THE OHIO STATE UNIVERSITY

Prof. Sultana Nurun Nahar (US Citizen)

Fellow of APS, BPS, BAS, TWAS-UNESCO; APS Woman Physicist of the Month

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google scholar: https://scholar.google.com/citations?hl=en&user=zSkBe7AAAAAJ

Founder: Database NORAD-Atomic-Data (https://norad.astronomy.osu.edu/)

Textbook: "Atomic Astrophysics and Spectroscopy" (A.K. Pradhan and S.N. Nahar, Cambridge University press, 2011, New York)

Founder: International Society of Muslim Women in Science

This CV has several sections:

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i) Standard Credentials: Positions, Education, Research, Grants, Teaching, Services

POSITIONS (Current):

- *Research Professor*, Dept of Astronomy, The Ohio State University, Columbus, Ohio,
- *Co-Director (Research & Chief Liaison)*, Indo-US APJ Abdul Kalam Center for STEM Education and Research of AMU-OSU, 2013 - present
- Adjunct Professor, Department of Physics and Astronomy, Wayne State University, USA, 2024 -
- Adjunct Professor, Department of Physics, Cairo University, Egypt, 2018- present
- Adjunct Professor of UGS-India Scheme, Department of Physics, Aligarh Muslim University, India, 2017 - 2022, continues to Visiting Professor
- Associate Member, Laboratory of Innovation in Science, Technology, Education, Modeling and Management (LISTM), University of Chouaib Doukkali, Morocco, El Jadida, 2018 - present
- Director, Women in STEM Raadshow of US Department of State, 2017-2018, continuing service

EDUCATION:

- Ph.D. (Atomic Theory), 1987, Wayne State University (WSU), Detroit, Michigan
  Dissertation: "Electron and positron scattering from atoms"
- M.A. (Quantum Optics), 1982, Wayne State University (WSU), Detroit, Michigan
  Thesis: "Nematic Liquid Crystal and Optical Nonlinearity"

• M.Sc. (Theoretical Physics), 1979, University of Dhaka (DU), Bangladesh, Rank: 1st Class 1st
Thesis: "Compton Scattering on Nucleons at Low Energies"
• B.Sc.Hons. (Physics), 1977, University of Dhaka (DU), Bangladesh, Rank: 1st Class 1st
Honors at DU: i) Salekunnesa Award for the Best B.Sc.Hons. Female Student of Dhaka University, ii) 1st Class 1st award, B.Sc.(Hons.), iii) 1st Class 1st award, M.Sc., iv) Merit Scholarship B.Sc.(Hons.), v) Merit Scholarship M.Sc., vi) DU Vice Chancellor recognition for contributions in STEM Education and Research in Bangladesh, vii) Recognition by DU Physics (Research based Lecture course with computational workshops)
Honors at WSU: i) Thomas Rumble Graduate Fellowship, ii) Knoller Phyiscs Fellowship, iii) Gustafson Memorial Graduate Teaching Award, iii) Women of Wayne Alumni Headliner Award, iv) WSU Distinguished Alumni Award

RESEARCH GRANTS

• Recipient of 19 grants
- Funding agencies: **DOE, NSF, HST-NASA, NASA, U.S. Department of State, MHRD of Indian Government**

19. **Co-I NSF:** "Solving the solar problem with accurate opacities", PI:. A.K. Pradhan, Grant GR136906, 07/01/2024 - 06/30/2027, $585,713, 4 mons/yr, 3 years
18. **Women in Physics (WiP) grant of APS**: Faculty Advisor for physics activities of female undergraduate students at Aligarh Muslim University, 08/01/2024-07/31/2025, $1000
17. **Coordinator: MHRD of Government of India**: "Leadership for Academicians Programme" (LEAP), 2019, $250 K 09/01/2019 - 02/17/2021
16. **PI: U.S. Department of State**: "Indo-US collaboration: STEM educational and research opportunities for women from minorities and disadvantaged groups" under "Women in STEM Roadshow", Held nine workshops in Tier-1 and Tier-2 cities in New Delhi, Hyderabad and Kolkata consulate districts and 1 year follow-up, PI: S.N. Nahar, S-IN650-17-GR-0034, 9/30/2017 - 9/30/2018, $74,871.80
15. **PI: NSF:** "Solving the Nebular Abundances Anomaly: New Features in Photoionization and Recombination", PI: S.N. Nahar, NSF AST-1312441, 08/15/2013 - 07/31/2020, $390,247
14. **Co-I: STSCI-NASA:** "Improving UV Continuous Opacities and Model Spectra for Cool Stars", PI: J. Valenti, Co-Is: N Piskunov, B Edvardsson, A Pradhan, S. Nahar, N Lewis, S Horst, J Moses, Cycle 23 AR, 12/01/15 - 11/30/18, $36K (total for OSU)
13. **Co-PI: DOE:** "Testing theoretical stellar interior and HED plasma opacities at the Sandia Z", PI: A.K. Pradhan, Co-PIs: S.N. Nahar, M. Pinsonneault, DOE Office of Fusion Sciences, DE-SC0012331, 09/01/14-08/31/20, $503K
12. **Co-PI: USIEF:** "The STEM -Faculty Project: Training the Next Generation of STEM faculty at Higher Education Institutes in India", PI: A.K. Pradhan, W. Haider (Co-I: S.N. Nahar with 7 others), Obama-Singh 21st Century Knowledge Initiative Award, US India Education Foundation, 07/01/13-07/17/2017, $250,000
11. **PI, NSF:** "Radiative Atomic Processes in Iron-Peak Elements For Non-LTE Astrophysical Models", PI: S.N. Nahar, AST-1109088, 9/1/11-08/31/2014, $342,495
10. **Co-I, DOE:** "Laboratory Tests of Stellar Interior Opacity Models", PI, J.E. Bailey, Sandia National Lab; Co-I/Consultants: A. Pradhan, M. Pinsonneault, C. Iglesias, R. Heeter, J. Abdallah, M. Sherrill, D. Arnett, C. Meakin, W. Eissner, S.N. Nahar, DE-FG52-09NA29580, 09/15/09-09/14/2012, $396K (total for OSU)

9. **PI, OSU DIVERSITY:** "Collaborative Project on Energy, Health, and Globalization with Egypt", S.N. Nahar, Diversity and Inclusion, OSU, April 2012, $1000 (internal from OSU)
8. **PI: NASA:** "Atomic Data for Multi-Wavelength Spectroscopy of Iron in Astrophysical Plasma", PI: S.N. Nahar, Co-I: C.J. Zeippen, APRA, 07/01/06 - 06/30/08, $165,000, (recipient OSU)
7. **Co-I, NASA:** "Theoretical X-Ray Atomic Astrophysics and Spectroscopy - The RmaX Network", A.K. Pradhan, Co-I: S.N. Nahar, ATP, 04/15/02 - 04/14/04, $150K
6. **Co-I, NASA:** "Atomic Data for Multi-Wavelength Spectral Formation", PI: A.K. Pradhan, Co-I's: S.N. Nahar, T.A.A. Sigut, Space Astrophysics and Research Analysis (SARA), 01/01/02 - 12/31/04, $183,000
5. NSF grant (743042): "High-Precision Computational Spectroscopy of Fe-Peak 5Elements", PI: A.K. Pradhan, collaborator S.N. Nahar, 7/1/02 - 6/30/04 ($85,000/yr, PI: A.K. Pradhan)
4. **Co-I, NASA:** "Atomic Processes In X-ray Astrophysics", PI: A.K. Pradhan, Co-I: S.N. Nahar, T.W. Kallman, Astrophysical Theory Program (ATP), 05/01/99 - 04/30/02, $193,000
3. **Co-I, NASA:** "Radiative and Collisional Atomic Data for UV and Optical Astronomy", PI: A.K. Pradhan, Co-I: S. N. Nahar, NASA (Ultraviolet, Optical, Visible, & Gravitational Astrophysics), 10/01/98 - 09/30/01, $161K
2. **Co-I, NASA:** "Atomic Database For Astrophysics From The Iron Project", PI: A.K. Pradhan, Co-I's: S.N.Nahar, C. Mendoza, T.W. Kallman, C.J.Zeippen, ADP, 01/01/98 - 12/31/00, $138K
1. **Co-I, NASA:** "A comprehensive opacities/atomic database for the analysis of astrophysical spectra and modeling", PI: A.K. Pradhan, Co-PI's: S.N.Nahar, D.Mihalas, I.Hubeny, T.Lanz, S.Voels, M. Van Steenberg and S.Heap, ADP, 06/1/94 - 05/31/97, $177K
• OSC Computation: 7000 RU, SUG meeting of OSC, December 5, 2015,
Continuous computational grants from 1990 - present (2024)
Continuous computational workshop grant for global mentorship, 2013 - present (2025)
• **Travel Grants: 16** (APS 4 times, Climate Change-UN, Conferences in Stellar Atmosphere-Germany, Atomic data-Germany, -Mexico, -Kentucky, ITAMP Harvard-CfA 2 times, IAU GA, Symp - 2 times, Electron-Ion Collisions -Atlanta, ICPEAC, OSU-ODI, OSU Global Gateway-2 times)

PAST POSITIONS (Long term): 18

18. *Research Scientist*, Astronomy, Ohio State U, Columbus, Ohio, 2003 - 2015
17. *Senior Research Associate*, Astronomy, Ohio State U, Columbus, Ohio, 1993 - 2003
16. *University Postdoctoral Fellow of Mathematical and Physical Sciences*, Ohio State U, Columbus, Ohio, 1990 - 1993
15. OSU Co-Coordinator, Leadership for Academicians Programme (LEAP) of India, 2019 - 2020
14. Director: Women in STEM Roadshow under US Department of state, OSU, 2017 - 2018
13. *Associate Director (Research & Chief Liaison)*, Obama-Singh 21st Century Knowledge Initiative Award Project: "THE STEM-FACULTY PROJECT: Training the Next Generation of STEM Faculty at Higher Education Institutions in India", OSU, 2013-2017
12. *Visiting Professor*, Cairo University, under the MOA between OSU & Cairo University, Giza, Egypt, 2013 - 2018
11. *Visiting Professor*, Physics Department, Aligarh Muslim University under Obama-Singh STEM Education and Research Project, Aligarh, India, 2013 - 2017
10. Visiting Professor, Physics Dept, University of Kashmir, India, 2014 - 2022

9. Visiting Faculty, Physics Department, Delhi University, Delhi, India, Since 2013 - Feb-March 2016
8. *Visiting Faculty*, Physics Department, Rajshahi University, Bangladesh, 2008 - 2017
7. *Visiting Faculty*, Physics Department, Chittagong University, Bangladesh, 2008 - 2017
6. *Visiting Faculty*, Physics Department, Dhaka University, Bangladesh, 1995 - 2017
5. *Postdoctoral Research Associate* (includes teaching Modern Physics in Spring 1990), Physics and Astronomy, Georgia State U., Atlanta, Jan 1988 - May 1990
4. *Postdoctoral Research Associate*, Wayne State U., Detroit, Michigan, May 1987 - Dec 1987
3. *Thomas Rumble Graduate Fellow*, Physics & Astronomy, Wayne State U, 1984- 1987
2. *Graduate Research Assistant* (AFOSR) Physics & Astronomy, Wayne State U, Summer, 1984-1984
1. *Graduate Teaching Assistant*, Physics and Astronomy, Wayne State U, 1979- 1984

PAST POSITIONS (Short term): 19

19. Organizer of Atomic Data need for Astronomy workshop, Heidelberg, Germany, Oct 2 -7, 2022
18. Adjunct Professor (UGC-India) visit, Aligarh Muslim University, India, Sep 8 -27, 2022
17. Visiting Scientist, Weizmann Institute of Science, Rehovot, Israel, June 17 - 28, 2018
16. International Lecturer, International School of Young Astronomers (ISYA) of IAU, African region. Egypt, March - Aoril, 2018
15. *Visiting Scientist*, NASA Goddard Space Flight Center, December 2017
14. Visiting Professor, Sylhet University of Science and Technology, Bangladesh, 2017
13. Visiting Professor, National Research Institute of Astronomy and Geophysics, Helwan Observatory and Kottamia Telescope, (seminar, collaboration), Egypt, April 2015, October 2016
12. Visiting Professor, King Saud University (seminars, workshop), Riyadh, Saudi Arabia, 2014
11. Visiting Professor, Dammam University (seminars), Dammam, Saudi Arabia, 2014
10. Visiting Professor, Taibah University (seminars), Madina, Saudi Arabia, 2014
9. Visiting Professor, Indian Institute of Astrophysics (research, seminar), Bangalore, India, 2014
8. Visiting Professor, Jain University (seminar, higher education meeting), Bangalore, India, 2014
7. *Visiting Scientist*, NASA Goddard Space Flight Center, October 2012
6. Visiting Professor, United Arab Emirates University (seminars), Al Ain, UAE, 2011
5. *Visiting Scientist*, NASA Goddard Space Flight Center, October 2010
4. *Visiting ITAMP-Scientist*, CFA, Harvard University, August, 2006
3. *Visiting ITAMP-Scientist*, CFA, Harvard University, August, 2005
2. Consultant, Observatoire de Paris, Meudon, France, June 28-July 5, 2005
1. Visiting Scientist, Physics Department, Stuttgart University (research), Germany, 2002

RESEARCH AREAS:

- Atomic Astrophysics: Iron Opacity, Exoplanetary spectroscopy, Kilonovae spectroscopy
- Photoionization - established characteristic features
- Electron-Ion Recombination (developed unified method with Pradhan)
- Photo-Excitation of ions
- Electron Impact Excitation of ions
- Dielectronic Satellite Lines - Extended unified theory for DES lines
- Theoretical Spectroscopy (developed quantum defect based spectroscopy algorithm for the R-matrix method)
- Member: International collaborations, “the Opacity Project” & “the Iron Project” - develop

theory to study characteristics & compute high accuracy large scale data for radiative and collisional atomic processes in astrophysical plasma - **"Iron Lady"** for work on iron ions
• Co-leader: Multi-disciplinary (Astronomy, Physics, Chemistry, Pathology, Radiation Oncology) Biomedical Nanoscience program "Resonant Nano-Plasma Theranostics" (RNPT) for cancer treatment using x-rays - RNPT is one of the 4 high-impact contributions of astronomy along with GPS, wireless internet, laser eye surgery (**Astronomy Magazine**, May 2012)

PUBLICATIONS:

1. BOOKS, Magazines, Newsletters

• **Graduate Textbook:** ***"Atomic Astrophysics and Spectroscopy"*** By: A.K. Pradhan, S.N. Nahar (Cambridge Univ Press, 2011) (Bridging Physics & Astronomy)
Working on the 2nd addition of the book
• Editor, Special issue book: **"Photoionization of atoms"** of journal Atoms during 2020-2024 (publisher MDPI, Basel, Switzerland, 2024)
• Chief Editor, Designer, and Contributor, annual e-magazine **"An-Nisa"** for women in STEM, published under Indo-US STEM Education and Research Center of OSU-Aligarh Muslim University, India (since 2022: 3 volumes, https://www.astronomy.ohio-state.edu/nahar.1/indousstemerc.html#publications)
• Chief Editor of annual **Newsletter of ISMWS** (International Society of Muslim Women in Science) for about 450 members from 32 countries, since 2011 (published at Ohio State University, USA, https://www.astronomy.ohio-state.edu/nahar.1/ismws.html#news)

2. JOURNAL PUBLICATIONS ON SCIENTIFIC RESEARCH: ∼ 201

- Refereed Journals: ∼ 145,
- Book Chapters - 6
- Invited refereed reviews: - 20,
- Proceedings: - 20,
- Invited articles - 5
- Technical Reports - 5
- In Progress: several in preparation
- Dedication articles for scientists: 5

• **Featured in articles for scientific work:** 35
Full Bibliography: http://www.astronomy.ohio-state.edu/nahar.1/scires-publications.html

3. PUBLICATIONS IN STEM RESEARCH & EDUCATION, OUTREACH: 44

- Book chapter "World class STEM faculty: An international dual degree program": 1
- Long report ("Women in STEM Roadshow" for US Department of State, ISMWS for An-Nisa 2022): 2
- News articles in newsletters of APS, FIP, CSWP, OSU, A-Nisa: 31
- Publications at Knowledge Bank for OSU Office of Outreach and Engagement: 10

• **Featured in articles for STEM Education and Research:** 11
Full Bibliography: http://www.astronomy.ohio-state.edu/nahar.1/stemer-publications.html

RESEARCH and STEM ER INTERVIEWS by TV & NEWSPAPER: 47

(On research: 27, on STEM Education and Research: 20)
Voice of America (VOA) Bangla, BBC Bangla, Pratham Alo, Noya Diganta (Bangladesh), Indian

newspapers (Daily Jagran, Avadnama, India Times), 22. India Times Magazine, 21. OSU newspaper onCampus, 20. Wayne Alumni magazine, 19. APS on branding APS, 18. APS on awards, 17. Egyptian National TV NILE, 16. Astronomy Magazine, 15. CBS-SmartPlanet Fox news, 14. OSU Research News, 13. The Daily, 12. Columbus Dispatch, 11. Anandbazzar Patrika (India), 10., N-TV (Bangladesh), 9. S-TV (Bengali NY), 8. Thikana (Bengali, NY), 7. UAE University (Muslim Scientist), 6 on Cancer Discovery, Prathom Alo (Bangladesh), etc

1. SCIENTIFIC PRESENTATIONS: 347+

i) Invited, National/International: 162

- Scientific: Keynote Speeches/Speaker, Honorary & Public Lectures: 57
- Invited Conference/university wide presentations: 48
- Seminars: 57

ii) Contributory presentations: 185+

Details at: http://www.astronomy.ohio-state.edu/nahar.1/scires-presentations.html

2. STEM Education & Research Presentations (Invited, National/International): 91

- STEM Research & Education Keynote, Honorary & Public Lectures: 61
- Invited STEM ER Conference presentations: 30

Details at: http://www.astronomy.ohio-state.edu/nahar.1/stemer-presentations.html

• **Presentation Locations (Scientific & STEM ER):** APS in various places in the US and Canada, ASOS-Berkeley, Workshop-Harvard, NASA, APP-Nevada, Notre Dame, North Dakota, IAU in Australia, Bangladesh, Canada, Egypt, England, France, Germany, India, Israel, Italy, Mexico, Pakistan, Palestine, Saudi Arabia, UAE etc

On-line DATABASE: NORAD-ATOMIC DATA (over 200 atomic species):

Contents: - Energies, - Oscillator Strengths, - Photoionization Cross Sections, - Electron-Ion Recombination rates, - Lifetimes, - Spectra, - Excitation Collision Strengths and rates, etc (by Nahar et al) of atoms & ions

New: Experimental Data: Energies, lines, photoionization cross sections

Additional data to be included (from publications): 20 ions

URL: https://norad.astronomy.osu.edu/

• **NORAD usage metrics:** Monthly average: Access: 5000 - 14000, Downloads: 3000 - 4000

• Total (Dec 2023 - Dec 2024): Access - 184,295, Requester: 38,427

RESEARCH GUIDANCE & CO-SUPERVISION: STUDENTS/ POSTDOCS/ RESEARCHERS

• Deliver globally online researching training course *"Atomic Astrophysics and Spectroscopy with Computational workshops on R-matrix and SUPERSTRUCTURE codes"* (in partnership with Ohio Supercomputer Center):

- Taught and trained research: Over a thousand of researchers from 31 countries since 2013

Individual supervision:

• Postdoctoral Fellows at OSU: Dr. Chiranjib Sur, Dr. Rahla Naghma

• Individual Research Training (non-degree, outside OSU): Research group of Prof. A.N. Tripathi (University of Roorkee-IIT, India), Prof. Akeel Hashem (Bashra U, Iraq), Prof. Gultekin Celik (Selsuk U, Turkey), Mr. Mahmudul Hasan (Rajshahi U, Bangladesh), Prof. Sule Ates (Selsuk U, Turkey), Prof. Tahmina Ferdous (Jahangirnagar U, Bangladesh), Mr. Vahid Reza Adineh (Azad

Islamic U, Iran), Prof. M. Ghosain (Islamic University of Gaza, Palestine), Dr. Arun Goyal (Delhi U, India), Dr. Zher Samak (Al-Aqsa University, Palestine)
• Co-supervision of Ph.D. students (OSU & OSU affiliated): Dr. Hala, Dr. Bilal Shafique, Dr. Mayank Dimri (Delhi University), Dr. Manuel Bautista, Dr. Lianshui Zhao, Dr. Sara Lim, Dr. M. Westphal, Dr. G.X. Chen, Dr. M. Montenegro, Dr. Ramadan Semida (Beni-Suef U, Egypt)
• **Overseeing Research Advisor of Ph.D. students under OSU Obama-Singh STEM Faculty Training Project, 2013 - 2017: 8**
Dr. Asim Rizvi (Radiology), Malik Azeem (Molecular Genetics), Dr. Nida Rehmani (Radiology), Dr. Hala (Astrophysics), Dr. Pervez Alam (Nanotechnology), Dr. Swaleha Naseem (Physics), Dr. Taqseer Khan (Mathematics). Dr. Sabiha Parveen (Chemistry)
• M.Sc: Yesin Gokce, Mehedi Faysal (Dhaka University), J. Peng, Luo Yi, Habib Abdurahman Arebu (Addis Ababa U, Ethiopia)
• Undergraduates: Ethan Palay, Michael Dance, Michael Rothman, Kevin Hoy, Jonathan Begeny, Mitchell Button, Jackson Cook, Vidit Bhandari (Denison University)
• Individual High School Research Training: Azalea Shillington (Sycamore High School, Cincinnati, USA), Shivam Parikh (Olentangy Orange High School, USA),
Under Falak Research Foundation in Saudi Arabia:
Dana Mohammed H. Bashoaib (Manarat Jeddah International School, Jedda), Deema AlOwais (Misk Schools, Riyadh)
• Faculty Advisor of OSU Student Associations (continuing to present):
i) International Society of Muslim Women in Science at Ohio State (founder), 2017-present
ii) Bangladesh Student Association, 2012-present
iii) Pakistani American Students Association, 2020-present

Founder and overseeing supervisor of Research Programs:
i) REU (Research Experience for Undergraduates) at Indo-US STEM Education and Research Center of OSU and Aligarh Muslim University. 1st in an Indian University, 2018 -
ii) Promotional Research Program, supports and supervises any research project in STEM, Indo-US STEM Education and Research Center, 2024
iii) Established research program in Bangladesh, Egypt, India, Jordan, Pakistan, Palestine, USA

Recognition for research training:
• APS newsletter published as **Front page article**, "International Teaching Can Transform Physics", describing the global online teaching and research training course and the impact, 2022
• **"Outstanding Research Mentor Award"**, Ohio State University, 2012
• **"Shield of Cairo University Vice President of Research"**, Vice President of Research and Graduate Studies, Egypt, 2012
• **"Shield of Cairo University Dean of Academic Affairs"** (3 times), Dean of Faculty of Science, Cairo University, Egypt, 2013, 2015, 2016
• **"Shield of Dhaka University"**, VC on behalf of Physics Department, University of Dhaka, Bangladesh, 2017
• **"Certificate of Appreciation" (in Arabic)** for a semester long mentoring advising of two of 14 best school students in a countrywide competition, Falak Space Research Foundation, Saudi Arabia, Feb 2025 (English) "The Falak Astronomy Society for Space Sciences and Research extends its gratitude and appreciation to
Professor Sultana Nahar

for her dedicated efforts and distinguished work as a volunteer advisor in the Falak Research Program. Her contributions have had a profound impact on achieving the organization's goals. We pray that her efforts are crowned with success and wish her continued excellence and guidance. We pray that her efforts are crowned with success and wish her continued excellence and guidance."

