

# Development of Chemical Sensors based on Organic Thin Film Transistors Functionalized with Molecular Recognition Materials

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**Date & Time: May 6th (Fri), 2016 16:30 - 17:30**

**Place: Conference Room, Engineering Bldg #9,**



**Keywords:** Organic Transistor; Molecular Recognition; Chemical Sensor

**Abstract:** In the realm of electronics, organic thin film transistors (OTFTs) are one of the most interesting devices owing to their flexibility, printability, ultra-small thickness, and low manufacturing costs. Although OTFTs have been thus far largely applied to rollable displays, interest in OTFTs and their advantages have extended beyond information displays to sensor applications. OTFT-based physical sensors are being researched extensively, while chemical sensors are still in their early stages. In that regard, we have successfully demonstrated OTFT-based chemical sensors functionalized with supramolecular artificial receptors, the latest results of which will be discussed in my presentation.

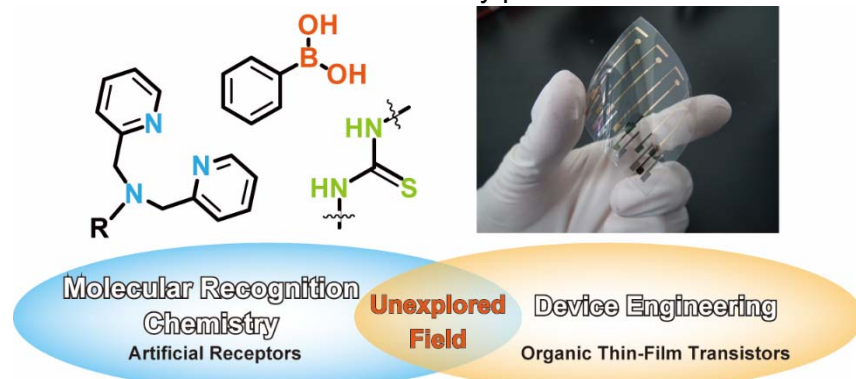


Fig. 1.A research concept of OTFT-based chemical sensors functionalized with molecular recognition materials.

## Education and Professional Experiences

Aug. 2006-Sep. 2006  
Visiting researcher at University of Bath in U.K.  
Mar. 2008 M.Eng, Department of Applied Chemistry, Graduate School of Science and Engineering, Saitama University  
Aug. 2008-Sep. 2008  
Visiting researcher at University of Bath in U.K.  
Aug. 2009-Sep. 2009  
Visiting researcher at University of Bath in U.K.  
Mar. 2011 Ph.D. in Engineering  
Department of Applied Chemistry, Graduate School of Urban Environmental Sciences, Tokyo Metropolitan University  
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Postdoctoral Research Associate at Bowling Green State University in U.S.A.  
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