

Stanford



Sumaiya Wahid

Ph.D. Student in Electrical Engineering, admitted Autumn 2019

Bio

BIO

Sumaiya Wahid is a PhD candidate in Electrical Engineering at Stanford University. Her research interest includes the fabrication, characterization, and low-temperature integration of oxide and chalcogenide transistors, and flexible electronics.

HONORS AND AWARDS

- Stanford Graduate Fellowship, Stanford University (2019-2022)

LINKS

- Pop Lab: <http://poplab.stanford.edu/>
- Google Scholar Profile: <https://scholar.google.com/citations?user=STpxoIIAAAAJ&hl=en>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Phase change memory

Low temperature processable p-type semiconductors

Oxide semiconductors for upper layer transistors

Flexible Electronics

LAB AFFILIATIONS

- Eric Pop, Pop Lab (9/6/2019)

Publications

PUBLICATIONS

- **Design Guidelines for Oxide Semiconductor Gain Cell Memory on a Logic Platform** *IEEE TRANSACTIONS ON ELECTRON DEVICES*
Liu, S., Jana, K., Toprasertpong, K., Chen, J., Liang, Z., Jiang, Q., Wahid, S., Qin, S., Chen, W., Pop, E., Wong, H.
2024
- **Effect of Back-Gate Dielectric on Indium Tin Oxide (ITO) Transistor Performance and Stability** *IEEE TRANSACTIONS ON ELECTRON DEVICES*
Daus, A., Hoang, L., Gilardi, C., Wahid, S., Kwon, J., Qin, S., Ko, J., Islam, M., Kumar, A., Neilson, K. M., Saraswat, K. C., Mitra, S., Wong, et al
2023; 70 (11): 5685-5689
- **Effect of Top-Gate Dielectric Deposition on the Performance of Indium Tin Oxide Transistors** *IEEE ELECTRON DEVICE LETTERS*
Wahid, S., Daus, A., Kwon, J., Qin, S., Ko, J., Wong, H., Pop, E.

2023; 44 (6): 951-954

- **Design optimization and efficiency enhancement of axial junction nanowire solar cells utilizing a forward scattering mechanism** *RSC ADVANCES*
Ferdoushi, M., Wahid, S., Alam, M.
2022; 12 (30): 19359-19374
- **First Demonstration of Dual-Gated Indium Tin Oxide Transistors with Record Drive Current similar to 2.3 mA/ μm at L approximate to 60 nm and V-DS=1 V**
Wahid, S., Daus, A., Kumar, A., Wong, H., Pop, E., IEEE
IEEE.2022
- **Lateral electrical transport and field-effect characteristics of sputtered p-type chalcogenide thin films** *APPLIED PHYSICS LETTERS*
Wahid, S., Daus, A., Khan, A., Chen, V., Neilson, K. M., Islam, M., Chen, M. E., Pop, E.
2021; 119 (23)
- **Barrier heights and Fermi level pinning in metal contacts on p-type GaN** *APPLIED PHYSICS LETTERS*
Wahid, S., Chowdhury, N., Alam, M., Palacios, T.
2020; 116 (21)
- **Efficiency Enhancement of Perovskite Solar Cells Using Heterojunction Bipolar Transistor Configuration** *IEEE TRANSACTIONS ON ELECTRON DEVICES*
Wahid, S., Alam, M.
2020; 67 (2): 552-557
- **Effect of Halide Compositions on the Performance of Perovskite Solar Cells**
Wahid, S., Alam, M., IEEE
IEEE.2018: 30-33
- **Transfer Matrix Formalism-Based Analytical Modeling and Performance Evaluation of Perovskite Solar Cells** *IEEE TRANSACTIONS ON ELECTRON DEVICES*
Wahid, S., Islam, M., Rahman, M., Alam, M.
2017; 64 (12): 5034-5041
- **Effect of spatial distribution of generation rate on bulk heterojunction organic solar cell performance: A novel semi-analytical approach** *ORGANIC ELECTRONICS*
Islam, M., Wahid, S., Chowdhury, M., Hakim, F., Alam, M.
2017; 46: 226-241
- **Physics-based modeling and performance analysis of dual junction perovskite/silicon tandem solar cells** *PHYSICA STATUS SOLIDI A-APPLICATIONS AND MATERIALS SCIENCE*
Islam, M., Wahid, S., Alam, M.
2017; 214 (2)
- **Modeling and Optimization of Two-Terminal Perovskite/Si Tandem Solar Cells: A Theoretical Study**
Wahid, S., Islam, M., Alam, M., IEEE
IEEE.2015: 235-238