

Lab on a Chip

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

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IN THIS ISSUE

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See W. Russ Algar *et al.*,
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PERSPECTIVES

741

Point-of-need diagnostics in a post-Covid world: an opportunity for paper-based microfluidics to serve during syndemics

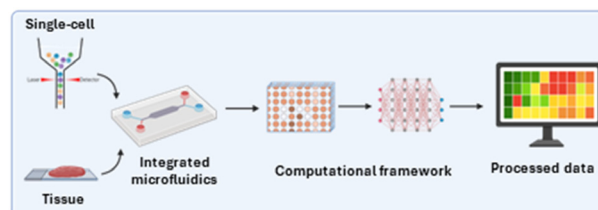
Maria-Nefeli Tsaloglou,* Dionysios C. Christodouleas, Jonathan Milette, Kendall Milkey, Isabelle C. Romine, Judy Im, Shefali Lathwal, Duraipandian Thava Selvam, Hadley D. Sikes and George M. Whitesides*



752

Microfluidics for morphometrics and spatial omics applications

Nishanth Venugopal Menon, Jeeyeon Lee, Tao Tang and Chwee Teck Lim*



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Fundamental questions
Elemental answers

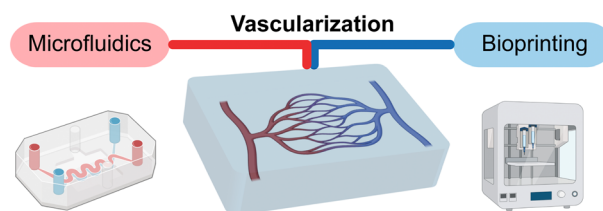
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764

Integrating microfluidic and bioprinting technologies: advanced strategies for tissue vascularization

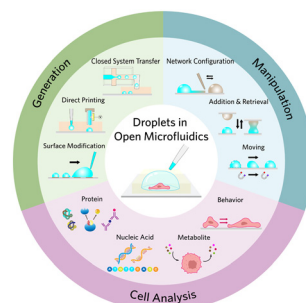
Xuan Mei, Ziyi Yang, Xiran Wang, Alan Shi, Joel Blanchard, Fanny Elahi, Heemin Kang,* Gorka Orive* and Yu Shrike Zhang*



787

Droplets in open microfluidics: generation, manipulation, and application in cell analysis

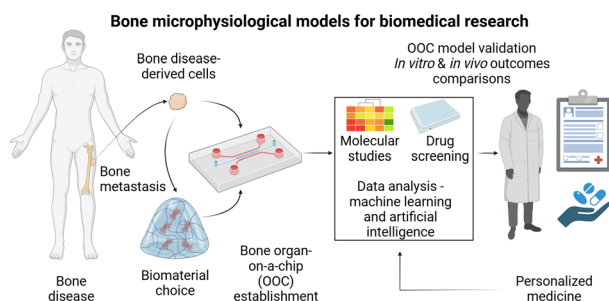
Jiaxu Lin, Ying Hou, Qiang Zhang and Jin-Ming Lin*



806

Bone microphysiological models for biomedical research

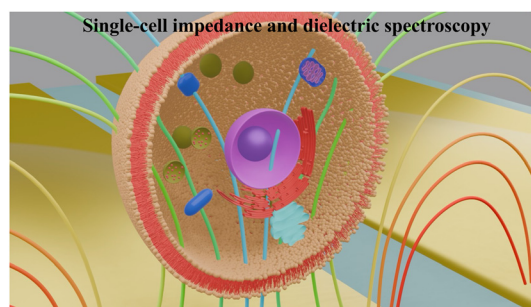
Francisco Verdugo-Avello,* Jacek K. Wychowaniec, Carlos A. Villacis-Aguirre, Matteo D'Este and Jorge R. Toledo



837

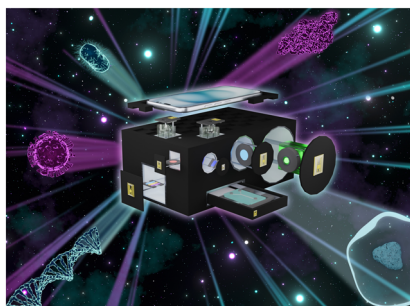
Tutorial on impedance and dielectric spectroscopy for single-cell characterisation on microfluidic platforms: theory, practice, and recent advances

