Lab on a Chip

Devices and applications at the micro- and nanoscale

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Cover
See Houjin Zhang, Huan Liu *et al.*, pp. 1875–1886.
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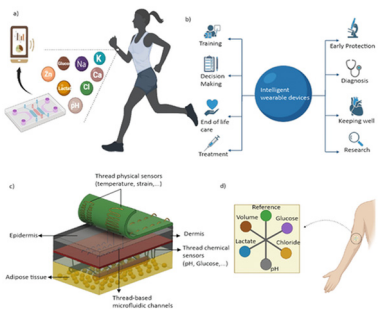
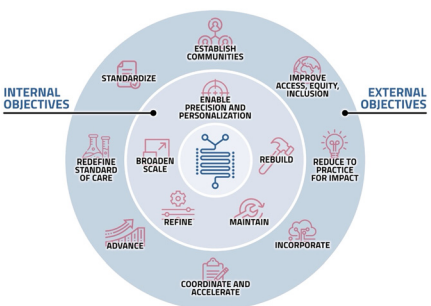
CRITICAL REVIEW



PERSPECTIVE



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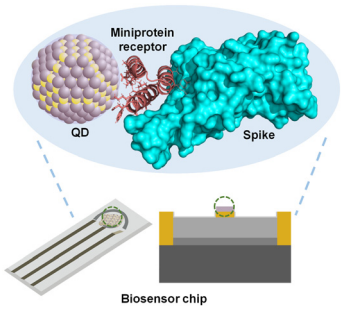

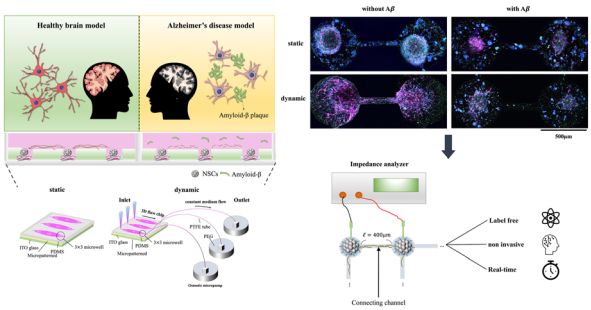

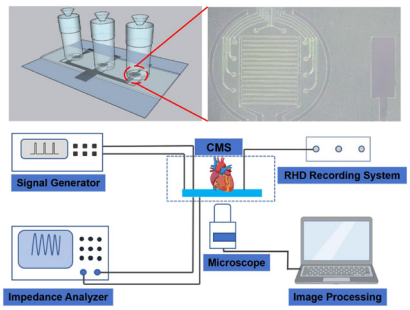

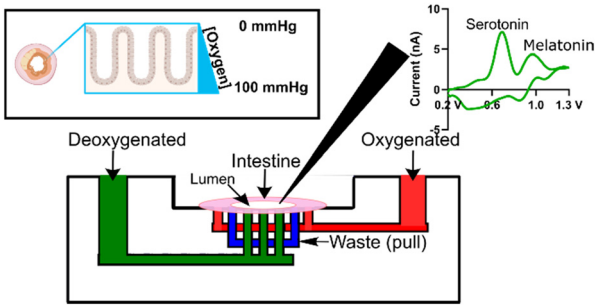

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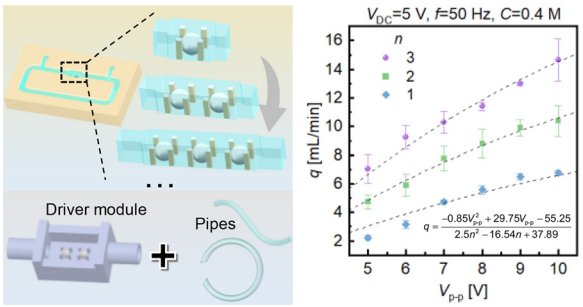
1977

A system for fluid pumping by liquid metal multi-droplets

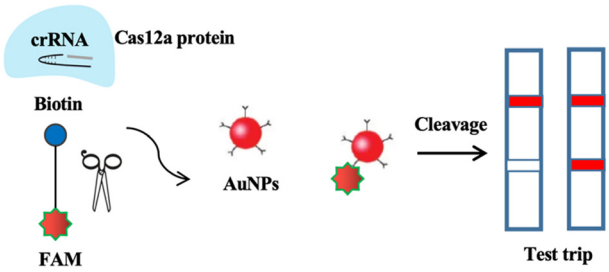
Liyu Dai, Xiaomin Wu,* Huimin Hou, Zhifeng Hu, Yukai Lin and Zhiping Yuan*



1987

Test strip coupled Cas12a-assisted signal amplification strategy for sensitive detection of uracil-DNA glycosylase

