

Lab on a Chip

Devices and applications at the micro- and nanoscale
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Cover
See Louis P. Widom *et al.*, pp. 3327–3344.
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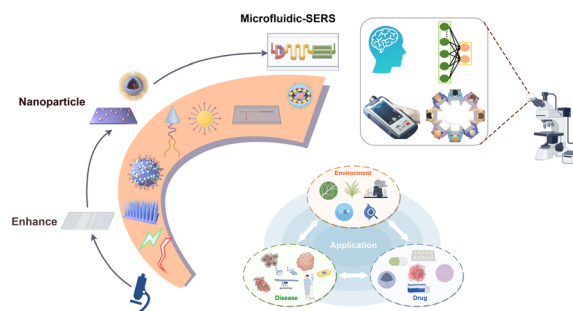
Inside cover
See Xiaobing Zhou *et al.*, pp. 3345–3365.
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CRITICAL REVIEW

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Point-of-care SERS platforms: integrating microfluidics and machine learning for disease screening

Biqing Chen, Xiaohong Qiu* and Yang Li*

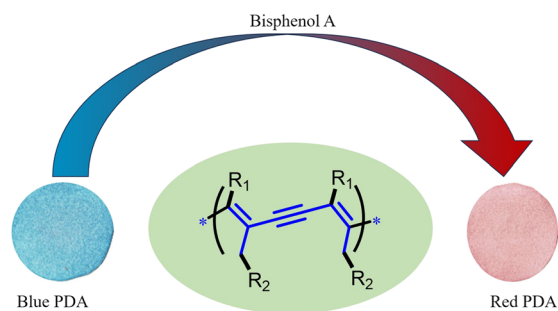


COMMUNICATION

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Polydiacetylene (PDA) coated paper-based fluorescence sensor for the detection and quantification of bisphenol

Gayathri Loganathan, Shubham Gurav, Khaja Moinuddin Shaik, Pirangi Srikanth, Aman Bhardwaj and Sukhendu Nandi*





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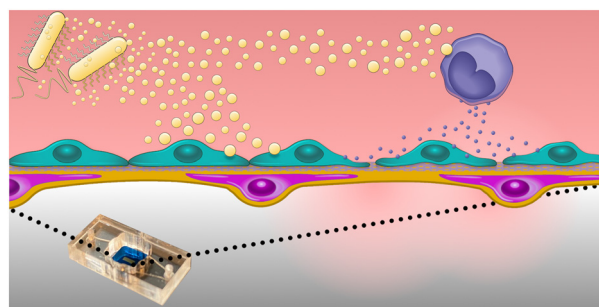
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Bacterial extracellular vesicles indirectly destabilize a human stem cell-derived blood–brain barrier on-chip through pro-inflammatory stimulation of immune cells

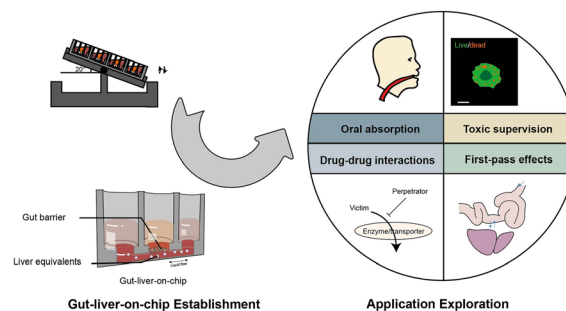
Louis P. Widom, Panteha Torabian, Michelle A. Trempel, Molly C. McCloskey, Lea V. Michel, James L. McGrath and Thomas R. Gaborski*



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Gut–liver-on-a-chip enables mechanistic study and risk assessment of drug-induced liver injury and drug–drug interactions