Fatemeh Dadkhah Tehrani, Michael D. O'Toole* and David J. Collins



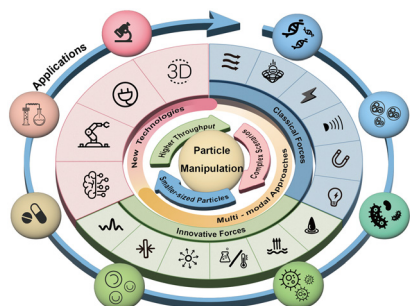
Rutwik Joshi, Hesaneh Ahmadi, Karl Gardner,
Robert K. Bright, Wenwen Wang and Wei Li*

884



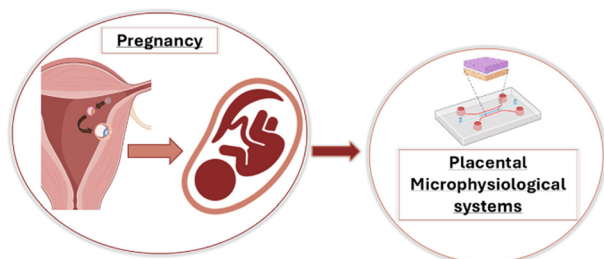
Daina V. Baker, Jasmine Bernal-Escalante,
Christine Traaseth, Yihao Wang, Michael V. Tran,
Seth Keenan and W. Russ Algar*

956



Chundong Xue, Yifan Yin, Xiaoyu Xu, Kai Tian,
Jinghong Su and Guoqing Hu*

979



Inês M. Gonçalves, Muhammad Afzal, Nithil Kennedy,
Ana Moita, Rui Lima, Serge Ostrovidov, Takeshi Hori,
Yuji Nashimoto and Hirokazu Kaji*

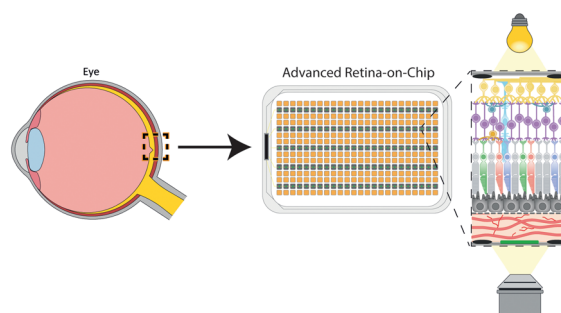
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CRITICAL REVIEWS

996

Retina-on-chip: engineering functional *in vitro* models of the human retina using organ-on-chip technology

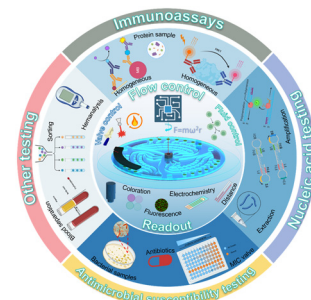
Tarek Gensheimer, Devin Veerman, Edwin M. van Oosten, Loes Segerink, Alejandro Garanto and Andries D. van der Meer*



1015

Recent advances in centrifugal microfluidics for point-of-care testing

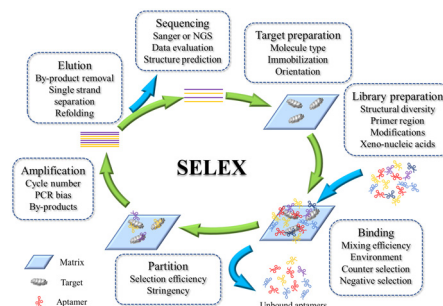
Huijuan Yuan, Zeyu Miao, Chao Wan, Jingjing Wang, Jinzhi Liu, Yiwei Li, Yujin Xiao,* Peng Chen* and Bi-Feng Liu*



1047

Aptamer selection *via* versatile microfluidic platforms and their diverse applications

