

Lab on a Chip

Devices and applications at the micro- and nanoscale
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Cover

See Lawrence G. Welch, Emma L. Talbot *et al.*, pp. 3763–3774.

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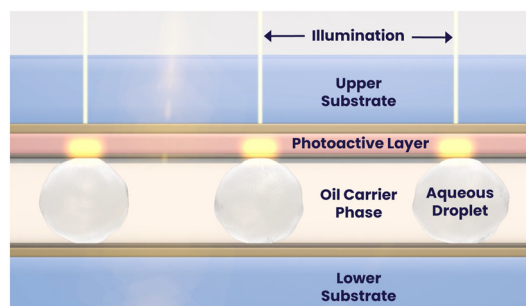
The authors acknowledge KISS Communications, the agency that helped to generate the artwork.

PAPERS

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A programmable and automated optical electrowetting-on-dielectric (oEWOD) driven platform for massively parallel and sequential processing of single cell assay operations

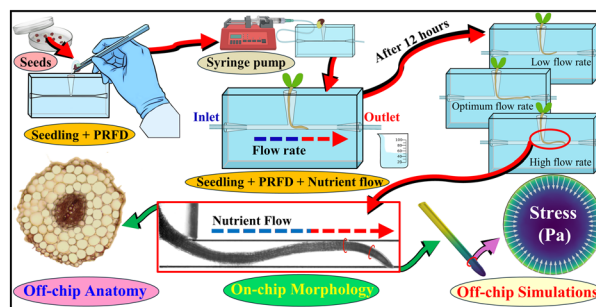
L. G. Welch,* J. Estranero, P. Tourlomousis, R. C. R. Wootton, V. Radu, C. González-Fernández, T. J. Puchtler, C. M. Murzeau, N. M. G. Dieckmann, A. Shibahara, B. W. Longbottom, C. E. Bryant and E. L. Talbot*



3775

Unveiling nutrient flow-mediated stress in plant roots using an on-chip phytofluidic device

Kaushal Agarwal, Sumit Kumar Mehta and Pranab Kumar Mondal*



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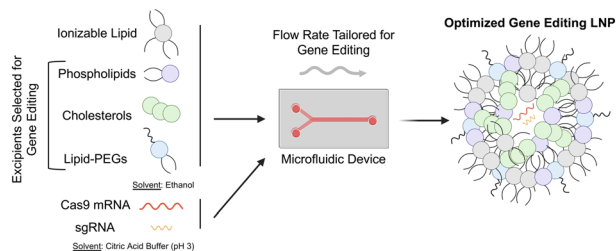
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3790

Optimized microfluidic formulation and organic excipients for improved lipid nanoparticle mediated genome editing

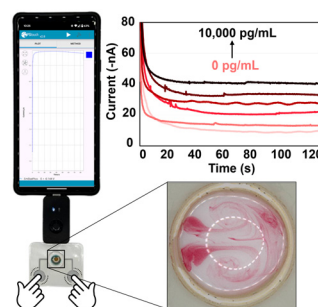
Rohan Palanki, Emily L. Han, Amanda M. Murray, Rohin Maganti, Sophia Tang, Kelsey L. Swingle, Dongyoon Kim, Hannah Yamagata, Hannah C. Safford, Kaitlin Mrksich, William H. Peranteau* and Michael J. Mitchell*



3802

Microfluidic finger-actuated mixer for ultrasensitive electrochemical measurements of protein biomarkers for point-of-care testing

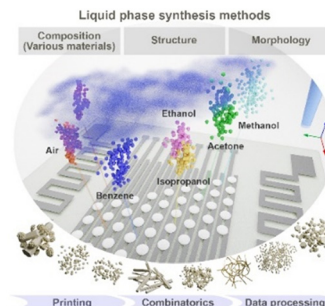
Benjamin Utzinger, Desh Deepak Dixit and Peter B. Lillehoj*



3810

Multioxide combinatorial libraries: fusing synthetic approaches and additive technologies for highly orthogonal electronic noses

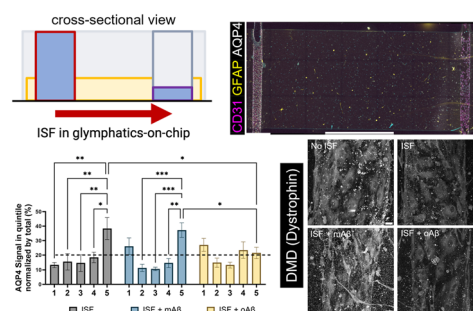
Vishalkumar Rajeshbhai Gohel, Margarita Chetyrkina, Andrey Gaev, Nikolay P. Simonenko, Tatiana L. Simonenko, Philipp Yu. Gorobtsov, Nikita A. Fisenko, Darya A. Dudorova, Valeriy Zaytsev, Anna Lantsberg, Elizaveta P. Simonenko, Albert G. Nasibulin and Fedor S. Fedorov*



