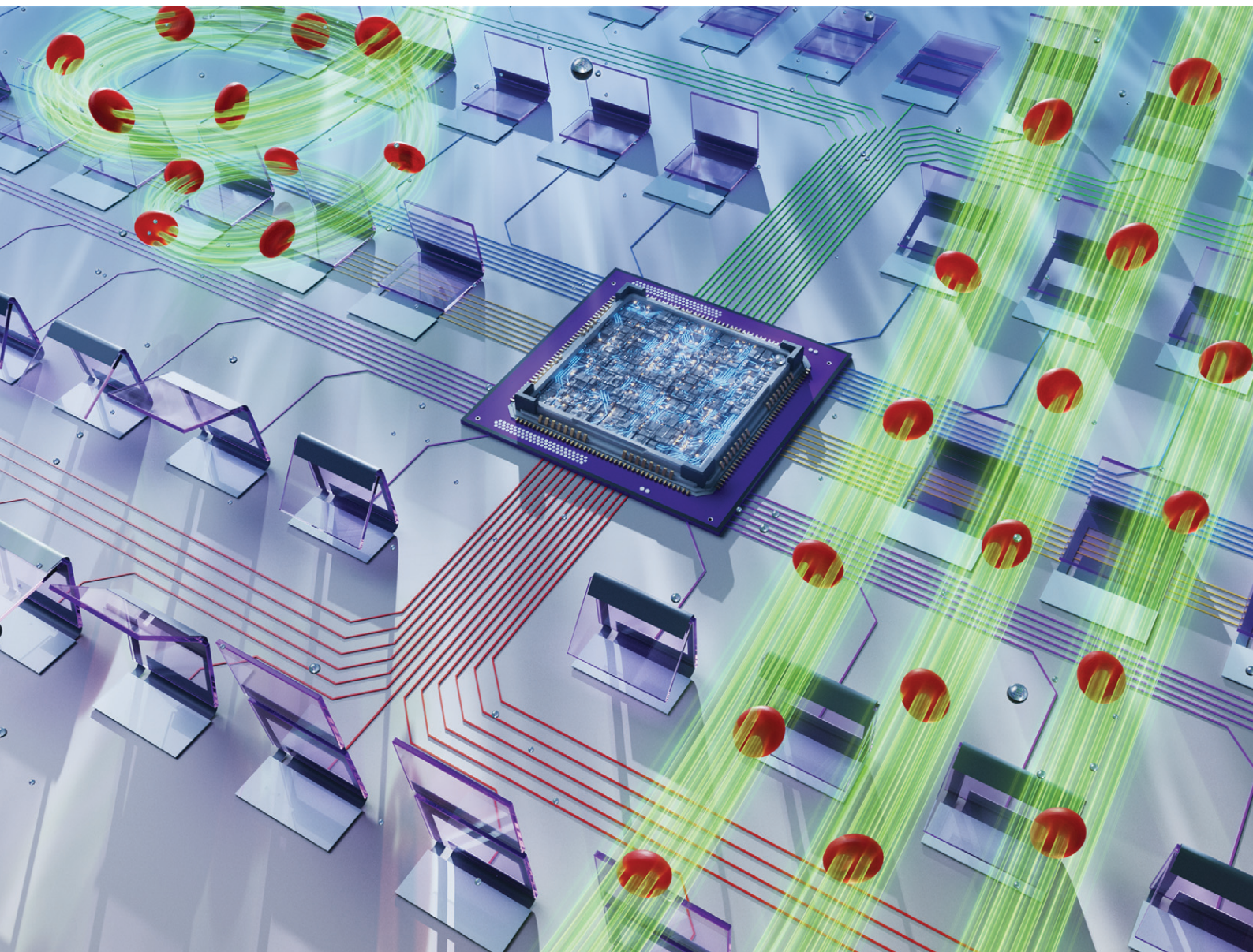


# Lab on a Chip

Devices and applications at the micro- and nanoscale

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**PAPER**

Wei Wang, Itai Cohen *et al.*  
Electronically actuated artificial hinged cilia for efficient  
bidirectional pumping