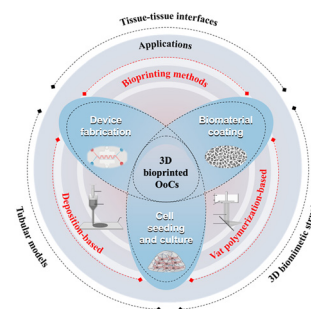
Yi-Da Chung, Yi-Cheng Tsai, Chi-Hung Wang and Gwo-Bin Lee*



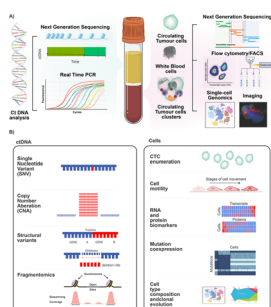
1081

Developing 3D bioprinting for organs-on-chips

Zhuhaio Wu, Rui Liu, Ning Shao and Yuanjin Zhao*



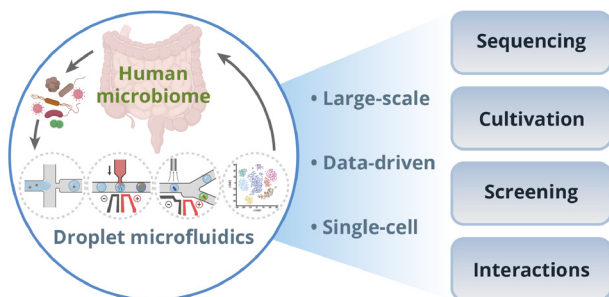
1097



Challenges in blood fractionation for cancer liquid biopsy: how can microfluidics assist?

Robert Salomon,* Sajad Razavi Bazaz, Kirk Mutafoopoulos, David Gallego-Ortega, Majid Warkiani, David Weitz and Dayong Jin

1128

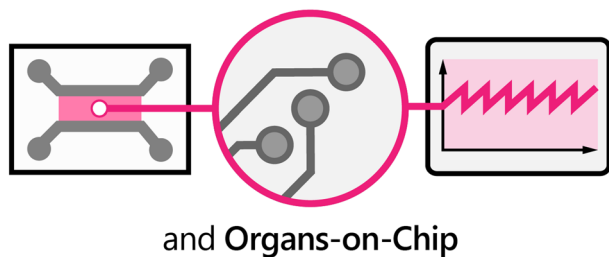


Droplet microfluidics: unveiling the hidden complexity of the human microbiome

Yibin Xu, Zhiyi Wang, Caiming Li, Shuiquan Tian and Wenbin Du*

1149

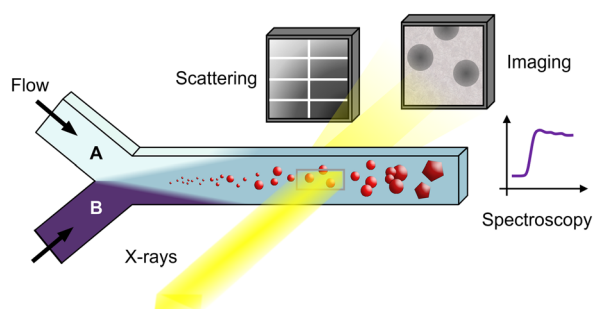
Microsensors for Cell Cultures



Microsensor systems for cell metabolism – from 2D culture to organ-on-chip (2019–2024)

Johannes Dornhof, Jochen Kieninger, Stefan J. Rupitsch and Andreas Weltin*

1169



Micro- and milli-fluidic sample environments for *in situ* X-ray analysis in the chemical and materials sciences

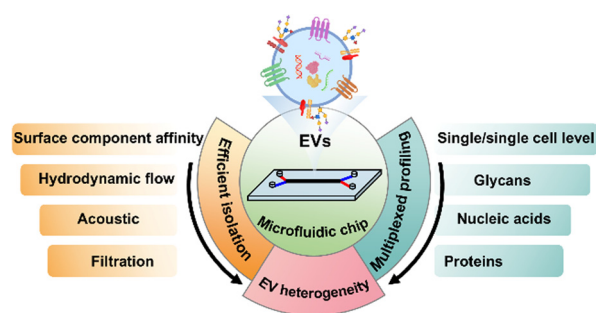
Mark A. Levenstein,* Corinne Chevillard, Florent Malloggi, Fabienne Testard and Olivier Taché



