

Lab on a Chip

Devices and applications at the micro- and nanoscale
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EDITORIAL

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The evolution of miniaturization, automation, and integration – a new scope for *Lab on a Chip*

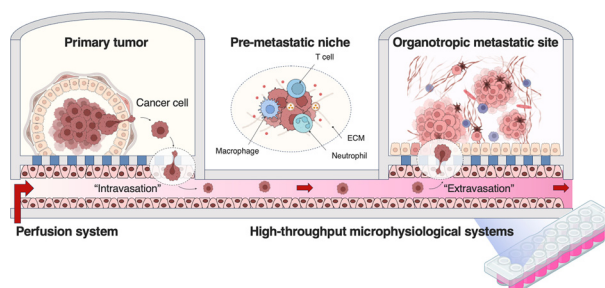


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Understanding organotropism in cancer metastasis using microphysiological systems

Jihoon Ko,* Jiyoung Song, Yedam Lee, Nakwon Choi and Hong Nam Kim*



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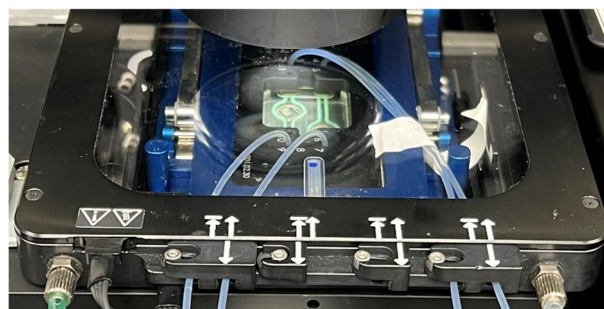


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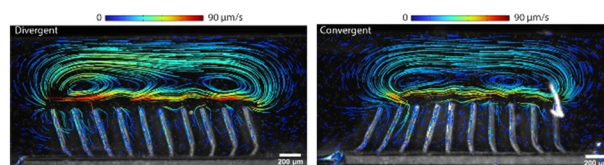


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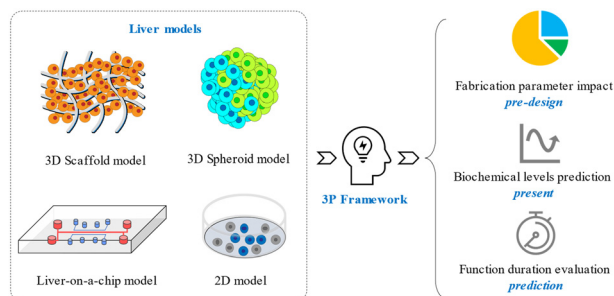
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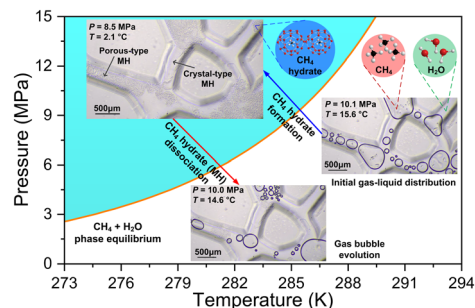
Jingmin An, Shuyu Zhang, Juan Wu, Haolin Chen, Guoshi Xu, Yifan Hou, Ruoyu Liu, Na Li, Wenjuan Cui, Xin Li,* Yi Du* and Qi Gu*



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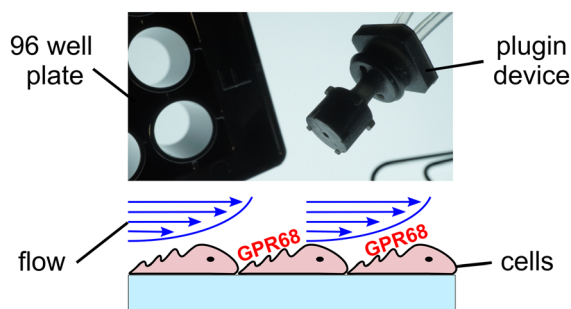
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Jidong Zhang, Zhenyuan Yin,* Saif A. Khan, Shuxia Li, Qingping Li, Xiaohui Liu and Praveen Linga



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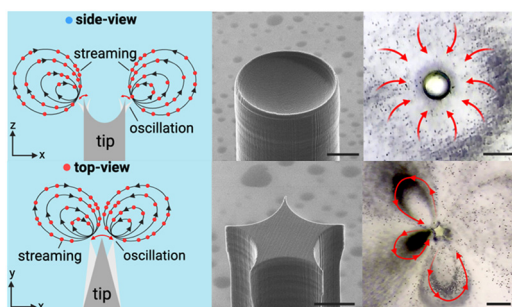
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Philipp Segeritz, Kirill Kolesnik, Daniel J. Scott* and David J. Collins*