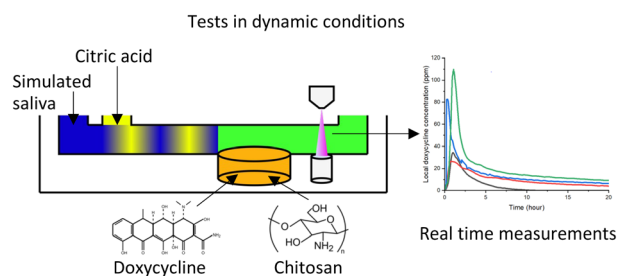
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Monomeric and oligomeric amyloid- β cause distinct Alzheimer's disease pathophysiological characteristics in astrocytes in human glymphatics-on-chip models

Aria R. Yslas, Rena Park, Nozomi Nishimura and Esak Lee*



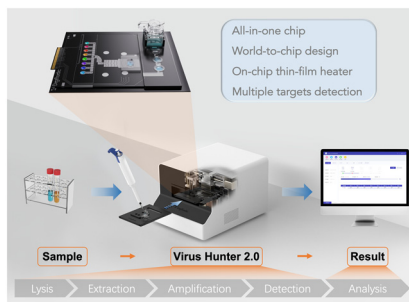
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A novel microfluidic tool for the evaluation of local drug delivery systems in simulated *in vivo* conditions

William A. Oates and Antonios D. Anastasiou*

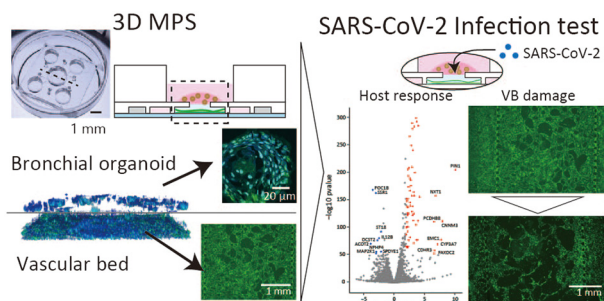
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A syndromic diagnostic assay on a macrochannel-to-digital microfluidic platform for automatic identification of multiple respiratory pathogens

Cheng Dong, Fei Li, Yun Sun, Dongling Long, Chunzhao Chen, Mengyan Li, Tao Wei, Rui P. Martins, Tianlan Chen* and Pui-In Mak*

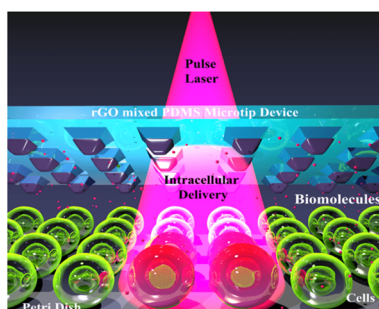
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SARS-CoV-2-induced disruption of a vascular bed in a microphysiological system caused by type-I interferon from bronchial organoids

Kazuya Fujimoto, Yoshikazu Kameda, Yuta Nagano, Sayaka Deguchi, Takuya Yamamoto, Rafal P. Krol, Peter Gee, Yasufumi Matsumura, Toru Okamoto, Miki Nagao, Kazuo Takayama* and Ryuji Yokokawa*

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Ultra-low intensity light pulses for large cargo delivery into hard-to-transfect cells using an rGO mixed PDMS microtip device

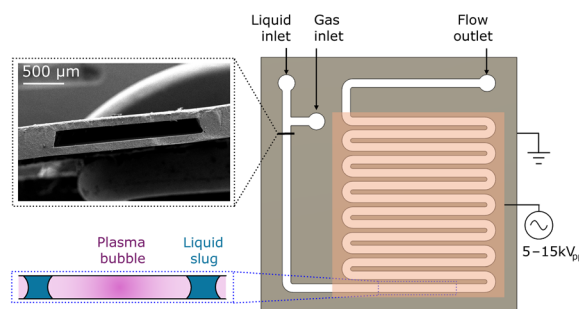
Hima Harshan Padma, Kavitha Illath, Donia Dominic, Hwan-You Chang, Moeto Nagai, Rajdeep Ojha, Srabani Kar and Tuhin Subhra Santra*



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Microreactor designed for efficient plasma–liquid segmented flows

