

Md Mohsin

Md Mohsin
PHD CANDIDATE—PHYSICS

San Antonio, Texas-78256, USA

e-mail: md.mohsin.phys@gmail.com; md.mohsin@my.utsa.edu

phone: +12108479396

Education

University of Texas at San Antonio

San Antonio, Texas, USA

Physics

Ph.D. Candidate

M.S.

2022

University of Chittagong

Chittagong, Bangladesh

Physics

M.S.

Thesis: Study of Lorentz and CPT Violations in Neutrino Physics
B.Sc. (Honors)

Professional Experience

Graduate Research Assistant, Department of Physics and Astronomy, University of Texas at San Antonio; San Antonio, Texas, USA; 2020–2021.

Post Baccalaureate Fellow, Department of Physics and Astronomy, University of Texas at San Antonio; funded by National Institute of Health (NIH); San Antonio, Texas, USA; 2021–2022.

Teaching Experience

Teaching Assistant

San Antonio, Texas, USA

University of Texas at San Antonio

2021–present

Department of Physics and Astronomy

Assistant Professor

Chittagong, Bangladesh

University of Chittagong

2014–present

Department of Physics

Adjunct Lecturer

Chittagong, Bangladesh

Chittagong Independent University

2013–2017

School of Engineering and Computer Sciences

Lecturer

Chittagong, Bangladesh

University of Chittagong

2012–2014

Department of Physics

Job Experience

Officer, **Dutch-Bangla Bank Limited**, Dhaka, Bangladesh; 2009–2012.

Publications

PUBLISHED JOURNAL ARTICLES

- Hunley, Christian, **Md Mohsin**, and Marcelo Marucho. "Electrical impulse characterization along actin filaments in pathological conditions." *Computer Physics Communications* 275 (2022): 108317.
- Rahman, A. K. M. Rezaur, A. K. M. Moinul Haque Meaze, Shyamal Ranjan Chakraborty, and **Md Mohsin**. "Evaluations of $n + {}^{27}\text{Al}$ Reaction in the Energy Range 0.1–200 MeV." *Indian Journal of Physics* 94, no. 8 (August 1, 2020): 1255–62.
- Ferdous, Jannatul, Md. Abdul Gafur, Sujan Kumar Das, Shyamal Ranjan Chakraborty, **Md Mohsin**, Arun Kumar Deb, and Md. Rakibul Qadir. "Study of $\text{Cu}_x\text{Zn}_{1-x}\text{Fe}_2\text{O}_4$ Ferrite Humidity Sensors With and Without Naphthalene." *Sensor Letters* 12, no. 9 (September 1, 2014): 1353–60.
- Ghose, Polash, Md. Abdul Gafur, Sujan Kumar Das, Shyamal Ranjan Chakraborty, **Md Mohsin**, Arun Kumar Deb, and Md. Rakibul Qadir. "Effects of Flux Concentrations and Sintering Temperature on Dental Porcelain." *The European Physical Journal Applied Physics* 65, no. 2 (February 2014): 20701.

CONFERENCE PROCEEDINGS

- Mohsin, Md**, Christian Hunley, and Marcelo Marucho. "Ionic transport along actin filaments." *Bulletin of the American Physical Society* (2022).
- Mohsin, Md** and Arun Kumar Deb. "Lorentz and CPT Violation in Neutrino Oscillation." *International Physics Conference*, Dhaka, Bangladesh (May 2009).

Presentations

POSTER

- Mohsin, Md** and Marcelo Marucho. *Cytoskeleton Filaments and Their Potential Role in Electrical Activities of Healthy and Dysfunctional Neurons*. San Antonio Military Health and Universities Research Forum (SURF); February 2, 2023; Texas, USA.
- Mohsin, Md**, Christian Hunley, and Marcelo Marucho. *Ionic transport along actin filaments*. Poster presented at: Fall 2022 Meeting of the Texas Section of the American Physical Society (APS); October 2022; Texas, USA.
- Mohsin, Md**, Christian Hunley, and Marcelo Marucho. *Actin Filaments Acting as Signal Propagation Pathways in Muscle and Non-Muscle Cells*. Poster will be presented at: 2022 Triangle Cytoskeleton Meeting; September 2022; North Carolina, USA.
- Hunley, Christian, **Md Mohsin**, and Marcelo Marucho. *Signal Transmission Along Cytoskeletal Filaments*. Poster presented at: 2020 Triangle Cytoskeleton Meeting; November 2020; USA.

Invited Lectures

- Lectured to the youths on physics; invited as a guest speaker for the **Jamal Nazrul Islam Youth Science Festival** organized by *Fulki*; Chittagong, Bangladesh; March 2017.

Research Supervision

M.S. thesis Student, *Inverse Weibull Distribution in Analysis of Wind Speed Data for Wind Power Generation at Few Prospective Locations in Bangladesh*; Department of Physics, University of Chittagong, Chittagong, Bangladesh; 2014–2015.