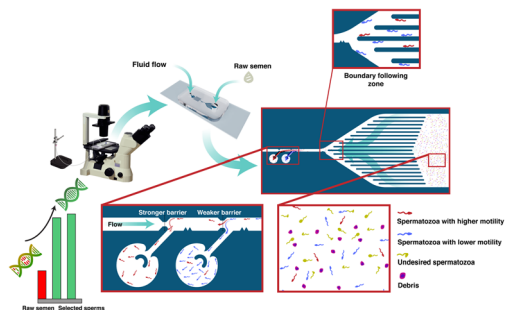
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William S. Harley, Kirill Kolesnik, Daniel E. Heath and David J. Collins*

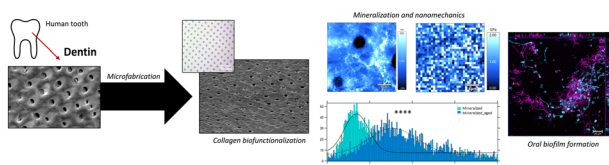
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Mohammadjavad Bouloorchi Tabalvandani, Saeed Javadizadeh and Majid Badirostami*

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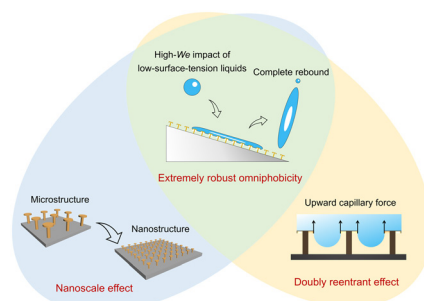


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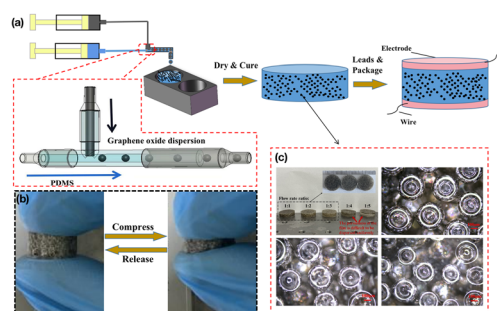
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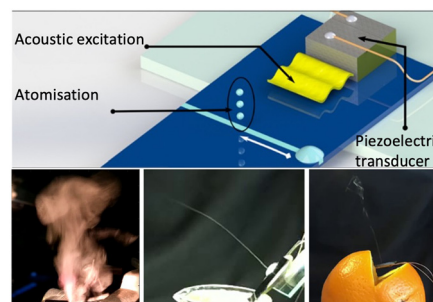
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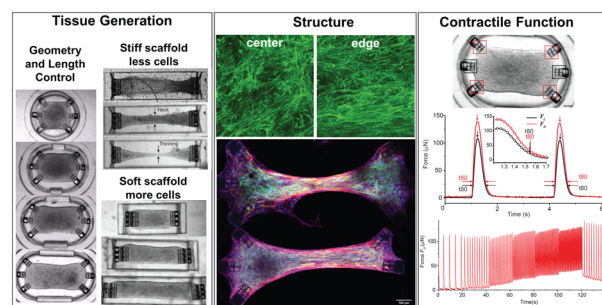
Nguyen Hoai An Le, Jason Brenker, Abanoub Shenoda, Zara Sheikh, Jackson Gum, Hui Xin Ong, Daniela Traini and Tuncay Alan*



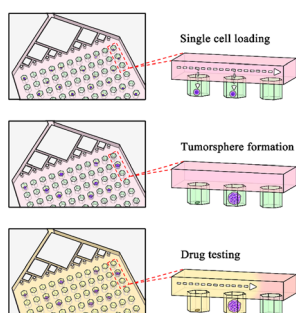
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Geometry and length control of 3D engineered heart tissues using direct laser writing

M. Çağatay Karakan, Jourdan K. Ewoldt, Addianette J. Segarra, Subramanian Sundaram, Miranda C. Wang, Alice E. White, Christopher S. Chen and Kamil L. Ekinici



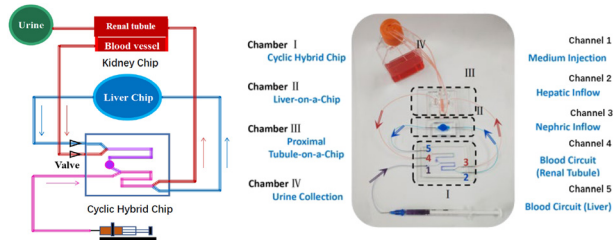
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Selective expansion of renal cancer stem cells using microfluidic single-cell culture arrays for anticancer drug testing

Xiaogang Wang, Tao He, Zihe Chen, Jueming Chen, Yanzhang Luo, Dongguo Lin, Xiancheng Li* and Dayu Liu

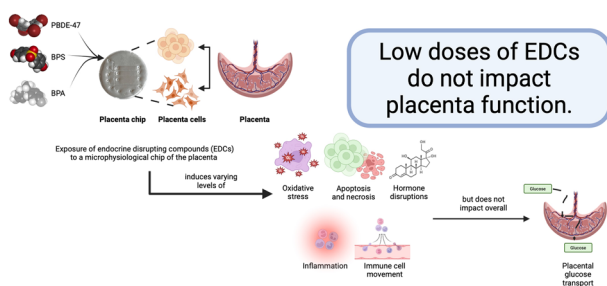
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A three-dimensional (3D) liver-kidney on a chip with a biomimicking circulating system for drug safety evaluation