THESIS EXAMINER: PH.D., MASTER'S, UNDERGRAD:

Ph.D. = 34 (Egypt, India, Pakistan, USA)
M.Sc.= 6 (Egypt)
B.Sc. = 4 (as an advisor, OSU)

DEVELOPMENT OF STEM EDUCATION AND RESEARCH CURRICULUM: 5:

5. Developed a research based atomic astrophysics course with lectures and computational workshops on atomic structure and R-matrix codes which partner with Ohio Supercomputer Center (provides certificates) - being delivered internationally in-person since 2013 and virtually to various universities over 30 countries:
4. Developed new Curriculum at OSU for MEd in STEM degree for Indian graduate students under Obama-Singh Knowledge Initiative award (with A.K. Pradhan, K. Irving), 2013 (published as Chap 9: "World class STEM faculty: An international dual degree program", K.E. Irving, A.K. Pradhan, S.N. Nahar, in "Recruiting, preparing, and retaining STEM teachers for a global generation", p.217-238 (Editors: J. Leonard, A. Burrows, & R. Kitchen, Brill Sense, Boston, 2019) - The first batch of Indian students graduated in 2016
3. Introduced, developed and sponsored a new STEM Research Program, Research Experience for Undergraduates (REU), for B.Sc. students, who do not have the scope for any experience under UGC curriculum in India, at the Indo-US STEM Education and Research Center of OSU-AMU at Aligarh Muslim University in 2018 and formalized in 2021 - the first batch graduated in September 2019, 3rd batch in session in 2024
2. Developed a STEM course for undergraduate female students for choosing STEM fields and pursue higher education in the USA (under US Department of State grant for Women in STEM Roadshow), 9 workshops in India, 2018-2019
1. Developed teaching and research programs under a recognition program in many universities and institutions in developing countries

Teaching & Training: TEACHING & GLOBAL RESEARCH TRAINING COURSE "ATOMIC ASTROPHYSICS AND SPECTROSCOPY WITH COMPUTATIONAL WORKSHOPS ON SUPERSTRUCTURE AND THE R-MATRIX CODES" (with certificates): 31

Participating countries: Australia (1), Bangladesh (2), Egypt (3), Ethiopia (4), India (5), Iran (6), Iraq (7), Jordan (8), Mexico (9), Morocco (10), Pakistan (11), Palestine (12), Saudi Arabia (13), Senegal (14), Syria (15), Turkey (17), United Arab Emirates (18), USA (19), Germany (20), Spain (21), Belgium (22), Czech Republic (23), Sweden (24), Portugal (25), Ghana (26), Madagascar (27), Nigeria (28), Rwanda (29), Sudan (30), Tanzania (31)
35. **OSU Astronomy 2024:** "The Sun" lecture at two undergraduate courses: i) Astronomy 2140 - Planets and the Solar System, ii) Astronomy 2141 - Life in the Universe, November 19-20, Fall 2024 (Lecturer of the courses: Prof. Anil Pradhan)
34. **Global 2024:** "Atomic and Molecular Astrophysics and Spectroscopy with computational workshops on R-matrix and SUPERSTRUCTURE codes I", Global participation from various

universities in 11 countries (Australia, Bangladesh, India, Jordan, Mexico, Pakistan, Palestine, Saudi Arabia, Senegal, Syria, USA) on zoom organized under the Indo-US STEM Education and Research Center of OSU-Aligarh Muslim University, (60 participants), May 4 - 30, 2024
33. **Bangladesh, IAU 2024:** Lecturer, 16th IAU-Abdul Jabbar Astronomy Workshop 2024, organized by National Outreach Coordinator and Sponsored by IAU, "Stars", "The Sun", Dhaka, May 22-24, 2024, "Black Holes", Rajshahi, July 3-5, 2024
32. **OSU Astronomy 2024:** "The Sun" lecture at two undergraduate courses: i) Astronomy 2140 - Planets and the Solar System, ii) Astronomy 2141 - Life in the Universe, April 17-18, Spring 2024 (Lecturer of the courses: Prof. Anil Pradhan)
31. **Bangladesh, IAU 2023:** "Stars and the Sun" lecturer of Bibha All-Girls Astronomy Workshop 2023, organized by National Outreach Coordinator and Sponsored by IAU, Mar 3-4, 2023
30. **Global 2022:** "Hands on session: Calculating your own atomic data with SUPERSTRUCTURE" by Sultana N. Nahar, International participants of "Investigating the roots: How our perception of the Milky Way system is shaped by our knowledge of atomic data products - Atomic Data Workshop", University of Heidelberg, Germany (29 registrations from Germany, Spain, Portugal, Belgium, Czech Republic, Sweden, India, USA) Oct 3-8, 2022
29. **India 2022:** "Atomic Astrophysics and Spectroscopy with computational workshops on SUPERSTRUCTURE", S. N. Nahar, Physics Department, Aligarh Muslim University, India, Sep 13 - 25, 2022 (162 registered)
28. **Global 2022:** "Atomic Astrophysics and Spectroscopy with computational workshops on the SUPERSTRUCTURE and R-matrix codes II", Global participation from various universities in 11 countries (Bangladesh, Egypt, India, Iraq, Mexico, Morocco, Pakistan, Palestine, Saudi Arabia, United Arab Emirates, USA) on zoom organized under the Indo-US STEM Education and Research Center of OSU-Aligarh Muslim University, (62 participants), Jun 18 - Jul 11, 2022
27. **Bangladesh, IAU 2022:** On "Stars", lecturer of Bibha All-Girls Astronomy 2022, held by National Outreach Coordinator of IAU and Sponsored by IAU, Feb 20-22, 2022
26. **OSU USA 2021 - 2022:** "Atomic Radiative Processes", Research lecture course, Astronomy Dept, OSU, 2021-2022
25. **Global 2021:** "Atomic Astrophysics and Spectroscopy with computational workshops on the SUPERSTRUCTURE and R-matrix codes", Global participation from various universities in 11 countries (Bangladesh, Egypt, Ethiopia, India, Mexico, Morocco, Pakistan, Palestine, Saudi Arabia, United Arab Emirates, USA) on zoom organized under the Indo-US STEM Education and Research Center of OSU-Aligarh Muslim University, October 16-31, 2021
24. **Global 2021:** "Atomic Astrophysics and Spectroscopy and computational workshops on the SUPERSTRUCTURE and R-matrix codes", participants from OSU, Quaid-i-Azam University in Pakistan, Hashemite University in Jordan, and Jordan University in Amman, June 9 - 25, 2021
23. **Bangladesh, IAU 2021:** On "Stars", lecturer of Bibha All-Girls Astronomy Workshop, held by Bangladesh Astronomical Society and Sponsored by IAU, Feb 11-13, 2021
22. **Morocco 2020:** "Atomic Astrophysics and Spectroscopy and computational workshops on the SUPERSTRUCTURE and R-matrix codes", University of Chouaib Doukkali, El Jadida, Morocco, Dec 9 - 27, 2020
21. **International 2020:** "Radiative processes in astrophysical plasma", lectures and computational workshops, participants from OSU and Quaid-i-Azam University, Pakistan, June - August, 2020

20. **Egypt 2018:** "Atomic Astrophysics and Spectroscopy and computational workshops on the SUPERSTRUCTURE and R-matrix codes", Cairo University, Egypt, Apr 1 - 20, 2018
19. **Global 2018:** International Lecturer on "SOLAR PLASMA, ATOMIC STRUCTURE, SPECTROSCOPY", 41st International School of Young Astronomers of IAU (participants from 9 countries, Egypt, Ethiopia, Ghana, Madagascar, Nigeria, Rwanda, Sudan, Tanzania), Egypt, Mar 28 - Apr 11, 2018
18, **India 2018:** "Atomic Astrophysics and Spectroscopy and computational workshops on the SUPERSTRUCTURE and R-matrix codes", Aligarh Muslim University, U.P., India, Feb 25 - March 14, 2018
17. **Bangladesh 2017:** "Atomic Astrophysics and Spectroscopy and computational workshops on the SUPERSTRUCTURE and R-matrix codes", Dhaka University, Bangladesh, Oct 20 - Nov 4, 2017
16. **Bangladesh 2017:** "ATOMIC STRUCTURE AND TRANSITIONS: THEORY & COMPUTATION USING SUPERSTRUCTURE PROGRAM", Jahangirnagar University, Bangladesh, Nov 8, 2017
15. **Bangladesh 2017:** "Atomic Astrophysics and Spectroscopy and computational workshops on the SUPERSTRUCTURE and R-matrix codes", Rajshahi University, Bangladesh, Oct 30 - Nov 1, 2017
14. **India 2017:** "Atomic Astrophysics and Spectroscopy and computational workshops on the SUPERSTRUCTURE and R-matrix codes", Aligarh Muslim University, India, April 2017
13. **Egypt 2016:** "Astrophysical Atomic Processes, Opacity, & Cancer Treatment with X-rays" & Computational workshops with R-matrix Codes & SUPERSTRUCTURE", Cairo University, Oct 22 - Nov 11, 2016
12. **India 2016:** "ATOMIC STRUCTURE AND TRANSITIONS: THEORY & COMPUTATION USING SUPERSTRUCTURE PROGRAM", University of Kashmir, India, April, 2016
11. **India 2016:** "Atomic Spectroscopy of Collisional and Radiative Processes in Astrophysical Plasma with computational workshops on R-matrix codes and SUPERSTRUCTURE", Aligarh Muslim University, India, 2016
10. **Egypt 2015:** "Atomic Spectroscopy and Collisional Excitation in Plasma with Computational Workshops on the SUPERSTRUCTURE and R-matrix codes", Cairo University (participants from 7 institutions), Egypt, 2015
9. **Saudi Arabia 2014:** "Atomic structure calculations", King Saud University, Riyadh, April 2014
8. **India 2014:** "Atomic and Molecular Radiation Physics with computational workshops on SUPERSTRUCTURE and R-matrix codes: From Astronomy to Biomedicine" (with Pradhan), Aligarh Muslim University, India, Feb-Mar 2014
7. **India 2014:** 'Atomic and Molecular Radiation Physics: From Astronomy to Biomedicine with Computational Workshop on SUPERSTRUCTURE and R-matrix codes", (with Pradhan), Delhi University (participants from 3 institutions), Feb-Mar 2014
6. **Egypt 2013:** "Atomic Spectroscopy and Opacity with Computational Workshops on SUPERSTRUCTURE and R-matrix codes", Cairo University (participants from 7 institutions), Egypt, 2013
5. **OSU Astronomy USA 2006:** Graduate course "Atomic Astrophysics and Spectroscopy" (with Pradhan), Astronomy Dept, OSU, Fall 2006
4. **OSU USA 2004:** Graduate course "Atomic Astrophysics and Spectroscopy" (with Pradhan),

Astronomy Dept, OSU, Fall 2004
3. **OSU USA 2000 - 2003:** Substitute lecturer, Atomic Radiative Processes, Astronomy Dept, OSU, 2000 - 2003
2. **GSU, USA 1989:** Undergraduate Modern Physics course, Georgia State University, 1989
1. **Wayne State University, USA, 1979-1984:** Graduate Teaching Assistant, Wayne State University, Detroit, 1979 - 1984

Recognition for teaching & training

- **6. Recognition Certificate**, VC of AMU & OIA Vice Provost of OSU, 2021
- **5. Recognition Certificate**, Dean of Faculty of Science and Director of Innovation Center, University of Chouaib Doukkani, Morocco, 2020
- **4. Recognition Shield**, Department of Physics, Dhaka University, Bangladesh, 2017
- **3. Recognition Certificate**, Department of Physics, Rajshahi University, Bangladesh, 2017
- **2. "Indian Emblem Trophy"**, Vice Chancellor of Aligarh Muslim University, India, 2014
- **1. "Daniel R. Gustafson Memorial Award for a Graduate Teaching Assistant"**, Wayne State University, USA, 1984

REFEREE/REVIEWER OF JOURNALS AND BOOKS: 45

1. Advances in Quantum Chemistry, 2. Arabian J. Chemistry, 3. Astronomy & Astrophysics (A&A), 4. Astrophysical Journal (ApJ), 5. Astrophysical Journal Letters (ApJL), 6. Astrophysical Journal Supplements (ApJS), 7. Astrophysics and Space Science (ASTR), 8. Atomic Data Nuclear Data Tables (ADNDT), 9. Atoms, 10. Canadian Journal of Physics (CJP), 11. Environmental Science and Pollution Research, 12. European Physics Journal D (EPJD), 13. IEEE-Transactions on Plasma Science, 14. Indian Journal of Physics (IJP), 15. Intl J. Mass Spectrometry, 16. The International Conf. and Exhibition for Sci. (ICES), Saudi Arabia. 17. Int Journal of Radiation Oncology, Biology, Physics, 18. Japanese Journal of Applied Physics, 19. Journal of Astrophysics and Astronomy D, 20. Journal of Biomedical Nanotechnology, 21. Journal of Earth and Space Sciences, 22. Journal of Electron Spectroscopy and Related Phenomena, 23. Journal of Optical Society of America (JOSA), 24. Journal of Optics and Laser Technology, 25. Journal of Physics B (JPB), 26. Journal of Physics B Letter, 27. Journal of Physics D, 28. Journal of Quantitative Spectroscopy & Radiative Transfer (JQSRT), 29. Molecular Physics 30. Monthly Notices of Royal Astronomical Society (MNRAS), 31. New Astronomy, 32. New Journal of Physics (NJP), 33. Ohio Journal of Science, 34. Optics Letter, 35. Physical and Chemical News, 36. Physica Scripta, 37. Physical Review A (PRA), 38. Physical Review Letters (PRL), 39. Physics of Plasmas (POP), 40. PRA Rapid Communications, 41. Pramana - Journal of Physics, 42. Radiation Physics and Chemistry, 43. Solar Physics, 44. The Open Astronomy Journal (TOAJ) 45. Centennial Book Series of Dhaka University, Bangladesh

EDITOR: 7

7. Chief Editor with Prof. G. Hinojosa (Editor): "Photoionization of atoms", special issue of journal ATOMS with publisher MDPI (2020-2023)
6. Chief Editor, e-magazine "An-Nisa" for women in STEM, published by Indo-US STEM Education and Research Center of OSU and AMU at AMU, India, 2022-present (OSU Knowledge Bank publisher, in process)
5. Editor: Newsletters for "International Society of Muslim Women in Science", 2014 - present 2024 (originated, 2010)
4. "Atomic Data for X-ray Astronomy" (Editors: A.K. Pradhan, S.N. Nahar, P.L. Smith),

Proceedings of IAU XXV JD 17 in "Highlights of Astronomy", Vol. 13, IAU 2003, Astronomical Society of the Pacific Conference Series (ASP Publisher, 2006, Edited by O. Engvold), p621
3. Guest Editor, journal Atoms
2. Editor, Egyptian Journal of Physics (https://ejphysics.journals.ekb.eg/)
1. Editor, Journal of Taibah University for Science, Saudi Arabia (JTUSCI, Elsevier, 2014-2020)

REVIEWER/EVALUATOR OF PROPOSALS: 11

11. UK Research and Innovation (UKRI) opportunity
10. NASA MUREP Innovation and Tech Transfer Idea Competition (MITTIC)
9. National Research Council (NRC) of National Academy of Sciences (NAS 2017- present),
8. NSF
7. Army Research Lab (ARL) (2017- 2023)
6. NASA APRA (Astrophysics Research and Analysis)
5. Physics and Astronomy prizes, Al Azhar University, Egypt, 2016
4. APS Fellowships (2012-2014), Award
3. NASA Fellowships
2. Ohio Supercomputer Center
1. Razzaq-Shamsun Physics Research prizes, Bangladesh, 2003 - present

SCIENTIFIC ORGANIZER OF CONFERENCES, EVENTS (National/International): 44

44. Chief organizer of the international symposium celebrating the International Women's Day 2025 in hybrid platform under the joint sponsorship of Indo-US APJ Abdul Kalam STEM Education and Research Center of OSU and Aligarh Muslim University in India, and International Society of Muslim Women in Science based at OSU on March 22, 2025.

43. Member organizer of the Certificate Ceremony of the REU (Research Experience for Undergraduates) program with Aligarh Alumni Association at the Indo-US STEM Center of OSU and AMU at Aligarh, India, October 15, 2024

42. Chair of the Committee for the "International Women's Day Symposium 2024" organized by the Indo-US APJAK STEM Education and Research Center of AMU and OSU, and International Society of Muslim Women in Science (ISMWS), Hybrid platform with participants from 9 countries, Aligarh Muslim University, India, March 30, 2024
41. Faculty Advisor of "Women in Physics" grant of APS for physics events of female undergraduate Physics students at Aligarh Muslim University, 08/01/2024-07/31/2025
40. Organized and hosted Program Scientist of NASA Missions, Dr. Hashima Hasan, of NASA Headquarters along with student organization International Society of Muslim Women in Science at Ohio State for a public lecture session for students and NASA mission objective presentations at Astronomy Department, January 17-19, 2024
39. Member of the Organizing Committee for the symposium of the "International Women's Day" by the Indo-US APJAK STEM Education and Research Center of AMU and OSU, and International Society of Muslim Women in Science (ISMWS), Hybrid platform, Aligarh Muslim University, India, March 29, 2023
38. Member of SOC (Scientific Organizing Committee) for atomic Data for "Investigating the roots: How our perception of the Milky Way System is shaped by our knowledge of atomic data products", Heidelberg, Germany, Oct 3 - 7, 2022
37. As a Co-founder and Co-Director, Indo-US A.P.J. Abdul Kalam Centre for STEM Education

and Research of OSU-AMU, India (with A.K. Pradhan at OSU, founded in 2013) - initiated and worked with Vice Chancellor Prof. T. Mansoor, to hold the formal celebration of the Center with engraving a stone at the newly dedicated building for the Center, Sep 26, 2022
36. As a founder of the International Society of Muslim Women in Science (ISMWS with members from 32 countries, founded in 2010) inaugurated opening a new chapter at Kashmir, ISMWS-Kashmir, at National Institute of Technology - Srinagar, India, Sep 22, 2022
35. Organized Session X "US-Bangladesh Education Collaboration Program" of the annual conference of Bangladesh Physical Society, Dhaka, Bangladesh, May 19-21, 2022
34. Chair of the organizing committee, celebration of the international (US, India, Egypt) Women's Day (supported by the International Society of Muslim Women in Science and Indo-US STEM Education Center of OSU-AMU, virtual platform, March 26, 2022
33. Organization and hosting the program "Admission Adda with the Ohio State University" of EducationUSA for Bangladeshi students and researchers (zoom platform and facebook streaming), US Embassy in Dhaka, Bangladesh, August 25, 2021
32. Chair of the organizing committee, celebration of the international (US, India, Egypt) Women's Day (supported by the International Society of Muslim Women in Science (ISMWS founded in 2010 by Nahar) and Indo-US STEM Education Center of OSU-AMU, March 20, 2021
31. The US Organizer (for Frontiers of Physics) along with Bangladesh Physical Society for the first US+Bangladesh physics conference "International e-Conference on Physics", operated in Bangladesh, during Feb 5-7, 2021
30. Co-organizer, Symposium on "Prospects of STEM Education in 21st Century and Contributions of Women Scientists in STEM" at the Indo-US STEM Education and Research Center of OSU-AMU, celebrating the centenary of Aligarh Muslim University, India, October 13-14, 2020
29. Co-organizer for the symposium on "International collaboration and prospects in STEM Education and Research", Indo-US STEM Education and Research Center of OSU-AMU, India, March 3-4, 2020
28. Co-Coordinator, workshop of the "Leadership for Academicians Programme (LEAP)" of government of India organized by OSU in Ohio, Sep 9 - 14, 2019
27. Organizer, Celebration of International Women's Day, Aligarh Muslim University, India (support: US Dept of State & ISMWS), 2018
18-26, Director - organized 9 workshops in 6 cities (Aligarh, Delhi, Hyderabad, Kolkata, Kurnool, Patna) on Women in STEM Roadshow under US Department of State, 2018
17. Member of the international Scientific Committee, the 6th International Conference of Science and Developments (ICSD VI), Gaza, Palestine, March 14-15, 2017
16. Organizer, Celebration of International Women's Day, Aligarh Muslim University, India (support: Dept of Physics & ISMWS), 2017
15. Member of International Committee, Modern Trends in Physics Research 2016 (MTPR-016), Hurghada, Egypt, December 17-20, 2016
14. Organizer, Celebration of International Women's Day, Aligarh Muslim University, India (support: Dept of Physics & ISMWS), 2016
13. Co-convener, joint international conference on nanotechnology, ALIGARH NANO-V and STEM Education and Research (STEMCON16, organizer) of the Ohio State University and Aligarh Muslim University, Aligarh, India, March 12-15, 2016
32. Member of International Advisory Committee, Modern Trends in Physics Research 2014

(MTPR-014), Dec 19-23, 2014, Cairo, Egypt
11. Organizer, Celebration of International Women's Day, Aligarh Muslim University, India (support: Dept of Physics & ISMWS), 2014
10. Convener, ALIGARH NANO-4 International 2014, an International Conference on Nanoscience and Nanotechnology, Aligarh Muslim University, India, March 8-10, 2014
9. Worked with organizing committee for US speakers, 3rd intl conference on "Current Development of Atomic, Molecular, Optical and Nano Physics with Applications", India, 2011
8. Coordinated US Speakers, "International Workshop on Ultra-Fast Laser Technology and Applications" (UFLTA), Egypt, 2010
7. Coordinator of "Nanospectroscopy Consortium" of The Ohio State University, CfA-Harvard University, Thomas Jefferson University, Ohio State U, December 8, 2006
6. Scientific Organizer: Joint international IP/ITAMP workshop "High Accuracy Atomic Physics in Astronomy", Harvard-Smithsonian CfA, Cambridge, Massachusetts, August 7-9, 2006
5. Data Panelist, JD 17 "Atomic Data for X-ray Astronomy", International Astronomical Union General Assembly, Sydney, Australia, July 13-26, 2003
4. Scientific Organizer: The international symposium "Advances in Atomic Physics and Applications to Astrophysics", in honor of birthdays of Professor Micheal J. Seaton and Dr. Werner Eissner; University College London, London, U.K., December 13, 2002
3. Scientific Organizer: International workshop "Astrophysical Applications of the Iron Project/ Opacity Project data for NLTE Models"; University of Stuttgart, Germany, July 19, 2002
2. Scientific Organizer: The international workshop "Astrophysical and Laboratory Applications of the Iron Project and the Opacity Project"; Goddard - NASA, Maryland, USA, Feb 22, 2002
1. Coordinator of the International scientific collaboration: "The Iron Project", July 2001 - June 2002. Organized semi-annual international general IP meetings at
(i) Goddard-NASA, USA, Feb 23-24, 2002,
(ii) University of Stuttgart, Germany, July 20-21, 2002
• **CHAIR OF SCIENTIFIC SESSIONS (7):** DAMOP-APS, ACAG-5, MTPR, CDAMOP, Aligarh NANO, STEMCON16, US+Bangladesh Physics Conference.