Fellowships and Grants Received

Travel Grant, awarded by Texas Section APS student awards, to attend Fall 2022 Meeting of the Texas Section of the American Physical Society (APS); Texas, U.S.A.; 2022.

The Graduate School Professional Development Award (Travel Grant), awarded by The Graduate School, University of Texas at San Antonio; San Antonio, Texas, U.S.A.; 2022.

College of Science Alvarez Scholarship, awarded by College of Sciences, University of Texas at San Antonio; San Antonio, Texas, USA; 2021.

Competitive Graduate Scholarship, awarded by College of Sciences, University of Texas at San Antonio, San Antonio, Texas, USA; 2020.

Summer School Fees, awarded by The High Energy Accelerator Research Organization (KEK), to attend Second Asia-Europe-Pacific School in High Energy Physics (AEPSHEP); Puri, India; 2014.

Travel Grant; awarded by European Organization for Nuclear Research (CERN), Deutsches Elektronen-Synchrotron (DESY), and The International Centre for Theoretical Physics (ICTP); to attend Second Asia-Europe-Pacific School in High Energy Physics (AEPSHEP); Puri, India; 2014.

Volunteering and Professional Development Activities

Member, FGSA Nominating Committee, American Physical Society (APS); U.S.A.; 2021–2022.

Group Project, Transdisciplinary Team Grand Challenge: Social Justice, University of Texas at San Antonio; San Antonio, Texas, U.S.A.; 2020.

Rapporteur, Science Faculty Seminar Week, Faculty of Science, University of Chittagong; Chittagong, Bangladesh; 2018.

Moderator, Physics Olympiad, Chittagong Zone; Chittagong, Bangladesh; 2014–2015.

Judge, Science Fair, organized by Alamo Regional Academy of Science and Engineering, San Antonio, Texas, U.S.A.; 2021.

Judge, Science fair, organized by John Jay Science and Engineering Academy High School, San Antonio, Texas, U.S.A.; 2020.

Judge, Debate Competition, organized by Faculty of Social Sciences, University of Chittagong; Chittagong, Bangladesh; 2015.

Judge, Debate Competition, organized by Faculty of Arts, University of Chittagong; Chittagong, Bangladesh; 2015.

Honors

Who's Who at UTSA, for outstanding accomplishments and excellence as a student; University of Texas at San Antonio (UTSA); San Antonio, Texas, USA; 2021.

Summer Schools Attended

First Bangladesh-CERN School on **Particle Physics**, summer school organized by Bose Center for Advanced Study and Research in Natural Sciences of University of Dhaka and The European Center for Nuclear Research (CERN); Dhaka, Bangladesh; 2014.

Second Asia-Europe-Pacific School in **High Energy Physics** (AEPSHEP), organized by: Tata Institute of Fundamental Research of the Government of India and The European Center for Nuclear Research (CERN); Puri, India; 2014.

Certifications

- Wolfram Technology Certified | Level 1 | **Statistics**; Wolfram Research; 2023.
- Wolfram Technology Certified | Level 1 | **Differential Equation**; Wolfram Research; 2022.
- Wolfram Technology Certified | Level 1 | **Mathematica**; Wolfram Research; 2021.
- Wolfram Technology Certified | Level 1 | **Wolfram Language**; Wolfram Research; 2021.

Professional Memberships

- Graduate Student Member, American Physical Society (APS)
- Member, Graduate Student Affairs Forum (FGSA), APS
- Member, Biological Physics Division (DBIO), APS
- Member, Graduate Society of Physics Students (GSPS) at UTSA
- Life Member, Bangladesh Physical Society (BPS)

Leadership Positions

- **Faculty Representative**, Graduate Society of Physics Students (GSPS) at UTSA, Texas, USA, 2022.
- **President**, Bangladeshi Students' Association at UTSA; San Antonio, Texas, USA; 2022.
- **Secretary**, Chittagong University Club (City); Chittagong, Bangladesh; 2018.
- **Joint Secretary**, Chittagong University Teachers Association (CUTA); Chittagong, Bangladesh; 2016.

Computer and Computational Skills

- *Programming Language:* C++, Python, Wolfram Language
- *Selected Scientific Software:* Mathematica, COMSOL, MATLAB, Origin, Material Studio, and VASP.
- *Operating Systems:* Windows, Linux, and Mac.
- *Selected Applications:* Word Processing, Spread Sheet, and Presentation applications; LaTeX; Text editors.

Test Scores

- GRE: 322 (October 2014)
- IELTS: 7.0 (April 2019)

Language Skills

- *Native or Bilingual Proficiency:* Bengali
- *Full Professional Proficiency:* English
- *Elementary Proficiency:* Arabic, Chinese, and Hindi