

# Lab on a Chip

## Devices and applications at the micro- and nanoscale rsc.li/loc

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See Hyunjung Lim, Aram J. Chung *et al.*, pp. 1229–1261.  
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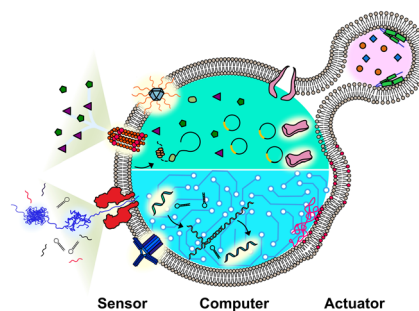
**Inside cover**  
See Hao Sun *et al.*, pp. 1419–1440.  
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### PERSPECTIVES

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#### Lipid vesicle-based molecular robots

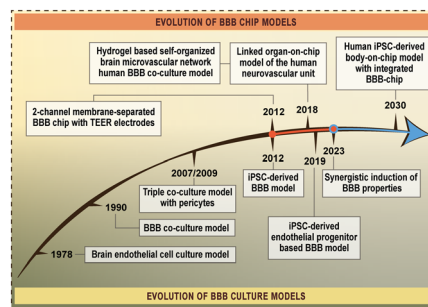
Zugui Peng, Shoji Iwabuchi, Kayano Izumi, Sotaro Takiguchi, Misa Yamaji, Shoko Fujita, Harune Suzuki, Fumika Kambara, Genki Fukasawa, Aileen Cooney, Lorenzo Di Michele,\* Yuval Elani,\* Tomoaki Matsuura\* and Ryuji Kawano\*



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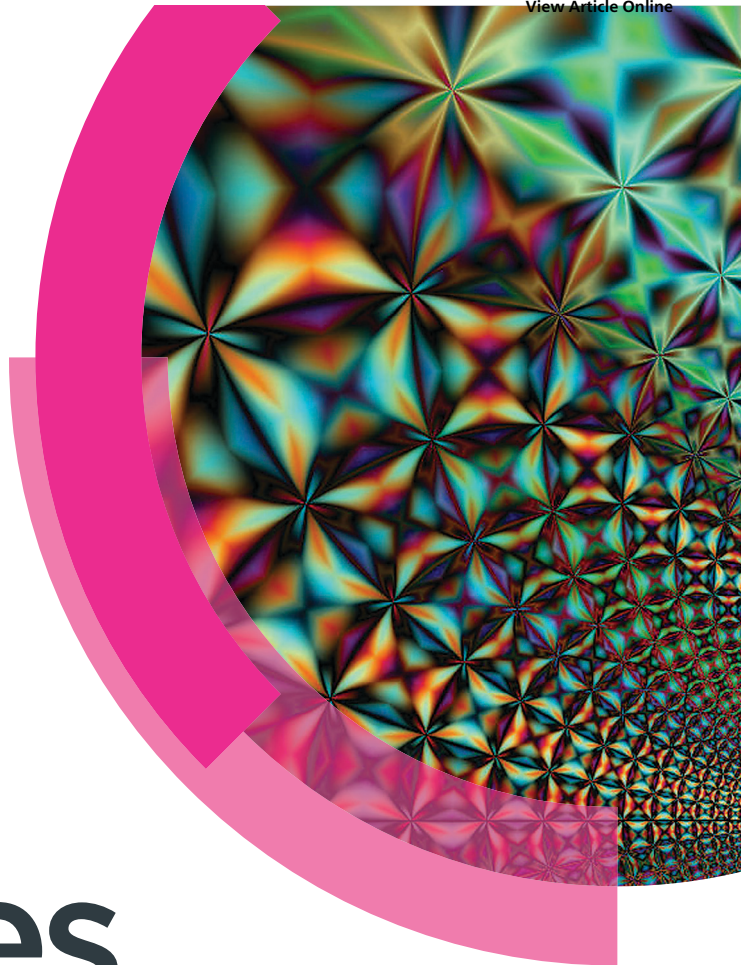


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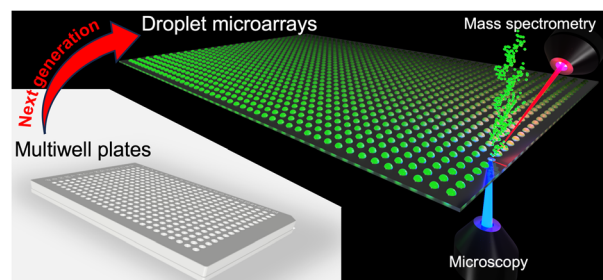


## PERSPECTIVES

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**Open microfluidics: droplet microarrays as next generation multiwell plates for high throughput screening**

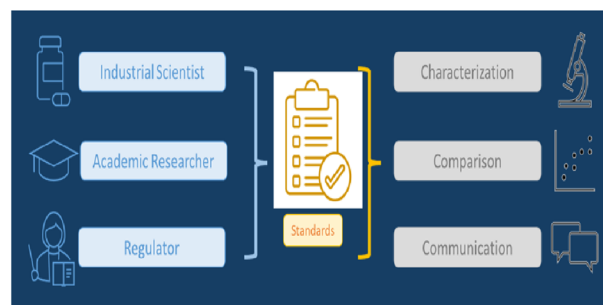
Robert Strutt, Bijing Xiong, Vanessa Fabienne Abegg and Petra S. Dittrich\*