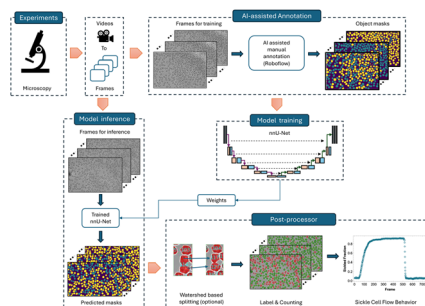
Yue Yu, Tian Lin, Xiao Ye, Yupeng Wang, Rongrong Xiao, Baiyang Sun, Manman Zhao, Jie Song, Bo Li and Xiaobing Zhou*



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An AI-enabled tool for quantifying overlapping red blood cell sickling dynamics in microfluidic assays

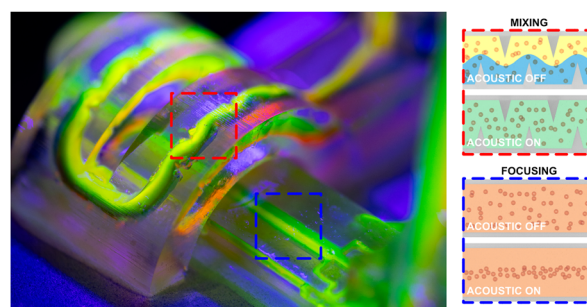
Nikhil Kadivar, Guansheng Li,* Jianlu Zheng, Ming Dao,* George Em Karniadakis* and Mengjia Xu*



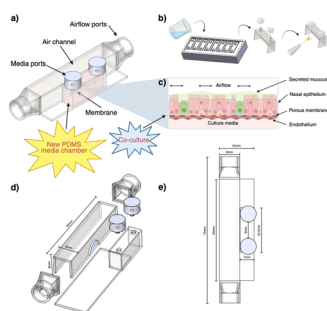
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3D printing monolithic, multifunctional polymer acoustofluidic devices with tunable mixing and particle focusing

Roxanne Kate Balanay, Justin W. Yip, Justin Do, Omair Adil, Keith Johnson and Tyler R. Ray*



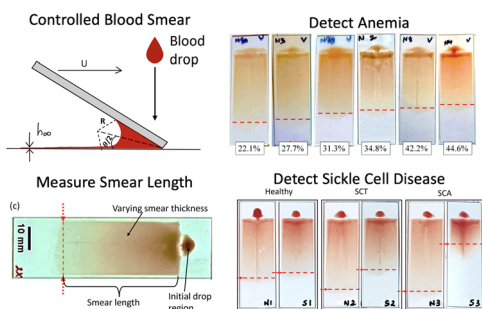
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Development of a nasal airway-on-chip co-culture model to study particulate matter exposure

Amanda C. Walls, Adrienne S. Vaughan and Kartik Balachandran*

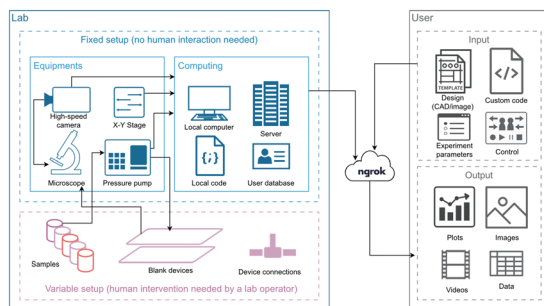
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Fluid mechanics of thin blood films to detect anemia and sickle cell disease

Mahrukh A. Mir, Mahesh S. Tirumkudulu* and Bhavesh Raicha

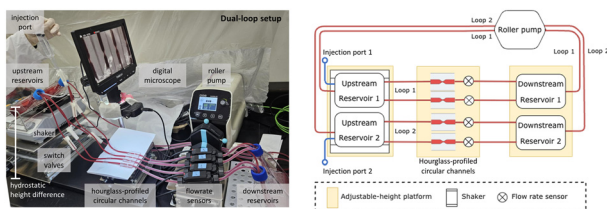
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On cloud microfluidic experiment platform powered by *in situ* maskless lithography

Ratul Paul, Declan Coster, Yuwen Zhao, Yi Liu and Yaling Liu*

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Independent parallel production of tunable blood clot analogues in hourglass-profiled circular PDMS fluidic channels