NATIONAL AND INTERNATIONAL ELECTED POSITIONS: 12

12. Reviewer, Research Associateship Programs of National Academic of Sciences, 2014-present
11. President, International Society of Muslim Women in Science (ISMWS), 2010 - present
10. Associate Member, Innovation in Science, Technology, Education, Modeling and Management (ISTEMM), Chouaib Doukkali University, El Jadida, Kingdom of Morocco, 2018 - present
9. Vice Chair, High Accuracy Stellar Spectroscopy, Division B / Commission B5, IAU, 2016-2021
8. Member of the National Committee, IAU100 Celebrations in Bangladesh, 2018 - 2019
7. Selection committee: John Wheatley Award of APS, 2015
6. Leader of OSU Delegation, the 5th International Exhibition and Conference on Higher Education (IECHE), Saudi Arabia, April 15-18, 2014
5. Selection committee: APS Fellows through FIP, 2012-2014
4. Elected Member, Executive Committee, Forum on International Physics, APS, 2012-2014
3. Coordinator, the International Iron Project, 2001-2002
2. Class Representative in B.Sc.Hons, Dhaka University, Bangladesh, 1976-1977
1. Class Representative, throughout Elementary and High Schools

FOUNDING MEMBER OF GLOBAL NETWORKS & TRUSTS FOR STEM

RESEARCH AND EDUCATION: 9

• 9. Founder & Sponsor of STEM Research & Education Recognition Programs: Universities and institutions in 6 countries- Bangladesh (17 programs), Egypt (6 programs), India (5 programs), Pakistan (3 programs), Palestine (2 programs), USA (2 programs), and formulate the terms and regulation for the recognition - all have positive impact

• 8. Co-founder: Frontiers of Physics (FOP) for advancement of science education in Bangladesh (with Dr. Charles Clark at NIST) that partners with Bangladesh Physical Society (BPS) and various universities (Established: 2019)

- Organized US-Bangladesh conference in 2021,
- organized US-Bangladesh collaboration in Physics session with BPS in 2022,
- established four student presentation prizes at BPS conferences, initiated in 2022

• 7. Founded Prof. Harun-ar-Rashid recognition program in Physics at University of Dhaka, Bangladesh, for the best research advisor, best Ph.D. thesis, and lectureship on cutting-edge research in honor of Prof. Harun-ar-Rashid (from fund raising to formulation of the MOA), 2023

• 6. Co-founder and Co-Director with Prof. A.K. Pradhan, Indo-US A.P.J. Abdul Kalam Centre for STEM Education and Research of OSU, USA and Aligarh Muslim University, India, Established: 2013 -present

- introduced global teaching and research training at the Center since 2021
- introduced REU (Research Experience for Undergraduates) since 2018
- introduced annual symposium celebrating International Women's Day and recognition to women for research achievements since 2013
- introduced International Society of Muslim Women in Science chapter to promote STEM for women in 2021
- Chief Editor: Annual magazine "An-Nisa" for life stories and research for women in STEM at the present time, started in 2022

• 5. Founder: International Society of Muslim Women in Science (ISMWS), about 450 members from 32 countries to promote STEM education and research in STEM, 2010

1. USA, 2. Afghanistan, 3. Algeria, 4. Australia, 5. Bangladesh, 6. Canada, 6. Egypt, 8. England, 9. Ghana, 10. India, 11. Indonesia, 12. Iran, 13. Iraq, 14. Jordan, 15. Kenya, 16. Kuwait, 17. Lebanon, 18. Malaysia, 19. Morocco, 20. Nigeria, 21. Oman, 22. Pakistan, 23. Palestine, 24. Russia, 25. Saudi Arabia, 26. Somalia, 27. Sri Lanka, 28. Sudan, 29. Syria, 30. Turkey, 31. United Arab Emirates, 32. Yemen

• 4. Founder of

- ISMWS chapters: Student Chapter at Ohio State, Established: 2017
- ISMWS student chapter at East Carolina University, USA (gave some guidance only)
- ISMWS student chapter, ISMWS at AMU, at Aligarh Muslim University, India
- ISMWS student and faculty chapter, ISMWS-Kashmir, in Kashmir, India
- ISMWS student and faculty chapter at NED University of Science & Technology, Pakistan
- ISMWS student chapter at Karachi University, Pakistan
- ISMWS chapter in Egypt, ISMWS-Egypt (2023)
- ISMWS chapter at Islamic University in Gaza, Palestine: ISMWS-IUG (2023)

• 3. Co-Founder: International Society of Arab Women in Science (with Prof. Lotfia El Nadi of Cairo University), 250 members from 7 countries, Established: 2010

1.USA, 2. Algeria, 3. Egypt, 4. Jordan, 5. Lebanon, 6. Qatar, 7. United Arab Emirates

• 2. Founder: A Network of Scientists in Developing Countries: 30

- Exchange of information on science issues, conferences, bring APS memberships at no cost etc. Algeria (1), Bahrain (2), Bangladesh (3), Egypt (4), Ethiopia (5), Ghana (6), India (7), Iran (8), Iraq (9), Jordan (10), Madagascar (11), Malaysia (12), Morocco (13), Nepal (14), Nigeria (16), Oman (17), Pakistan (18), Palestine (19), Rwanda (20), Russia (21), Saudi Arabia (22), Senegal (23), Sudan (24), Syria (25), Tunisia (26), Turkey (27), Ukraine (28), United Arab Emirates (29), Yemen (30)

• 1. Founder and sponsor: Abdur Razzaq & Shamsun Nahar Trust for Education, Bangladesh: introduced & support recognition program in 8 institutions:
2 elementary schools (Gandaria Mahila Samittee and char Domdoma), Maniza Rahman Girls High School, Ishaqia Boys High School, Central Women's College, Coed Kabi Nazrul Government Collage, Panchdona and Anjuman Madrasa schools

PROFESSIONAL MEMBERSHIP: 15

15. The American Physical Society (APS, lifetime)
14. International Astronomical Union (IAU, lifetime)
13. Division of Atomic, Molecular and Optical Physics (DAMOP, life) of APS
12. Forum on International Physics (FIP, life) of APS
11. EGLS (former Ohio Section) of APS
10. Forum on Industrial & Applied Physics (FIAP) of APS
9 Member of Committee on the Status of Women in Physics of APS
8. Honorary member of the Topical Society of Laser Sciences (TSLS)
7. The Egyptian Physical Society (for 25 years)
6. Bangladesh Physical Society (BPS, lifetime LM Q0062)
5. Life member of Dhaka Physics Group, Bangladesh
4. Member of Planetarium Founders' Society, Ohio State University
3. Member of Association of Staff and Faculty Women at OSU, 2021-2022
2. International Network of Women Engineers and Scientists (INWES) 2009-2012
1. Patron, Council for Research & Empowerment of Women (CREW), Aligarh, India, Life since 2016

SERVICES:

• Serving in the Committee of Astronomy of The World Academy of Science of UNESCO 2025 - 2028

• Evaluation for Tenured promotions: Princess Norah University, Saudi Arabia (2024), Basra University, Iraq (2016), Portland University, USA (2015)

• Serve as the Co-Director of the Indo-US STEM Education and Research Center of OSU and AMU, 2013 - present

• Co-coordinator of the MOA/MOU between OSU and Aligarh Muslim University, 2013 - present

• Coordinator for collaboration between OSU and Sharda University in India - Organized meetings for research and teaching collaborations and hosted the OSU visit by the Sharda University Vice Chancellor, Prof. S. Khara, during Nov 27-28, 2023

• Coordinator of the MOA between OSU and Cairo University, 2012 - 2022

• Organization and hosting the program "Admission Adda with the Ohio State University" for prospective Bangladeshi students and researchers, EducationUSA at US Embassy, Bangladesh, August 25, 2021

• Serving as a panelist

- Panelist, SSGSA (Sir Syed Global Scholarship Awards) USA: Selection of prospective Aligarh Muslim University students in STEM for SSGSA awards for study in the USA and other well known international universities; May 22, 2021, May 28, 2022, May 5, 2023, May 11, 2024
- Panelist, Wayne State University Review Committee for the Department of Physics and Astronomy, WSU, Jan 28, 2021
- Panelist, OSU Faculty Panel Discussion, Reception for incoming Assistant and Associate Faculty of diversity, Office of Diversity and Inclusion (ODI), January 28, 2021
- Panelist, OSU: LEAP workshop panel discussion on international collaboration, 2019
- Panelist, India: Indo-US collaboration, International conference on STEM Education and Research, April, 2016

• Committee member of Honor Nominations:
- Evaluator: Razzaq-Shamsun Physics Research prizes, Bangladesh (2003 - present)
- Evaluator for prizes: Aligarh Muslim University, India (2011 - present)
- APS Committee for i) Fellowships (2012-2014), ii) John Wheatly Award of APS (2018),

• Serve as a Judge, OSU Hayes Forum for research awards for Ph.D. students in Physical and Mathematical Sciences at OSU, 2020 - present 2025
- Judge, Contributed research posters, international conference on Aligarh Nano V and STEM Education and Research, Aligarh Muslim University, 2016
- Judge, OSU Contributed Research Posters, Denman Undergraduate Research Forum, The Ohio State University, March (2014, 2015)
- Evaluator: Physics & Astronomy prizes, Al Azhar University, Egypt (2015),
- Judge, Egypt: Posters, international conference on "Modern Trends in Physics Research", 2010, 2014
- Judge, Wayne State University: Research Posters, 3rd Physics Graduate Research Day, Michigan, 2012
- Judge: State Science Day, Ohio, - Certificates from Ohio Academy of Science (OAS) (2010, 2011)
- Judge: District Science Day, Ohio Academy of Science (OAS) (2010, 2011)
- Judge: Ohio Governor's Award "Excellence in Information Science & Technology Research in H.S.", 2010

• PROFESSIONAL MENTOR:

• E-Mentoring Network for Diversity in Engineering and Science (www.MentorNet.net), 2007-2013
- Certificates of Appreciation, E-Mentoring, 2010, 2011

• Professional Mentor of Freshman Students in Science (Minority), the Office of Minority Affairs and Retention Services, Ohio State U. (1999 - 2005)
- Certificates of Appreciation, 2002, 2005

ii) International engagement in STEM research and education

Sultana N. Nahar

GLOBAL OUTREACH FOR STEM EDUCATION & RESEARCH

• **1. Global teaching and research training**: 29 times
- Described in teaching section above

• **2. Partnership with EducationUSA**: 13
xiii) Organized Session X "US-Bangladesh Education Collaboration Program" in collaboration with EducationUSA and at the annual conference of Bangladesh Physical Society, Dhaka, Bangladesh, May 19-21, 2022
xii) A session on "American Physical Society",about APS and its programs, free membership, job scopes. recognition programs etc, for physicists in Bangladesh and developing countries, EducationUSA at US Embassy in Bangladesh, October 21, 20211
xi) Organization and hosting the program "Admission Adda with the Ohio State University" for prospective Bangladeshi students and researchers, EducationUSA at US Embassy, Bangladesh, August 25, 2021
x) Organized a session with EducationUSA for US collaborative opportunities for Bangladeshi researchers and students at the first US+Bangladesh "e-conference of Phyiscs" jointly with Bangladesh Physical Society, University of Dhaka, and Frontiers of Physics (US) in February 2021
i-ix) Organized session on educational scopes and funding with EducationUSA in each 9 workshop on promoting "higher degrees in STEM disciplines" to female college students of minority and disadvantaged groups in India under "Women in STEM Roadshow" program of US Department of State, Feb 5 - 26, 2018

• **3. Global Networks of scientists and programs**: 30 countries
- Described in Founding members section above

• **4. International Collaboration**
• Initiator & liaison coordinator of the Memorandum of Agreement (MOA) between the Ohio State University and Cairo University, Egypt in Arts and Sciences, Engineering, 2012 - 2017 (News: Egyptian newspaper, Middle East Bulletin at OSU, Youtube: http://www.youtube.com/watch?v=lUrMWSbfzTE)
- Renewed the MOA for 2017 - 2022
- Activities involve i) teaching, ii) computational workshops, iii) collaboration in conferences, iv) reaching out to all Egyptian universities for giving astronomy books for introducing the undergraduate course, lectures, various information on admission, research, etc
• Co-founder and Co-Director, and active in all programs, Indo-US A.P.J. Abdul Kalam Centre for STEM Education and Research of OSU-AMU partnership (described earlier), India, 2013 -
• Initiator and liaison officer, STEM Faculty Training program for postgraduate students of Indian universities under Obama-Singh 21st Century Knowledge Initiative Award of OSU in partnership with AMU, 2013 - 2017
• Leader of OSU Delegation: International Exhibits & Conference on Higher Education, Riyadh, Saudi Arabia, 2014
• Research guidance through emails: provided self-written program on electron/position scatting with atoms and collaboration with University of Roorkee, India in 1990. The program is still in

use (2021) by many
- The research guidance has extended to Iran, Iraq, Bangladesh, Turkey, Jordan, Pakistan
- Visits to developing countries include seminars/ public talks / conference participation, helping admission to US universities, Astronomy books distribution etc. These have had enormous effect on the choice of the Ohio State University for degree/research applications
• Department of State (DOS) Proposal: PI and Director: "Indo-US collaboration: STEM educational and research opportunities for women from minorities and disadvantaged groups" (Women in STEM Roadshow), Held nine workshops in Tier-1 and Tier-2 cities in New Delhi, Hyderabad and Kolkata consulate districts and 1 year follow-up
• USIEF proposal: Co-PI: "The STEM -Faculty Project: Training the Next Generation of STEM faculty at Higher Education Institutes in India", PI: A.K. Pradhan, W. Haider, Co-PI: S.N. Nahar with few others, Obama-Singh 21st Century Knowledge Initiative Award, US India Education Foundation,

5. USA: • WAYNE STATE UNIVERSITY: PHYSICS RESEARCH & EDUCATION PROGRAM
- Founder, sponsor & member of Evaluation Committee: Annual recognition program for i) the best research publications, ii) the best teaching, iii) the best Ph.D thesis, Department of Physics and Astronomy, Wayne State University, (founded in 2015)
• USA: THE OHIO STATE UNIVERSITY: STEM EDUCATION & RESEARCH:
-Described above: Development M.Ed.STEM program for Indian students, Founder and developing programs for the Indo-US STEM Education and Research Center, etc

6. BANGLADESH: PROMOTER OF PHYSICS RESEARCH & STEM EDUCATION
• Founder, sponsor & member of Board of Trustees of the annual **"Razzaq-Shamsun Physics Research Prize"** (founded in 1995) and "Razzaq-Shamsun Lifetime Achievement Award for Contributions in Physics" (founded in 2008) for any researcher in Bangladesh, Administered by Dhaka University
• Founder and co-sponsor of "Prof. Harun-ar-Rashid" awards in Physics at University of Dhaka, Bangladesh (founded 2023)
• Co-Founder and Co-Sponsor with Charles Clark at NIST of four (two males and two females) best research presentations in **Bangladesh Journal of Physics** (founded in 2022)
• Founder, Sponsor & member of three annual best research publications in **Bangladesh Journal of Physics (BJP)** (founded in 2017)
• Sponsor, founder and member of the Evaluation Committee of the annual recognition program for Distinguished physics teacher (teaching + research) and Best teacher awards in Physics and in Arabic, **University of Dhaka** (founded in 2008)
• Sponsor, founder & member of the Evaluation Committee of the annual recognition program for Distinguished Teacher (teaching + research), Best Teacher and four best student awards in Physics, **Chittagong University**, Chittagong (founded in 2008)
• Sponsor, founder & member of the Evaluation Committee of the annual recognition program for Distinguished Teacher (teaching + research), Best teacher and four best student awards in physics, **Jagannath University**, Dhaka, Bangladesh (founded in 2011)
• Sponsor, founder & member of the Evaluation Committee of the annual recognition program for Distinguished teacher (teaching + research), Best teacher, and four best student awards in Physics, **Jahangirnagar University**, Savar (founded in 2008)

• Sponsor, founder & member of the Evaluation Committee of the annual recognition program for Distinguished Teacher (teaching + research), Best teacher awards and one best student scholarship in Physics, **Rajshahi University**, Rajshahi (founded in 2011)
• Sponsor, founder & member of the Evaluation Committee of the annual recognition program for Distinguished Teacher (teaching + research), Best teacher and four best student awards in physics, **Shah Jalal University of Science and Technology**, Sylhet, Bangladesh (founded in 2017)
• Sponsor, founder & Chair of the annual recognition program for 3 best teachers awards (Math & Science, Business, General), **K. Nazrul Gov. College**, Dhaka, (initiated 2008, finalized 2011)
• Sponsor, founder & Chair of the annual recognition program for 3 best teachers awards (Math & Science, Business, General), **Central Women's College**, Dhaka (founded in 2008)
• Sponsor, founder & Chair of the annual recognition program for 7 best teachers (Math & Science, Commerce, general), and all lifetime teaching awards, **Maniza Rahman Girls High School**, Dhaka (founded in 2003)
• Sponsor, founder & Chair of the annual recognition program for 3 best teachers (Math & Science, Commerce, general), and 6 best students awards, **Gumta Ishakia High School**, Comilla (founded in 2017)
• Sponsor, founder & Chair of the annual recognition program for 2 best teachers (Math & Science, General) and 3 annual best graduating students, **Char Domdoma Primary School**, Gazipur (founded, 2011)
• Sponsor, founder & Chair of the annual recognition program for 2 best teachers (Math & Science, General) and 3 best graduating students, **Gandaria Mahila Samitee Primary School**, Dhaka (founded, 2011)
• Founder & Chair of the **"Abdur Razzaq and Shamsun Nahar Trust for Education"**, for improvement of education in schools in Bangladesh (founded in 2003)
• Sponsor, founder & Chair of the annual recognition program for 2 best teachers (Math & Science, General) and 3 best graduating students awards, **Panchdona Madrasa and Orphanage**, Narsindhi (founded, 2008)
• Sponsor, founder & Chair of the annual recognition program for 2 best teachers (Math & Science, General) awards, **"Anjuman J.R. Islamia Junior High School**, Dhaka (founded, 2017)
• **Distributed of Physics and Astronomy books** for undergrad course at Universities of Dhaka, Jahangirnagar, Chittagong, Rajshahi, Jagannath, & Kabi Nazrul Government College, Central Women's College; Bangladesh Astronomical Society, Maniza Rahman Girls High School, Panchdoan Madrasa and Orphanage, Gumta Ishakia High School
- This introduced undergraduate Astronomy course at i) Jahangirnagar University, ii) Chittagong University, iii) Jagannath University, iv) course by Bangladesh Astronomical Society
• Collaborate with Bangladesh Astronomical Society for article, lectures, IAU proposal, donated books for workshop, etc.
• Brought IAU membership for Bangladesh Astronomical Society while Bangladesh government is not an official member of IAU
• Organized the first US+Bangladesh "e-conference of Phyiscs" jointly with Bangladesh Physical Society and University of Dhaka in February 2021. Brought US Ambassador to participate and organized the first session, in collaboration with EducationUSA, on the US collaborative opportunities for Bangladeshi researchers and students.
• Brought Dhaka University and Cairo University together for medical physics research

collaboration, 2016
• Deliver lectures/Seminar/public presentation on current research interests institutions countrywide to promote physics research since 1995
• Deliver research based atomic astrophysics lecture course with computational workshops at Universities, such as, Dhaka, Rajshahi, Jahangirnagar, Begum Rokeya, Barisal, PUST
• Research advisor for a Master's thesis in Physics, University of Dhaka (2023)
• Brought many physicists to membership of American Physical Society (APS) at no cost

7. EGYPT: PROMOTION & COLLABORATION FOR RESEARCH & EDUCATION

• Instituted the MOA between OSU and Cairo University, 2012 - 2022 (mentioned earlier)
• Founder & sponsor of a annual recognition program for 10 annual prizes in **Cairo University**:
-**Physics:** 1 Distinction in research, 1 Best teaching awards, 2 best (male & female) Ph.D., 2 Masters (male & female) graduating students
-**Astronomy:** 1 Distinguished faculty prize in research & 1 in teaching
-**Mathematics** distinguished faculty prize in research & 1 in teaching
• Founder & sponsor of a annual recognition program for 16 annual prizes in **Physics** and **Astronomy** Departments, **Al Azhar University** (Cairo and Assiut campuses): 8 Distinguished teaching (teaching + research) and Best teaching, 4 best (male & female) Ph.D., 4 Masters (male & female) graduating students prizes
• Founder & sponsor of a recognition program for 2 annual prizes for the best research publications in **Astronomy**, **Geophysics** at the **National Research Institute of Astronomy and Geophysics (NRIAG)**
• Founder & sponsor of a recognition program for annual prizes for the best research publications in Egyptian Journal of Physics (initiated in 2016)
• Founder & sponsor of a recognition program for 2 annual prizes for the best research publications in **Physics**, **Beni-Suef University**, Beni-Suef, Egypt
• Delivering research based lecture course on Atomic Spectroscopy, process, and computational workshops, **Cairo University** attended by post-graduate students, researchers, faculty members from 7 institutes since 2013
• Hold the Adjunct Professorship in Cairo University, given only to well-known Egyptian origin scientists working a developed country
• Seminars and research issues at Zewail City of Science & Technology, National Research Centre, National Institute of Astronomy & Geophysics, American University in Cairo, Helwan University, Ain Shams University, Al Azhar University, etc
• Research guidance at **Cairo University, Beni-Suef University**, Evaluation of Ph.D., Masters thesis
• Collaborated with National Research Centre in Cairo
• Collaborated with programs at Banha University, Menoufia University
• Initiated collaborative research agreement between Cairo University and Aligarh Muslim University in India. Dhaka University in Bangladesh
• **Distributed physics and astronomy books** in many institutions, such as, Cairo, Al Azhar, Suez Canal, Beni-Suef, Ain Shams, Helwan Universities, NRIAG, Zewail City of Science and Technology, Suez Canal University, etc.
• USA liaison for speakers for conferences, such as, Modern Trend in Physics Research (MTPR), workshop of Ultra-Fast Laser Technology and Applications (UFLTA)

• Brought physicists to no-cost membership of American Physical Society (APS), nominated for Fellowship

8. INDIA: PROGRAMS IN PHYSICS & STEM RESEARCH & EDUCATION

• Brought AMU to OSU for the high profile Obama-Singh Knowledge initiative award and served as Co-Director (mentioned earlier)
• **Aligarh Muslim University (AMU), Physics Department**: Adjunct Professor under UGC scheme for teaching and research guidance, 2017-2022
• **Aligarh Muslim University:** Founder & sponsor of a recognition program for annual faculty & students prizes for research, teaching and academic excellence in **Aligarh Muslim University**: 1) 7 in **Physics**, 2) 2 in **Mathematics**, 3) 2 in **Zoology**, 4) 2 in **Microbiology** Departments
• **OSU and Aligarh Muslim University:** Associate Director and the supervising research advisor of the AMU students of the STEM faculty training program of the 21st Century Obama-Sigh Knowledge Initiative award of OSU in partnership with AMU, 2013-2017 (one of 3 initiators of the program), and
- One of the 3 OSU members to introduce the new curriculum for M.Sc. MeD-STEM degree in STEM faculty training program at OSU for the Indian postgraduate students, 2014
• Co-founded with Prof. Anil Pradhan, and in collaboration with AMU, **the Indo-US APJ Abdul Kalam STEM Education and Research Center of the Ohio State University and AMU**, serving as the OSU Co-Director, and:
- Founded the REU (Research Experience for Undergraduates) program with partial fund at the Center in 2018
- Founded an official chapter of the International Society of Muslim Women in Science (ISMWS) at the Center in 2021
- Introduced annual symposium of women on the International Women's Day with presentations and recognition, since 2014-
- Introduced global research training course "Atomic Astrophysics and Spectroscopy with computational workshops on the R-matrix codes and SUPERSTRUCTURE" since 2021
- Chief editor of magazine "An-Nisa" for women in STEM introduced in 2022
• **Aligarh Muslim University:** Delivering research based lecture course on Atomic Astrophysics and Spectroscopy, and computational workshops, in person since 2014 -
• **Jamia Millia Islamia (JMI)**: Founder & sponsor of a recognition program for annual faculty & students prizes for research, teaching and academic excellence for 3 in **Physics**, 3 in **Mathematics**, 3 in **Chemistry** Departments, founded in 2017
- Delivered lecture, contributed astronomy books, partnered with OSU proposals
• **Kashmir University:** Founder & sponsor of a recognition program for faculty & student prizes for research, teaching, academic excellence for 8 in **Physics**, 3 in **Mathematics**, 12 in **Departments of Biological Sciences**
• Kashmir University: Delivered lecture course and computational workshop, 2016, delivered many lectures, contributed astronomy books, partnered in OSU proposal
• **Islamic University of Science and Technology (IUST), Awantipore, Kashmir**: Founder & sponsor of a recognition program for annual faculty & students prizes for research, teaching and academic excellence for 3 in **Physics**, 1 in **Mathematics**, 3 in **Chemistry** Departments
• **Women's Degree College on Maulana Azad Road, Kashmir:** Presented seminars and public lectures, distributed astronomy books

• **NIT-Srinagar, Kashmir:** Research collaboration, conferences, lectures, contribution of Astronomy books, India, since 2016
- Founded International Society of Muslim Women (ISMWS) Kashmir at NIT with founding president Prof. Seemin Rubab of NIT for any women in Kashmir
- NIT-Srinagar is a member of the consortium of US and Indian universities for STEM education and research initiatives under Indo-US program
• **University of Delhi:** Delivered research based lecture course on Atomic Astrophysics and Spectroscopy, and computational workshops, University of Delhi, 2014
- Continued research collaboration and teaching with University of Delhi and Delhi Technical University
- Co-supervisor of Ph.D. thesis, Dr. Mayank Dimri, Delhi University
• **Examiner of Ph.D. thesis:** Aligarh Muslim University, University of Delhi, IIT-Indian School of Mines, Delhi Technical University
• Seminars and public lectures at various institutes - Indian Institute of Astrophysics - Bangalore, IFTR-Mumbai, Sharda University - Upper Noida, Jain University - Bangalore, SMVD University - Jammu, etc.
• **IIT-Indian School of Mines, Dhanbad:** Research collaboration wth Prof. B Anthony and relevant activities, 2017 -
- Postdoctoral Fellow Dr. Rahla Naghma, Examiner of a number of Ph.D. thesis
• **Sharda University, Greater Noida:** Collaborated with STEM educational programs since 2014, brought to OSU for joint programs
- Recipient of Siddiqui lecture prize of the Innovation Center, 2022
• Brought Indian physicists to no-cost membership of American Physical Society (APS), nominated APS Fellowships

9. JORDAN: RESEARCH & EDUCATION

• Lectures and training of research at University of Jordan, Hashemite University
• Founder of recognition program at Department of Physics, University of Jordan

10. MEXICO: RESEARCH & EDUCATION

• Lectures and train for research at Autonomous National University of Mexico
    • Long term collaboration in Physics with UNAM at Morelos campus

11. MOROCCO: RESEARCH & EDUCATION

Associate Member, Laboratory of Innovation in Science, Technology, Education, Modeling and Management (LISTM), University of Chouaib Doukkali, Morocco, 2018 - present
- Delivered the research training course "Atomic Astrophysics and Spectroscopy with computational workshops on R-matrix and SUPERSTRUCTURE codes" at the Innovation Center, 2020 - continued to have participants from various universities for the global course
- Continue efforts on the research and education programs

12. PAKISTAN: STEM RESEARCH & EDUCATION

• Founder & sponsor of a recognition program for faculty and student prizes for teaching, research, academic excellence in Physics at **Quaid-i-Azam University** (Founded in 2021)
• Founder & sponsor of a recognition program for faculty and student prizes for teaching, research, academic excellence in Physics at **University of Jammu and Kashmir** (Founded in 2021)
• Founder & sponsor of a recognition program for faculty and student prizes for teaching,

research, academic excellence in Physics at **NED University of Science and Technology** (Founded in 2021)
- Founded ISMWS chapter at NEDUT
• Founder & sponsor of a recognition program for faculty and student prizes for teaching, research, academic excellence in Physics at **Karachi University** (Founded in 2024)
• Founded ISMWS chapters at University of Karachi
• Taught global astrophysics course to participants of a number of universities
• Brought physicists to APS membership
• Provided astronomy books for undergraduate course
• Serve as Ph.D. thesis examiner of a number of universities
• Featured in Scientia Magazine, Pakistan: "A Glimpse into the Cosmos with Dr. Nahar", September 2020
• "Astronomy and Beyond", S.N. Nahar, Guest speaker of the webinar series of Muslim Women in Science and Technology of Khwarizmi Science Society of Pakistan, broadcast from Lahore to all of Pakistan, August 23, 2020
• Guest speaker, Physics Camp for Girls, Association of postgraduate students of Pakistan, Dec18-19,2021

