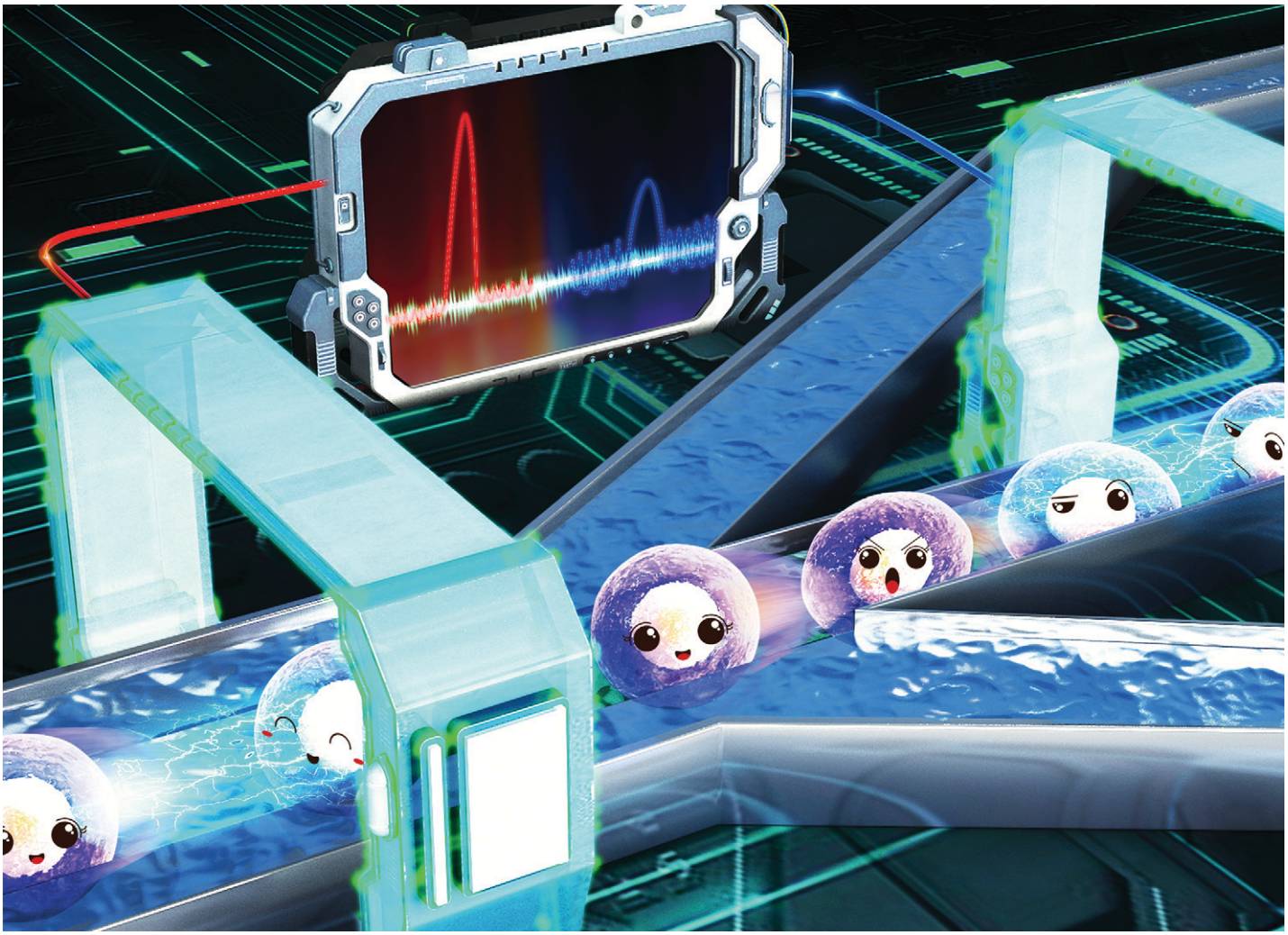

Featuring work from the BioMEMS group of Professor Wenhui Wang, State Key Laboratory of Precision Measurement Technology and Instrument, Department of Precision Instrument, Tsinghua University, Beijing, China.

Performance-enhanced clogging-free viscous sheath constriction impedance flow cytometry

We testify that the viscosity of sheath flow is the key to the performance of sheath constriction (SC), and propose to employ non-conductive viscous sheath flow in SC to unlock the tradeoff between sensitivity and throughput in impedance flow cytometry (IFC), while ensuring the measurement accuracy. Then, accurate and clogging-free IFC based on viscous non-conductive sheath flow is presented with improved performance in throughput, SNR, and sensitivity for single cell electrical property measurement, which paves the way for IFC to be really usable in practice.

As featured in:

See Wenhui Wang *et al.*, *Lab Chip*, 2023, **23**, 2531.

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