Asir Intisar Khan

PhD Candidate (Stanford Graduate Fellow)
Electrical Engineering
Stanford University

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Education

Incoming Postdoctoral Scholar, University of California Berkeley — September 2023
Research Supervisor: *Prof. Sayeef Salahuddin* **(**EECS**)**
Incoming Visiting Postdoc, Stanford University — September 2023
Supervisor: *Prof. Eric Pop* **(**Electrical Engineering**)**

PhD Candidate in Electrical Engineering, Stanford University — Sept. 2018 – Aug 2023
Research Supervisor: *Prof. Eric Pop* **(**Electrical Engineering**)**
Dissertation topic: Engineering Novel Chalcogenides and Semimetals for Energy-Efficient Memory and Interconnects

M.S in Electrical Engineering, Stanford University — June 2021
Stanford, CA, USA | CGPA**: 4.22/4.00**
M.Sc. in Electrical and Electronic Engineering (EEE) — June 2018
Bangladesh University of Engineering and Technology (BUET)

B.Sc. in Electrical and Electronic Engineering (EEE) — March 2016
Bangladesh University of Engineering and Technology (BUET)

Academic Honors and Achievements

- **Russell & Sigurd Varan Award, American Vacuum Society (AVS)** (2023)
- **IEEE Electron Device Society (EDS) Ph.D. Student Fellowship** (2022)
- **Materials Research Society (MRS) Fall Meeting Gold Student Award** (2022)
- **Best Student Presenter Award,** 2022 MRS Fall Meeting (2022)
- **Best Student Paper Award,** 2022 IEEE Symposium on VLSI Technology and Circuits
- **Student Travel Grant,** 2023 IEEE Symposium on VLSI Technology and Circuits
- **Student Travel Grant,** 2022 IEEE Symposium on VLSI Technology and Circuits
- **Stanford Graduate Fellowship,** Stanford University (2020-2023)
- **The Lewis M. and Barbara C. Terman Graduate Fellowship,** EE, Stanford University (2018-2019)
- **Dean's List Award** for academic excellence at all levels of undergraduate study (2011-2016)
- **University Merit Scholarship** for academic excellence at undergraduate study (2011-2016)

Current Research Interests and Expertise

Memory and Interconnect | Topological quantum materials | Superlattices and heterostructures | Thermal Engineering | Phase-Change Memory | Spin-based and Resistive-switching Memory | Flexible Data Storage | 3D Heterogeneous Integration

Patent Applications

(1) ***A. I. Khan***, H. Kwon, R. Islam, H.-S. P. Wong, K. E. Goodson, M. Asheghi, E. Pop, "Low-Power Phase Change Memory Technology with Interfacial Thermoelectric Heating Enhancement" US Utility Patent, Application Number: 17/498369 (2021)

(2) Z. Fang, A. Majumdar, R. Chen, J. Zheng**,** ***A. I. Khan***, K. Neilson, S. Geiger, D. Callahan, M. Moebius, A. Saxena, M. Chen, C. Rios, J. Hu, E. Pop, "Ultra-low-energy non-volatile phase shifters" Provisional Patent, Application Number: 63/365135 (2022)

Asir Intisar Khan

Publications: >740 citations**,** h-index **17,** i10-index **20 (Google Scholar)**

Manuscript Under Review/Revision (*Equal Contribution)

(24) X. Wu*, ***A. I. Khan****, H. Lee, C-F Hsu, H. Yu, N. Roy, I. Takeuchi, X. Bao, H.-S. P. Wong, E. Pop, "Novel Nanocomposite-Superlattices for Low Energy and High Stability Nanoscale Phase-Change Memory," *in Revision* ***Nature Nanotechnology*** (2023)

Journal Publications (*Equal Contribution)

(23) I-K. Oh*, ***A. I. Khan****, S. Qin, Y. Lee, H.-S. P. Wong, E. Pop, and S. F. Bent, "Area-Selective Atomic Layer Deposition for Resistive Random-Access Memory Devices," *in press,* ***ACS Applied Materials, and Interfaces*** (2023)

(22) J. Zhao*, ***A. I. Khan****, M. Y. Efremov, Z. Ye, X. Wu, K. Kim, Z. Lee, H.-S. P. Wong, E. Pop, L. H. Allen, "Probing the Melting Transitions in Phase-change Superlattices via Thin Film Nano-calorimetry," ***Nano Letters*** 23, 4587-4594 (2023)