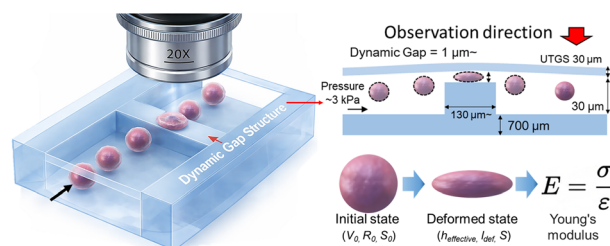
Chun-Hsin Hsu, To-Wen Chen, Wei-Jen Soong and Chihchen Chen*



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Dynamic gap structure for high-throughput measurement of cellular mechanical properties

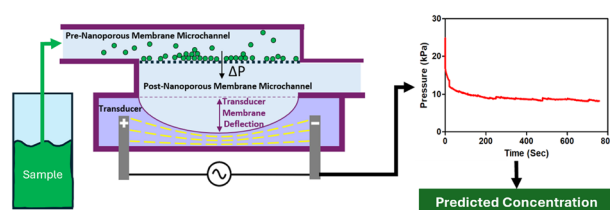
Doudou Ma, Nobutoshi Ota, Masaya Taniguchi, Yu-Hau Ye, Yuri Ito, Kazunori Okano, Naomi Tanga, Yoichiro Hosokawa, Kazuya Sakai, Yo Tanaka, Koki Yamamoto* and Yaxiaer Yalikun*



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Nanomembrane-based microfluidic platform with embedded electrical pressure transducer for on-chip nanoparticle quantification

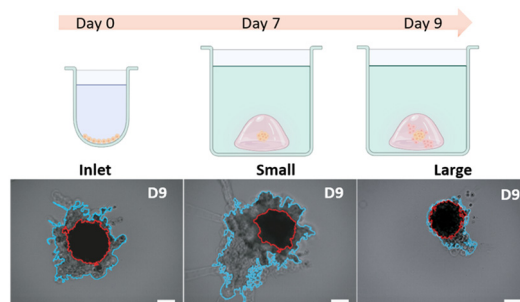
Zachary Morris, Juliana Chawich, Owen Perreault, Simon Chewchuk, Kate Gragg, Vincent Tabard-Cossa, James L. McGrath and Michel Godin*



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Size-based sorting of cancer cells reveals functional heterogeneity among subpopulations

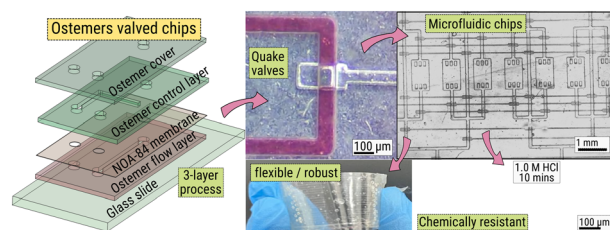
Esra Yilmaz, Zhimeng Fan, Jason P. Beech, Vinay S. Swaminathan* and Jonas O. Tegenfeldt*



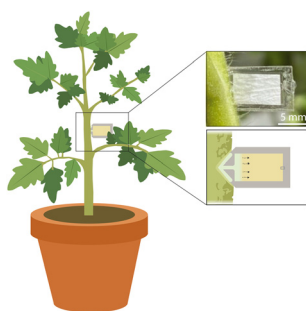
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Valved microfluidics with Ostemers

Naveen Kumar K. R., Saima Hamid, A. K. Niketa, Ekta Prajapati and Shishir Kumar*



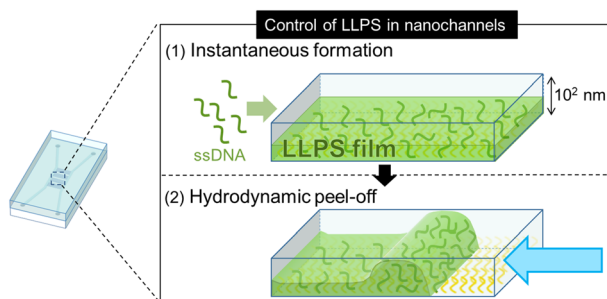
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Capillary microsampling enables on-site collection and storage of plant sap

