

SAMIRA TASNIM

PROFESSIONAL PREPARATION

AWARD DATE SEPTEMBER 22, 2017	PhD in SPACE PHYSICS The University of Sydney, NSW, Australia Thesis title “Generalized Theory for the Solar Wind.”
AWARD DATE JANUARY 2011	Master of Science in PHYSICS (Thesis) Jahangirnagar University, Savar Dhaka, Bangladesh Thesis title “Non-linear Electrostatic Waves in a Dusty Electronegative Plasma.” Grade Point Average (GPA) of 3.96 out of 4.00 (Second in merit – top 2% of graduating class)
AWARD DATE JANUARY 2010	Bachelor of Science in PHYSICS Jahangirnagar University, Savar Dhaka, Bangladesh Grade Point Average (GPA) of 3.73 out of 4.00 (third in merit – top 3% of graduating class)

APPOINTMENTS

JANUARY 2019 TO PRESENT	Postdoctoral Research Assistant III The Center for Space Plasma and Aeronomic Research University of Alabama in Huntsville, AL, USA
APRIL 2018 TO PRESENT	Postdoctoral Fellow (Honourary) School of Physics The University of Sydney, NSW, Australia
JULY 2013 TO DECEMBER 2018	Casual Academic (Lecturer, Tutor, and Laboratory demonstrator) School of Physics, The University of Sydney, NSW, Australia
SEPTEMBER 2017 TO DECEMBER 2017	SpaceNet Officer School of Physics, The University of Sydney, NSW, Australia
MAY 2012 TO FEB 2013	Lecturer in Physics (Full-time) Department of Physics, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
JAN 2011 TO MAY 2012	Lecturer in Physics (Full-time) Department of Natural Science, Stamford University Bangladesh, Dhaka

PRODUCTS: JOURNAL PUBLICATIONS

1. **Tasnim, S.**, Cairns, I. H., Wheatland M. S., and Li, B. *Mapping Magnetic Field Lines for an Accelerating Solar Wind..* **Solar Physics**,, **294**, **155** (2019)
2. **Tasnim, S.**, Cairns, I. H., and Wheatland M. S. *A generalized equatorial model for the accelerating solar wind.* **Journal of Geophysical Research: Space Physics**, **123**, **1061-1085** (2018)
3. **Tasnim, S.**, and Cairns, Iver H. *An equatorial solar wind model with angular momentum conservation and nonradial magnetic fields and flow velocities at an inner boundary.* **Journal of Geophysical Research: Space Physics**, **121:6**, **4966-4984** (2016)

4. Hossain, M., **Tasnim, S.**, and Mamun, AA. *Planar nonlinear dust-ion acoustic shock and solitary waves in dusty multi-ion plasma*. **Global Journal of Physics**, **2:2**, 134–144, (2016)
5. Deeba, F., **Tasnim, S.**, and Mamun, AA. *Gardner solitons in a dusty plasma*. **IEEE Transactions on Plasma Science**, 40:9, **2247–2253**, (2012)
6. **Tasnim, S.**, Islam, S., and Mamun, AA. *Planar and non-planar dust ion-acoustic solitary waves in a quantum dusty electronegative plasma*. **Physics of Plasmas**, 19:3, (2012)
7. Roy, N., **Tasnim, S.** and Mamun, AA. *Solitary waves and double layers in an ultra-relativistic degenerate dusty electron-positron-ion plasma*. **Physics of Plasmas**, 19:3, **033705**, (2012)
8. **Tasnim, S.**, Mannan, A., and Mamun, AA. *Electrostatic solitary structures in a four-component adiabatic dusty plasma*. **Astrophysics and Space Science**, 337:1, **261–267**, (2012)
9. Mamun, AA., **Tasnim, S.**, and Shukla, PK. *Effects of adiabaticity of electrons and negative ions on solitary waves and double layers in an electronegative plasma*. **IEEE Transactions on Plasma Science**, 38:11, **3098–3104**, (2010)
10. Mamun, AA. and **Tasnim, S.** *Dust-ion-acoustic shock and solitary waves in a dusty electronegative plasma*. **Physics of Plasmas**, 17:7, **073704**, (2010)

CONFERENCE PROCEEDINGS

Tasnim, S., Cairns, I. H., Wheatland, M. S., Li, B., and Zank, G. P., *Outer Heliospheric Turbulence and the Angular Broadening of Radio Sources from the Voyager Data*,. **Journal of Physics: Conference Series**,, 1332,, 18th Annual International Astrophysics Conference 2019, Pasadena, California USA, 2019

BOOKS PUBLISHED BY MULTINATIONAL PUBLISHERS:

1. *Non-linear Electrostatic Waves in a Dusty Electronegative Plasma*. Tasnim, S. LAMBERT Academic Publishing Ltd., Germany, ISBN 978-3-8465-8364-7, **2012**

IN PREPARATION

Tasnim, S., Zank, G. P., Cairns, I. H., and Adhikari L., *Outer Heliospheric Turbulence and the Angular Broadening of Radio Sources from the Voyager Data*, **Journal of Physics: Conference Series**, **In Preparation**, (2020)

AWARDS & HONORS

2013–2016	International Postgraduate Research Scholarship Australian government scholarship for postgraduate research studies.
2013–2016	Australian Postgraduate Award Commonwealth Department of Industry, Innovation, Science, Research, and Tertiary Education.
2016	Thesis Completion Scholarship School of Physics, The University of Sydney.
2013	The ‘Best Student Presentation-Poster’ Australian Space Science Conference.