(21) ***A. I. Khan*****,** H. Yu, H. Zhang, J. Goggin, H. Kwon, X. Wu, C. Perez, K. Neilson, M. Asheghi, K.E. Goodson, P. Vora, A. Davydov, I. Takeuchi, and E. Pop**,** "Energy efficient neuro-inspired phase change memory based on $Ge_4Sb_6Te_7$ as a novel epitaxial nanocomposite," ***Advanced Materials,*** DOI: 10.1002/adma.202300107*,* (2023)

(20) X. Wu*, ***A. I. Khan****, P. Ramesh, C. Perez, K. Kim, Z. Lee, K. Saraswat, K. E. Goodson, H.-S. P. Wong, and E. Pop, "Understanding Interface-Controlled Resistance Drift in Superlattice Phase Change Memory," ***IEEE Electron Device Letters***, 43, 15, 1669-1672 (2022). [**Selected as Editors' Pick**]

(19) ***A. I. Khan***, X. Wu, C. Perez, B. Won, K. Kim, P. Ramesh, H. Kwon, M. C. Tung, Z. Lee, I.K. Oh, K. Saraswat, M. Asheghi, K. E. Goodson, H.-S. P Wong, and E. Pop, "Unveiling the Effect of Superlattice Interfaces and Intermixing on Phase Change Memory Performance," ***Nano Letters*** 22, 15, 6285–6291 (2022).

(18) A. Daus, M. Jaikissoon, ***A. I. Khan***, A. Kumar, R. Grady, K. Saraswat, and E. Pop, "Fast-Response Flexible Temperature Sensors with Atomically Thin Molybdenum Disulfide," ***Nano Letters*** 22, 15, 6135–6140 (2022).

(17) R. Islam, S. Qin, S. Deshmukh, Z. Yu, Ç. Köroğlu, ***A. I. Khan***, K. Schauble, K.C. Saraswat, E. Pop, and H.-S.P. Wong, "Improved Gradual Resistive Switching Range and 1000x On/Off Ratio in HfO_x RRAM Achieved with a $Ge_2Sb_2Te_5$ Thermal Barrier," ***Applied Physics Letters***, 121, 082103 (2022).

(16) Z. Fang, R. Chen, J. Zheng, ***A. I. Khan***, K.M. Neilson, S.J. Geiger, D.M. Callahan, M.G. Moebius, A. Saxena, M.E. Chen, C. Rios, J. Hu, E. Pop, and A. Majumdar, "Ultra-Low-Energy Programmable Non-volatile Silicon Photonics Based on Phase Change Materials with Graphene Heaters," ***Nature Nanotechnology***, 17, 842–848 (2022).

(15) ***A. I. Khan***, H. Kwon, M.E. Chen, M. Asheghi, H.-S.P Wong, K.E. Goodson, E. Pop, "Electro-Thermal Confinement Enables Improved Superlattice Phase Change Memory," ***IEEE Electron Device Lett*****ers**, 43, 204-207 (2022).

(14) ***A. I. Khan****, A. Daus*, R. Islam, K. M. Neilson, H.-S.P Wong, and E. Pop "Ultralow–switching current density multilevel phase-change memory on a flexible substrate," ***Science,*** 373 (6560), 1243-1247 (2021). [**Highlighted** in Forbes, Stanford/Precourt Press Release, Stanford EE, IEEE Spectrum, EE Times, Physics World, C&EN, ars TECHNICA, tom'sHARDWARE, ScienceLine, EurekAlert!, SCIENMAG]

(13) S. Wahid, A. Daus, ***A.I. Khan***, V. Chen, K.M. Neilson, M. Islam, E. Pop, "Lateral Electrical Transport and Field-Effect Characteristics of Sputtered P-Type Chalcogenide Thin Films," ***Applied Physics Letters*** 119, 232106 (2021).

(12) H. Kwon, ***A. I. Khan***, C. Perez, M. Asheghi, E. Pop, K.E. Goodson, "Uncovering Thermal and Electrical Properties of Sb_2Te_3/GeTe Superlattice Films," ***Nano Letters*** 21, 5984–5990 (2021).

(11) M. Noshin*, ***A. I. Khan****, R. Chakraborty and S. Subrina, "Modeling and Computation of Thermal and Optical Properties in Silicene Supported Honeycomb Bilayer and Heterobilayer Nanostructures," ***Materials Science in Semiconductor Processing****,* 129, 105776 (2021).