Qihong Huang, Tianhao Yang, Yunpeng Song, Wenxuan Sun, Jian Xu,* Ya Cheng,* Ruixue Yin, Lili Zhu, Mengting Zhang, Lei Ma, Honglin Li and Hongbo Zhang*

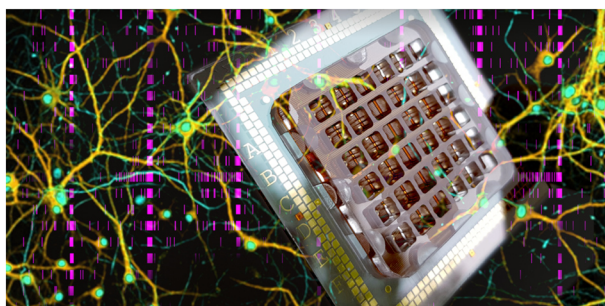
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Endocrine-disrupting compounds and their impact on human placental function: evidence from placenta organ-on-chip studies

Manuel S. Vidal Jr., Lauren S. Richardson, Ananth Kumar Kammala, Sungjin Kim, Po Yi Lam, Rahul Cherukuri, Tilu Jain Thomas, Mohammed Bettayeb, Arum Han, Ivan Rusyn and Ramkumar Menon*

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A microphysiological system for parallelized morphological and electrophysiological read-out of 3D neuronal cell culture

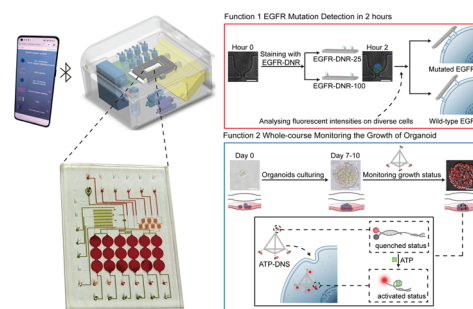
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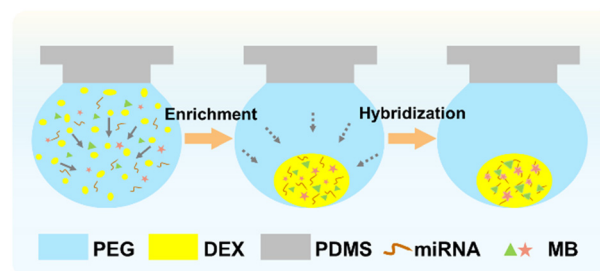
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Integrated phase separation in microliter droplets for ultratrace-enriching biomarker analysis

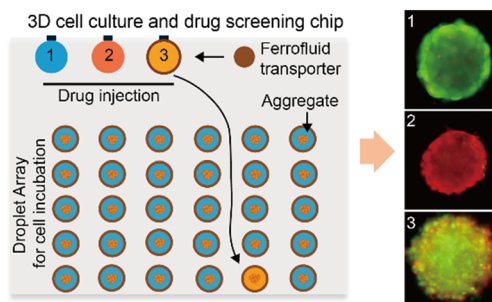
Qihao Zha, Yong Luo, Conghui Liu* and Tailin Xu



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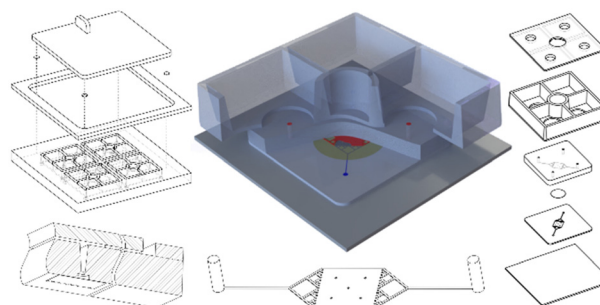
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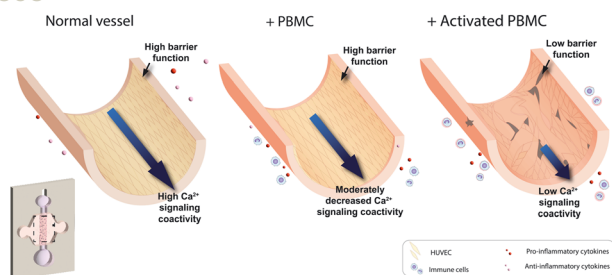


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Gravity-perfused airway-on-a-chip optimized for quantitative BSL-3 studies of SARS-CoV-2 infection: barrier permeability, cytokine production, immunohistochemistry, and viral load assays

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Immune cells and inflammatory mediators cause endothelial dysfunction in a vascular microphysiological system

Aishwarya Rengarajan, Hannah E. Goldblatt, David J. Beebe, María Virumbrales-Muñoz and Derek S. Boeldt*

