

RUBAIYA MURSHED

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ACADEMIC QUALIFICATIONS

- **Doctor of Philosophy in Mechanical Engineering** Aug 2017 – Present
University of Nevada Las Vegas
- **Bachelor of Science in Mechanical Engineering** Jan 2011 – Dec 2014
Military Institute of Science and Technology, Dhaka, Bangladesh

PROFESSIONAL EXPERIENCE

- **Graduate Research Assistant** Aug 2017 – Present
University of Nevada Las Vegas
 - Developing Stable wide band-gap perovskite for high efficiency solar cell
 - Developing atmospherically processable Lead free alternatives for perovskite photovoltaics to address the toxicity issues
 - Funded by UNLV Top Tier Graduate Research Assistant (TTDGRA) Grant
- **Technical Sales Engineer** Feb 2015 – Aug 2015
Navana Petroleum Ltd, Dhaka, Bangladesh
 - Researched potential market and provided Chevron Lubrication solution to power-plants and industry

TECHNICAL SKILLS

Programming Languages (Familiar):
C, MATLAB, EES, Latex

Design Tools (Familiar):
AutoCAD, Solid Works

Analytical Tools (Proficient):
TOPAS, EVA, Microsoft Office

Technical Expertise (Proficient):

- Ultra-Violate Visible Spectroscopy (UV-Vis)
- Scanning Electron Microscopy (SEM)
- Energy Dispersive X-Ray Spectroscopy (EDS)
- X-Ray Diffractometry (XRD)
- Differential Scanning Calorimetry (DSC)
- Solar Simulation
- Solar PV Device Fabrication

ACCOMPLISHMENT

- **Journal Article**
 - Rubaiya Murshed^{1,2}, Shubhra Bansal^{*1,2}, Andrew Swift³, Daniel Koury³, Minghua Ren⁴, Thomas Hartmann⁵, “Effect of solvents and substrates on the structure and electronic properties of $F : Cs_2SnI_6$ perovskite photovoltaics” Journal: Physica Status Solidi (a); Section: Ternary and Multinary Compounds (2018) - Submitted
- **Research Oral Presentations**
 - Rubaiya Murshed, Shubhra Bansal, Andrew Swift, Minghua Ren, Thomas Hartmann, “Effect of Solvents and Substrates on the Structure and Electronic Properties of SnF2: Cs2SnI6 Perovskite Photovoltaics”, 21st International Conference on Ternary and Multinary Compounds at Boulder, CO, September 10, 2018.

- Rubaiya Murshed, Shubhra Bansal, “Emergence of Promising Perovskite Photovoltaic Material: Improvement in Non-Toxic Options”, 3MT Rebel Grad Slam Research Presentation at UNLV, October 30, 2019.

➤ **Research Poster Presentations**

- Rubaiya Murshed, “*Cs2SnI6*: a lead free, thin film photovoltaic material”, The Annual Undergraduate/Graduate Student Poster Competition Exposition, the Southern Nevada Section of the American Chemical Society at Nevada State College, NV, Nov 17, 2018.
- Rubaiya Murshed, Shubhra Bansal, “Analysis of Lead-free Thin Film Perovskite Photovoltaic Material with A2BX6 Structure”, 2019 Graduate Celebration at UNLV, March 8, 2019.
- Rubaiya Murshed, Shubhra Bansal, “Analysis of Lead-free Perovskite Photovoltaic Material with A2BX6 Structure”, 8th DOE/NREL Hands-On Photovoltaic Experience Workshop, National Renewable Energy Laboratory, Golden, CO, July 19, 2019.

➤ **Research Workshop**

8th DOE/NREL Hands-On Photovoltaic Experience Workshop
National Renewable Energy Laboratory (NREL)

July 14–19, 2019

- Learning about PV technology and solar cell fabrication
- Performing hands-on measurements
- Interaction with scientists and engineers at NREL
- Building a network of research connections

➤ **Undergraduate Thesis**

Military Institute of Science and Technology, Dhaka, Bangladesh

- Design and Performance Analysis of a Micro-Controller Based Natural Air-Cooling System for Standby Load

AWARD

- Southern Nevada Chapter, International Code Council Scholarship, 2019-2020

PROFESSIONAL DEVELOPMENT/MENTORSHIP CERTIFICATION

- Rebel Research and Mentorship Program (RAMP) UNLV, 2019-2020 Cohort
- Graduate College Mentorship Certification (GCMC) UNLV, 2019-2020 Cohort
- Grad Rebel Ambassador UNLV, 2019-2020 Cohort

LEADERSHIP EXPERIENCE

- National Education for Women’s Leadership Workshop Women’s Research Institute of Nevada, UNLV June 3-8, 2019

VOLUNTEER/SERVICE EXPERIENCE

- UNLV Volunteer Service Programs; Total Service Hours: 10

AFFILIATION

- UNLV Graduate and Professional Student Association (GPSA)
- SWANA