14. PALESTINE: STEM RESEARCH & EDUCATION

• Founder & sponsor of a recognition program for faculty and student prizes for teaching, research, academic excellence in **Islamic University in Gaza (IUG)**: 4 in **Physics**, 2 in **Biology**, 2 in **Chemistry**, 2 in **Mathematics**, 4 in **Departments of Engineering** (founded in 2015)
• Founder & sponsor of a recognition program for faculty and student prizes for teaching, research, academic excellence in **Al-Aqsa University in Gaza**: 2 in **Physics**, 2 in **Mathematics** (founded in 2018)
- Teaching and research collaboration with IUG
- Opened chapter of ISMWS at IUG
• Member of the International Organizing Committee and Keynote Speaker, International Conference on Science Developments VI, organized by and held at IUG, March 12-15, 2017
• Published an article on Physics research in Gaza in APS newsletter 2017
• Brought physicists to no-cost membership of American Physical Society (APS)
• Working for promotion for high school STEM education with the Ministry of Education

14. SAUDI ARABIA: COLLABORATION IN STEM EDUCATION & RESEARCH

• Visiting faculty to Taibah University, Dammam University, King Saud University, and Princess Norah University for presentations on physics seminars, Med-STEM program, Muslim Women in Science, OSU admission, APS, 2014
• Worked as liaison between OSU and Ministry of Higher Education, 2014
• Lectures and workshop at King Saud University, 2014
• Research connection with Taibah University, Contributed undergraduate astronomy books, 2014, presented public seminar, 2021, served as an Editor of J. of Taibah University for some years
• Wrote news article on STEM program in Saudi Arabia in APS newsletter 2014
• Brought Physics Chair of female section of Dammam University to Physics Department of Miami University, OH, 2016
• Brought Saudi physicists to no-cost membership to American Physical Society (APS)
• Princess Norah University: Recognized Sultana N Nahar as "Woman of Wisdom", interview for

the annual magazine - celebration of Women's Month of March, 2024
- Reviewer of faculty promotions
• Educational connection with King Fahd University of Petroleum and Minerals
• Research Mentor, Falak Foundation for Space Science and Research, 2024-2025
• Collaborator of undergraduate STEM program, Najran University

15. TURKEY: COLLABORATION FOR RESEARCH

• Research collaboration with Selcuk University, 2014 -
• Research guidance and collaboration: Canakkale Onsekiz Mart University, Karamanoglu Mehmetbey University, 2014. Advisor for M.S. thesis of Yasin Gokce, Karamanoglu Mehmetbey University, 2015
• Collaborated with Marmara University on an IAU proposal and research connection, 2009 -
• Brought Physicists to no-cost membership of American Physical Society (APS)

16. COLLABORATION WITH UNITED ARAB EMIRATES

• Connected to research related activities with UAE University, An Ains since 2009
• Nahar featured as the role model for a Muslim woman scientist by science students 2009
• Visiting faculty, United Arab Emirates University, presentation of seminars university wide audience, 2011
• Appreciation certificate by the Dean of UAE University Libraries for Contribution of Books, 2011
• Appreciation Certificate for the lecture session on International Society of Muslim Women in Science, 2011
• Brought physicists from UAEs to no-cost membership of American Physical Society (APS)

OTHER MEMBERSHIPS AND SERVICES:

• Columbus Folk Dancers (CFD http://recfolkdancecolumbus.org/CFD/Home.html) American, European, South American, Asians (1991 - present) - Emcee of CFD
• Odity Performers - Bengali songs

iii) Awards and recognition

Sultana N. Nahar

AWARDS/SCHOLARSHIPS/HONORS/RECOGNITION:

• Elected Fellow of The World Academy of Sciences (TWAS) -UNESCO, Category - Physics, 2023

- American Physical Society (APS): 7

• The William Fowler Award for Distinguished Research in Physics, APS 2025

• APS published as the Front Page article in APS newsletter "International Teaching Can Transform Physics", on the global online teaching and research training to over 100 participants from 11 countries (Bangladesh, Egypt, Ethiopia, India, Mexico, Morocco, Pakistan, Palestine, Saudi Arabia, United Arab Emirates, USA) at the same time in 2021, APS Newsletter Vol 31, No. 6, June 2022 (This is her 19th news article published in APS newsletters)

• John Wheatly Award of American Physical Society-Forum of International Physics. Citation: "For efforts to promote physics research and teaching through collaboration, mentoring, and philanthropy in several third-world countries, and in particular for her promotion, as both an advocate and role model, of Muslim women scientists.", 2013

• "CSWP Woman Physicist of the Month", American Physical Society, March 2013

• Elected member of the Executive Committee, Forum of International Physics of APS, 2012-2014

• APS Fellow, 2006 - Citation: "For seminal contributions to studies of photoionization and recombination of multicharged atomic systems fundamental to atomic physics and plasma physics and pioneering calculations of remarkable complexity on astrophysically significant processes."

• APS travel grant for conference presentation by a graduate student, DAMOP of APS, University of Oregon-Eugene, Oregon, 1986

- The Ohio State University (OSU):

• 23. 2025 OSU Student Life Leadership Award: "Outstanding Student Organization Advisor Award"

• 22. Middle East Studies Center news story, Sep 23: "Professor Sultana Nahar's Research and Educational Collaborations Make OSU STEM Resources Visible in the Middle East", College of Arts and Sciences, Middle East Studies Center, 2024

• 21. Official Appreciation for Middle East work, Director, Middle East Studies Center, OSU, July 2024

• 20. Featured as recognition in "Hidden Figures: Women in Science" in celebration of the International Day of Women and Girls in Science on Feb 11, 2023 by the Office of Equity, Diversity, and Global Engagement of College of Education and Human Ecology, The Ohio State University, 2023, - Web feature "Women in Science: Sultana Nahar"

• 19. OSU President K. Johnson's congratulatory message for the TWAS Fellowship in her weekly highlights news report "Notes from a Fellow Buckeye" section "Celebrating success" (p.3) to the whole OSU community, December 14, 2022

• 18. Featured in "New Chapter of International Society of Muslim Women in Science Inaugurated", Middle East Studies Center webpage News, OSU, Nov 7, 2022

• 17. Leadership award for outstanding advisor in "Student Organization Individual Contribution Award for Advisors", Office of Student Life, OSU, 2022

• 16. On August 25, 2021, Nahar organized and hosted the the program "Admission Adda with the Ohio State University" of EducationUSA for Bangladeshi students and researchers (zoom

platform and facebook streaming), US Embassy in Dhaka, Bangladesh. It was an OIA news "Ohio State and EducationUSA host information session for Bangladeshi students" on Sep 9, 2021
• 15. OSU 2-Ruby Silver Pin Service Recognition honoring 30 Years at OSU, December 18, 2020
• 14. Featured along with Pradhan in ASC news story: "Two astronomy faculty launch programs around the world to uplift STEM professionals", OSU, Dec 11, 2019
• 13. Featured in news story of the OSU Office of International Affairs "Astronomy professor awarded adjunct professorship at Cairo University", August 6, 2018
• 12. Featured Nahar and Pradhan as co-founded the STEM Center - OSU OIA News, April 28, 2017: "Indo-US Center of Excellence in STEM-ER is established",
- OSU Arts and Sciences news, 2017: "Indo-US STEM Initiative Celebrates Success, Announces New Center" (p.2)
OSU Arts and Sciences news, 2017: "Indo-US STEM Initiative Celebrates Success, Announces New Center" (p.2)
• 11. ENGAGED SCHOLAR recognition of OSU, featured in newspaper THE LANTERN, titled "Ohio State professor connects cultures to promote science", page 1, Year 137, Issue 4, January 24, 2017
- "Engaged Scholars" is a series highlighting Ohio State faculty who have made an impact in OSU communities through their community-engaged research and teaching
• 10. OSU 1-Ruby Silver Pin Service Recognition honoring 25 Years at OSU, 2015
• 9. "Outstanding Research Mentor Award", Denman Undergraduate Research Forum, 2012
• 8. "Outstanding Staff Award" nomination certificate, College of Arts and Sciences for contributions in establishing the Indo-US STEM Center of OSU and Aligarh Muslim University, OSU 2012
• 7. Featured on OSU "Excellence to Eminence" for "Resonant Nano-Plasma Theranostics" research, the most significant report of the month with title 'What Success Looks Like" at OSU, September 11, 2011
• 6. Featured along with Pradhan OSU press release "ASTRONOMERS REACH FOR THE STARS TO DISCOVER NEW CANCER THERAPY", June 22, 2011 (reported over 100 news media)
• 5. Featured as "Meet the Iron Lady" for research publications on iron ions, the first annual magazine of OSU Astronomy Department for circulation outside, 2004, p.page 21
• 4. Certificate of Appreciation for services, Professional Mentor for minority students, Office of Minority Affairs & Retention Services, OSU, 2005
• 3. Certificate of Appreciation for services, Professional Mentor for minority students, Office of Minority Affairs and Retention Services, OSU, 2002
• 2. Certificate of Appreciation for contributions as University Postdoctoral Fellow, 1990-1991
• 1. University Postdoctoral Research Fellowship Award for Women and Minorities, College of Mathematical and Physical Sciences, The Ohio State University, 1990-1993

- OSC: Highlights at the Ohio Supercomputer Center:

• 11. OSC press release featuring story titled "Ohio State astronomy researcher unveils the sun's secrets with OSC support" on the web, October 17, 2024. This will be included in the OSC Annual Report for distribution.
• 10. OSC invitation for a plenary presentation on "THE IRON PROJECT FOR THE STUDY OF THE SUN: COMPUTATIONS USING HPC OF OSC", Research Symposium 2024, Ohio Supercomputer Center, Ohio, April 9, 2024

• 9. Featured in the OSC Annual Report 2020 "Breaking Barriers Nahar aids female Muslim scientists with supercomputing", p.16, published in April 2021
• 8. Featured in OH-TECH press release "Educating the masses: OSC helping Nahar share computational knowledge in Columbus, around the world", August 24, 2017
• 7. Featured in OH-TECH Annual Report article "HELPING NAHAR SHARE COMPUTATIONAL KNOWLEDGE IN COLUMBUS, AROUND THE WORLD", p.8-9, September 2017
• 6. Featured in OH-TECH blog on lecture course in Cairo University "Recent workshop illustrates OSC's support", S.N. Nahar, December 2016
• 5. Featured along with Pradhan in OSC-OH-TECH profiles of research collaboration at OH-TECH website https://www.oh-tech.org/profiles/sultana_nahar_and_anil_pradhan, 2014
• 4. OH-TECH featured blog for the observation of the 2014 Astronomy Day "Studying Our Star, the Sun", S.N. Nahar, A.K. Pradhan, OSC website, Columbus, OH, May 10, 2014
• 3. Featured in "Noteworthy Research Activities" of OSC Annual Research Report "Applying High-end X-rays to Cancer Treatment", p.16, 2010
• 2. Featured as Iron Lady on OSC Research Highlights of 2009 in article "High Precision Atomic Astrophysics X-ray research for black holes and in nanotechnology",
• 1. Featured along with Pradhan in Ohio Supercomputer Center press release "X-ray researchers turn focus from black holes to cancer", Jan 28, 2010 (refers "Iron Lady")
The highlight was featured in i) the 2010 calendar (February 2010 page) as the *ground-breaking studies by the Ohio leading researchers using OSC resources*, and ii) as Highlights of OSC achievements at the 25th Anniversary celebration in OSC, 2013

- Wayne State University: 11

• "Distinguished Alumni Award" of 2014, President of Wayne State University, Detroit, Michigan
• Featured with title "Finding a cancer treatment in space", in dedicated magazine titled "Moments of Discovery" of Wayne State Alumni Magazine, Vol 27, No. 4, Winter 2013
• "Woman of Wayne Headliner Award" -For "WSU Alumni who have been recognized in the media for their outstanding achievements. To honor extraordinary Wayne State University Alumni who have impacted the community in a positive manner", 2013
• Guest Speaker of the annual Physics Graduate Research Day, 2012
• "Women Stars in Physics", Lead Speaker, Special focus session of Women Physicists, 2012
• Thomas C. Rumble University Graduate Fellowship Award, WSU, Detroit, 1985-1986
• Thomas C. Rumble University Graduate Fellowship Award, WSU, Detroit, 1984-1985
• Knoller Fellowship Award in Physics, Dept of Physics & Astronomy, WSU, 1985-1986
• Knoller Fellowship Award in Physics, Dept of Physics & Astronomy, WSU, 1984-1985
• Knoller Fellowship Award, Wayne State University, 1979
• Daniel R. Gustafson Memorial Award to a graduate student for excellence in teaching, 1984

- University of Dhaka, & Bangladesh: 10

• Fellow, Bangladesh Academy of Sciences (BAS), Expatriate category, "... acting as an ambassador of Bangladesh Academy of Sciences devoted to promoting science and technology, in the country you are working and residing...", 2021
• Fellow, Bangladesh Physical Society (BPS), "for distinguished research and outstanding contributions in Physics", 2021
• Shield of Dhaka University for "Teaching a certificate course on Computational Atomic Astrophysics", Department of Physics, presented by the Vice Chancellor, Dhaka University, 2017

• Medal of Dhaka University and recognized with certificate "For her continuing inspirational and sincere work for promotion of physics research and education in whole Bangladesh", Vice-Chancellor, 2014
• First Position Award, M.Sc. in Theoretical Physics, (1979), University of Dhaka, Bangladesh
• Merit Scholarships, M.Sc. 1977-1979, University of Dhaka, Bangladesh
• First Position Award, B.Sc.Hons. in Physics, 1977, University of Dhaka, Bangladesh
• Salekunnessa Award for the Best Woman Student in the B.Sc.Hons. examinations, University of Dhaka, 1977
• Kalidas Merit Scholarships, B.Sc.Hons. 1973-1977, University of Dhaka
• University Admissions: in Dhaka University in 4 individual Departments (Physics, Mathematics, Statistics, & Chemistry), in Bangladesh University of Engineering and Technology (BUET), in Mymensing Medical College - all through countrywide competitions for each subject

- Up to High School:

• Merit Scholarship - Central Women's College, H.S.C.- First Division
• Annual Awards - Academic, Music, Art - throughout school life Class I - Class X, Maniza Rahman Girls High School; S.S.C - First Division with Letters, Dhaka, Bangladesh

- Physics/Astronomy National/International: 50

• Recognized with ISMWS award for "Best quality of research and leadership activities", 6th International Conference on Molecular Modeling and Spectroscopy" (ICMMS6) of National Research Centre (NRC) of Egypt, Dahab, December 2-6, 2024
• Award plaque for the A.H. Siddiqi (founder of Industrial Mathematics in India) lecture at the the A. H. Siddigi Centre for Advanced Research in Applied Mathematics & Physics" (CARAMP) at Sharda University campus, Gr. Noida, India, September 23, 2022
• Honoring with a plaque of Kashmir art on authentic Kashmir paper mashi for contributions in STEM and public lecture by Dean of Academic Affairs and Dean of Science, Islamic University of Science and Technology (IUST), Awantipora, Kashmir, India, September 19, 2022
• Certificate of "Deliberation of the research based course on Atomic Astrophysics and Spectroscopy with computational workshops on the SUPERSTRUCTURE and R-matrix codes II" to global participation" (11 countries), jointly by OSU (OIA Vice Provost) and AMU (Director), 2022
• Centenary 1921-2021 plaque of NED University of Engineering and Technology from Vice Chancellor Prof. Sarosh Lodhi, Pakistan, 2021 (presents the NEDUET centenary stamp and coin introduced by government of Pakistan 2021)
• Certificate of "Deliberation of the research based course on Atomic Astrophysics and Spectroscopy with computational workshops on the SUPERSTRUCTURE and R-matrix codes" to global participation", jointly by OSU (OIA Vise Provost) and AMU (VC), 2021
• Certificate of Recognition "In recognition For Outstanding Efforts and the Successful Completion of the Online Research Based Course on ATOMIC ASTROPHYSICS AND SPECTROSCOPY with computational workshops", University of Chouaib Doukkali University, El Jadida, Morocco, December 2020
• Shield of Quaid-Azam University,for Cooperation, Prof. Raheel. Physics Department, Islamabad, Pakistan 2020
• Cinar Leaf Shield of Azad Kashmir University, Prof. Rafique. Physics Department, Muzzafarabad-Kashmir, Pakistan 2020
• Shield of Beni-Suef University by the President, Beni-Suef, Egypt, 2018

• Medal of Faculty of Science, Department of Physics, Helwan University, Egypt, 2018
• Symbolic Chinar Leaf Shield of University of Kashmir, India, 2018
• Guest Speaker: Scientific Colloquium (through meticulous selection by a NASA panel) for "Knowing the universe through atoms", Goddard Space Flight Center - NASA, Greenbelt, USA, December 13, 2017
• Shield of Dhaka University Science Society, Public Nov 4, 2017
• "Shield of MTPR-016" for a keynote speaker and "Medal of Faculty of Science", the 6th international conference on Modern Trends in Physics Research (MTPR), Hurghada, Egypt, December 17-20, 2016
• Shield of Faculty of Science by the Dean honoring International Experts, MTPR-016 ceremony, Cairo University, Egypt, 2016
• Shield of "Guest of Honor" for scientific contributions (first woman recipient), the Arab Conference on Astronomy and Geophysics the 5th Assembly (ACAG-5), National Research Institute of Astronomy and Geophysics (NRIAG), Helwan, Egypt, October 17-20, 2016
• "Shield of Faculty of Science" and certificate of recognition, Dean of Faculty of Science, Cairo University, Citation "for her contributing and supporting the activities of the Faculty of Science, Cairo University", Lecture course with computation workshops, 2016
• Shield of Faculty of Science by the Dean, Helwan University and pennant of the University, Helwan, Egypt, November 7, 2016
• "AMU Victoria Gate memento" in appreciation for all contributions (in an attached letter) of the joint international conference on Nanotechnology and STEM Education and Research for presentations, co-convener, organization etc, Chair of Nanotechnology Center, Aligarh Muslim University, March 12-15, 2016
• Chief Guest, National Science Day celebration, Physics Department, Aligarh Muslim University, India, March 11, 2016
• Golden Dome Shield of the President (highest honor from Cairo University) and Certificate of Recognition for "Her contributing and supporting the activities of Cairo University", President Prof Gaber Nassar and Vice President of Research Prof Gamal Esmat, Cairo University, Giza, Egypt, April 15, 2015
• Shield of Celebration of 2015 International Year of Light and Certificate of Recognition for "Outstanding effort for contributing and supporting the activities of the society", at the annual convention of Topical Society of Laser Sciences (TSLS) celebrating the Year of Light, Keynote speech "The Sun. Allah's Source of Radiation", April 8, Egypt, 2015
• Shield of Faculty of Science by Dean Prof Elsayed Fahiem and Certificate of Recognition for "Her contributing and supporting activities of Faculty of Science, Cairo University", Giza, Egypt, April 18, 2015
• The only invited honorary participant in the group of Deans of Faculty of Science and honored faculty of year 2015 Professor Lotfia El Nadi to lead the parade of graduates and distribute certificates in the Main dome auditorium, Cairo University, Egypt, March 30, 2015
• Medal of National Research Institute of Astrophysics and Geophysics (NRIAG), President Prof. Abo El-Ela Amin Mohamed, Helwan, Egypt, April 8, 2015
• Shield of Taibah University by President Dr. Adnan Almazroa with citation "Congratulations on delivering an outstanding talk during your visit to Taibah University. Truly speaking your topic was timely and your perceptions were sound pragmatic and thought provoking and the audience were fascinated. Therefore in recognition to your excellent services rendered to the cause

of education, please accept this plaque as a token of our appreciation and gratitude", Saudi Arabia, April 1 2014. The three days program was written in a poem by a university official
• Medal of Dammam University" and certificate of recognition, Dean of College of Engineering, Dammam University, Saudi Arabia, April 2014
• Shield of Jagannath University, "Recognition for contributions to science", Vice Chancellor, Jagannath University, Dhaka, Bangladesh, 2014
• Recognition by symbolic Kashmir Samovar for "Contributions in Science", Vice Chancellor Professor Talat Ahmad, University of Kashmir, India, 2014 (media coverage)
• Memento of Aligarh Nano-IV International for an invited speaker, Founder of Nanotechnology Center Professor A. Naqvi, India, 2014
• i) "Shield of MTPR-014" & certificate, 5th Intl conf. on Modern Trend in Physics Research", and ii) Medal of Cairo University, Dean of Faculty of Science, Cairo University, Egypt, 2014
• Inaugurated the new 14 in telescope at Aligarh Muslim University, India, September 17, 2013 (coverage in India Education, AMU News, Two Circles Net news etc)
• "Shield of Faculty of Science" and appreciation letter for founding "STEM program in Physics, and Excellence, devotion and care in the lecture course provided during Spring 2013", Cairo University, Egypt, March 2, 2013
• "Highest Honor Gold Medal of TSLS" (same as given to Nobel Laureate Ahmed Zewail), 25th Anniversary of the Topical Society of Laser Sciences, Egypt, (broadcast with interview by Egyptian national TV NILES, Arts and Sciences News of OSU, APS-FIP Newsletter, Canadian Bengali Times, etc);
- Citation: "Due to your activities in the field of advanced science and technology, which employs Atomic Spectroscopy, in the Astrophysical Fields", 2012
• Golden Dome Shield of Cairo University Research" by Vice President of Research and Graduate Studies Professor Gamal Esmat, for the MOA with OSU and other research cooperation with Cairo University, April 8, 2012, Egypt (Egyptian newspaper and Cairo University YouTube: -http://www.youtube.com/watch?v=lUrMWSbfzTE, OSU "Middle East Studies Bulletin", Spring 2012 and Fall 2012 issues)
• Honorary "Shield of UFLTA12" and Certificate of Appreciation, 4th International Workshop on Ultra Fast Laser Technology and Applications, NILES and Luxor, Egypt, April 8-12, 2012
• Memento of Appreciation award for an Invited Speaker, 3rd International Conference on "Current Development in Atomic, Molecular, Optical, & Nano Physics with Applications", New Delhi, India, December 14-16, 2011
• Certificate of Appreciation, Topical Society of Laser Sciences, Egypt in recognition "Of extensive collaboration within all our International Meetings concerning Ultra Fast Laser Technology and Applications UFLTA, as well as all the International Conferences on Modern Trends in Physics Research. She was introducing important modern aspects encountered in the field of Atomic Physics, Plasma Physics, and remarkable calculations of opacities initiated in High Power Laser Interactions Simulating Important Astrophysical Phenomena", October 2011
• Certificate of Appreciation. Egyptian Physical Society, Citation: In recognition "of extensive contributions to studies of photoionization and recombination of multi-charged atomic systems fundamental to atomic physics and plasma physics and pioneering calculations of remarkable complexity on astrophysically significant processes.", October 2011
• Certificate for the 2nd "Radha Gobinda Chandra Public Lecture in Astronomy" lecturer; Citation: "Honorable Dr. Sultana N. Nahar in Appreciation for contributions for popularizing

Astronomy and charitable activities in Bangladesh", Bangladesh Astronomical Society, July 28, 2011 (announced & reported in newspaper)
• Recognition plaque for research success and achievements, Vice Chancellor Professor Mesbahuddin Ahmed, Jagannath University, Dhaka, Bangladesh, July 24, 2011
• Medal of Honor, 4th Intl conference on *Modern Trends in Physics Research*, Egypt, 2010
- Certificate of High Appreciation for contribution in MTPR-010, Egypt, 2010
• Honorary "Shield of TSLS" for physics research contributions, Topical Society of Laser Sciences (TSLS), 20th Anniversary celebration, Egypt, 2008
• Certificate of High Appreciation for the efforts given to the international conference MTPR-08, April 6-10, 2008, Cairo University, Egypt
• Honorary plaque for keynote speech of session "Global warming and Food Crisis" and other contributions, Department of Management Studies, University of Chittagong, Bangladesh, 2008
• Honorary plaque by Department of Physics for Astrophysics seminar and various contributions, Jahangirnagar University, Bangladesh, August 2008
• Enlisted in "Pioneer Women of Bangladesh" (as the first Astrophysicist), Foundation of Voice of the Voiceless Women, Bangladesh, featured in 12 First Women calendar 2008
• "Our Pride Award" by Bangladesh Association of Central Ohio (BACO), December 29, 2007, "In Recognition of Outstanding Achievements in the Field of Astronomy and Physics"
• Shield of N-TV, for a Successful Scientist, N-TV of Bangladesh, 2005
• Featured in a number of Wikipedia
- Cancer Therapy Research: 5
• Memento and certificate for the invited lecture "X-RAY ABSORPTION BY HEAVY ELEMENT COMPOUNDS AND APPLICATIONS IN RADIATION THERAPY", Intl Conf on Emerging Trends in Biomedical Sciences (ETBS), Aligarh Muslim U, India, March 6-8, 2016
• Chapter 5: "Dreaming of the Star Treatment" in the book "Science Unshackled" (Renee James, Fall 2014, Johns Hopkins U press)) describes astronomical study and leads to cancer treatment that we propose and includes section 35 "The Iron Lady and the Gold Standard"
• "What has astronomy done for you lately?", Cancer research RNPT findings as one of the four important impacts of Astronomy to human life (i) GPS, ii) wireless Internet, iii) RNPT, and iv) laser surgery of eyes), Astronomy Magazine, May 2012, p.31-35
• Press release worldwide (over 100) of method "Resonant Nano-Plasma Theranostics (RNPT)" for cancer treatment, including "Physics Inventions", "Cancer Discovery", "Innovations of Nano Patent", "Discovery News", "MSNBC.com", "Science Daily", "TechColumbus", "Rockefeller News", "Chicago Chronicle", etc.
11 Interviews by CBS, The Daily, AnandBazzar Patrika, Dispatch, Philadelphia Inquirer, etc
- International STEM Education and Research: 23
• Memento of "Guest of Honor", Joint International Women's Day symposium of Indo-US STEM Education and Research Center of OSU-AMU and International Society of Muslim Women in Science, Aligarh Muslim University, India, March 30, 2024
• Recognized in the founding stone as a co-founder of the Indo-US STEM Education and Research Center of the Ohio State and Aligarh Muslim Universities, inaugurated by the Vice Chancellor T. Mansoor of AMU, India, 2022
• Recognition crest for US-Bangladesh collaboration for education and research, Bangladesh Physical Society (BPS), Annual BPS conference, May 2022
• Recognition shield for fundamental contributions at Indo-US APJAK STEM Education and

