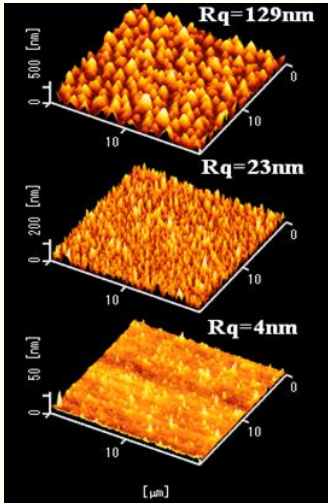


Flexible Printronics Lab (Pr. Lo)

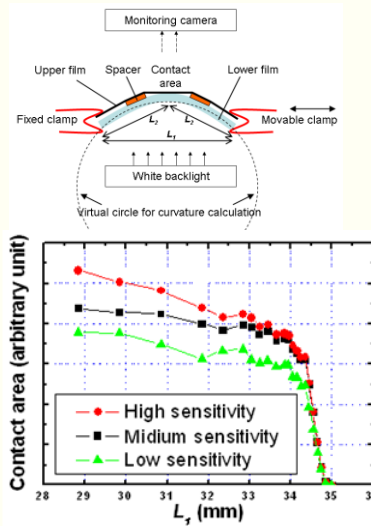
■ Polymer Process

Physical ($R_q < 5\text{nm}$) and optical ($T\% > 80\%$) optimizations of polymer material processes for applications in electronics. Micro/nano patterning on polymers for embedded structures, connections, and isolations together with various printing technologies.



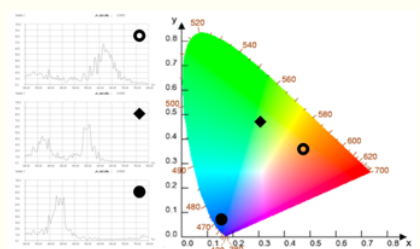
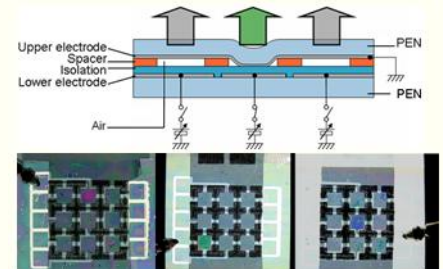
■ Plastic Sensor

Disposable, low-cost visual curvature sensor made by plastic layer stacks by taking advantage of color interference in dangerous ambient without electrical connections. Adjustable sensitivity. Curvature sensitivity as high as $7.5\mu\text{m}^{-1}$.



■ E-Paper by Printing*

Truly flexible, rollable e-paper fabricated on polymer substrate with multilayer on extra backlight for optical adjustment by using a roll-to-roll ready full printing process setup.



*Collaborative work with Dr. H. Toshiyoshi (IIS, Uni. of Tokyo).

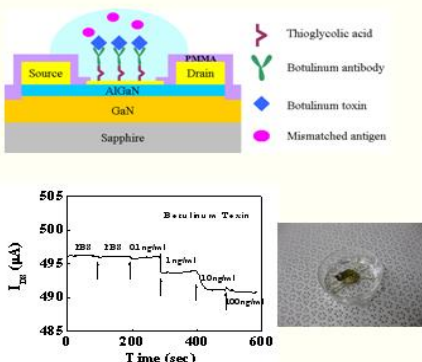
NAMIS contact: Pr. Lo
e-mail:

Bioelectronics and Nanosystems Lab (Pr. Wang)

■ Biomedical Sensors

AlGaN/GaN High Electron Mobility Transistor (HEMTs) functionalized with antibodies, DNAs, enzymes, nanorods, or thin films to detect biomarkers. Applications for medical diagnostic, personal healthcare, public security, & environmental protection.

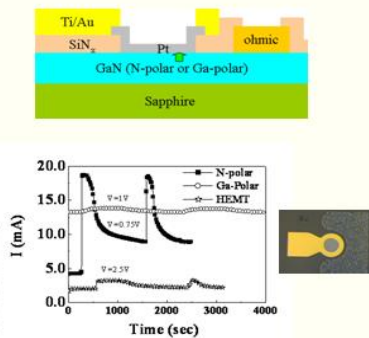
Botulinum neurotoxin detection



■ Gas Sensors

Wideband gap materials devices for gas detection (H_2 , CO_2 , O_2 or others). Their high sensitivity, low cost, small sizes & good reliability make them suitable for medical diagnostic, food freshness, industrial control, environmental monitoring, & automobiles.

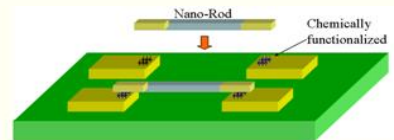
Hydrogen sensor



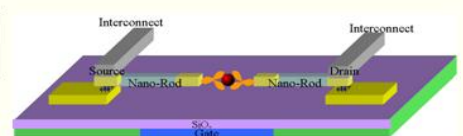
■ Nanotechnology

Developments for perfect positioning nano-rods by self-assembly, and eventually realize nano devices built with bio- & nano materials. Fundamental researches on electronic characteristics of nano devices and bio-molecules. Application to novel nano devices, medical therapy, solar cells and more.

Nanorods self-assembly



Nano devices



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