

# Lab on a Chip

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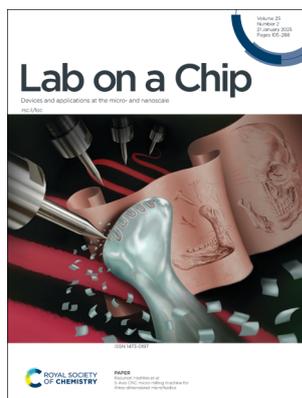
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## IN THIS ISSUE

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See Jürgen Popp *et al.*,  
pp. 119–126.  
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*Lab Chip*, 2025, 25, 119.



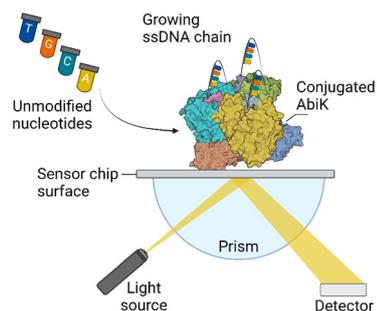
**Inside cover**  
See Kazunori Hoshino *et al.*,  
pp. 127–142.  
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Kazunori Hoshino from *Lab  
Chip*, 2025, 25, 127.

## COMMUNICATION

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### Data storage based on the absence of nucleotides using a bacteriophage abortive infection system reverse transcriptase

Gregor Bajc, Anja Pavlin, Małgorzata Figiel,  
Weronika Zajko, Marcin Nowotny and Matej Butala\*

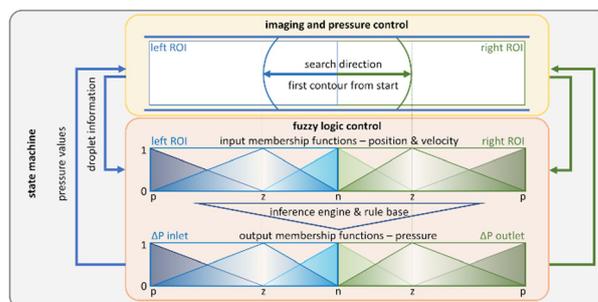


## PAPERS

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### Image-based fuzzy logic control for pressure-driven droplet microfluidics as autosampler for multimodal imaging microscopy

Fabian Ott, Tobias Meyer-Zedler, Michael Schmitt  
and Jürgen Popp\*





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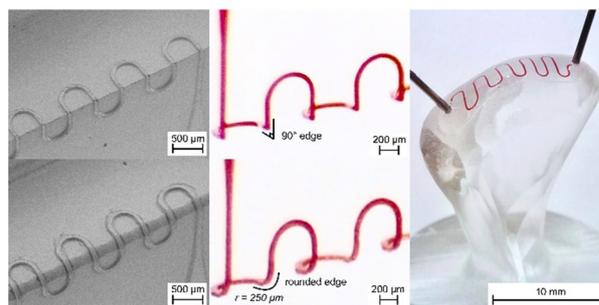


## PAPERS

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**5-Axis CNC micro-milling machine for three-dimensional microfluidics**

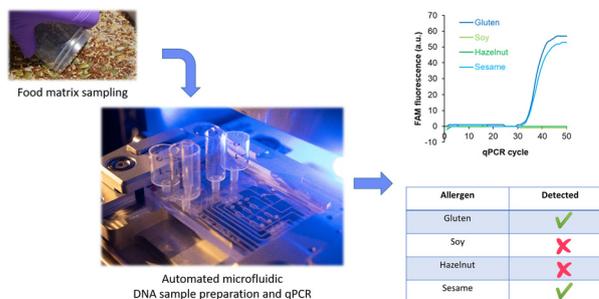
Mitchell J. C. Modarelli, Devin M. Kot-Thompson and Kazunori Hoshino\*



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**An integrated microfluidic platform for on-site qPCR analysis: food allergen detection from sample to result**