Research Center, Symposium on "International collaboration and prospect in STEM Education and Research", Aligarh Muslim University, India, March 5, 2020
• Recognition shield for the coordinator and lecturer, LEAP ("Leadership for Academicians Programme" of government of India) workshop at OSU, September 9 -14, 2019
• Memento from Marine Sciences of Annamalai University, Dean of the Faculty Prof. Muthu Srinivasan, LEAP (Leadership of Academicians Programme), Sep 8-14, 2019
• Trophy and certificate "For leadership, lecturing and inspiring participants of the Women in STEM Roadshow workshops of the US Department of State held in Aligarh, Delhi, Hyderabad, Kolkata, Kurnool, Patna in India during February 2018. We wish Sultana continued contribution for the project", Prof. Gifty Ako-Adounvo, Acting Vice President of Global Strategies and International Affairs of OSU, 2018, Ceremony of completion of 9 workshops of Women in STEM Roadshow
• "Certificate of Appreciation" for delivering the "Atomic Astrophysics with Computational workshops", Department of Physics, Rajshahi University, Rajshahi, Bangladesh, 2017
• Kashmiri samovar gift, for research and education work in STEM, Vice Chancellor Prof Andrabi, University of Kashmir, India, 2017
• Appreciation token for the OSU STEM Education and Research Faculty Training Project, Indian Deputy Chief in Washington DC, August 19, 2016
• Memento of University Monogram and letter of appreciation by Vice Chancellor Prof. Khursheed Andrabi, In appreciation of the STEM Education and Research at University of Kashmir, India, March 2016
• Trophy of Appreciation, Office of Research and Graduate Studies Affairs, IUG Annual Research Celebration Day, Islamic University of Gaza, Palestine, April 18, 2016
• "Gift of Appreciation" (a fine Kashmiri shawl) for contributions on STEM Education and Research at Aligarh Muslim University, Professor Alim Naqvi, Founder of Nanotechnology center of AMU, Keynote session where Nahar was introduced by Prof. Lotfia El Nadi with appreciation of her work at Cairo University, International conference MTPR-014, Egypt, December 15-19, 2014
• Indian Emblem trophy "for Scientific contributions & role in STEM education & research in India under Obama-Singh project", Vice Chancellor General Shah, Aligarh Muslim U, 2014
• Sealed plaque, jointly by AMU-DUTY Society and Indian Society of Industrial and Applied Mathematics (ISIAM), in recognition of contribution to scientific education in India via Obama-Singh 21st Century Knowledge Initiative Award, 2013 (Guest of honor public lecture)
• "Bab-e-Syed" plaque, Vice Chancellor General Shah of Aligarh Muslim University, in recognition for contribution for Obama-Singh 21st Century Knowledge Initiative Award of USIEF for the partnership between OSU and AMU, India, 2013 (Guest of Honor of the program), Sep 2013
• "Shield of Faculty of Science", Al-Azhar University, in appreciation for "promotion of physics research and education", Dean, Faculty of Science, Cairo, Egypt, 2014
• "Distinguished Guest Plaque", Higher Education Symposium, Odisha Development Day, Odisha Society of Americas, July 3, Columbus, OH, 2014
• FIP Spring 2013 newsletter, Article highlighting work on development of Physics in Bangladesh "Recent Visit to Bangladesh Universities and Physics Prizes"
• Letter of Appreciation for contribution of books, President Hatem Odah, National Research Institute for Astronomy and Geophysics (NRIAG), Helwan, Egypt, 2016
• Certificate letter of Appreciation for contribution of books, Astronomy Chair, Al-Azhar University, Cairo, 2013, Egypt

• Certificate letter of Appreciation for contribution of books, Physics Chair, Al-Azhar University, Cairo, 2013, Egypt
• Certificate letter of Appreciation for contribution of books, Chair, Astronomy and Meteorology, Cairo University, Giza, 2013, Egypt
• Certificate letter of Appreciation for contribution of books, Physics Chair, Ain Shams University, Cairo, 2013, Egypt
• Certificate letter of Appreciation for contribution of books, Dean of Faculty of Science, Suez Canal University, Ishmylia, 2013, Egypt
• Certificate letter of Appreciation for contribution of books, Dr. Adel Abdel-Momen, Dean, Faculty of Science, Beni-Suef University, Beni-Suef, Egypt, October, 2012
• Certificate letter of Appreciation for contribution of books, Dr. Hassan M. A. Naboohdah, Dean, University Libraries, UAE University, Al Ain, United Arab Emirates, March 27, 2012
• Official Letter of Appreciation for books contribution from Prof. Shaheen, Head of Department of Library & Information Service, Cairo University Library, Egypt, 2010
• Honorary plaque of Appreciation for Contributions in education, Maniza Rahman Girls High School, Dhaka, Bangladesh, March, 2010
• Honorary Crest of Appreciation for contributions in excellence in education, Maniza Rahman Girls High School, Dhaka, Bangladesh, 2003, 2004, 2005, 2006, 2007, 2008, 2009
• Certificate of Appreciation, E-Mentoring Network for Diversity in Engineering & Science, 2009
• Certificate of Appreciation, E-Mentoring Network for Diversity in Engineering & Science, 2010

- Role Model of a Woman/Muslim Scientist: 39

• 40. "Pioneer Woman", Indo-US STEM Education and Research Center of OSU and Aligarh Muslim University in India, International Women's Day Symposium, March 30, 2024 • 39. Nahar's statements on science in an interview directed her life path was highlighted by presenter Bushra Gul of University of Karachi at the International Women's Day Symposium, March 30, 2024
• 38. Featured as "Women of Wisdom" in celebrating the International Women's Day and month of March, IEEE-PNU Student Branch, Princess Norah University, Riyadh, Saudi Arabia, March 2024 (X-page and annual magazine)
• 37. Featured in series "Bangladesh teachers in US universities" (translation from Bengali) who are carrying out research, Bengali weekly newspaper "Bangla", New York, January 27, 2024
• 36. "Honoring Prof. Sultana N Nahar" plague, recognition at celebration of the 1st anniversary of Bengali newspaper "Ohio Sangbad", Oct 21, 2023
• 35. National Science Day 2023 project presentation of "FUTURE PHYSICISTS!" with one past and one present scientists, Ibn Hazem and Sultana Nahar, by the 6th grade students, IQRA Primary School, 127 Park Hill, Clapham, London SW4 9PA
• 34. Guest of Honor Memento, Symposium on celebration of the International Women's Day organized by the Indo-US APJAK STEM Education and Research Center and Society of Muslim Women in Science, Aligarh Muslim University, India, March 29, 2023
• 33. Presentation of "Sultana Nahar" under the project of featuring a woman scientist and research contributions to science in honor of "Women's History Month 2023" in March, by Teliyah Jenkins (10th grade), Iberville Math, Science, & Arts Academy, Louisiana, April 2023
• 32. Chief Guest, "Exchange information for improvement of monthly newspaper Ohio Sanbad (Bengali)", Bengali newspaper "Ohio Sangbad" in Ohio, Carriage Place, Columbus, October 30, 2022
• 31. Chief Guest, Inauguration of the first Bengali newspaper "Ohio Sanbad" for communities of

Bangladeshi and Indian Bengali Americans in Ohio, BACO Center, August 8, 2022
• 30. Featured with two other women in STEM in "Islamic Horizons" magazine of Islamic Society of North America (ISNA), July/August 2022 issue: "Muslim Women in STEM: A Minority Within a Minority" (p.28-29) and on its webpage
• 29. "For her contribution for understanding the Sun, and strengthening ISMWS with new chapters at OSU and internationally", Celebration of International Women's Day, Indo-US APJAK STEM Education and Research Center of OSU and AMU, and International Society of Muslim Women in Science, March 26, 2022
• 28. A role model with 4 others in Astronomy, Syeda Lammim Ahad (Ph.D. candidate in Astronomy, Leiden University, Holland), celebration of "Women in Space in World Space Week 2021" presentation, October 9, 2021
• 27. OSU OIA-India Gateway "celebrated the visibility and achievements of Ohio State women faculty and alumnae via social media posts" and featured 5 Ohio State faculty (including atomic physicist Sultana Nahar in the College of Arts and Sciences) "who are at the forefront of their fields and are engaged with partners in India", International Women's Day 2021 (OIA-OSU post, April 2, 2021)
• 26. Certificate of Recognition for her contributions as a role model for Knowledge, inspiration, and intellectual growth, International Women's Day, Indo-US APJ Abdul Kalam STEM Education and Research Center of OSU-AMU (Aligarh Muslim University, India), March 20, 2021
• 25. Featured among the prominent female scientists in the UGC (University Grant Commission) lecture "Women in STEM Subjects" under the National Women Studies course participated by University members from all over India covering all areas and broad casted held at UGC Center at Aligarh during Sep 3 - 18, 2020
• 24. "Featured Physicist Activity Sultana Nahar", Prof. Dimitri Dounas-Frazer, Course "Matter and Energy in Physical System", Western Washington University, USA, Spring 2020
• 23. Featured at Lotus STEMM stories: "Rendezvous with Sultana N Nahar", October 15, 2019
• 22. Featured woman of Voice of America Bangla news "Naree Kantho: Conversation with scientist Dr. Sultana Nurun Nahar" (video news and featured article at VOA website), April 25, 2019
• 21. Featured Physicist Activity: "Dr. Sultana Nurun Nahar", Prof. Dimitri Dounas-Frazer, Course "Matter and Energy in Physical System", Western Washington University, USA, Spring 2019
• 20. Guest of Honor: Certificate citation "A lady of vision and action" and trophy, International Women's Day, Celebration by Women in STEM Roadshow program, Aligarh Muslim University, India 2018
• 19. Recognition plaque, "All Students of West Bengal" at Aligarh Muslim University, Celebration of International Mother Language Day, Feb 25, 2018, India
• 18. Feature article in Bangladesh newspaper "Pradham Alo" (wide circulation): "A Source of Inspiration Sultana Nahar", by Dr. Rauful Alam (U of Penn), January 17, 2018
• 17. "Prof. Sultana Nahar: The Lady with Vision and Action", Sabiha Parveen (Chemistry, AMU), National Seminar on "Global Contribution of Muslim Women in Natural and Social Sciences, College of Education, Aligarh Muslim University, India, November 6, 2017
• 16. Felicitated as Guest of Honor and a Distinguished Guest, Annual Cultural Functions, Begum Sultan Jahan Hall, Aligarh Muslim University, 2017
• 15. Recognition trophy for the Patron and Stitched gift from graduating girls, Certificate

ceremony of CREW (Council for Research and Empowerment of Women), Aligarh 2017
• 14. Guest of Honor trophy and Certificate citation: "For her contributions as an international model of a Muslim female scientist for knowledge, inspiration, and intellectual growth", International Women's Day celebration, Aligarh Muslim University, India, 2017
• 13. Inducted to Patron of Council for Research & Empowerment of Women (CREW) with citation: "In recognition of her contribution to the growth of science & scientific thinking among the women at Global Level", Aligarh, India, March 16, 2016
• 12. Memento and Certificate of Recognition, "For her contributions in Atomic Astrophysics and promoting STEM education and research internationally", Celebration of International Women's Day, Department of Physics, Aligarh Muslim University, India, March 10, 2016
- Intruding Comment of Convener Prof. Asma of Mathematics "... She has the courage, persistence and power to excel in all fields mostly dominated by men."
• 11. Certificate of Appreciation and gift, "We are honored by and proud of your achievements and representation of Bangladesh in the scientific world. You are our inspiring Hero and as OSU Prof S.A. Akbar says a Legend", Bangladeshi community of Columbus, Celebration of the Victory Day of Bangladesh, December 5, 2015
• 10..Poem in Arabic to welcome her visit at Taibah University, Saudi Arabia, March 2014
• 9. Poems dedicated to her by the inspired students in her atomic astrophysics and spectroscopy course at Aligarh Muslim University, 2014
• 8. Recognition trophy "for promotion as an advocate and role model of Muslim Women Scientist", and Certificate of Recognition "for her contributions as a role model for knowledge inspiration and intellectual growth", Celebration of International Women's Day, Aligarh Muslim University, India, March 11, 2014
• 7. On receiving John Wheatley award of APS: PBC 24 news: "Role model of Mulim women: Dr. Sultana Nurun Nahar", - News BD: "Role model of Muslim women Dr. Sultana Nurun Nahar received American Physical Society Award", - Asian News Broad 24: ""Role model of Muslim women Dr. Sultana Nurun Nahar received American Physical Society Award", November 2012 • 6. "Dr. Sultana Nurun Nahar: More Alig than Aligs", An Alig's Armchair, An Aligarh Movement Footnote, Maripat2Aligarh.Blogshot.com, Dec 14, 2011
• 5. Certificate for promoting STEM to the female students, Women Residential College for public presentation, United Arab Emirates U, 2011
• 4. "Dr. Sultana Nahar, The Iron Lady of Mathematical Computations", a modern Muslim pioneer woman scientist, presentation by the female Science students to a university wide event (picture on display in the library), United Arab Emirates University, UAE, December 2009
• 3. Guest of Honor, "International Women's Day" observation, keynote speech "Perspectives of a woman scientist on problems and inspiring women to science", organized by the Progressive Forum in New York, New York, March 18, 2006
• 2. Subject of projects on Muslim woman scientist or Bangladeshi origin scientist by Middle and High school students, California, Texas, New Jersey, OSU in the USA, UAEU, Pakistan
• 1. "Pride of Bangladesh Dr. Sultana Nahar:..." Press release on astrophysics research impact and life, THIKANA (popular Bangla newspaper in the US & Canada), Vol 15, No.6, March 26, 2004
• Modified versions of the THIKANA 2004 article were published by a number of newspapers in Bangladesh; Ittefaq, Prathom Alo etc, 2004
- THIKANA Editor's comment "Dr. Sultana is our pride", listed in the news Highlights of 2004

• Featured in THIKANA a number of times - made OSU known to most Bangladeshi Americans
• In wikipedias: i) "Muslim Astronomers and Astrophysicists of 21st century" (among the 8 listed), CHOWK ilogs, November 1, 2009 (http://www.chowk.com/ilogs/74478/51363); ii) Siasat website iii) "Is there Muslim Astronomers or Astrophysicists", Islamic Glory website, in "List of Women Astronomers" wikipedia (http://en.wikipedia.org/wiki/List_of_women_astronomers), iv) "Sultana N. Nahar", v) "List of Wayne State University people (under Science section)", vi) "University of Dhaka alumni", vii) "list of Women Astronomers", viii) "Bangladeshi astronomers", ix) "Bengali astronomers", x) "Bengali physicists", xi) "Bangladeshi physicist", xii) "Bangladeshi scientists", xiii) "Bangladeshi Scientists Snipview"

FEATURED IN ARTICLES/ PRESENTATIONS

Sultana N. Nahar

iv) Featured in articles/ presentations for scientific contributions: 35

(web: https://www.astronomy.ohio-state.edu/nahar.1/scires-publications.html#scifeature)

1. OSC press release featuring the story titled "Ohio State astronomy researcher unveils the sun's secrets with OSC support" on the web, October 17, 2024, to be included in the OSC Annual Report for distribution.

2. Featured as "Women of Wisdom", celebrating the International Women's Day and the month of March, IEEE-PNU Student Branch, Princess Norah University, Riyadh, Saudi Arabia, March 2024 - (interview to be published in the Annual magazine)

3. Featured as recognition in "Hidden Figures: Women in Science" booklet in celebration of the International Day of Women and Girls in Science on Feb 11, 2023 by the Office of Equity, Diversity, and Global Engagement of College of Education and Human Ecology, The Ohio State University, 2023, - Web feature "Women in Science: Sultana Nahar"

4. Featured in section "ACHIEVEMENTS: AWARDS AND RECOGNITION OF FELLOWS" (p.15), Annexture of 7a&b Activities Report of BAS annual report, 2021-2022

5. Featured with two other women in "Muslim Women in STEM: A Minority Within a Minority", Magazine ISLAMIC HORIZONS of Islamic Society of North American (ISNA), issue July/August 2022

6. News of the event "Prof Sultana N Nahar from Ohio State University delivers lecture at NIT Srinagar" was published in 9 news media in Kashmir, India, 2022

7. Featured in the OSC Annual Report 2020 "Breaking Barriers Nahar aids female Muslim scientists with supercomputing", p.16, published in April 2021

8. Featured as a role model with 4 others in Astronomy, Syeda Lammim Ahad (Ph.D. candidate in Astronomy, Leiden University, Holland), "Women in Space World Space Week" presentation, October 9, 2021

9. Featured in Scientia Magazine, Pakistan: "A Glimpse into the Cosmos with Dr. Nahar", September 2020

10. Featured among the prominent female scientists in the UGC (University Grant Commission) lecture "Women in STEM Subjects" under the National Women Studies course participated by University members from all over India covering all areas and broad casted held at UGC Center at Aligarh during Sep 3 - 18, 2020

11. "Featured Physicist Activity Sultana Nahar", Prof. Dimitri Dounas-Frazer, Course "Matter and Energy in Physical System", Western Washington University, USA, Spring 2020

12. Featured woman of Voice of America Bangla news "Naree Kantho: Conversation with scientist Dr. Sultana Nurun Nahar" (video news and featured article at VOA website), April 25, 2019

13. Featured Physicist Activity: "Dr. Sultana Nurun Nahar", Prof. Dimitri Dounas-Frazer, Course "Matter and Energy in Physical System", Western Washington University, USA, Spring 2019

14. Featured news story of the OSU Office of International Affairs "Astronomy professor awarded Adjunct professorship at Cairo University", August 6, 2018

15. Feature article in Bangladesh newspaper "Pratham Alo" (wide circulation): "A Source of Inspiration Sultana Nahar", by Dr. Rauful Alam (U of Penn), January 17, 2018

16. OH-TECH press release feature "Educating the masses: OSC helping Nahar share computational knowledge in Columbus, around the world", August 24, 2017

17. OSC Annual Report 2016-2017 article "OSC HELPING NAHAR SHARE COMPUTATIONAL KNOWLEDGE IN COLUMBUS, AROUND THE WORLD", p.8-10 (p.10-12 on webfile), OH-TECH 2017

18. "Prof. Sultana Nahar: The Lady with Vision and Action", Sabiha Parveen (Chemistry, AMU), National Seminar on "Global Contribution of Muslim Women in Natural and Social Sciences, Aligarh Muslim University, India, November 6, 2017

19. Featured as an implicit co-founder in- AMU News, April 2017: "AMU establishes Center of Excellence in STEM-ER - AMU News, April 2017 "AMU establishes Centre of STEM-ER in consonance with Ohio State University" -OSU OIA News, April 28, 2017: "Indo-US Center of Excellence in STEM-ER is established" - OSU Arts and Sciences news, 2017: "Indo-US STEM Initiative Celebrates Success, Announces New Center"

20. Featured in OH-TECH blog on lecture course in Cairo University "Recent workshop illustrates OSC's support", S.N. Nahar, December 2016

21. Featured in Chapter 5: "Dreaming of the Star Treatment" of the book "Science Unshackled" (Renee James, Fall 2014, Johns Hopkins U press) describes astronomical study that led to cancer treatment that we proposed and includes section 35 "The Iron Lady and the Gold Standard", 2014

22. Featured along with Pradhan in OSC-OH-TECH profiles of research collaboration in May 20214 at OH-TECH website https://www.oh-tech.org/profiles/sultana_nahar_and_anil_pradhan, 2014

23. Featured with title "Finding a cancer treatment in space", in dedicated magazine titled "Moments of Discovery" of Wayne State Alumni Magazine, Vol 27, No. 4, Winter 2013

24. Featured her work in the article describing cancer research findings (RNPT) as one of the four important contributions of Astronomy to human life "What has astronomy done for you lately?" in (4 items: GPS, wireless internet, RNPT, and laser surgery of eyes), Astronomy Magazine, p.31-35, May 2012

25. Featured in "Excellence to Eminence" recognition (featuring the most significant news of the month at OSU) with title "What Success Looks Like", September 11, 2011, Ohio State University - on research news of x-rays in medical treatment "Astronomers reach for the stars for new cancer therapy", September 11, 2011, Ohio State University, onCampus article: "Astronomers reach for the stars for new cancer therapy", July 13, 2011

26. OSU press release: "ASTRONOMERS REACH FOR THE STARS TO DISCOVER NEW CANCER THERAPY", Ohio State University, June 22, 2011 (reported over 100 news media)

27. OSC Annual Research Report,: Biomed Research summary "Applying High-end X-rays to Cancer Treatment" published among the Noteworthy Research Activities (p.16), 2010

28. Ohio Supercomputer Center (OSC) press release "X-ray researchers turn focus from black holes to cancer", Columbus, OH, January 28, 2010 (refers "Iron Lady")

29. In OSC highlighted feature on i) "2009 Research Highlights by Ohio Supercomputer Center (OSC)" (refers Nahar "Iron Lady"), ii) calendar page (February 2010) on "High Precision Atomic Astrophysics X-ray research for black holes and in nanobiotechnology" featuring *ground-breaking studies by the Ohio leading researchers using OSC resources*, 2010 iii) Highlighted in OSC Achievements at the 25th Anniversary of OSC, 2013

30. Featured with a short bio in the list of "Pioneer Women of Bangladesh" as the "First Female Astrophysicist", Voice of the Voiceless Women of Nareekantha Foundation of Bangladesh, featured in 12 First Women calendar 2008, Bangladesh; news published in "onCampus": Ohio State's faculty/staff news, (Recognition section, alphabetical order) June, 2008

31. Featured by Thikana (Bengali newspaper published in New York) editor on research and related issues after interview, article spanning three pages, first week issue of weekly newspaper Thikana in April, 2006

32. Featured in an article on educational and charity activities in Bangladesh, Bengali newspaper Thikana, New York, 2005

33. OSU: Featured in the first annual magazine of the Astronomy Department (for circulation outside):"Meet the Iron Lady" on Sultana's research on irons, p.page 21, 2004

34. Featured in "Pride of Bangladesh Dr. Sultana Nahar: ...", Top press release on the front page detailing astrophysics research impact and life, THIKANA (the most widely circulated Bangla newspaper in the US and Canand), Vol 15, No.6, March 26, 2004
    - THIKANA Editor's comment: "Dr. Sultana is our pride", in the news Highlights of 2004
    - Modified versions of the 2004 THIKANA article were published by a number of newspapers in Bangladesh; Ittefaq, Prathom Alo etc, 2004
    - Featured with news in THIKANA a number of times - have made OSU known to most Bangladeshi Americans

35. In various Wikipedia: i) "Muslim Astronomers and Astrophysicists of 21st century" (among the 8 listed), CHOWK ilogs, November 1, 2009

(http://www.chowk.com/ilogs/74478/51363); ii) Siasat website iii) "Is there Muslim Astronomers or Astrophysicists", Islamic Glory website, in "List of Women Astronomers" Wikipedia (http://en.wikipedia.org/wiki/List_of_women_astronomers), iv) "Sultana N. Nahar", v) "List of Wayne State University people (under Science section)", vi) "University of Dhaka alumni", vii) "list of Women Astronomers", viii) "Bangladeshi astronomers", ix) "Bengali astronomers", x) "Bengali physicists", xi) "Bangladeshi physicist", xii) "Bangladeshi scientists", xiii) "Bangladeshi Scientists Snipview"

Sultana N Nahar

v) Featured in articles/ presentations for STEM education and Research contributions: 13

(web: https://www.astronomy.ohio-state.edu/nahar.1/stemer-publications.html#featured)

1. Middle East Studies Center news story, Sep 23: "Professor Sultana Nahar's Research and Educational Collaborations Make OSU STEM Resources Visible in the Middle East", College of Arts and Sciences, Middle East Studies Center, OSU 2024

2. Featured in series "Bangladeshi teachers in US universities" (translation from Bengali) carrying out research, Bangla weekly newspaper, New York, January 27, 2024

3. Featured in OSU Middle East Studies Center news webpage article "New Chapter of International Society of Muslim Women in Science Inaugurated", Nov 7, 2022

4. Featured as OSU Office of International Affairs-India Gateway celebrated the visibility and achievements of Ohio State women faculty and alumnae via social media posts and featured 5 Ohio State faculty (including atomic physicist Sultana Nahar of College of Arts and Sciences) "who are at the forefront of their fields and are engaged with partners in India", International Women's Day 2021 (OIA-OSU post April 2, 2021)

5. Featured along with Pradhan in ASC news story: "Two astronomy faculty launch programs around the world to uplift STEM professionals", OSU, Dec 11, 2019

6. Featured at Lotus STEMM stories: "Rendezvous with Sultana N Nahar", October 15, 2019 (LOTUS is a web-based platform featuring women in STEMM from South Asia)

7. SPAN Magazine (US Department of State): "Training Future Teachers", January/February 2018

8. Featured in a number of Urdu newspapers as the Director of the program "Women in STEM Roadshow" conducted in India, 2018

9. Featured as an implicit co-founder in - AMU News, April 15, 2017: "AMU establishes Center of Excellence in STEM-ER
   - AMU News, April 24, 2017: "AMU establishes Centre of STEM-ER in consonance with Ohio State University"
   - OSU OIA News, April 28, 2017: "Indo-US Center of Excellence in STEM-ER is established"
   - OSU Arts and Sciences news, 2017: "Indo-US STEM Initiative Celebrates Success, Announces New Center" (p.2)

10. Recognized in "ENGAGED SCHOLARS" series of OSU newspaper THE LANTERN: with feature "Ohio State professor connects cultures to promote science", page 1, Year 137, Issue 4, January 24, 2017
    - "Engaged Scholars" is a series highlighting Ohio State faculty who have made an impact in OSU communities through their community-engaged research and teaching.

