



NLS Seminar Baba Lab's 150th Special Lecture

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“Miniaturized Analysis Systems for Virus Detection and Cancer Treatment Monitoring”

16:30-18:00, May 31 (Wed.), 2023

1101 Room at 10th Floor of 1st Building of Eng. School
(名古屋大学工学部1号館 10階 1101教室)

Miniaturized total chemical analysis systems (μ TAS) are often called “lab-on-a-chip”. In analogy to shrinking a computer from the size of a room in the 1950s to a laptop today, instruments for chemical and biological analyses may be miniaturized into microfluidic devices using modern microfabrication technology. Potential applications of the portable, miniaturized devices include point-of-care testing, environmental monitoring, and detection of pathogens in the field. In this presentation, a brief historic prospective will be given on μ TAS. The focus will be on the development of microfluidic devices for two real-world challenges: (1) detection of mosquito-borne virus (e.g., Zika virus) and airborne virus (e.g., SARS-CoV-2) at the point of care; and (2) monitoring cancer treatment response or resistance using liquid biopsy. *Biosensors*, 12, 2022, 206., *ACS Sensor*, 2021, 6, 4176–4184., *Angewandte Chemie International Edition*, 58, 2019, 7606–7610 (cover page)., *Angewandte Chemie International Edition*, 57, 2018, 17211–17214., *Science*, 261, 1993, 895–897.

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