Ellinor Hedberg, Jaime Sebastián-Azcona, Federico Ribet, Virginia Hernandez-Santana, Göran Stemme, Antonio Diaz Espejo and Niclas Roxhed*

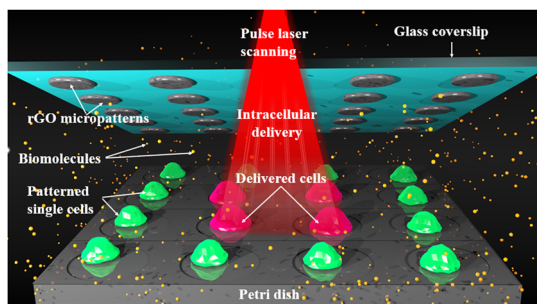
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Flow-programmable and reversible surface-induced LLPS in nanofluidic channels

Ryoichi Ohta,* Zhixin Zhao, Xuan Yan, Ruying Wang and Kazuma Mawatari*

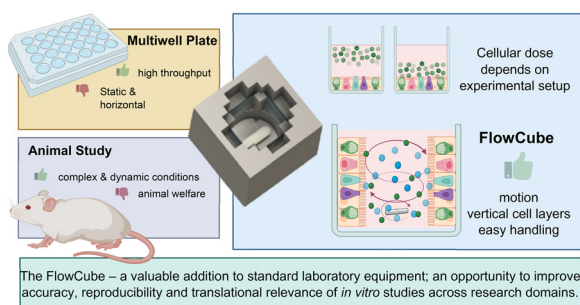
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Thin stencil membrane-assisted high throughput single-cell to cluster of cells micropatterning and large-size biomolecular transfection in primary and stem cells

Donia Dominic, Srabani Kar, Rajdeep Ojha, Moeto Nagai and Tuhin Subhra Santra*

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A novel 3D-printed tool for *in vitro* cell interaction studies under flow conditions

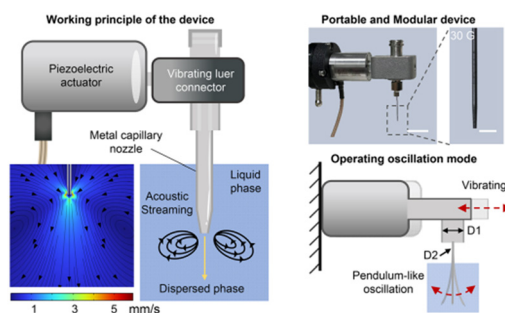
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A portable modular acoustic streaming vortex platform for flexible and robust fabrication of monodisperse micromaterials

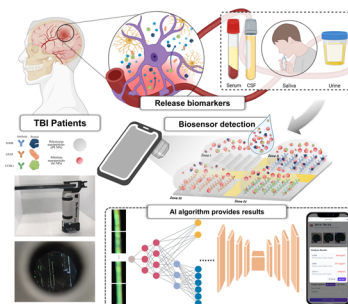
Xiaoping Miao, Tianao Chen, Jijie Fu, Shilu Zhu, Mei Lan, Huayi Fu, Zhiqiang Zhu, Mingzhai Sun and Ronald X. Xu*



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Multiplexed nanophotonic biosensing and deep learning-driven protein quantification for traumatic brain injury diagnosis at the point of care

Jiayu Liu, Yuxin Wang, Shichao Su, Meng Su, Wenying Lv, Zhao Gao, Congwei Liu, Yanteng Li, Junzhao Sun, Peng Wang, Baorui Guo, Fan Yang, Renke He, Yanlin Song,* Zeying Zhang,* Jianning Zhang* and Gang Cheng*



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Microfluidic profiling of suspension cell–metal adhesion at single-cell resolution under flow

Eunyoung Park, Seungjin Kang, Jieung Oh, Sangwoo Kim and Ung Hyun Ko*