11. Featured in FIP news: "Sultana Nahar, FIP Executive Committee Member, Winner of the John Wheatley Award", p. 11, Spring 2013

12. Featured in FIP APS newsletter: "Newly Elected to the FIP Executive Committee", p.7-8, Spring 2012

13. Featured in FIP-APS web profile "Sultana N. Nahar The Ohio State University Candidate for Member-at-Large", 2012

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vi) Publications in scientific research

(Complete references: http://www.astronomy.ohio-state.edu/∼nahar/publications.html)
1. **SCIENTIFIC PUBLICATIONS:**
1. **Textbook: "Atomic Astrophysics and Spectroscopy":** 1,
2. **Book editor: "Photoionization of Atoms"** 1,
3. **e-Magazine editor: "An-Nisa" for women in STEM**: 3 Vol,
4. **Newsletter editor: "International Society of Muslim Women in Science"**: 14
5. **Publications in Scientific Research:∼ 201**

i) **Research Book Chapters :** 6
ii) Refereed Journals: ∼ 145,
iii) Invited refereed reviews - 20,
iv) Conference proceedings - 20,
v) Invited articles - 5
vi) Technical reports - 5
- In Progress: 5 in preparation
• Dedication articles for scientists: 5
• **Featured in Articles in Science: 35**
4. **PUBLICATIONS IN STEM RESEARCH AND EDUCATION: 44 (total)**

i) Book Chapters - 1
ii) Long reports (US Department of State Long Report, ISMWS): 2
iii) News articles in APS newsletters (Main, FIP,CSWP), An-Nisa: 31
vii) Outreach and Engagement Publications at OSU Knowledge Bank: 10
• **Featured in Articles for STEM Education and Research: 11**

1) TEXTBOOK:

1. *Atomic Astrophysics and Spectroscopy*, Anil K. Pradhan and Sultana N. Nahar (Cambridge University Press, 2011)

2) EDITOR OF BOOKS: 1

1. **"Photoionization of Atoms"**, A special issue book of journal Atoms (Editors: Sultana N Nahar and Guillermo Hinojosa, Publisher: MDPI, Basel, Switzerland 2024) (https://www.mdpi.com/books/reprint/10231-photoionization-of-atoms)

3) BOOK CHAPTERS: 6

1. Chapter 9 (p.123 - 132): "AHMED ZEWAIL - OUR PRIDE", Sultana N. Nahar, in "The Brilliant Zewail" (Editor: Lotfia El-Nadi, World Scientific publication 2019)

2. Chapter 15: "Astronomy and Cancer Research: X-Rays and Nanotechnology From Black Holes to Cancer Therapy", A.K. Pradhan and S.N. Nahar, Proceedings of 3rd International Conference on Current Development in Atomic, Molecular, Optical and Nano Physics, University of Delhi, Delhi, India, December 14-16, 2011 in *New Trends in Atomic & Molecular Physics Advanced Technological Applications*, Springer Series on Atomic, Optical, and Plasma Physics 76 (Editor Man Mohan, Springer-Verlag, Berlin Heidelberg, 2013, DOI 10.1007/978-3-642-38167-6_1), p. 253-265

3. Chapter 7: "The Iron Project: Photoionization and Photoexcitation of Fe XVII in Solar Opacity", S.N. Nahar, Proceedings of the 3rd International Conference on Current Development in Atomic, Molecular, Optical and Nano Physics, University of Delhi, India, December 14-16, 2011 *New Trends in Atomic & Molecular Physics - Advanced Technological Applications*, Springer Series on Atomic, Optical, and Plasma Physics 76 (Ed. Man Mohan, Springer-Verlag, Berlin Heidelberg, 2013, DOI 10.1007/978-3-642-38167-6_1), p. 115-132

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4) REFEREED SCIENTIFIC JOURNALS:∼ 145

1. **IN PREPARATION:**

   1. "Electron-Iron recombination of Ar XVI - Ar XVIII", Sultana N. Nahar
   2. "Collision strengths for P II", Sultana N. Nahar
   3. "Spectral feature of TI I and Ti III with a diagnostic line of Ti I", Sultana N. Nahar and Faysal Mehedi
   4. "Photoionization of Ca III", Sultana N Nahar

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   1. "Photoionization of P I", Sultana N Nahar

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2. "Energy levels and characteristic features in photoionization of Cl III using the R-matrix method", S.N. Nahar, Can. J. Phys. 103: 89-99 (2025, dx.doi.org/10.1139/cjp-2023-0320, online 2024, https://cdnsciencepub.com/doi/10.1139/cjp-2023-0320)

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2. "STEM: Integral part of our lives", Sultana N Nahar, annual magazine An-Nisa of the Indo-US STEM Education and Research Center of OSU and AMU, and ISMWS, p.52-59 (2023)

3. "GRAVITATIONAL WAVES, BLACK HOLES, AND HEAVY ELEMENTS", Sultana N. Nahar, Annual Eco and Space Magazine of Notre Dame College (Bangladesh) "Durbin", Vol 3, p.25-28, Session 20-21 (2021, Notre Dame College publication)

4. "Studying Our Star, the Sun", S.N. Nahar, A.K. Pradhan, *Astronomy Day Observation Blog*, Ohio Supercomputer Center, Columbus, OH, May 10, 2014 (https://oh-tech.org/blog/astronomy_day_studying_our_star_sun#.U209d3gfxRQ)

5. "Effect of Solar Radiation", S.N. Nahar, Special magazine issue *Rupsi Bangla* of the 12th North American Bangla Literature and Culture Convention (NABLCC), Columbus, Ohio, August 6-7, 2010, p. 84

7) TECHNICAL REPORTS: 5

1. "DIVISION B / COMMISSION B5 / WORKING GROUP HIGH-ACCURACY STELLAR SPECTROSCOPY", Paul S. Barklem, Sultana Nahar, Juliet Pickering, Norbert Przybilla, Tatiana Ryabchikova, Transactions IAU, Volume XXXIA Reports on Astronomy 2018-2021 (Maria Teresa Lago, ed.) (2021)

2. "Laboratory Astrophysics Needs for X-ray Grating Spectrometers", R. Smith et al (...,S. Nahar,... 49 authors), X-ray Astrophysics White paper for "The 2020 Decadal Survey on Astronomy and Astrophysics", The National Academy of Sciences, Engineering, Medicine, 2019, Astro2020: Decadal Survey on Astronomy and Astrophysics, APC white papers, no. 110; Bulletin of the American Astronomical Society, Vol. 51, Issue 7, id. 110 (2019)

3. "Atomic data for astrophysics: Needs and challenges", (G. Nave, ..., S. Nahar, ... 31 authors), AMO White paper for "The 2020 Decadal Survey on Astronomy and Astrophysics", The National Academy of Sciences, Engineering, Medicine, 2019

4. "DIVISION B / COMMISSION B5 / WORKING GROUP HIGH-ACCURACY STELLAR SPECTROSCOPY", Paul S. Barklem, Sultana Nahar, Juliet Pickering, Norbert Przybilla, Tatiana Ryabchikova, Transactions IAU, Volume XXXA, Reports on Astronomy 2015-2018 (Piero Benvenuti, ed.), p.1-8 (2018 International Astronomical Union DOI: 00.0000/X000000000000000X)

5. "Atomic Data DIVISION B / COMMISSION 14 / WORKING GROUP ATOMIC DATA, TRIENNIAL REPORT 2011-2015", Gillian Nave, Sultana Nahar, Gang Zhao, DIVISION B / COMMISSION 14 / WORKING GROUP ATOMIC DATA, Transactions IAU, Volume XXIXA Reports on Astronomy 2012-2015, Thierry Montmerle, ed. (2015)

8) DEDICATIONS: 5

1. "Werner Eissner", Sultana N Nahar, Obituaries of Physics Today (online, https://pubs.aip.org/physicstoday/online/42503, Doi: https://doi.org/10.1063/PT.6.4o.20230714a)

2. "Werner Eissner (1930-2022): a pioneer in computational atomic physics", A.K.Bhatia, A.E. Lynas-Gray, C. Mendoza, S. Nahar, H. Nussbaumer, A K. Pradhan, A. M. Seaton, G. Wunner and C.J. Zeippen, ATOMS 11 Obituary, 59 (2023, https://doi.org/10.3390/atoms11030059)

3. "Prof. Harun-ar-Rashid: A devoted researcher, teacher, colleague, loving human being: A compilation of statements", S. N. Nahar. Reports of Department of Physics, University of Dhaka, Bangladesh. October 2021

4. "Professor Michael Dopita", S.N. Nahar, "Farewell Mike" honoring Michael Dopita, Australian National University, Australia, 2019

5. "Michael John Seaton, 1923-2007", Anil Pradhan and Sultana Nahar, American Astronomical Society Bulletin 39, No. 4, p.1081 (2007)

vii) Publications in STEM education and research

Sultana N. Nahar

PUBLICATIONS ON STEM EDUCATION AND RESEARCH: 44

(web: http://www.astronomy.ohio-state.edu/ nahar/stemer.html)

- Book chapters: 1
- Long reports: 1

1. **i) Book Chapters: 1:**

   Chapter 9: "World class STEM faculty: An international dual degree program", K.E. Irving, A.K. Pradhan, S.N. Nahar, in "Recruiting, preparing, and retaining STEM teachers for a global generation", p.217-238 (Editors: J. Leonard, A. Burrows, & R. Kitchen, Brill Sense, Boston, 2019)

   ii) Long Reports: 2

2. "Women in STEM Roadshow Project in India Complete report", US Department of State, 2018 (Distributed in US Department of State, US Embassies - Delhi, Hyderabad, Kolkata, many institutions in India)

3. Chief Editor of magazine "An-Nisa" for women in STEM and author of the foundation article "International Society of Muslim Women in Science", S.N. Nahar, p.9, 2022 (published by the Indo-US STEM Education and Research Center of OSU and AMU, and International Society of Muslim Women in Science, March 2022)

   iii) News articles in STEM Education and Research: 31

4. "STEM Education and Research in Palestine", S. N. Nahar, An-Nisa 3, 16-22 (2024)

5. "International Women's Day 2024", S. N. Nahar, An-Nisa 3, 6-7 (2024)

6. "Ohio Sangbad" (Bengali newspaper, Ohio) report: "OSU encampment protest against Israeli occupation and genocide", S.N. Nahar, p. 8, Issue May 15, 2024

7. "Ohio Sangbad" (Bengali newspaper, Ohio), article "My connection with Gaza, Palestine", Sultana N Nahar, March 15, 2024

8. "Totally small personally big on my work in Gaza", Sultana N Nahar, An-Nisa 2, p.9-13 (published under Indo-US STEM Education and Research Center of OSU and AMU, and International Society of Muslim Women in Science, 2023)

9. "University in India Celebrates a Second Successful Round of REUs", Sultana N Nahar (original submission was edited by APS editor), APS Newsletter Vol 32, No. 10, p.5 (November 2023)

10. "International Teaching Can Transform Physics", S.N. Nahar, APS Newsletter Vol 31, No. 6, page 1 (Top right) (June 2022)

11. "My life in science", S.N. Nahar, in magazine "An-Nisa", p. 55, 2022 (published under Indo-US STEM Education and Research Center of OSU and AMU, and International Society of Muslim Women in Science, 2022)

12. "Message from the OSU Co-Director", S.N Nahar, in magazine "An-Nisa", p. 4, 2022 (published under the Indo-US STEM Education and Research Center of OSU and AMU, and International Society of Muslim Women in Science, 2022)

13. "The First US-Bangladesh Physics Conference", APS Newsletter Vol 30, No 7, p.3 (2021)

14. "The 40th International School for Young Astronomers in Egypt", Sultana N Nahar, APS Newsletter Vol 28, No. 9, p.3 (2019)

15. "Indo-US AMU-OSU STEM Education and Research Center", Anil Pradhan and Sultana N. Nahar, Magazine FAAA Convention Special: Carrying Forward the Aligarh Movement for the Betterment of Our Communities, Alig Atlanta publications, Vol 10 (2019)

16. APS News, Feb 12, 2019: "Impact of Women in STEM Roadshow in India:", Sultana N. Nahar, APS Newsletter Vol 28, No. 2, p.3,6 (2019)

17. APS News article "Indo-U.S. STEM Education and Research Center in India", Sultana Nahar, APS Newsletter January 2018 (Volume 27, Number 1, p.2, 2018)

18. APS Gazette website article "Arab Conference on Astronomy and Geophysics the 5th Assembly (ACAG-5)", Sultana N. Nahar, APS Gazette, Fall 2017

19. APS research news article "Science Research in Gaza in Palestine", Sultana Nahar, APS Newsletter August/September 2017 (Volume 26, Number 8, p.5)

20. APS CWSP Gazette article "Egypt's Loyalty to Science", S. Nahar, p.6-8, Fall 2016

21. APS FIP newsletter article: "OSU STEM Faculty Training Project Achieves Milestone", Sultana Nahar, Fall 2016, p.21-22

22. APS FIP newsletter article: "Improvement in Education and Research Through Recognition, a Report from Bangladesh", Sultana Nahar, Fall 2015, p.25-27

23. APS FIP newsletter article: "Saudi Arabia Connection", Sultana Nahar, p.28-31, Spring 2015

24. APS FIP newsletter article: "India Connection 2", Sultana Nahar, p.18-22, Fall 2014

25. APS FIP newsletter article: "India Connection", Sultana Nahar, p.14-17, Spring 2014

26. APS FIP Newsletter announcement: "Obama-Singh 21st Century Knowledge Award for the Ohio State University - Aligarh Muslim University Partnership", p.9, Fall 2013

27. APS FIP newsletter article: "Egypt Connection 2", Sultana Nahar, p.16-20, Fall 2013

28. APS CSWP-Gazette article: "International Society of Muslim Women in Science (ISMWS)", Sultana N. Nahar, p.8-9, Fall 2013

29. APS FIP newsletter article: ""Recent Visit to Bangladesh Universities and Physics Prizes", Sultana Nahar, p.26-28, Spring 2013

30. OSU Middle Eastern Studies Bulletin, The Ohio State University, "Egypt: Dr. Sultana Nahar" Sultana Nahar, p. 7-9, Autumn 2012

31. APS FIP newsletter article: "Egypt Connection", Sultana Nahar, p.11-13, Fall 2012

32. APS FIP newsletter article: "Highlights of a trip to the UAE and India", Sultana Nahar, p.25-26, Spring 2012

iv) Publications under OSU Office of Outreach & Engagement Publications at Knowledge Bank: 10

33. "THE MOA WITH CAIRO UNIVERSITY IS ATTRACTING ARAB AND AFRICAN COUNTRIES TO OSU", proceedings of "2019 Community Engagement conference: Partnering for a Resilient and Sustainable Future", OSU, Jan 23 - 24, 2019, "Engaged Scholars", Vol. 7, 2019 (Publisher: Ohio State University. Office of Outreach and Engagement, 2017, https://kb.osu.edu/handle/1811/87328)

34. "Work and Impact Under the MOA Between OSU and Cairo University", proceedings of Annual Engagement Forum. The Ohio State University, Columbus, Ohio, May 3, 2017, "Engaged Scholars", Vol 5, 2017 (Publisher: Ohio State University. Office of Outreach and Engagement, 2017, https://kb.osu.edu/handle/1811/85393)

35. "Indo-US (formerly Obama-Singh) STEM Education and Research Faculty Training Project", proceedings of Annual Engagement Forum. The Ohio State University, Columbus, Ohio, May 3, 2017, "Engaged Scholars", Vol 5, 2017, (Publisher: Ohio State University. Office of Outreach and Engagement, 2017, https://kb.osu.edu/handle/1811/85429)

36. "Ohio State University and Egypt Connection through Cairo University", proceedings of 4th Annual Engagement Forum. The Ohio State University, Columbus, Ohio, May 3, 2016, "Engaged Scholars", Vol. 4, (Publisher: Ohio State University. Office of Outreach and Engagement, 2016, https://kb.osu.edu/handle/1811/85356)

37. "Obama-Singh Knowledge Initiative Project: STEM Faculty Training in India", 4th Annual Engagement Forum. The Ohio State University, Columbus, Ohio, May 3, 2016. "Engaged Scholars", Vol. 4 (Publisher: Ohio State University. Office of Outreach and Engagement, 2016, https://kb.osu.edu/handle/1811/85352)

38. "Obama-Singh Knowledge Initiative Project: STEM Faculty Training in India", proceedings of 3rd Annual Engagement Forum. The Ohio State University, Columbus, Ohio, May 6, 2015. "Engaged Scholars" Vol 3 (Publisher: Ohio State University. Office of Outreach and Engagement, 2015, https://kb.osu.edu/handle/1811/85232)

39. "OSU Network with Saudi Arabia in 2014", proceedings of the 3rd Annual Engagement Forum. The Ohio State University, Columbus, Ohio, May 6, 2015. "Engaged Scholars" Vol 3, (Publisher: Ohio State University. Office of Outreach and Engagement, 2015, https://kb.osu.edu/handle/1811/85242)

40. "OSU Impact on STEM Education and Research in Bangladesh", proceedings of the 3rd Annual Engagement Forum. The Ohio State University, Columbus, Ohio, May 6, 2015,

"Engaged Scholars" Vol 3, (Publisher: Ohio State University, Office of Outreach and Engagement, 2015, https://kb.osu.edu/handle/1811/85241)

41. "Obama-Singh 21st Century Knowledge Initiative Award Project: STEM Education & Research Faculty Training in India", proceedings of the Engagement Forum, The Ohio State University, Columbus, Ohio May 1, 2014 "Engaged Scholars" Vol 2, (Publisher: Ohio State University. Office of Outreach and Engagement, 2014, https://kb.osu.edu/handle/1811/85116)

42. "Globalization of OSU: Connection to Egypt and Other Middle East and African Countries", proceedings of the 1st Annual Engagement Forum. The Ohio State University, Columbus, Ohio, May 2, 2013, "Engaged Scholars" Vol 1, (Publisher: Ohio State University. Office of Outreach and Engagement, 2013, "https://kb.osu.edu/handle/1811/84977)

Invited page long messages

43. "Message from the Frontiers of Physics", Sultana N. Nahar and Charles Clark, Book of Abstracts of the International e-Conference of Physics, special issue on centenary celebration of University of Dhaka and Bose-Einstein condensation, p.4, Bangladesh Physical Society publication (2021)

44. "Message from the Guest", Sultana N. Nahar, Annual Eco and Space Magazine of Notre Dame College (Bangladesh) "Durbin", Vol 3, p.05, Session 20-21 (Notre Dame College publication)

viii) Invited presentations in science

(web: https://www.astronomy.ohio-state.edu/nahar.1/scires-presentations.html)

Sultana N. Nahar

SCIENTIFIC PRESENTATIONS, INTERVIEWS:

STEM ER: http://www.astronomy.ohio-state.edu/nahar.1/stemer.html

Voice of America (VOA) Bangla, BBC Bangla, Columbus Dispatch, NTV, S-Channel New York, India Times, OSU Media, The Lantern, OSC, NILE TV, Wayne State Magazine, etc.

• Invited Conference/Colloquium Presentations ∼ 162:
i) Scientific Keynote Speeches, Prize Winning talk, Public Lectures: 57
ii) Invited Presentations in conference/university wide: 48,
iii) Seminars & Colloquium: 57,
• TV, Newspaper, & Other Interviews on Research & STEM ER: 32
STEM ER: KEYNOTE SPEECHES, PRIZE WINNING TALK, HONORARY LECTURES: 57 • Recent Contributed Presentations in science: 185
PRESENTATIONS: SCIENTIFIC

i) KEYNOTE SPEECHES, HONORARY TALKS, PUBLIC LECTURES: 57 (total)

1. Title (public): "SEARCHING FOR CLUE OF LIFE IN EXOPLANETS", S.N. Nahar, Saturday Monthly Program, Columbus Astronomical Society at Perkins Observatory, Ohio, USA, Jan 18, 2025

2. Title (Keynote): "SPECTRAL FEATURES OF IONS OF LANTHANIDES FOR KILONOVAE", S.N. Nahar, the 6th International Conference on Molecular Modeling and Spectroscopy (ICMMS6) of National Research Center, Dahab, Egypt, December 2-5, 2024

3. Title (keynote): "SEARCHING LIFE FORMS IN EXOPLANETS", S.N. Nahar, The 3rd International Conference on Basic and Applied Science (3rd ICBAS 2024), Toward Green Science Physics, Al Azhar University, Cairo, Egypt, Nov 25-26, 2024

4. Title (public): "MY CAREER AS A SCIENTIST", S.N. Nahar, Induction Session of Falak Research Program, Saudi Arabia, July 29, 2024

5. Title (plenary): "THE IRON PROJECT FOR THE STUDY OF THE SUN: COMPUTATIONS USING HPC OF OSC", Sultana N. Nahar, Research Symposium 2024, Ohio Supercomputer Center, Ohio, April 9, 2024

6. Title (public): "MY CAREER: A SCIENTIST", Sultana N. Nahar, Career Day Speaker celebrating Women's History Month, KIPP Columbus Elementary School, Columbus, March 20, 2024

7. Title (public): "The Sun", S.N. Nahar, Perkins Observatory (monthly Saturday program) for general public, Delware, Ohio, March 9, 2024

8. Title (keynote): "CHARACTERISTIC FEATURES OF Fe IONS PHOTOIONIZATION FOR SOLAR OPACITY", S.N. Nahar, 5th International Conference on Molecular Modeling and Spectroscopy (ICMMS-5), National Research Centre, Cairo, Egypt, Sep 17-19, 2023

9. Title (keynote): "MONOCHROMATIC X-RAY SOURCE FROM HEAVY ELEMENTS", S.N. Nahar, at 3rd International Conference on Material Science and Engineering (ICMSE), Benha University, Egypt, March 15-16, 2023

10. Speech and hand over recognition crest of BPS: "Contributions and connection of Dr. Charles Clark with Bangladesh Physical Society", S.N. Nahar, symposium "From Atomic Structure to Bose Condensates: a 40-year NIST journey with Charles Clark", NIST, Gaithersburg, Maryland, December 2, 2022 - Invitation from Nobel Laureate William Philips

11. Title (keynote): "CHLORINE SPECTRA FOR ASTROPHYSICAL MODELING", S.N. Nahar, 4th International Hybrid Conference on Molecular Modeling and Spectroscopy, National Research Center, Cairo, Egypt, December 18 -20, 2022

12. Title (public, A.H. Siddiqi, founder of Industrial Mathematics in India, lecture): "EXOPLANETS AND SPECTROSCOPIC SEARCH FOR LIFE FORMS". S.N. Nahar, A. H. Siddiqi Centre for Advanced Research in Applied Mathematics & Physics" (CARAMP), Sharda University, Gr. Noida, India, September 23, 2022

13. Title (public): "STUDY OF THE SPACE", Women's College on Maulana Azad Road, Kashmir, September 21, 2022

14. Title (public): "X-RAY SPECTROSCOPY OF HEAVY ELEMENTS FOR BIOMEDICAL APPLICATIONS", S.N. Nahar, NIT-Srinagar, Kashmir, September 20, 2022

15. Public: "Study of the Space", Sultana N. Nahar, Islamic University of Science and Technology, Awantipora, Kashmir, September 19, 2022

16. Public: "The SUN with Atomic Physics", Sultana N. Nahar, New Vistas in Astronomy public lectures, Perkins Observatory, Ohio, June 9, 2022

17. Keynote: "KNOWING THE UNIVERSE THROUGH ATOMS", S.N. Nahar, International Annual Conference on Basic and Applied Sciences (IACBAS), Al Azhar University, Nasr City, Cairo, Egypt. March 28-30, 2022

18. "SPECTROSCOPY OF LANTHANIDES", Sultana N. Nahar, the 7th International Conference on Nanotechnology for Better Living (NBL7), National Institute of Technology Srinagar, Kashmir, India, September 7-11, 2021

19. Keynote: "Solar plasma opacity", Sultana N. Nahar, The international Arab Conference of Astronomy and Geophysics - Assembly 7 (ACAG7), National Research Institute of Astronomy and Geophysics (NRIAG), Helwan, Egypt, October 11 - 14, 2021

20. Public: Title (public): "Studying the space by women", Sultana N. Nahar, "Women in Space Science" in celebration of World Space Week 2021, Oct 9, Bangladesh (virtual platform)

21. Keynote: "Exoplanets, our homes after the Sun", Sultana N. Nahar, 1st International Conference on Applied Physics and Engineering (ICAPE1), NED University of Engineering and Technology, Karachi, Pakistan, September 16-17, 2021

22. Keynote: "Photoionization and Electron-Ion Recombination of Ca ions for astrophysical modeling", Sultana N. Nahar, 3rd International Conference on Molecular Modeling and Spectroscopy (ICMMS3), National Research Center, Cairo, Egypt, September 15-16, 2021

23. Public: "Study of the sun through atoms", Sultana N. Nahar, J.N. Islam Astronomy Club, Jessore University of Science and Technology, Bangladesh, April 2,2021

24. Public: "Opening a Door of Knowledge by Gravitational Waves", Sultana N. Nahar, New Vistas in Astronomy public lectures, Perkins Observatory, Ohio, January 21, 2021

25. Keynote: "PHOTOABSORPTION BY LANTHANIDES", Sultana N. Nahar, 2nd international conference on Materials Science and Engineering, Benha University, Benha, Egypt, Dec 5-6, 2020

26. Public: "Physics of phosphorus for a clue for extra-terrestrial life", S.N. Nahar, International webinar on Physics, Pabna University of Science and Technology (PUST), Pabna, Bangladesh, Oct 1, 2020 (audience.from universities in Bangladesh and India).