(10) ***A. I. Khan,*** H. Kwon, R. Islam, C. Perez, M. Chen, M. Asheghi, K.E. Goodson, H.-S. P Wong, and E. Pop, **"**Two-fold Reduction of Switching Current Density in Phase Change Memory Using Bi_2Te_3 Thermoelectric Interfacial Layer," ***IEEE Electron Device Letters***, 41, 11, 1657-1660 (2020).

(9) ***A. I. Khan,*** P. Khakbaz, K. Brenner, K.K.H. Smithe, M. Mleczko, D. Esseni, and E. Pop, **"**Large Temperature Coefficient of Resistance in Atomically Thin Two-Dimensional Semiconductors," ***Applied Physics Letters***, 116, 203105 (2020).

(8) M. Noshin, ***A. I. Khan***, and S. Subrina, "Thermal transport characterization of stanene/silicene heterobilayer and stanene bilayer nanostructures," ***Nanotechnology*** 29, 185706 (2018).

(7) I. A. Navid, ***A. I. Khan,*** and S. Subrina, "Impact of tensile strain on the thermal transport of zigzag hexagonal boron nitride nanoribbon: An equilibrium molecular dynamics study," ***Materials Research Express*** 5, 025015 (2018).

(6) ***A. I. Khan***, T. Chakraborty, N. Acharjee, and S. Subrina, "Stanene-hexagonal boron nitride heterobilayer: Structure and characterization of electronic property," ***Scientific Reports*** 7, 16347 (2017).

(5) ***A. I. Khan***, R. Paul, and S. Subrina, "Characterization of thermal and mechanical properties of stanene nanoribbons: A molecular dynamics study," ***RSC Advances*** 7, 50485-50495 (2017).

(4) ***A. I. Khan***, I. A. Navid, M. Noshin, and S. Subrina, "Thermal Transport Characterization of Hexagonal Boron Nitride Nanoribbons Using Molecular Dynamics Simulation," ***AIP Advances*** 7, 105110 (2017).

(3) ***A. I. Khan***, R. Paul, and S. Subrina, "Thermal transport in graphene/stanene hetero-bilayer nanostructures with vacancies: An equilibrium molecular dynamics study," ***RSC Advances*** 7, 44780-44787 (2017).

(2) M. Noshin*, ***A. I. Khan****, I. A. Navid, H. M. A. Uddin, and S. Subrina, "Impact of vacancies on the thermal conductivity of graphene nanoribbons: A molecular dynamics simulation study," ***AIP Advances*** 7, 015112 (2017).

(1) ***A. I. Khan****, I. A. Navid*, M. Noshin, H. M. A. Uddin, F. F. Hossain, and S. Subrina, "Equilibrium Molecular Dynamics (MD) Simulation Study of Thermal Conductivity of Graphene Nanoribbon: A Comparative Study on MD Potentials," ***Electronics****: Special issue Two-Dimensional Electronics- Prospects and Challenges* 4, 1109-1124 (2015).

Selected Articles/Abstracts in Referred Conferences

(27) **A.I. Khan,** E.R. Lindgren, X. Wu, H. Kim, A. Ramdas, B. Won, F. Jornada, K.E. Goodson, I.-K. Oh, H.-S.P. Wong, Y. Suzuki, E. Pop, "Unconventional Resistivity Scaling in Nanocrystalline NbP and TaP sub-5 nm Thin Film," ***MRS Fall Meeting***, Nov 2023, Boston MA

(26) **A.I. Khan**, X. Wu, A. Daus, H. Kwon, K.E. Goodson, H.-S.P. Wong, E. Pop, "Novel Chalcogenide Superlattice-Based Energy-Efficient Phase-Change Memory for 3D Heterogeneous Integration," ***AVS 69th International Symposium & Exhibition***, Nov 2023, Portland, OR

(25) ***A.I. Khan***, X. Wu, H. Kwon, H. Yu, A. Daus, K. Saraswat, I. Takeuchi, K.E. Goodson, H.-S.P. Wong, E. Pop, "Novel Epitaxial Nanocomposite and Superlattices Enabling Energy Efficient Neuro-inspired Phase Change Memory," ***SRC TECHCON***, Sep 2023, Austin TX

(24) J. Zhao, ***A.I. Khan***, M. Efremov, Z. Ye, X. Wu, H.-S.P. Wong, E. Pop, L. Allen, "Preliminary Study of Phase-change Superlattices via Thin Film Nanocalorimetry," ***MRS Spring Meeting***, San Francisco, CA (2023)

(23) ***A.I. Khan***, X. Wu, B. Won, E.R. Lindgren, C. Perez, K.E. Goodson, Y. Suzuki, I.-K. Oh, H.-S.P. Wong, E. Pop, "Unconventional Resistivity Scaling in Polycrystalline NbP Thin Films," ***APS March Meeting***, Las Vegas NV (2023).