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**From animal testing to *in vitro* systems: advancing standardization in microphysiological systems**

Darwin R. Reyes,\* Mandy B. Esch, Lorna Ewart, Rohollah Nasiri, Anna Herland, Kyung Sung, Monica Piergiovanni, Carolina Lucchesi, James T. Shoemaker, Jelena Vukasinovic, Hiroki Nakae, James Hickman, Kapil Pant, Anne Taylor, Niki Heinz and Nureddin Ashammakhi\*

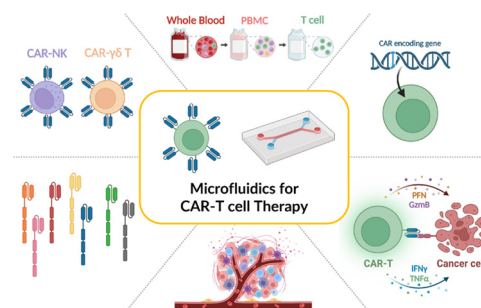


## CRITICAL REVIEWS

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**Expanding CAR-T cell immunotherapy horizons through microfluidics**

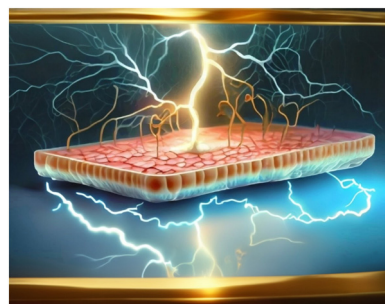
Hyelee Kim, Suyeon Kim, Hyunjung Lim\* and Aram J. Chung\*



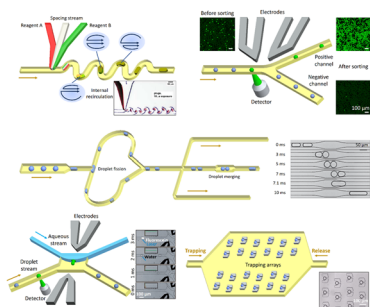
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Muriel A. Holzreuter\* and Loes I. Segerink



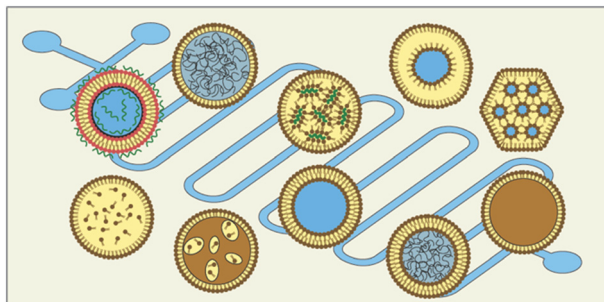
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Lang Nan, Huidan Zhang, David A. Weitz and Ho Cheung Shum\*

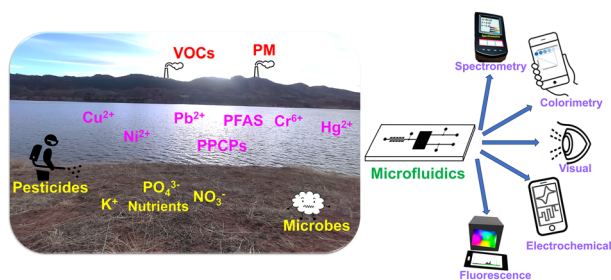
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Sima Mehraji and Don L. DeVoe\*

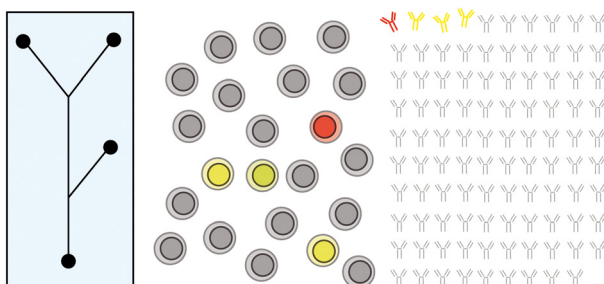
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Prakash Aryal, Claire Hefner, Brandaise Martinez and Charles S. Henry\*

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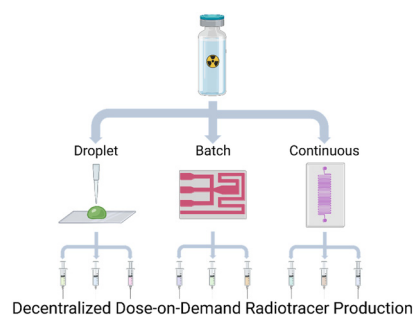
Luca Johannes Schlottheuber, Ines Luchtefeld and Klaus Eyer\*