27. Keynote: "Spectra of Phosphorus for Astrophysical Modeling", S.N. Nahar, 2nd International Conference of Molecular Modeling and Spectroscopy, National Research Centre, Egypt. Sep 23-24, 2020

28. Public: "Astronomy: Part of life", S.N. Nahar, Guest speaker of the webinar series of "ASTRONOMY ALIVE!", Bangladesh Astronomical Society, September 13, 2020

29. Public: "Astronomy and Beyond", S.N. Nahar, Guest speaker of the webinar series of Muslim Women in Science and Technology of Khwarizmi Science Society of Pakistan, broadcast from Lahore to all of Pakistan, August 23, 2020

30. Public: "The sun and the future in exoplanets", S.N. Nahar, INTO THE OUT podcast series for whole Bangladesh of Eco and Space Society of Notre Dame College, Dhaka, Bangladesh, August 16, 2020

31. Public: "Extraterrestrial life: Phosphorus", S.N. Nahar, Perkins Observatory, Delaware, Ohio, January 23, 2020

32. Public: "THE IRON PROJECT: DISCOVERING OUR SUN THROUGH ITS IRON ABUNDANCE", S.N. Nahar, Cleveland Astronomical Society, Cleveland Metro-parks at Cuyahoga, Ohio, September 5, 2019

33. Public: "Why do the stars shine?", S.N. Nahar, Perkins Observatory, Delware, Ohio, May 9, 2019

34. Title: "Why do we study science?", FEEP - Early Education program of OSU at Avalon Elementary School, Columbus, April 1, 2019

35. Title (Keynote): "STUDY FOR A CLUE OF EXTRA-TERRESTRIAL LIFE: PHOSPHORUS", S.N. Nahar, the first International Conference on Molecular Modeling and Spectroscopy (ICMMS1), National Research Centre, Cairo, Egypt, February 19-22, 2019

36. University wide: "THE OPACITY AND IRON PROJECTS: ATOMIC PROCESSES IN ASTROPHYSICAL PLASMAS", S.N. Nahar, Beni-Suef University, Egypt, April 15, 2018

37. Title (public): "Knowing the universe through atoms", S.N. Nahar, NASA/Goddard Space Flight Center Scientific Colloquium, December 13, 2017 (one of the highly selective 1600 speakers by the committee during 60 years, 1959 - 2019, at NASA)

38. Title (Public): "HOW PHYSICS IS RELATED TO YOU", S.N. Nahar, organized by Dhaka University Science Society, Bangladesh, November 4, 2017

39. Title (Keynote): "ATOMIC PROCESSES: FROM UNIVERSE TO CANCER TREATMENT", S.N. Nahar, the 6th International Conference on Science and Development, Islamic University in Gaza, Palestine, March 14-15, 2017

40. Public lecture: "Universe through atoms", Perkins Observatory, Ohio, January 19, 2017

41. Title (Keynote): "PLASMA OPACITY OF THE SUN AND EXOPLANETARY HOST STARS", S.N. Nahar, international conference on Modern Trends in Physics Research (MTPR-016), Egypt, December 17-20, 2016

42. Title (public): "THE UNIVERSE THROUGH HOT ATOMS", S.N. Nahar, to university audience of Sri Mata Vaishnu Devi University, Jammu, India, March 28, 2016

43. Title (public): "STUDY OF ASTRONOMY THROUGH ATOMS" Open to public Fourth Astronomy Conference, Astronomy Club, American University in Cairo, New Cairo, Egypt, Sep 29 - Oct 1, 2015

44. Title (keynote): "Atomic features of Ti I to interpret the lines and flux in astronomical objects", 6th international conference on "Optical Spectroscopy, Laser and Their Applications", National Research Centre, Cairo, Egypt, April 7-9, 2015

45. Title (keynote): "The Sun. Allah's Source of Radiation", Celebration of 2015 International Year of Light, annual convention of the Topical Society of Laser Sciences, April 8, Cairo, Egypt, 2015

46. Title (keynote): "Study of our star the sun", 5th international conference on "Modern Trends in Physics Research" (MTPR-014), Cairo and Luxor, Egypt, December 15-19, 2014

47. Title (keynote): "ASTRONOMY APPLIED TO CANCER TREATMENT", Jagannath University, Dhaka, Bangladesh, December 3, 2014

48. Title (university wide): "Cancer Treatment Through X-ray Spectroscopy: Astronomy to Biomedicine", S.N. Nahar, Dammam University, Dammam, Saudi Arabia, April 6, 2014

49. Title (keynote): "X-rays using ultra intense laser for effective theranostics", 4th Intl workshop of Ultra-Fast Laser Technology and Applications, NILES institute, Cairo University, Egypt, April 8-11, 2012

50. Title (Guest Speaker): "X-ray Spectroscopy, from black holes to cancer treatment", Physics Graduate Research Day, Wayne State University, Detroit, MI, April 5, 2012

51. Title (Keynote): "Photoionization and Recombination in Nebular Plasmas", S.N. Nahar, Jagannath University, Bangladesh, July 24, 2011

52. Title (Public, 2nd Radha Gobinda Chandra Memorial Astronomy): "Astronomy through Superhot to Cold Atoms", S.N. Nahar, (advertised in news media), Bangladesh Astronomical Society, Dhaka, Bangladesh, July 28, 2011

53. Title (keynote): "X-RAYS OF HEAVY ELEMENTS FOR NANOTECHNOLOGICAL APPLICATIONS: W & Pb" Sultana N. Nahar, 4th Intl conf on "Modern Trends in Physics Research" (MTPR10), Cairo, Egypt, December 12-16, 2010 (http://www.sciencedev.net/Docs/1,2,3-MTPR-010.pdf)

54. Title (Keynote): "Photo-excitation and Photoionization for Plasma Opacities under the Iron Project", Sultana N. Nahar, 4th Intl conference on "Modern Trends in Physics Research" (MTPR10), Cairo, Egypt, December 12-16, 2010 (http://www.sciencedev.net/Docs/1,2,3-MTPR-010.pdf)

55. Title (Keynote): "HED Astrophysics and Multidisciplinary Applications of Spectroscopy", Sultana N. Nahar, Third International Workshop on "Ultra Fast Laser Technology and Applications", Cairo, Egypt, April 17-19, 2010 (www.eun.eg/UFLTA-010/Home.htm)

56. Title (Keynote): "Global Warming and Its Impact on Life", Sultana N. Nahar, *Seminar on Global Warming and Food Crisis*, Department of Management, Chittagong University, Chittagong, Bangladesh, August 3, 2008

57. Title (Keynote): "The Iron Project: Radiative Atomic Processes in Astrophysics", Sultana N. Nahar, *3rd international conference on Modern Trends in Physics Research (MTPR)*, Cairo University, Egypt, April 6-10, 2008

ii) INVITED PRESENTATIONS: CONFERENCES/ UNIVERSITY-WIDE: 48

58. "Radiative Atomic Processes in Astrophysical Plasma", S.N. Nahar, "Investigating the root: How our perception of the Milky Way system is shaped by our knowledge of atomic data products", University of Heidelberg, Oct 3-8, 2022

59. "X-RAY SPECTROSCOPY OF HEAVY ELEMENTS FOR BIOMEDICAL APPLICATIONS", S.N. Nahar, Web Conference on "Trends in Nanotechnology - II", INC, Aligarh Muslim University, U.P., India, October 1, 2022

60. "Spectroscopy of lanthanides", Sultana N. Nahar, 7th International Conference on Nanotechnology for Better Living, Hybrid platform, NIT-Srinagar, India, Sep 7-11, 2021

61. "THE OPACITY PROJECT AND THE IRON PROJECT: THE LEAP IN UNDERSTANDING THE ASTRONOMICAL OBJECTS", Sultana N. Nahar, Centenary celebration of University of Dhaka 2021 "Glorious 100 Years of Physics in Dhaka University", University of Dhaka (virtual), July 9-11, 2021

62. "Spectroscopic study of lanthanides", S. N. Nahar, The 35th annual conference of the Egyptian Materials Research Society (Eg-MRS), The British University in Cairo (virtual), July 3-4, 2021

63. Title (invited): "GRAVITATIONAL WAVES, MERGER OF NEUTRON STARS, BLACK HOLES, AND HEAVY ELEMENTS", the first US+Bangladesh conference "International e-Conference on Physics", Dhaka, Bangladesh, Feb 5-7,2021

64. Title (Invited talk): "Mystery of extra-terrestrial life with phosphorus", S.N. Nahar, AMU Centenary Webinar on "Prospects of STEM Education in the 21st Century and Contributions of Women Scientists in STEM", Sultana N. Nahar, Indo-US APJ Abdul Kalam STEM Education and Research Center of OSU-AMY, India, October 13-14, 2020 - Invitation letter

65. Title: "The OPACITY AND IRON PROJECTS: ATOMIC PROCESSES IN ASTROPHYSICAL PLASMAS", S.N. Nahar, Workshop on "Radiation Transfer and Explosive Thermonuclear Burning in Supernovae", Weizmann Institute of Science, Rehovot, Israel, June 17 - 28, 2018

66. "THE OPACITY AND IRON PROJECTS: ATOMIC PROCESSES IN ASTROPHYSICAL PLASMAS", S.N. Nahar, International conference honoring contributions of Prof. Micheal Dopita, "A Star was Born", Abbazia di Spineto, Italy, April 9 - 12, 2018

67. "Recalculation of astrophysical opacities: overview, methodology and atomic calculations", (part II), Sultana N. Nahar (atomic calculations with Part I on opacities by A.K. Pradhan), international Workshop on Astrophysical Opacities, Western Michigan University, Kalamazoo, Michigan, Aug 1-4, 2017

68. "Atomic Astrophysics of Stellar Spectroscopy: Exoplanet Host Stars", S.N. Nahar, Arab Conference on Astronomy and Geophysics the 5h Assembly (ACAG-5), Helwan, Egypt, Oct 17-20, 2016 (invited by NRIAG President)

69. "Enhancement of bound-free continuum opacity"(SNN: photoionization, AKP:plasma opacity), Z Fundamental Science Program workshop of Sandia National Lab, Albuquerque, New Mexico, July 31 - Aug 3, 2016

70. "Broadband to Monochromatic X-rays from High-Z Nanoparticles" S.N. Nahar, International conference on Aligarh Nano V and STEM Education and Research, Aligarh Muslim University, India, March 12-15, 2016

71. Monochromatic X-ray imaging and diagnostics using nanomoities for biomedical applications" (Abstract book, p.1), M. Westphal, S. Lim, S. Nahar, A. Pradhan, Intl conf on Aligarh Nano V and STEM Education and Research, Aligarh Muslim University, India, March 12-15, 2016

72. "X-Ray Absorption by Heavy Element Compounds and Applications to Radiation Therapy", Sultana N. Nahar, International Conference on Emerging Trends in Biomedical Sciences (ETBS), Aligarh Muslim University, India, March 6-9, 2016

73. "MISSING BOUND-FREE CONTRIBUTIONS TO SOLAR OPACITY", S.N. Nahar, Z Fundamental Science Program (ZFSP) Workshop", Sandia National Lab, Albuquerque, July 19-22, 2015

74. "X-RAYS: ASTRONOMY TO BIOMEDICINE", S.N. Nahar, Taibah University, Madina, Saudi Arabia, April 1, 2014

75. "IRON ABUNDANCE AND OPACITY FOR SOLAR PLASMAS", S.N. Nahar, University of Kashmir, Srinagar, India, March 13, 2014

76. "K_α Resonance Fluorescence in Multiple Ionization and Possible Source of Monochromatic X-rays", S.N. Nahar, Aligarh Nano-4 International, Aligarh, India, March 8-10, 2014

77. "X-ray Irradiation of heavy element high-Z nanomoities for cancer theranostics", Sara N Lim, S.N. Nahar, A.K. Pradhan, Aligarh Nano-4 International, Aligarh, India, March 8-10, 2014

78. ""SOLAR OPACITY and K_α FLUORESCENCE", S.N. Nahar, Tata Institute of Fundamental Research, Mumbai, India, Feb 5, 2014

79. "ABUNDANCES AND OPACITIES OF THE SUN", S.N. Nahar, Indian Institute of Astrophysics, Banglore, India, January 31, 2014

80. "HOT ATOMS AND SPECTROSCOPY OF ASTRONOMICAL OBJECTS", S.N. Nahar, Jain University, Banglore, India, Jan 30, 2014

81. "Solar Plasma Opacity and Nebular Elemental Abundances", Zewail City of Science and Technology, 6 October, Egypt, March 7, 2013

82. "Photoionization, Photo-excitation, and Astrophysical Opacities: The Iron Project", S.N. Nahar, invited talk, 3rd International Conference on *Current Developments in Atomic, Molecular, Optical and Nano Physics with Applications (CDAMOP)*,December 14-16, 2011, Delhi, India (https://www.tbimice.com/cdamop2011/), Abstract book, p.33

83. "X-rays for Cell Distractions in Cancerous Tumors", S.N. Nahar, invited talk, Delta Medical College and Hospital, Dhaka, Bangladesh, August 10,2011

84. "X-Rays from Astronomy to Biomedicine", S.N. Nahar, invited presentation, 5th Seminar of the Center for Advanced Research in Sciences (CARS), University of Dhaka, Bangladesh, July 27, 2011

85. "Accuracy on Astrophysical Opacities", S.N. Nahar, invited talk, 2nd DAE-BRNS Symposium on Atomic, Molecular and Optical Physics and 18th National Conference on Atomic & Molecular Physics (XVIII NCAMP) of Indian Society of Atomic and Molecular, Physics (ISAMP), Dharwad, India, Feb 22-25, 2011 (was unable to attend)

86. "High Accuracy Radiative Data from the Iron Project for Solar Opacities", S.N. Nahar, invited talk, NASA Goddard Space Flight Center, Heliophysics Science Division, Green Belt, Maryland, USA, October 18, 2010
http://science.gsfc.nasa.gov/670/seminar/2010_abstracts/nahar_abstract.html

87. "High Accuracy Radiative Data for Plasma Opacities", S.N. Nahar, invited talk, Program and Abstracts of the 10th *International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas* (ASOS10), Berkeley, California, USA, August 3-7, 2010 http://sprg.ssl.berkeley.edu/labastro/ASOS10/speakers.html

88. "Radiative processes in astrophysical plasmas", S.N. Nahar, invited talk, Topical Conference (TC2010) on Interaction of EM Radiation with Atoms, Molecules and Clusters of the Indian Society for Atomic and Molecular Physics (ISAMP), Raja Ramanna Centre for Advanced Technology (RRCAT), Indore, India, March 3-6, 2010 (unable to attend)

89. "BLACK HOLES, THE SUN, and THE EARTH", Sultana N. Nahar, *NASIC (Network of Academies of Science in Islamic Countries) International workshop on GENDER PARTICIPATION IN DEVELOPMENT OF SCIENCE*, Islamabad, Pakistan, March 26-28, 2009 (canceled for political reasons)

90. "SOLAR IRRADIATION OF THE EARTH'S ATMOSPHERE", S.N. Nahar, "International Symposium on Climate Change and Food Security in South Asia" (UN sponsored), Dhaka, Bangladesh, August 25-30, 2008

91. "ATOMIC SPECTROSCOPY: ASTRONOMY TO BIO-MEDICAL SCIENCE", S.N. Nahar, Theory Session honoring Professor R. Pitzer in 63rd annual "International Symposium on Molecular Spectroscopy", Ohio State U., Columbus, Ohio, USA, June 16-20, 2008

92. "PHOTOIONIZATION, RECOMBINATION, AND RADIATIVE DECAYS OF ATOMS AND IONS", Sultana N. Nahar, conference of "New Quests in Stellar Astrophysics. II. Ultraviolet Properties of Evolved Stellar Populations", Puerto Vallarta, Mexico, April 16 - 20, 2007

93. "Super hot atoms around black holes", Sultana N. Nahar, in Seminar session "Science & Technology", 20th annual convention of *Federation of Bangladesh Associations in North America (FOBANA)*, Atlanta, Georgia, September 1-3, 2006

94. "The Iron Project: Atomic Radiative Processes in Astrophysical Plasmas", Sultana N. Nahar, Abstracts in the joint international IP/ITAMP workshop *High Accuracy Atomic Physics in Astronomy* in honor of Michael Seaton, Harvard-Smithsonian Center for Astrophysics (CfA), Cambridge, Massachusetts, August 7-9, 2006, p. 38

95. "Photoionization and Recombination of Na IX, Na X, Mg X, Mg XI", Sultana N. Nahar, Abstracts in the joint international IP/ITAMP workshop *High Accuracy Atomic Physics in Astronomy* in honor of Michael Seaton, Harvard-Smithsonian CfA, Cambridge, Massachusetts, August 7-9, 2006, p.39

96. "Allowed and Forbidden Transitions in Fe XIX", Sultana N. Nahar, Abstracts in the joint international IP/ITAMP workshop *High Accuracy Atomic Physics in Astronomy* in honor of Michael Seaton, Harvard-Smithsonian CfA, Cambridge, Massachusetts, August 7-9, 2006, p.40

97. "NEW RADIATIVE ATOMIC DATA", Sultana N. Nahar, *International Astronomical Union XXVth General Assembly*, Sydney, Australia, July 13-26, 2003

98. "The Iron Project and non-LTE Stellar Modeling", Sultana N. Nahar, *Stellar Atmosphere Modeling Workshop*, Tuebingen, Germany, April 8-12, 2002, $http://astro.uni-tuebingen.de/\ rauch/ATMOS\_2002_index.html$

99. "Photoionization and Recombination Experiments", Sultana N. Nahar, workshop on *ASTROPHYSICAL AND LABORATORY APPLICATIONS OF THE IP AND THE OP*, Goddard, NASA, Maryland, February 22, 2002

100. "Atomic processes in planetary nebulae", Sultana N. Nahar, *International Astronomical Union Symposium 209 Planetary Nebulae*, program p.25, Canberra, Australia, November 19-23, 2001, $http://www.mso.anu.edu.au/\ pn\_symp/$

101. "Photoionization, transition probabilities and opacities", Sultana N. Nahar, *12th APS Topical Conference on Atomic Processes in Plasma*, Reno, Nevada, March 19-23, 2000

102. "Photoionization and Recombination", Sultana N. Nahar, workshop on *Atomic Data Needs for X-ray Astronomy*, Goddard Space Flight Center, Greenbelt, Maryland, December 16-17, 1999

103. "Electron ion recombination", Sultana N. Nahar, *The International Symposium on Bose Statistics and Recent Advances in Physics*, Dhaka, Bangladesh, March 8-9, 1995

104. "Unified recombination rates for astrophysically abundant atoms and ions", Sultana N. Nahar, *The Conference on Model Nebulae*, Lexington, Kentucky, May 10 - 14, 1994

105. "Electron-Ion Recombination in the Close Coupling Approximation", Sultana N. Nahar, the workshop of *Future Directions in Electron-Ion Collision Physics*, Atlanta, April 9- 10, 1992

106. "Atomic Data-Bases for Astrophysical Applications", Sultana N. Nahar, *180th AAS Meeting*, June 7 - 11, 1992, Columbus, Ohio. Bull. Am. Astro. Soc. 24, 32.05, 780 (1992)

iii) SEMINARS & COLLOQUIA: 57

107. ""KILONOVAE SPECTRA AND OPACITIES", S.N. Nahar, Faculty Research Symposium, Dept of Astronomy, Ohio State University, Aug 23, 2024

108. "The IRON Project and Atomic Astrophysics", S.N. Nahar, Faculty Research Symposium, Dept of Astronomy, Ohio State University, Aug 24, 2023

109. "ATOMIC SPECTROSCOPY FOR ASTROPHYSICAL PLASMAS", S.N. Nahar, 7-minutes presentation, virtual symposium for the 2023 admitted students by the faculty members, Dept of Astronomy, OSU, Feb 7, 2023

110. "ATOMIC SPECTROSCOPY FOR EXOPLANETARY LIFE", S.N. Nahar, Faculty Research Symposium, Department of Astronomy, OSU, August 25, 2022

111. "The universe through atoms", S.N. Nahar, Department of Mathematics, Taibah University, Madinah, Saudi Arabia, December 19, 2021

112. "GRAVITATIONAL WAVES AND HEAVY ELEMENTS SPECTROSCOPY", S.N. Nahar, Astronomy research lecture of AST2895, Astronomy-OSU, Columbus, Sep 28, 2021

113. "ATOMIC PROCESSES FOR STELLAR SPECTROSCOPY: CALCIUM", S.N. Nahar, Internal Research Symposium, Dept of Astronomy, OSU, August 26, 2021

114. "GRAVITATIONAL WAVES & ELECTROMAGNETIC SPECTRA: HEAVY ELEMENTS BEYOND THE IRON PEAK", S.N. Nahar, Internal Research Symposium, Dept of Astronomy, OSU, August 25, 2020

115. "ASTROPHYSICAL SPECTROSCOPY", S.N. Nahar, Internal Research Symposium, Department of Astronomy, OSU, August 22, 2019

116. "BASIC SCIENCE FOR STELLAR SPECTROSCOPY", S.N. Nahar, SURP (Summer Undergraduate Research Program) Seminar Series, Astronomy, OSU, June 6, 2019

117. "Atomic process, the underlying science of astrophysical spectroscopy", OSU Astronomy Faculty Symposium, August 22, 2018

118. "THE OPACITY AND IRON PROJECTS: ATOMIC PROCESSES IN ASTROPHYSICAL PLASMAS", S.N. Nahar, Helwan University, Helwan, Egypt, April 18, 2018

119. "STELLAR SPECTROSCOPY: EXOPLANETARY HOST STARS", S.N. Nahar, University of Kashmir, Srinagar, India, March 1, 2018

120. "STELLAR SPECTROSCOPY: EXOPLANETARY HOST STARS", S.N. Nahar, Jamia Millia Islamia, Delhi, India, Jan 29, 2018

121. "STELLAR SPECTROSCOPY OF EXOPLANETARY HOST STARS", Jagannath University, Dhaka, Bangladesh, Nov 9, 2017

122. "X-RAY SPECTROSCOPY: FROM ASTRONOMy TO CANCER TREATMENT" S.N. NAHAR, Shahjalal University, Sylhet, Bangladesh, November 5, 2017

123. "ATOMIC ASTROPHYSICS OF STELLAR SPECTROSCOPY: EXOPLANETARY HOST STARS", Department of Physics, University of Rajshahi, Rajshahi, Bangladesh, Nov 1, 2017