(22) C-T Chen, C. Lavoie, N. Lanzillo, U. Bajpai, O. Gunawan, ***A. I. Khan***, G. Cohen, T. Todorov, J. Bruley, V. Stanic, H. Lin, I. Garate, S.-W. Lien, Y.-H. Tu, C.-Y. Huang, A. Bansil, S. Kumar, R. Sundararaman, J. J.-Sweet, P. Kerns, N. Marchack, T.-R. Chang, "Exploring Unconventional Resistivity Scaling in Topological Semimetals for Interconnects Beyond Copper," ***APS March Meeting***, Las Vegas NV (2023).

(21) X. Wu, ***A.I. Khan***, K. Kim, Z. Lee, H.-S.P. Wong, E. Pop, "Understanding Low Structural Relaxation in Phase-Change Chalcogenide Superlattices," ***APS March Meeting***, Las Vegas NV (2023)

(20) C. Perez, ***A.I. Khan***, X. Wu, E. Fuller, H.-S.P. Wong, M. Asheghi, E. Pop, A. Talin, S. Kumar, K.E Goodson, "Probing Phonon-Dominated Transport in Sb_2Se_3 Thin Films," ***APS March Meeting***, Las Vegas NV (2023)

(19) H. Yu, ***A.I. Khan***, C. Wu, H. Zhang, A. Davydov, A. Mehta, M. Li, A.G. Kusne, E. Pop, I. Takeuchi, "Combinatorial Exploration of New Phase-Change Memory Materials for Neuromorphic Computing Applications," ***MRS Fall Meeting***, Boston MA (2022)

(18) J. Zhao, J. Hui, ***A.I. Khan***, Z. Ye, X. Wu, T. Lai, M. Efremov, H. Wang, E. Pop, L. Allen, "Revealing the crystallization kinetic in thin-film phase change material via 1,0000,000 K/s Nanocalorimetry," MRS Fall Meeting, Boston MA (2022)

(17) ***A.I. Khan***, X. Wu, C. Perez, B. Won, I.-K. Oh, M. Asheghi, K.E. Goodson, H.-S.P. Wong, E. Pop, "Chalcogenide-Superlattice Interfaces and Intermixing Modulating Phase-Change Memory Performance," ***MRS Fall Meeting***, Boston MA (2022)

(16) X. Wu, ***A.I. Khan***, P. Ramesh, K. Saraswat, H.-S.P. Wong, E. Pop, "Engineering Superlattice Materials and Interfaces for Improved Resistance-Drift and Retention in Phase-Change Memory," ***MRS Fall Meeting***, Boston MA (2022)

(15) C. Perez, ***A. I. Khan*****,** X. Wu, T.D. Brown, H. Kwon, M. Asheghi, A.A. Talin, H.-S.P. Wong, S. Kumar, E. Pop, K.E. Goodson, "Revealing Interface-Controlled Transport Effects in GST-Based Superlattice Materials," ***SRC TECHCON***, Austin TX (2022).

(14) ***A. I. Khan***, C. Perez, X. Wu, B. Won, K. Kim, H. Kwon, P. Ramesh, K.M. Neilson, M. Asheghi, K. Saraswat, Z. Lee, I.K. Oh, H.-S.P. Wong, K.E. Goodson, E. Pop "First Demonstration of $Ge_2Sb_2Te_5$-Based Superlattice Phase Change Memory with Low Reset Current Density (~3 MA/cm^2) and Low Resistance Drift (~0.002 at 105°C)," ***2022 IEEE Symposium on VLSI Technology and Circuits***, pp. 310-311, Honolulu HI. DOI: 10.1109/VLSITechnologyandCir46769.2022.9830348 (2022). [**Best Student Paper** Award; Selected as a **Conference Highlight**]

(13) S. Vaziri, I.M. Datye, E. Ambrosi, ***A. I. Khan***, H. Kwon, C.H. Wu, C.F. Hsu, J. Guy, T.Y. Lee, H-S. P. Wong, X.Y. Bao, "First Fire-free, Low-voltage (~1.2 V), and Low Off-current (~3 nA) SiO_xTe_y Selectors," ***2022 IEEE Symposium on VLSI Technology and Circuits***, pp. 324-325, Honolulu HI (2022).