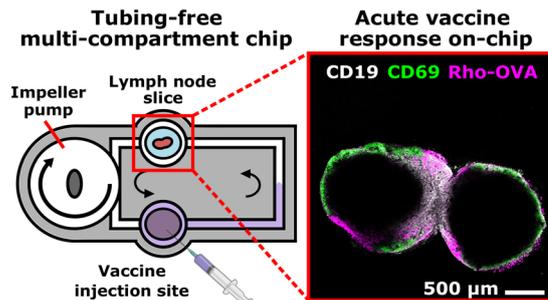
Anne-Gaëlle Bourdat,\* Remco den Dulk, Bastien Serrano, François Boizot, Gervais Clarebout, Xavier Mermet, Raymond Charles, Jean Porcherot, Armelle Keiser, Manuel Alessio, Patricia Laurent, Nicolas Sarrut and Myriam Cubizolles



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**A 3D-printed multi-compartment organ-on-chip platform with a tubing-free pump models communication with the lymph node**

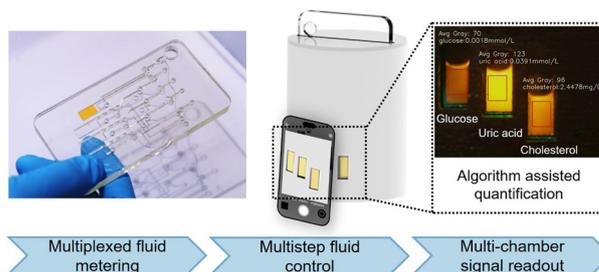
Sophie R. Cook, Alexander G. Ball, Anwaruddin Mohammad and Rebecca R. Pompano\*



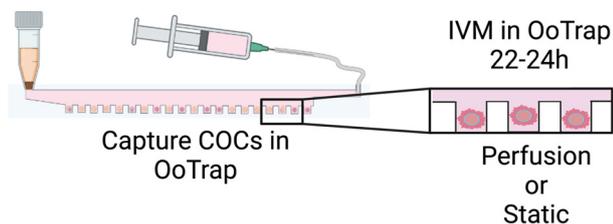
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**A gravity-driven microfluidic metering system for automation of multiplexed bioassays**

Lu Zhang, Johnson Q. Cui\* and Shuhuai Yao\*



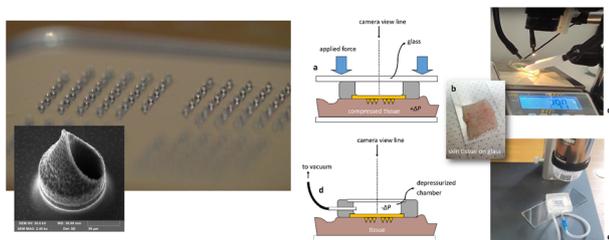
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### OoTrap: enhancing oocyte collection and maturation with a field-deployable fluidic device

Roksan Franko  
and Marcia de Almeida Monteiro Melo Ferraz\*

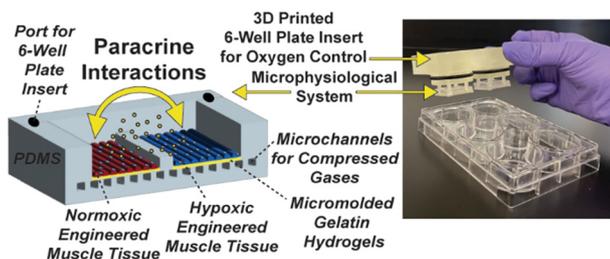
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### Beveled microneedles with channel for transdermal injection and sampling, fabricated with minimal steps and standard MEMS technology

Alvise Bagolini,\* Nicolò G. Di Novo, Severino Pedrotti,  
Matteo Valt, Cristian Collini, Nicola M. Pugno  
and Leandro Lorenzelli

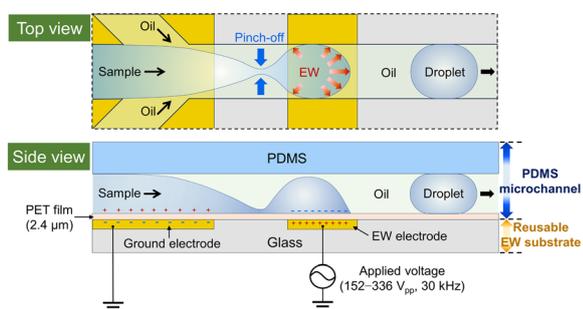
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### Profiling paracrine interactions between hypoxic and normoxic skeletal muscle tissue in a microphysiological system fabricated from 3D printed components