1228

Demystifying EV heterogeneity: emerging microfluidic technologies for isolation and multiplexed profiling of extracellular vesicles

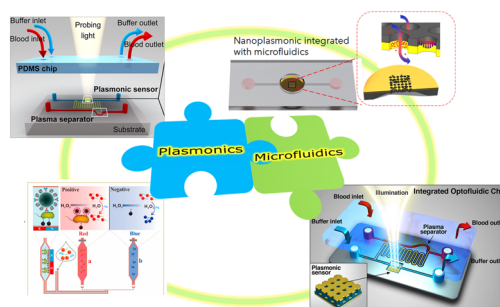
Guihua Zhang, Xiaodan Huang, Sinong Liu, Yiling Xu, Nan Wang, Chaoyong Yang and Zhi Zhu*



1256

Synergizing microfluidics and plasmonics: advances, applications, and future directions

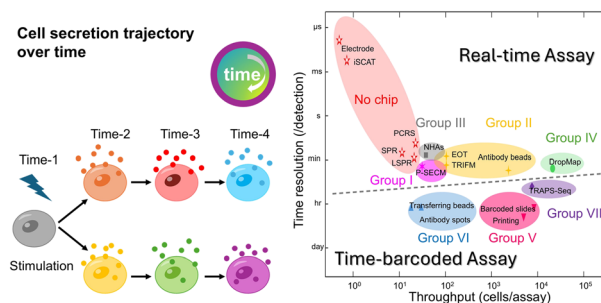
C. Escobedo* and A. G. Brolo*



1282

Time-resolved single-cell secretion analysis via microfluidics

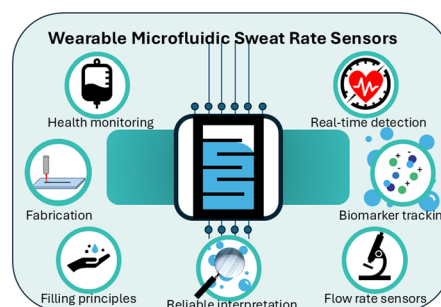
Ying Xu, Mei Tsz Jewel Chan, Ming Yang, Heixu Meng and Chia-Hung Chen*



1296

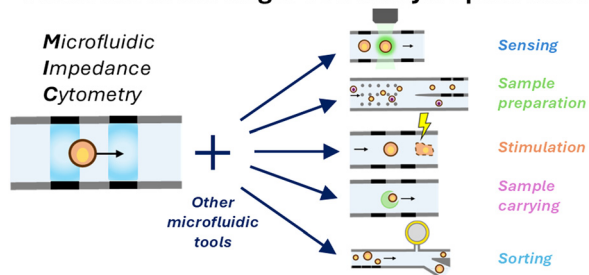
Worth your sweat: wearable microfluidic flow rate sensors for meaningful sweat analytics

R. F. R. Ursem, A. Steijlen,* M. Parrilla,* J. Bastemeijer, A. Bossche and K. De Wael*



1316

Multifunctional single-cell analysis platforms

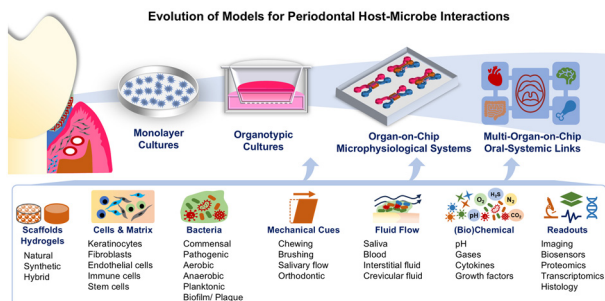


Integrating impedance cytometry with other microfluidic tools towards multifunctional single-cell analysis platforms

Marta Righetto, Cristian Brandi, Riccardo Reale and Federica Caselli*

1342

Evolution of Models for Periodontal Host-Microbe Interactions



Advances in modeling periodontal host-microbe interactions: insights from organotypic and organ-on-chip systems

Hardik Makkar and Gopu Sriram*

