

**Speaker:** [Associate Professor Yan Xu](#)  
Department of Chemical Engineering  
Graduate School of Engineering  
Osaka Prefecture University, Japan



**Date:** Tuesday 6 November 2018

**Time:** 11.00 am

**Venue:** QMNC Seminar Room (N74 Room 1.08) Nathan Campus

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**Title:** **Pioneering Nanofluidics for New Chemistry, Biology, and Materials Science**

### Abstract

A significant growth of research in nanofluidics is achieved over the past decade, but the field is still facing considerable challenges toward the transition from the current physics-centered stage to the next application-oriented stage. To conquer these challenges, we established a technology called “nano-in-nano integration”, which allows the integration of a variety of functional (eg. fluidic, electrical, optical, thermal, magnetic, chemical and biological) components in tiny nanofluidic channels. The nano-in-nano integration technology opens up a new arena to exploit chemistry, biology, and materials science at femtoliter, attoliter, single-nanoparticle, and single-molecule scales through nanofluidics, as demonstrated by us in our recent works which will be presented in this talk.

### Brief Biography

Yan Xu is an Associate Professor (tenured) and the principal investigator of the Nanofluidics Lab at Osaka Prefecture University, Japan. He concurrently serves as a PRESTO researcher at the Japan Science and Technology Agency (JST). He received his bachelor's degree (2001) from Dalian University of Technology and his master's degree (2004) from Dalian Institute of Chemical Physics, Chinese Academy of Sciences. He completed his PhD (2007) at the University of Tokyo. Research in his group is directed toward the use of nanofluidic devices for chemistry, biology, and materials science at femtoliter, attoliter, and single molecule scales. His research group continues to involve the study and development of novel nanofluidic methods for single cell omics, single molecule chemistry, biomaterials, and nanomedicine. He has recently (co-) authored over 60 micro-/nanofluidics-related papers in *Adv. Mater.*, *Small*, *Biomaterials*, *ACS Appl. Mater. Interfaces*, *Lab Chip*, etc., with seven papers featured on the covers of the journals. He has been invited to write reviews for *Adv. Mater.* and other top journals. He has also delivered many invited talks (eg. 40+ after 2015) and received several awards from Japan, USA, and China.

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**ALL WELCOME**

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