2008	Jahangirnagar University Merit Scholarship for B. Sc result
1998	General Merit Scholarship in Junior Scholarship Examination Board of Education, Dhaka, Bangladesh.
1995	Talent pool Merit Scholarship in Primary Scholarship Examination Board of Education, Dhaka, Bangladesh.

RESEARCH GRANTS

2018	Travel Support for the 42nd COSPAR Scientific Assembly Pasadena, California, USA.
2016	Postgraduate Research Support Scheme (PRSS) School of Physics, The University of Sydney.
2015	Postgraduate Research Support Scheme (PRSS) School of Physics, The University of Sydney.

CONFERENCE PRESENTATIONS

1. *Inner and Outer Heliospheric Turbulence and the Angular Broadening of Radio Sources using Parker Solar Probe and the Voyager Data (Oral)*. Tasnim, S., Zank, G. P., Cairns, I. H., and Adhikari, L. **19th Annual International Astrophysics Committee**, Santa Fe, New Mexico, USA., **2020**.
2. *Outer Heliospheric Turbulence and the Angular Broadening of Radio Sources from the Voyager Data (Poster)*. Tasnim, S., Zank, G. P., Cairns, I. H., and Adhikari, L. **American Geophysical Union (AGU) Fall Meeting**, San Francisco, California, USA., **2019**.
3. *Mapping Magnetic Field Lines for an Accelerating Solar Wind (Oral)*. Tasnim, S., Cairns, I., B. Li, Wheatland, M. S., and Zank, G. P. **18th Annual International Astrophysics Committee**, Pasadena, California, USA., **2019**.
4. *Mapping Magnetic Field Lines for an Accelerating Solar Wind: An Improvement in the Space Weather Forecast (Oral)*. Tasnim, S., Cairns, I., B. Li, Wheatland, M. S., and Zank, G. P. **2019 STO and CPU2AL Annual Meeting**, Mobil, Alabama, USA., **2018**.
5. *Mapping Magnetic Field Lines for an Accelerating Solar Wind (Oral)*. Tasnim, S., Cairns, I., B. Li, and Wheatland, M. S. **42nd COSPAR Scientific Assembly**, Pasadena, California, USA., **2018**.
6. *Magnetic Field Line Mapping and Comparisons of Simulation Outputs with Analytic Predictions for an Accelerating Solar Wind (Oral)*. Tasnim, S., Cairns, I., Schmidt, J., Li, B., and Wheatland, M. S. **Australian Space Research Conference (ASRC)**, Sydney, **2017**.
7. *A generalized equatorial model for the accelerating solar wind (Oral)*. Tasnim, S., Cairns, I., and Wheatland, M. S. **Australian Space Research Conference (ASRC)**, Melbourne, **2016**.
8. *A Generalized Theory for the Evolution of Angular Momentum and Azimuthal Magnetic Fields in the Ecliptic Heliosphere (Oral)*. Tasnim, S., Cairns, I., and Wheatland, M. S. **American Geophysical Union (AGU) Fall Meeting**, San Francisco, **2015**.

9. *Generalized theory for the solar wind (Oral)*. Tasnim, S. and Cairns, I. **Australian Space Research Conference (ASRC)**, Canberra, **2015**.
10. *Generalized Theory for the Solar Wind (Oral)*. Tasnim, S. and Cairns, I. **Australian Space Research Conference (ASRC)**, Adelaide, **2014**.
11. *Generalized Theory for the Solar Wind (Poster)*. Tasnim, S. and Cairns, I. **Australian Space Science Conference (ASSC)**, Sydney, **2013**.

PROFESSIONAL SKILLS

- Analysis and interpretation of observational and simulational data,
- Conduct simulation,
- Analytic theory,
- Numerical solutions and theory,
- Visualization,
- Oral presentations,
- Written communications.

STUDENT MENTORING EXPERIENCE

- Summer Intern Students for the Alabama Plasma Internship Program (ALPIP), 2019
- Guiding and Mentoring the Joint Space Weather Summer Camp (JSWSC) 2019 students during their travel and stay at Germany and South Africa

SOCIETY / PROFESSIONAL POSITIONS

NOVEMBER 2017 TO PRESENT	General Member Physics Equity and Access Committee (PEAC) The School of Physics, The University of Sydney.
MARCH 2015 TO FEB 2016	Vice President Sydney University Bangladeshi Student Association (SUBSA) The University of Sydney.
JANUARY 2007 TO DEC 2008	Treasurer (Fazilatunnesa Hall) BADHAN (A voluntary blood donors' organization) Jahangirnagar University Branch.

COMPUTER SKILLS

PROFICIENT	MATLAB, Fortran, L ^A T _E X, Microsoft Office
MODERATE	Unix, IDL, Mathematica
BASIC	Tecplot, C, C++, Python

RESEARCH FIELDS

Space Physics, Radio Waves, Plasma Physics, and Dusty Plasma Physics.

REFERENCES

GARY P. | Director and Professor
ZANK | The Center for Space Plasma and Aeronomic Research, University of Alabama in Huntsville
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