

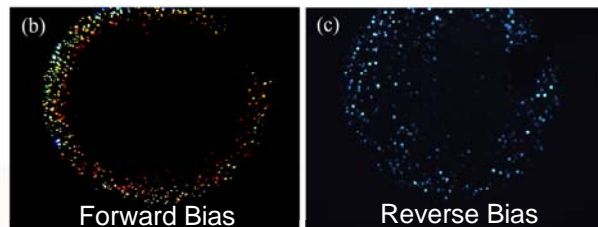
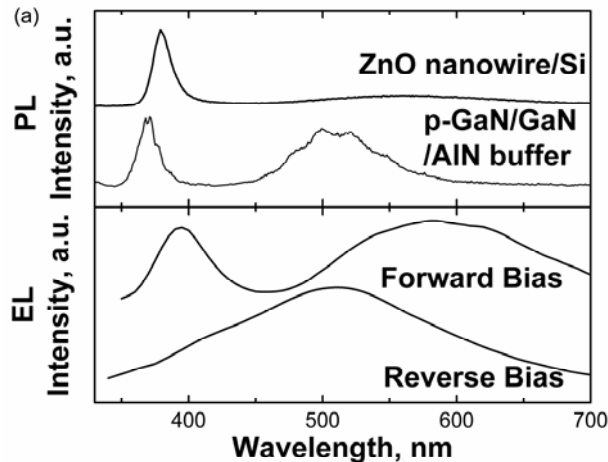
# Electroluminescence of ZnO Nanowire/p-GaN Film Heterojunction Light Emitting Diodes

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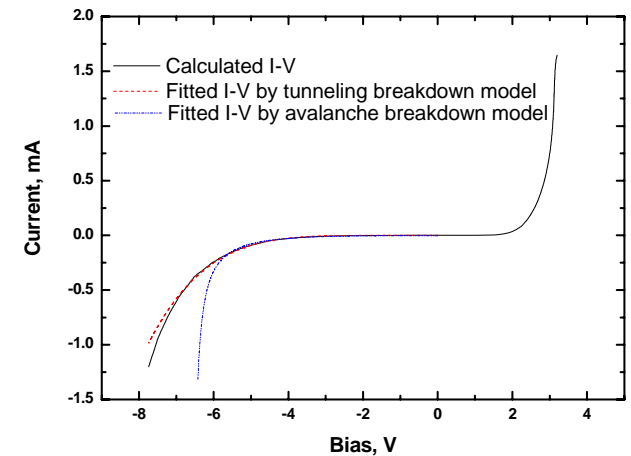
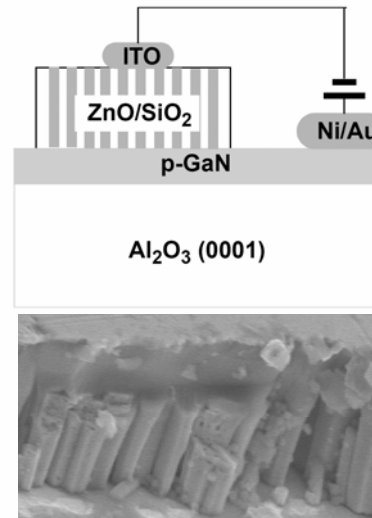
## DESCRIPTION OF WORK

- ◆ Develop and demonstrate the integration of seed particles and nanowires on a substrate with control over diameter and location
- ◆ Demonstrate applications, in particular heterojunction LEDs to test the integration tool
- ◆ Characterize the heterojunction device for better understanding the device physics.



## MAJOR OBSERVATIONS

- ◆ The electroluminescence spectra under forward and reverse bias are distinctly different
- ◆ It has been founded that holes are injected from the ZnO nanowires into the GaN film through tunneling breakdown under reverse bias while electron and hole recombine in ZnO nanowires under forward bias.



## Publications

- ◆ Xinyu Wang, Jesse Cole, Amir Dabiran, and Heiko Jacobs, submitted to Nano Lett.
- ◆ Basu J., Divakar R., Deneen J., Wang X., Jacobs H., and Carter C.B., Proceeding of Microscopy & Microanalysis, in press