(12) M. C Tung, ***A. I. Khan***, H. Kwon, M. Asheghi, K. E. Goodson, E. Pop, and H-S P. Wong, "Nanoscale phase change memory arrays patterned by block copolymer directed self-assembly," ***Novel Patterning Technologies 2022*****, SPIE**, 12054, 39-46 (2022).

(11) X. Wu*, ***A. I. Khan****, P. Ramesh, C. Perez, K. Kim, Z. Lee, K.E. Goodson, K. Saraswat, H.-S.P. Wong, E. Pop, "Interface-Controlled Ultralow Resistance Drift and Its Origin in Superlattice Phase Change Memory," ***IEEE Device Research Conference (DRC)***, Columbus OH (2022).

(10) ***A. I. Khan***, H. Yu, H. Kwon, A. Daus, C. Perez, M. Asheghi, H.-S. P. Wong, K. E. Goodson, I. Takeuchi, E. Pop, "Novel Nanocomposite and Superlattice Materials Enabling Energy-Efficient Neuro-Inspired Phase Change Memory," ***MRS Spring Meeting***, Honolulu HI (2022).

(9) C. Perez, ***A. I. Khan***, K. Neilson, X. Wu, H.-S.P. Wong, M. Asheghi, A.A. Talin, S. Kumar, E. Pop, and K.E. Goodson. "Exposing Dynamical Phase Transitions and Electro-Thermal Transport in $TiTe_2$ Thin Films," ***MRS Spring Meeting***, Honolulu HI (2022).

(8) A. M. Chen, C. Perez, S. Ueda, A. Mcleod, V. Chen, Z. Sobell, C. Koroglu, ***A.I. Khan***, S. George, A. C. Kummel, K. E. Goodson, E. Pop, "Thermal and Electrical Properties of Wide Bandgap Nitride Thin Films Deposited at Low Temperatures for Heterogeneous Integration," ***MRS Spring Meeting***, Honolulu HI (2022).

(7) A. Daus, K. Nassiri Nazif, S. Vaziri, ***A. I. Khan***, R.W. Grady, V. Chen, C.S. Bailey, H.R. Lee, C. Koroglu, K. Brenner, K. Schauble, A. Kumar, K.C. Saraswat, E. Pop, "Flexible Transition Metal Dichalcogenide Devices for Environmental Sensors and Energy Harvesting," ***AVS 67th International Symposium & Exhibition***, Charlotte NC (2021).

(6) ***A. I. Khan***, A. Daus and E. Pop, "Flexible Low-Power Superlattice-Like Phase Change Memory," ***IEEE Device Research Conference (DRC)***, Columbus OH, DOI: 10.1109/DRC50226.2020.9135166 (2020).

(5) ***A. I. Khan***, K. Brenner, K.K.H. Smithe, M.J. Mleczko and E. Pop, "Large Temperature Coefficient of Resistance in Atomically Thin 2D Devices", ***IEEE Device Research Conference (DRC)***, pp. 125-126, Ann Arbor MI, DOI: 10.1109/DRC46940.2019.9046401. (2019).

(4) M. Noshin, ***A. I. Khan***, I. A. Navid, and S. Subrina, "Thermal Transport in Defected Armchair Graphene Nanoribbon: A Molecular Dynamics Study", **2017 IEEE Region 10 Conference (TENCON), Penang, Malaysia**, pp. 2600-2603 (2017).

(3) M. T. Shahed, M. R. I. Udoy, B.t Saha, ***A. I. Khan***, Samia Subrina, "Automatic Bengali number plate reader", **TENCON 2017 - 2017 IEEE Region 10 Conference**, Penang, Malaysia, (2017).

(2) ***A. I. Khan***, I. A. Navid, F. F. Hossain, M. Noshin, and S. Subrina, "A Molecular Dynamics Study on Thermal Conductivity of Armchair Graphene Nanoribbon", **2016 IEEE Region 10 Conference (TENCON)**, Singapore, pp. 2775-2778 (2016).

(1) A. Bhattacharjee*, **A. I. Khan***, M. Z. Haider, S. A. Fattah, D. Chowdhury, M. Sarkar, and C. Shahnaz, "Bangla voice-controlled robot for rescue operation in noisy environment", **2016 IEEE Region 10 Conference (TENCON),** 3284-3288 (2016).

