



“Molecular-scale Electronic Devices and Polymer-based Memory Devices”

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Date: Tuesday, 11th September, 2018

Time: 15:00 – 16:00

**Room: 1F meeting room, R3 building, Suzukakedai
Tokyo Institute of Technology**

Abstract:

In this seminar, Prof. Lee will review his group research works on molecular-scale electronic devices [1]. Specifically, I will focus on high-yield molecular electronic junctions with device functionalities such as rectifying or photoswitching molecular devices on flexible substrates [2]. And then, He will give an overview of our research on polymer-based memory devices [3]. In particular, He will explain the orthogonal lithography which enables microscale integration of organic memory cells in the cross-bar architecture [3] and noise characteristics in relation with memory mechanism [4]. If time allows, He will explain briefly our studies on interface and surface control on two-dimensional transition metal dichalcogenide-based field effect transistors by molecular treatments [5]

[1] Chem. Rev. 116, 4318 (2016)-review, ACS Nano, 11, 6511 (2017)-review, Adv. Mater. 23, 1583 (2011)-review, Nature 462, 1039 (2009).

[2] Adv. Mater. 23, 755 (2011), Nature Nanotech. 7, 438 (2012), Adv. Funct. Mater. 25, 5918 (2015), Adv. Funct. Mater. 24, 2472 (2014), Adv. Mater. 26, 3968 (2014). ACS Appl. Mater. Inter. 9, 42043 (2017), Nanotechnology, 26, 025601 (2015).

[3] MRS Bulletin, 37, 144 (2012)-review, Adv. Funct. Mater. 21, 2806 (2011)-review, Flexible and Printed Electronics, 1, 023001 (2016)-review, Org. Electron. 17, 192 (2015), Org. Electron. 21, 198 (2015),

[4] J. Mater. Chem. C, 5, 7123 (2017)-review, Sci. Rep. 6, 33967 (2016), ACS Nano, 9, 7697 (2015)

[5] Adv. Mater. 30, 1705540 (2018), ACS Nano, 11, 10273 (2017), ACS Nano, 10, 2819 (2016), ACS Nano, 9, 8044 (2015).

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