Megan L. Rexius-Hall, Malinda D. Madrigal, Cem Y. Kilic,  
Keyue Shen and Megan L. McCain\*

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### Reusable EWOD-based microfluidic system for active droplet generation

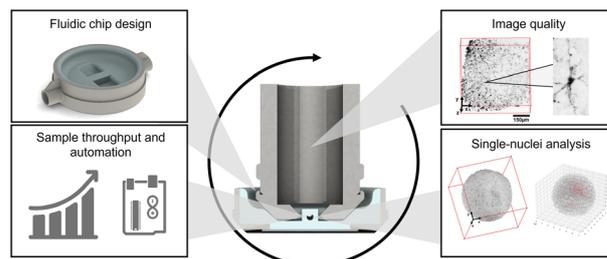
Suhee Park, Jaewook Ryu and Ki-Ho Han\*



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### An agarose fluidic chip for high-throughput *in toto* organoid imaging

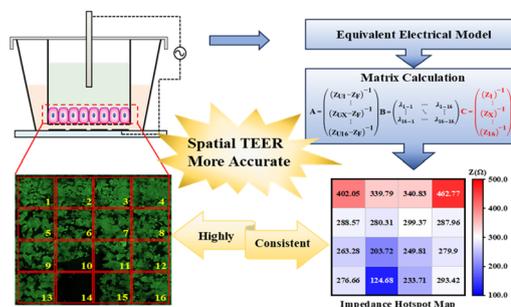
Sarah De Beuckeleer, Andres Vanhooydonck, Johanna Van Den Daele, Tim Van De Looverbosch, Bob Asselbergh, Hera Kim, Coen Campsteijn, Peter Ponsaerts, Regan Watts\* and Winnok H. De Vos\*



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### Real-time cell barrier monitoring by spatial transepithelial electrical resistance measurement on a microelectrode array integrated Transwell

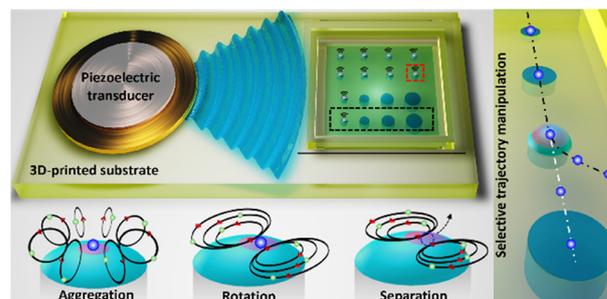
Yimin Shi, Sheng Sun, Hui Liu, Mingda Zhao, Meiyun Qin, Jinlong Liu, Jingfang Hu, Yang Zhao, Mingxiao Li, Lingqian Zhang\* and Chengjun Huang\*



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### 3D-printed acoustic metasurface with encapsulated micro-air-bubbles for frequency-selective manipulation

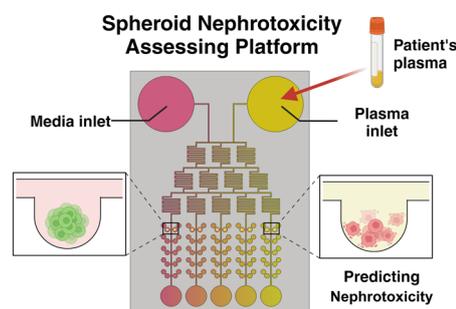
Miaomiao Ji, Yukai Liu, Zheng Zhang, Rui Xu, Fanyun Pan, Ya Zhang, Rouyu Su, Minghui Lu, Xiujian Zhang\* and Guanghui Wang\*



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### High-throughput microfluidic spheroid technology for early detection of colistin-induced nephrotoxicity with gradient-based analysis

Yugyeong Lee, Yunsang Choi, Ju Lan Chun, Hong Bin Kim, Sejoong Kim,\* Eu Suk Kim\* and Sungsu Park\*



## CORRECTION

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**Correction: Distal renal tubular system-on-a-chip for studying the pathogenesis of influenza A virus-induced kidney injury**

Yueyue Huangfu, Ji Wang, Jiao Feng and Zhi-Ling Zhang\*