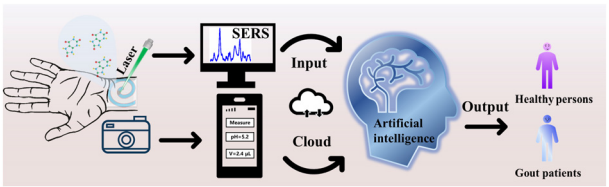
Bin Guo, Chong Hu, Zeping Yang, Chu Tang, Chuanxian Zhang and Fu Wang*



1996

Wearable intelligent sweat platform for SERS-AI diagnosis of gout

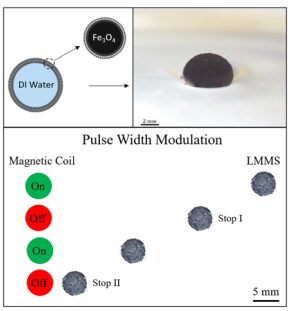
Zhaoxian Chen, Wei Wang, Hao Tian, Wenrou Yu, Yu Niu, Xueli Zheng,* Shihong Liu, Li Wang and Yingzhou Huang*



2005

Dynamic behavior of floating magnetic liquid marbles under steady and pulse-width-modulated magnetic fields

Hossein Dayyani, Alireza Mohseni and Mohamad Ali Bijarchi*



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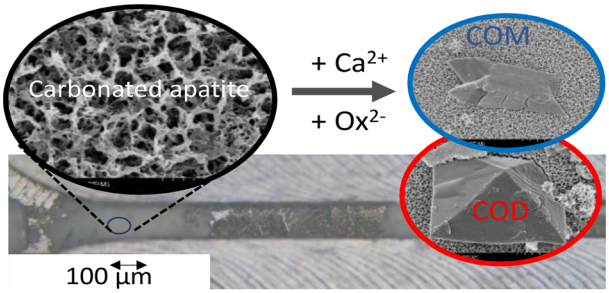
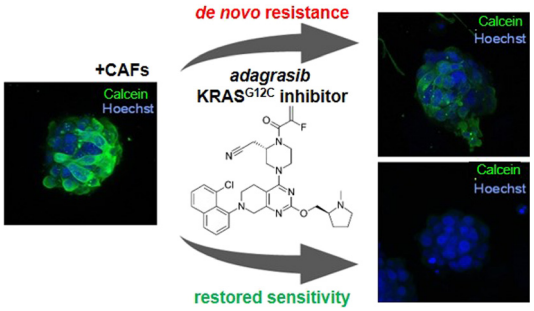
2017



Confining calcium oxalate crystal growth in a carbonated apatite-coated microfluidic channel to better understand the role of Randall's plaque in kidney stone formation

Samantha Bourg, Karol Rakotozandriny, Ivan T. Lucas, Emmanuel Letavernier, Christian Bonhomme, Florence Babonneau and Ali Abou-Hassan*

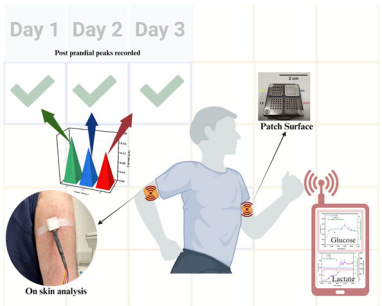
2025



Deciphering fibroblast-induced drug resistance in non-small cell lung carcinoma through patient-derived organoids in agarose microwells

Qiyue Luan, Ines Pulido, Angelique Isagirre, Julian Carretero, Jian Zhou, Takeshi Shimamura and Ian Papautsky*

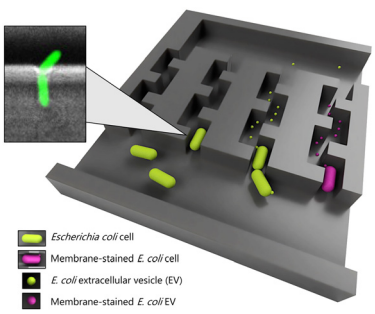
2039



Lab on skin: real-time metabolite monitoring with polyphenol film based subdermal wearable patches

Georgeta Vulpe, Guoyi Liu, Sam Oakley, Guanghao Yang, Arjun Ajith Mohan,* Mark Waldron and Sanjiv Sharma*

2049



Capturing of extracellular vesicles derived from single cells of *Escherichia coli*

Fumiaki Yokoyama, André Kling and Petra S. Dittrich*

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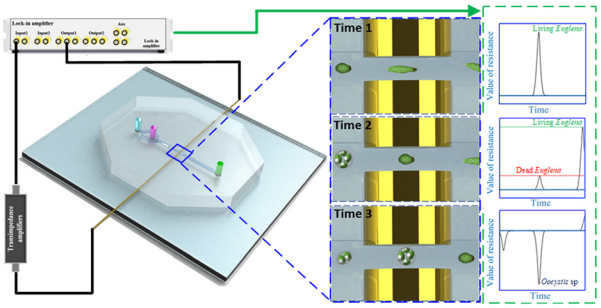
2058