Invited Presentations (Tutorials in bold)

(6) IBM Seminar, IBM Research Zurich, Switzerland, Sept. 2023
(5) The European Phase Change and Ovonics Symposium, Rome, Italy, Sept. 2023
(4) Physics & Astronomy colloquia at San Francisco State University, CA, Apr. 2023
(3) **IEEE International Integrated Reliability Workshop (IIRW)**, CA, Oct. 2022
(2) UT Dallas Materials Science and Engineering Colloquium, Texas, Oct. 2022
(1) IBM Seminar, TJ Watson Research Center, NY, Aug. 2022

Research Experience

Stanford University | Pop Lab Sept. 2018 – Present
Principal Investigator: *Prof. Eric Pop*

- **Topological semimetals for scaled Back-end-of-line (BEOL) Interconnect:** Growth and transport characterization of novel topological semimetals for scaled BEOL interconnect.
- **Energy-efficient data storage and computing:**
  - Fabrication and characterization of superlattice films for low power memory application → developed growth and fabrication for ultralow power non-volatile memory devices.
  - Understanding the correlation between superlattice material characteristics and device properties
  - Fabrication and characterization of low power non-volatile memory on flexible platform → demonstrated record-low switching power in flexible memory devices.
  - Demonstration of energy-efficient analog phase-change memory devices with multilevel capability and linear potentiation and depression
  - Conceptualization and implementation of interfacial thermoelectric heating in a conventional phase change memory for energy-efficient operation
- **Fast temperature sensing using ultrathin 2D materials:** Design, fabrication and characterization of temperature sensors using 2D materials.

Bangladesh University of Eng. & Tech. (BUET) Jan. 2015 – Aug. 2018
Principal Investigator: *Prof. Samia Subrina*

- **Thermal transport in novel 2D materials:** Graphene nanoribbons, hexagonal boron nitride ribbons, graphene/stanene heterobilayers | Molecular Dynamics Simulation
- **Electronic modeling of novel 2D nanomaterials:** Stanene, stanene/h-BN, stanene/silicene

Relevant Coursework

Asir Intisar Khan

Graduate Courses (Stanford University)
Principles and Models of Semiconductor Devices | Integrated Circuit Fabrication Processes; Fundamentals of Heat Conduction | Advanced Integrated Circuit Technology | New Methods in Thin Film Synthesis | Applied Quantum Mechanics II | Energy in Electronics | Electronic and Optical Properties of Solids | Semiconductor Memory Devices and Circuit Design | Medical Imaging Systems II | Internet of Things

M.Sc. Courses and Undergraduate Courses:
Semiconductor Characterization Technology | Quantum Phenomena in Nanostructures | Compound Semiconductor Devices | Electrical Properties of Materials | Solid State Devices | Optoelectronics | Analog Integrated Circuits

Fabrication and Characterization Skills

Thin Film, Sputtering, Electron Beam Evaporation, Plasma Enhanced Chemical Vapor Deposition, Photolithography, Etching, X-ray Diffraction, Electrical Characterization and Measurement

Computer Skills

MATLAB, LAMMPS, Quantum Espresso, ATK-Virtual Nanolab, KLayout

Professional Experience

Summer Internship (Exploratory Physical Science Research Intern) Summer 2022
IBM, TJ Watson Center
Yorktown Heights, NY

Summer Internship (R&D) Summer 2020
Taiwan Semiconductor Manufacturing Company (TSMC)
San Jose, CA

Teaching Assistant and Grader 2019 – Present
Stanford University, Stanford, CA, USA

Lecturer Oct. 2016 – Aug. 2018
Department of Electrical and Electronic Engineering (EEE)
Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

Synergistic and Leadership Activities

- **Mentor:** Stanford SPLASH; offering a course titled '**Engineering Nanomaterials for Energy-efficient Computing**' for 11th and 12th grade students
- **Reviewer**: IEEE Electron Device Letters, IEEE Transactions on Electron Devices, Nano Letters, Nanotechnology, 2D Materials, Journal of Applied Physics D, Journal of Physics: Condensed Matter, Flexible and Printed Electronics, Semiconductor Science and Technology; Materials Science in Semiconductor Processing, IEEE Access; Journal of Physics and Chemistry of Solids
- **Member, IEEE, IEEE Electron Device Society**
- **Secretary, Executive Committee 2018**, IEEE EMBS Bangladesh Chapter
- **Treasurer**, **Executive Committee 2017**, IEEE EMBS Bangladesh Chapter
- **Member, Technical Committee,** 9th International Conference on Electrical and Computer Engineering 2016