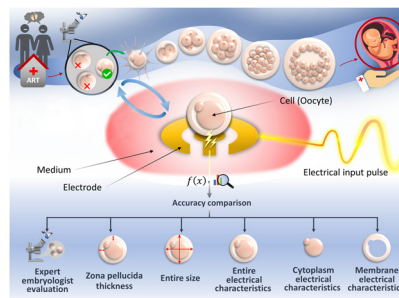
Pierre Dedieu, Gabriel Morand, Karine Loubière, Stéphanie Ognier* and Michael Tatoulian



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Simple bioelectrical microsensor: oocyte quality prediction via membrane electrophysiological characterization

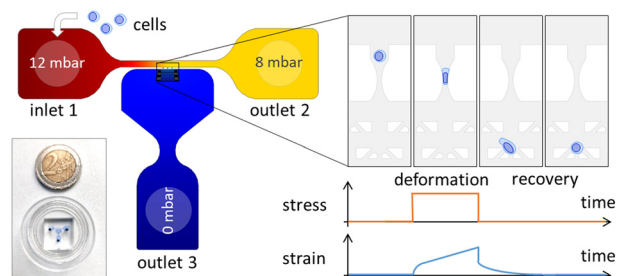
Peyman Palay, Davood Fathi,* Hassan Saffari, Fatemeh Hassani, Samira Hajiaghalou and Rouhollah Fathi*



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Deformation under flow and morphological recovery of cancer cells

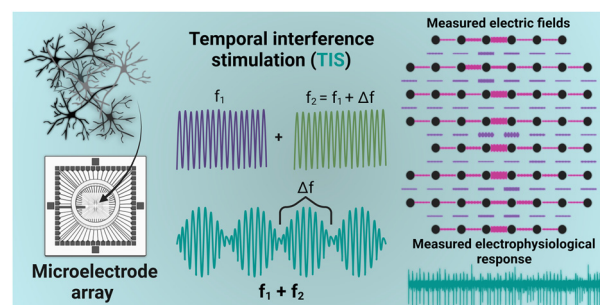
Emile Gasser,* Emilie Su, Kotryna Vaidziulytė, Nassiba Abbade, Hamizah Cognart, Jean-Baptiste Manneville, Jean-Louis Viovy, Matthieu Piel, Jean-Yves Pierga, Kyohei Terao* and Catherine Villard*



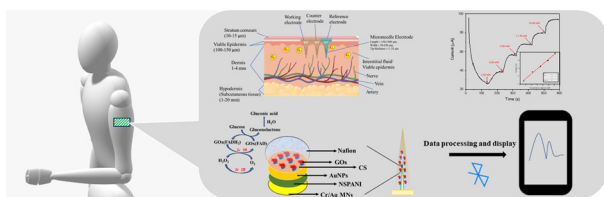
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Electric field temporal interference stimulation of neurons *in vitro*

Annika Ahtiainen,* Lilly Leydolph, Jarno M. A. Tanskanen, Alexander Hunold, Jens Haueisen and Jari A. K. Hyttinen



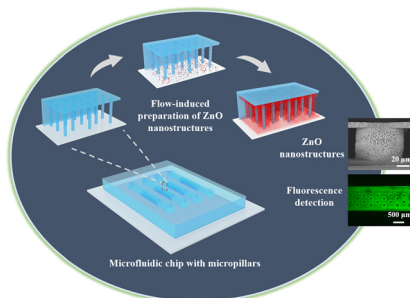
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Early detection of hypo/hyperglycemia using a microneedle electrode array-based biosensor for glucose ultrasensitive monitoring in interstitial fluid

Samar H. Tawakey, Mohammad Mansour, Ahmed Soltan and Alyaa I. Salim*

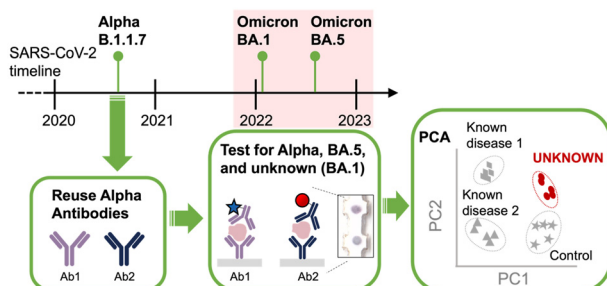
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Flow-induced fabrication of ZnO nanostructures in pillar-arrayed microchannels

Ruyi Xu, Siyu Li, Sai-Xi Yu, Yan-Jun Liu, Wenhui Xie, Qingfeng Zhan, Zhenjie Zhao* and Xin Li*

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A novel immunoassay technique using principal component analysis for enhanced detection of emerging viral variants

Josselyn Mata Calidonio, Arianna I. Maddox and Kimberly Hamad-Schifferli*

