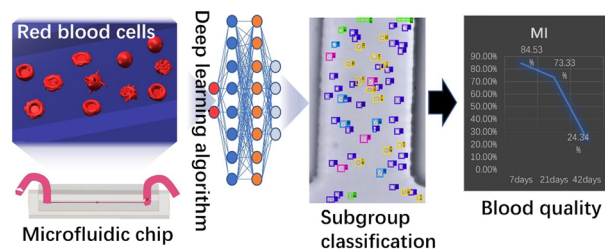
Behrouz Aghajanloo, Fatemeh Ejeian, Francesca Frascella, Simone L. Marasso, Matteo Cocuzza, Alireza Fadaei Tehrani, Mohammad Hossein Nasr Esfahani and David W. Inglis*



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Blood quality evaluation *via* on-chip classification of cell morphology using a deep learning algorithm

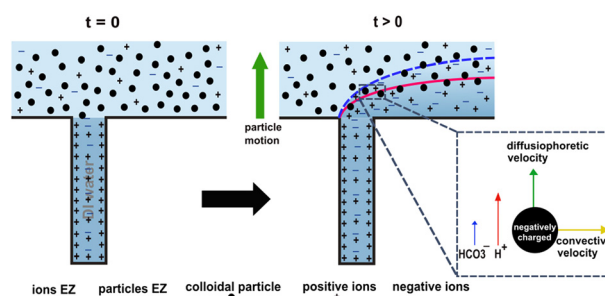
Yuping Yang, Hong He, Junju Wang, Li Chen, Yi Xu, Chuang Ge* and Shunbo Li*



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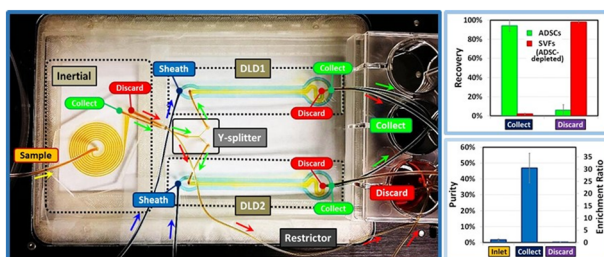
Self-generated exclusion zone in a dead-end pore microfluidic channel

Matina Nooryani, Anne M. Benneker and Giovanniantonio Natale*



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Label-free enrichment of human adipose-derived stem cells using a continuous microfluidic sorting cascade

Lap Man Lee,* George J. Klarmann, Dustin W. Haithcock, Yi Wang, Ketan H. Bhatt, Balabhaskar Prabhakarpandian, Kapil Pant, Luis M. Alvarez and Eva Lai

CORRECTION

2141

Correction: Bubble-enhanced ultrasonic microfluidic chip for rapid DNA fragmentation

Lin Sun, Thomas Lehnert, Songjing Li and Martin A. M. Gijs*