Microfluidic impedance cytometry with flat-end cylindrical electrodes for accurate and fast analysis of marine microalgae

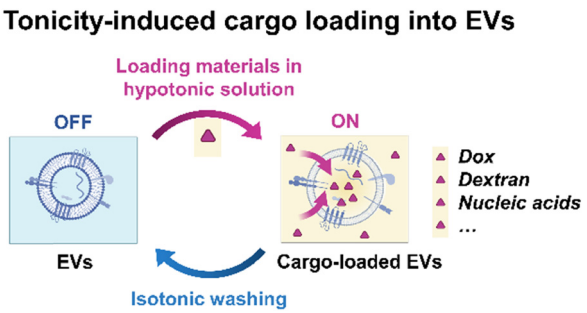
Xiaoming Chen,* Mo Shen, Shun Liu, Chungang Wu, Liangliang Sun, Zhipeng Song, Jishun Shi, Yulong Yuan and Yong Zhao*



2069

Tonicity-induced cargo loading into extracellular vesicles

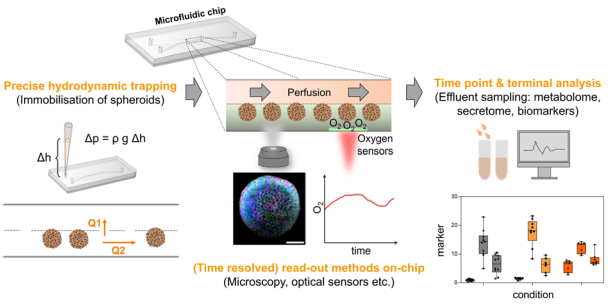
Chaeeun Lee, Sumit Kumar, Juhee Park, Yongjun Choi, Elizabeth Maria Clarissa and Yoon-Kyoung Cho*



2080

Microphysiological pancreas-on-chip platform with integrated sensors to model endocrine function and metabolism

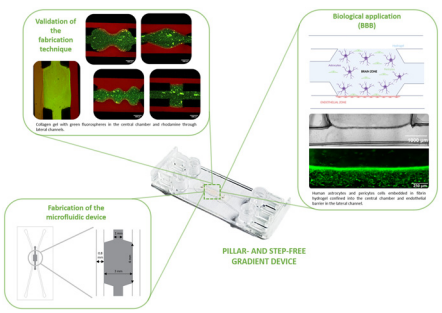
Katharina Schlünder, Madalena Cipriano, Aline Zbinden, Stefanie Fuchs, Torsten Mayr, Katja Schenke-Layland and Peter Loskill*



2094

Tuneable hydrogel patterns in pillarless microfluidic devices

Claudia Olaizola-Rodrigo, Sujey Palma-Florez, Teodora Ranđelović, Clara Bayona, Mehran Ashrafi, Josep Samitier, Anna Lagunas, Mònica Mir, Manuel Doblaré, Ignacio Ochoa,* Rosa Monge* and Sara Oliván*



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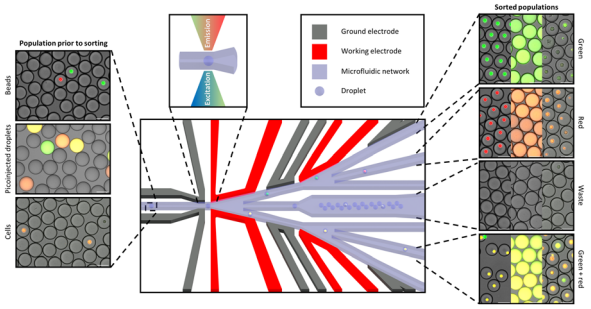
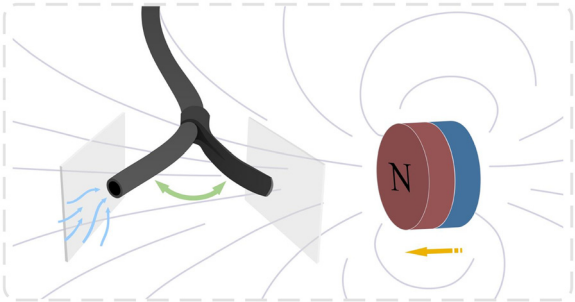


SeParate: multiway fluorescence-activated droplet sorting based on integration of serial and parallel triaging concepts

Wannes Verbist, Jolien Breukers, Sapna Sharma, Iene Rutten, Hans Gerstmans, Lotte Coelmont, Francesco Dal Dosso, Kai Dallmeier and Jeroen Lammertyn*

2122



Multifunctional flexible magnetic drive gripper for target manipulation in complex constrained environments

Meiying Zhao, Ye Tao,* Wenshang Guo, Zhenyou Ge, Hanqing Hu, Ying Yan, Chaoxia Zou, Guiyu Wang* and Yukun Ren*