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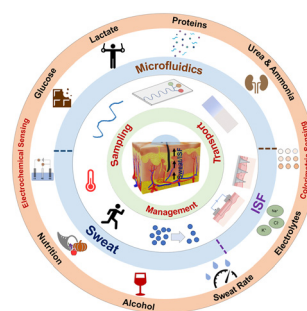
Mark Mc Veigh and Leon M. Bellan\*



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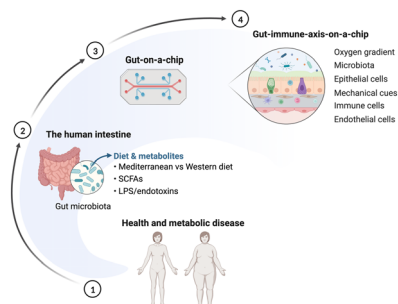
Tamoghna Saha,\* Sneha Mukherjee, Michael D. Dickey\* and Orlin D. Velev\*



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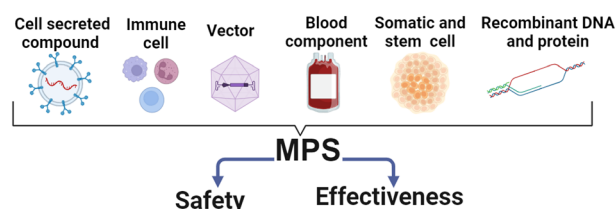
Alexandra E. Wheeler, Verena Stoeger and Róisín M. Owens\*



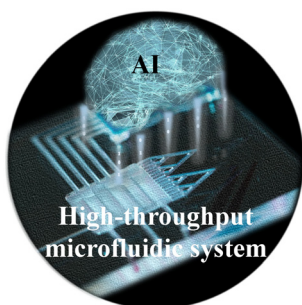
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Mona Mansouri, Johnny Lam and Kyung E. Sung\*



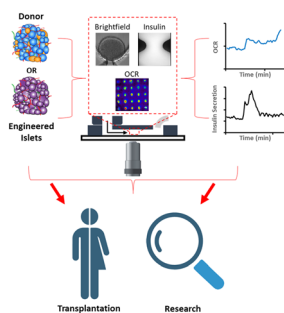
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Jianhua Zhou, Jianpei Dong, Hongwei Hou, Lu Huang\* and Jinghong Li\*

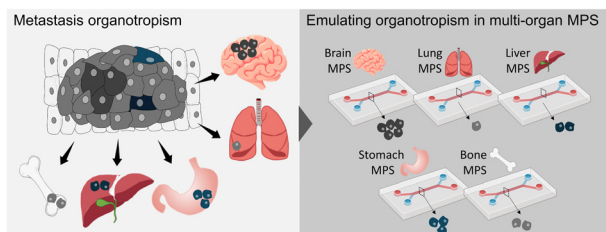
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Romario Regeenes and Jonathan V. Rocheleau\*

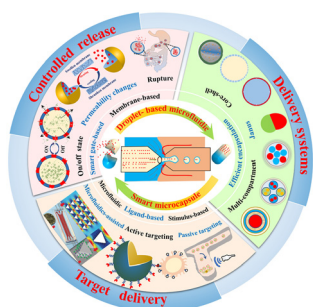
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Heejeong Yoon, Jonathan Sabaté del Río, Seung Woo Cho and Tae-Eun Park\*

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Lingling Ren, Shuang Liu, Junjie Zhong\* and Liyuan Zhang\*

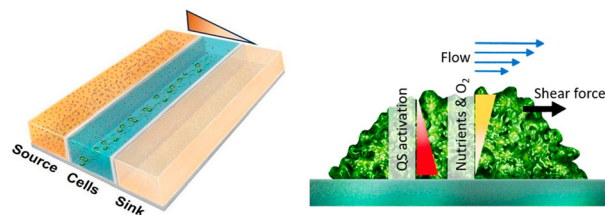


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**Microfluidic approaches in microbial ecology**

Giovanni Stefano Ugolini,\* Miaoxiao Wang, Eleonora Secchi, Roberto Pioli, Martin Ackermann and Roman Stocker\*

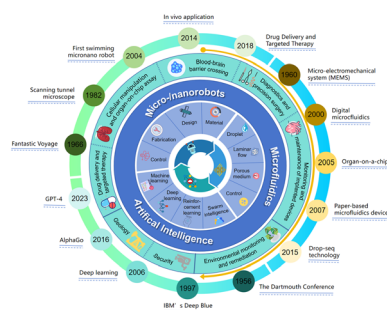


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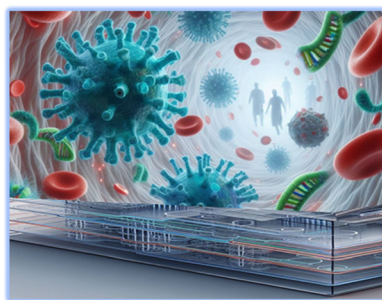
Hui Dong, Jiawen Lin, Yihui Tao, Yuan Jia, Lining Sun, Wen Jung Li and Hao Sun\*



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**Microfluidic systems for infectious disease diagnostics**

Thomas Lehnert\* and Martin A. M. Gijs



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Derrick Butler and Darwin R. Reyes\*