124. "X-ray Spectroscopy for Cancer Treatment", University of Chittagong, Chittagong, Bangladesh, Oct 23, 2017

125. "X-RAYS: ASTRONOMY TO CANCER TREATMENT" atoms", Conference Hall of Science Block for all 7 Departments under Biological Sciences, University of Kashmir, March 18, 2017

126. "Universe through atoms", Department of Physics, National Institute of Technology, Srinagar, Kashmir, March 16, 2017

127. "Spectroscopy of our Sun", S.N. Nahar, Helwan University, Helwan, Egypt, Nov 9, 2016

128. "Spectroscopy of our Sun", S.N. Nahar, National Research Council, Egypt, Nov 2, 2016

129. "ATOMIC ASTROPHYSICS OF STELLAR SPECTROSCOPY: EXOPLANET HOST STARS", Sultana N. Nahar, Zewail City of Science and Technology, Giza, Egypt, October 31, 2016

130. "X-Rays from Astronomy to Cancer Treatment", S.N. Nahar, General audience of Zewail City of Science and Technology, Giza, Egypt, April 15, 2015

131. "SPECTROSCOPY AND STUDY OF OUR SUN", S.N. Nahar, Department of Astronomy, Cairo University, Egypt, April 15, 2015

132. "Astronomy and Spectroscopy of "Hot" Atoms", S.N. Nahar, National Research Institute of Astronomy and Geophysics, Helwan, Cairo, Egypt, April 8, 2015

133. "SOLAR OPACITY PROBLEM", University of Rajshahi, Rajshahi, Bangladesh, December 7, 2014

134. "RESONANT NANO-PLASMA THERANOSTICS: UPDATES", Biomedical Physics, University of Dhaka, Dhaka, Bangladesh, December 2, 2014

135. "RESONANT NANO-PLASMA THERANOSTICS: ASTRONOMY APPLIED TO CANCER TREATMENT", Jahangirnagar University, Savar, Bangladesh, November 22, 2014

136. "ATOMIC FEATURES OF Ti I IN INTERPRETATION OF ASTRONOMICAL OBJECTS", University of Chittagong, Chittagong, Bangladesh, November 20, 2014

137. "Study of our Sun", University of Dhaka, Dhaka, Bangladesh, November 19, 2014

138. "Study Through Hot Atoms", S.N. Nahar, Princess Nora University, Riyadh, Saudi Arabia, April 13, 2014

139. "SOLAR ABUNDANCES AND OPACITY", S.N. Nahar, King Saud University, Riyadh, Saudi Arabia, April 10, 2014

140. "Determination of Ne abundance from Electron Impact Excitation", Dammam University, Dammam, Saudi Arabia, April 6, 2014

141. "Determination of Ne abundance from Electron Impact Excitation", Taibah University, Madina, Saudi Arabia, April 2, 2014

142. Title: "Theranostics for Cancer Treatment", University of North Dakota, Grand Forks, North Dakota, October 18, 2013

143. Title: "Study of neon abundance in astronomical objects", Sultana N. Nahar, Aligarh Muslim University, September 18, 2013

144. Title: "Collisional Excitation and Electron-Ion Recombination for Nebular Abundances", Sultana N. Nahar, Ain Shams University, Cairo, Egypt, March 4, 2013

145. Title: "X-Ray Astronomy for Biomedical Applications", Sultana N. Nahar, Physics (male and female branches) and Astronomy, Al Azhar University, Egypt, Feb 25, 2013

146. Title: "The Iron Project: Recombination, Photoionization, Photo excitation of Fe XVII for Solar Opacities", Sultana N. Nahar, Physics, Astronomy, & Plasma Physics Departments (male and female branches), Al Azhar University, Cairo, Egypt, April 14, 2012

147. Title: "Astrophysical Opacity: The Opacity Project and the Iron Project", S.N. Nahar, Physics Department, Aligarh Muslim University, India, December 13, 2011

148. Title: "Atomic Processes for Astrophysical Spectroscopy", S.N. Nahar, Physics Department, Aligarh Muslim University, December 12, 2011

149. Title: "Atomic Physics for Astronomy and Cancer Treatment", S.N. Nahar, All Departments, United Arab Emirates University, Al-Ain, UAE, December 8. 2011

150. Title:"HED Plasma and the Sun", S.N. Nahar, invited seminar, Physics Department, University of Dhaka, Bangladesh, August 2, 2011

151. "Problems with Solar Opacity", S.N. Nahar, invited seminar, Physics Department, Jahangirnagar University, Bangladesh, August 1, 2011

152. "X-rays: The connection between Astronomy and Biomedicine", S.N. Nahar, Physics Dept, invited seminar, Chittagong University, Bangladesh, July 19, 2011

153. "Relativistic Effects in Low Temperature Nebular Plasmas", S.N. Nahar, Physics Department, Rajshahi University, Bangladesh, July 16, 2011

154. "Xray Spectroscopy: Astronomy to Bio-medical Science", Sultana N. Nahar, Physics Department, Dhaka University, Dhaka, Bangladesh, August 20, 2008

155. "Atomic Processes in Astrophysical Plasmas", Sultana N. Nahar, Department of Physics, Jahangirnagar University, Savar, Bangladesh, August 16, 2008

156. "Physics of Astronomical Objects", Sultana N. Nahar, Department of Physics, Chittagong University, Chittagong, Bangladesh, August 3, 2008

157. "Atomic Processes in Astrophysical Plasmas", Sultana N. Nahar, Department of Physics, University of Dhaka, Bangladesh, July 20, 2005

158. "Theoretical Predictions of Photoionization Cross Sections of Low Ionized Iron", Sultana N. Nahar, LIXAM, University of Paris-Sud, Orsay Cedex, France, July 1, 2005

159. "ATOMIC RADIATIVE PROCESSES", Sultana N. Nahar, Department of Physics, University of Dhaka, Bangladesh, July 31, 2003

160. "Radiative Atomic Processes in Laboratory and Astrophysical Plasmas", Sultana N. Nahar, Department of Physics & Astronomy, University of Nevada, Reno, Nevada, April 24, 2000

161. "Atomic astrophysics : what it does for you !", Sultana N. Nahar, A colloquium, Department of Astronomy, The Ohio State University, December 9, 1999

162. "Transition probabilities from the Iron Project", Sultana N. Nahar, Atomic Physics Seminars, Dept of Physics, Notre Dame University, Notre Dame, Indiana, October 8, 1998

163. "Unified electron-ion recombination of ions", Sultana N. Nahar, Weekly Colloquium at East Carolina University, Grenville, North Carolina, Feb 27, 1998

Ix) Invited/Conference presentations in STEM education and research

(web: https://www.astronomy.ohio-state.edu/nahar.1/stemer-presentations.html)

Sultana N. Nahar

Voice of America (VOA) Bangla, BBC Bangla, Columbus Dispatch, NTV, S-Channel New York, India Timesi, OSU Media, The Lantern, OSC, NILE TV, Wayne State Magazine, etc.

2. PRESENTATIONS: STEM EDUCATION & RESEARCH (ER): 91

- **i) Keynote speeches, Prize winning talk, Honorary talk, and Public lectures: 61**
- **ii) Invited and Conference presentations : 30**

1. **i) KEYNOTE SPEECHES, PRIZE WINNING TALK, HONORARY TALK, and PUBLIC LECTURES in STEM ER: 61**

   Guest of Honor presentation "STEM: A necessity of life", International Women's Day symposium (hybrid) 2024, organized by Indo-US STEM Education and Research Center of OSU-AMU and International Society of Muslim Women in Science, Aligarh Muslim University and virtual platform, India, March 30, 2024

2. keynote: "SCIENCE IS WONDERFUL AND A NECESSITY", S.N Nahar, the 3rd "Physics Camp for Girls", University of Karachi, Pakistan, Nov 18, 2023

3. Keynote: "International Society of Muslim Women in Science", 5th International Conference on Molecular Modeling and Spectroscopy (ICMMS-5), National Research Centre, Cairo, Egypt, Sep 17-19, 2023

4. Guest of Honor presentation "ISMWS RENEWED AT IWD 2023", S.N. Nahar, International Women's Day symposium, organized by the Indo-US APJAK STEM Education and Research Center of AMU-OSU, Aligarh Muslim University, India, March 29, 2023

5. Speech and hand over recognition crest of BPS "Contributions and connection of Dr. Charles Clark with Bangladesh Physical Society", S.N. Nahar, symposium "From Atomic Structure to Bose Condensates: a 40-year NIST journey with Charles Clark", NIST, Gaithersburg, Maryland, December 2, 2022

6. Co-Director speech for OSU "Initiation and progress of the STEM ER Center", S.N. Nahar, Inauguration and foundation of the Stone of the Indo-US and APJ Abdul Kalam STEM Education and Research Center of OSU and AMU on AMU campus, September 26, 2022

7. Special guest of public session on "50 Years of Bangladesh: Research in Science and Technology", hosted by PUST, Bangladesh, December 16, 2021

8. Presenter of the session on "American Physical Society", about APS and its programs, free membership, job scopes. recognition programs etc, for physicists in Bangladesh and developing countries, US Embassy in Bangladesh, October 21, 2021

9. Public: Title (public): "Studying the space by women", Sultana N. Nahar, "Women in Space Science" in celebration of World Space Week 2021, Oct 9, Bangladesh

10. "International Society of Muslim Women in Science", Sultana N. Nahar, 1st International Conference on Applied Physics and Engineering (ICAPE1), NED University of Engineering and Technology, Karachi, Pakistan, Sep 16-17, 2021

11. Organization and hosting the program "Admission Adda with the Ohio State University" for prospective Bangladeshi students and researchers, US Embassy, Bangladesh, August 25, 2021

12. "WELCOME-IMPORTANCE OF PHYSICS", Special Guest in Inauguration session, the First US+Bangladesh conference "International e-Conference on Physics", Dhaka, Bangladesh, Feb 5-6, 2021

13. "Why we should choose STEM fields and higher education", S.N. Nahar, International Webinar on "Women in STEM Education and Career in Bangladesh", organized by Organization of Women in STEM in Developing countries National Chapter in Bangladesh (OWSDNCBD) and University of Barisal, September 27, 2020

14. "International Society of Muslim Women in Science", S.N. Nahar, Diversity Journal Club, Astronomy, OSU, January 15, 2020

15. "Raise the bar of excellence, diversity, and recognition", workshop of "Leadership for Academicians Programme (LEAP) 2019, OSU, Sep 9 - 14, 2019

16. "WHY SHOULD WE CHOOSE STEM FIELDS?", Sultana N. Nahar, "GLOBAL WOMEN'S EMPOWERMENT CONFERENCE", Hale Hall, The Ohio State University, Ohio, March 3, 2019 (Representative speaker for the OSU Advocates for Women of the World (AWOW): Girls' Education)

17. "Science for females", Sultana N. Nahar, Conference on "Women Empowerment in India, concept and Road map", Council for Research & Empowerment of Women (CREW), Aligarh, India, March 25, 2018

18. Title (public): "STEM fields and opportunities on higher education", Aligarh Muslim University, March 14, 2018

19. Title (public): "THE WOMEN STARS", International Women's Day, Indo-US STEM Education and Research Center, March 12, 2018

20. Title (public): "Women in STEM Roadshow" on higher education and profession in STEM fields, University of Kashmir, India. March 1, 2018

21. Title (college students and teachers at workshop 9): "STEM Education and Research for women", Women in STEM Roadshow project of US Department of State, India - Aligarh, India, Feb 22-23, 2018

22. Title (college students and teachers at workshop 8): "STEM Education and Research for women", Women in STEM Roadshow project of US Department of State, India - Kurnool, India, Feb 19-20, 2018

23. Title (college students and teachers at workshop 7): "STEM Education and Research for women", Women in STEM Roadshow project of US Department of State, India - Hyderabad, India, Feb 17-18, 2018

24. Title (college students and teachers at workshop 6): "STEM Education and Research for women", Women in STEM Roadshow project of US Department of State, India - Hyderabad, India, Feb 15-16, 2018

25. Title (college students and teachers at workshop 5): "STEM Education and Research for women", Women in STEM Roadshow project of US Department of State, India - Patna, India, Feb 13-14, 2018

26. Title (college students and teachers at workshop 4): "STEM Education and Research for women", Women in STEM Roadshow project of US Department of State, India - Kolkata, India, Feb 11-12, 2018

27. Title (college students and teachers at workshop 3): "STEM Education and Research for women", Women in STEM Roadshow project of US Department of State, India - Kolkata, India, Feb 9-10, 2018

28. Title (college students and teachers at workshop 2): "STEM Education and Research for women", Women in STEM Roadshow project of US Department of State, India - Delhi, India, Feb 7-8, 2018

29. Title (college students and teachers at workshop 1): "STEM Education and Research for women", Women in STEM Roadshow project of US Department of State, India - Delhi, India, Feb 5-6, 2018

30. Title (a main talk): "Outcome of the STEM Education and Research Program", S.N. Nahar, concluding OSU-AMU Symposium, Aligarh Muslim University, India, April 1, 2017

31. Title (Guest of Honor talk): "WOMAN STARS OF KNOWLEDGE", International Women's Day, Aligarh Muslim University, India, March 11, 2017

32. Title (public): "Courageous women of Kashmir", Government Degree College for Women on Maulana Azad Road, Srinagar, Kashmir, India March 24, 2016

33. Title (inauguration): Introduction, convey the message of Nobel Prize winner Ahmed Zewail and accepting the honorary plaque on his behalf, International Conference of Aligarh Nano V and STEM Education and Research, and Inauguration session, Aligarh Muslim University, India, March 12-15, 2016

34. Panel member discussing on funding strategies for STEM ER project, Intl Conf on Aligarh Nano V and STEM Education and Research, Aligarh Muslim University, India, March 12-15, 2016

35. Chief Guest, Speech on "Science and research", and "Importance and inspiration", National Science Day celebration, Physics Department, Aligarh Muslim University, India, March 11, 2016 (covered in Indian newspapers)

36. Speech as Honored Guest, Annual function of Begum Sultan Jahan Hall for female students, Aligarh Muslim University, March 9-10, 2016 (Introduction by Hall Provost Professor Subuhi Khan of Mathematics, - greet with bouquet, - with Judges of cultural performances, - program dinner)

37. Title (Guest of Honor lecture): "Luminous Women of Knowledge", Celebration of International Women's Day 2016, Aligarh Muslim University, March 10, 2016 (covered in Indian newspapers)

38. Guest of Honor speech, International Mother Language Day (IMLD), Aligarh Muslim University, India, Feb 29, 2016

39. Title (Distinguished guest): "Training STEM Faculty at Higher Education Institutions in Odisha - Leveraging Obama-Singh Grant", (part 2), S.N. Nahar, The proceedings of Invest Odisha Symposium, 45th convention of Odisha Society of Americas, Columbus, July 3, 2014

40. Title (public) "International Society of Muslim Women in Science", S.N. Nahar, Princess Norah University, Riyadh, Saudi Arabia, April 13, 2014

41. Title (public): "THE STEM-FACULTY PROJECT: Training the Next Generation of STEM Faculty at Higher Educational Institutions in India - Internationalization", S.N. Nahar, King Saud University, Riyadh, Saudi Arabia, April 10, 2014

42. Title (public): "International Society of Muslim Women in Science", S.N. Nahar, King Saud University, Riyadh, Saudi Arabia, April 9, 2014

43. Title: "International Society of Muslim Women in Science", S.N. Nahar, Dammam University, Dammam, Saudi Arabia, April 7, 2014

44. Title (public): "THE STEM-FACULTY PROJECT: Training the Next Generation of STEM Faculty at Higher Educational Institutions in India - Internationalization", S.N. Nahar, Dammam University, Dammam, Saudi Arabia, April 7, 2014

45. 17. Title (public): "International Society of Muslim Women in Science", S.N. Nahar, Taibah University, Madina, Saudi Arabia, April 2, 2014

46. Title (Keynote): "THE STEM-FACULTY PROJECT under Obama-Singh Treaty", Taibah University, Madina, Saudi Arabia, April 1, 2014 (Introductory poem in Arabic)

47. Title: "International Society of Muslim Women in Science", S.N. Nahar, Girls College,University of Kashmir, Srinagar, India, March 13, 2014

48. Title (Guest of Honor): "Value of teaching and role of teachers". Ceremony of Nahar's Teachers Prizes and Certificates of Radiation Physics Course, Aligarh Muslim University, India, March 11, 2014

49. Title (Guest of Honor): "Role of Muslim women in science", Celebration of International Women's Day and session on International Society of Muslim Women in Science, Aligarh Muslim University, India, March 11, 2014

50. Title (Inaugural Session): "Message from Nobel Laureate Prof. Ahmad Zuwail", S.N. Nahar, Aligarh Nano-IV International 2014 conference, Aligarh, India, March 8-10, 2014

51. Title (Chief Guest): "Place of Bangla in Aligarh", International Language Day celebration, Aligarh Muslim University, India, Feb 22, 2014

52. Guest of honor presentation (public): "OBAMA-SINGH AWARD, STEM EDUCATION & RESEARCH", Sultana N. Nahar, Obama-Singh accord and beyond, Meeting of representatives of educational institutions, such as, Jamia Millia Islamia University, Sharda University, Guru Nanak Dev University, Vidya College Of Engineering and Technology, Gautam Budha University etc, and member of Indian University Grant Commission. India Habitat Centre, New Delhi, organized by AMU-DUTY Society and Indian Society of Industrial and Applied Mathematics (ISIAM), Sep 20, 2013

53. Title (keynote): "Women Stars in Science", Sultana N. Nahar, Abdullah Women's College, Aligarh Muslim University, India, September 17, 2013

54. Title (Chief Guest lecture): "Recognition of Excellence in Physics" Sultana N. Nahar, Physics awards ceremony, AMU, India, September 17, 2013

55. Title (1 of 2 Guests of Honor): "Challenges and Opportunities for AMU", S. N. Nahar, USIEF Obama-Singh 21st Century Knowledge Initiative Award project STEM-ER meeting for all STEM Departments, Aligarh Muslim University, Aligarh, India, September 16, 2013

56. Title (Prize Winning talk): "John Wheatley Award Talk: Promoting Under-Represented Physicists in Asian and Arab Countries and Muslim Women in Science", Sultana N. Nahar, Abstract: R6.00001, Invited Session R6, APS April Meeting 2013, Bull. Am. Phys. Soc. 58, No. 4., April 13-16, 2013; Denver, Colorado, 2013

57. Title (Lead Speaker): "Women Stars in Physics", Sultana N. Nahar, Special focus session of Women Physicists, Physics and Astronomy Department, Wayne State University, Detroit, Michigan, April 4, 2012

58. Title (public lecture): "International Society of Muslim Women in Science (ISMWS)", S.N. Nahar, Women Residential College, United Arab Emirates University, December 8, 2011 (Certificate)

59. Title: "Beyond our earth and astronomy" to adult and children immigrants ("An evening with a Scientist", Immigrant Voice of United Way, Vol. 4, p.3, December 2010, Ohio

60. Title (Guest of Honor): "Perspectives of a woman scientist on problems and inspiring women to science", Sultana N. Nahar), International Women's Day observation, organized by the Progressive Forum in New York, New York, March 18, 2006

61. Guest of Honor, "Dream of science", Maniza Rahman Girls High School Reunion, Bangladesh, August 5th, 2005. News published in daily newspapers

INVITED and CONFERENCE PRESENTATIONS in STEM ER: 30

62. Title: "OSC PARTNERSHIP IN GLOBAL RESEARCH TRAINING BASED COURSE ON ATOMIC ASTROPHYSICS WITH COMPUTATIONAL WORKSHOPS", Sultana N Nahar, Research Symposium 2024, Ohio Supercomputer Center, Ohio, April 9, 2024

63. Title: "Graduate admissions and importance of research", Sultana N. Nahar, International Conference on Physics, Bangladesh Physical Society, Dhaka, Bangladesh, May 91-21, 2022

64. "Need of STEM and International Society of Muslim Women in Science", International Women's Day Celebration, Indo-US STEM Education and Research Center of OSU and AMU and International Society of Muslim Women in Science, Aligarh Muslim University, India, March 26, 2022 (virtual)

65. "American Physical Society", Sultana N. Nahar, the 7th International Conference on Nanotechnology for Better Living (NBL7), National Institute of Technology Srinagar, Kashmir, India, September 7-11, 2021

66. "International Society of Muslim Women in Science", S.N. Nahar, "ISMWS Session with Dr. Malika Haque" by International Society of Muslim Women in Science at Ohio State, April 6, 2021

67. "International Society of Muslim Women in Science"¡/a¿, S.N. Nahar, International Women's Day Celebration jointly by the Indo-US APJak STEM Education and Research Center of OSU-AMU and International Society of Muslim Women in Science, March 20, 2021 (virtual zoom platform supported by OSU)

68. Abstract: U71.00252: "International Society of Muslim Women in Science*", S.N. Nahar, APS March Meeting 2021, March 15-19, 2021 Virtual; Time Zone: Central Daylight Time, USA

69. "ADMISSION TO A US UNIVERSITY", the first US+Bangladesh conference "International e-Conference on Physics", Dhaka, Bangladesh, Feb 5-7, 2021

70. "Importance of learning science in mother tongue", Panel discussion observing the month of Mother Tongue and Books, Pabna University of Science and Technology, Bangladesh, Feb 2, 2021

71. "International Society of Muslim Women in Science", Sultana N. Nahar, Meet and Discuss Event, International Society of Muslim Women in Science at Ohio State, OSU, Oct 16, 2020

72. ""STEM Education and Research program: COLLABORATION INTEREST", S.N. Nahar, Symposium of "International collaboration and prospect in STEM Education and Research", Indo-US APJAK STEM Education and Research Center, Aligarh Muslim University, India, March 5, 2020

73. "Programs at Indo-US AMU-OSU STEM Education and Research Center", S.N. Nahar, 18th Annual Convention of the Federation of Aligarh Alumni Association (FAAA), Theme: "Sir Syed's Vision and 21st Century." Atlanta, USA, July 26-28, 2019

74. "Why do we study science?", FEEP - (First Early Education Program) of OSU at Avalon Elementary School, Columbus, April 1, 2019

75. "THE MOA WITH CAIRO UNIVERSITY IS ATTRACTING ARAB AND AFRICAN COUNTRIES TO OSU", (Poster 9), "2019 Community Engagement conference: Partnering for a Resilient and Sustainable Future", OSU, Jan 23 - 24, 2019

76. Title: "Egypt and Science", International House Learning Community Program, OSU, October 25, 2018

77. Title (public): "Women in STEM Roadshow" on higher education and profession in STEM fields, University of Kashmir, India. March 1, 2018

78. Title: "Indo-US (formerly Obama-Singh) STEM Education and Research Faculty Training Project", Poster 73, 5th Annual Engagement Forum of the Ohio State University: Ohio Union, May 3, 2017

79. "Work and Impact Under the MOA Between OSU and Cairo University", Poster 74, 5th Annual Engagement Forum of the Ohio State University: Ohio Union, May 3, 2017

80. "Ohio State University and Egypt Connection through Cairo University", 4th Annual Engagement Forum of the Ohio State University: Ohio Union, OSU, May 3, 2016

81. "Obama-Singh Knowledge Initiative Project: STEM Faculty Training in India", 4th Annual Engagement Forum of the Ohio State University: Ohio Union, OSU, May 3, 2016

82. "OBAMA-SINGH 21st CENTURY KNOWLEDGE INITIATIVE AWARD (USIEF, 2013-2016): "THE STEM-FACULTY PROJECT: Training the Next Generation of STEM Faculty at Higher Educational Institutions in India"", S.N. Nahar, Global Gateway presentations, OSU, September 30, 2015

83. "Preparing STEM faculty for Indian Universities: OSU and AMU collaboration Year 2", Irving, K. E., Pradhan, A., & Nahar, S., the Mid-Atlantic Regional Meeting of the Association for Science Teacher Education, Salt Fork, Ohio, October 2015

84. "MED-STEM project", Indian Gateway meeting with Indian Consul General M. Mulay in New York, May 15, 2015

85. "Obama-Singh Knowledge Initiative Project: STEM Faculty Training in India", 3rd Outreach and Engagement Forum at OSU: May 6, 2015

86. "OSU impact on STEM Education and Research in Bangladesh", poster 103, 3rd Outreach and Engagement Forum at OSU, May 6, 2015

87. "OSU Network with Saudi Arabia in 2015", poster 104, 3rd Outreach and Engagement Forum at OSU, May 6, 2015

88. "Preparing STEM Faculty for Indian Universities: USA & India Collaboration Year 1", Karen E. Irving (presenter), A. Pradhan, S. Nahar, ASTE 2014 International conference Portland, Oregon, September, 2014

89. "Obama-Singh 21st Century Knowledge Initiative Award Project: STEM Education and Research Faculty Training in India", 2nd Outreach and Engagement Forum at OSU: May 1, 2014

90. "Globalization of OSU: Connection to Egypt and Other Middle East and African Countries", 1st Outreach and Engagement Forum at OSU, May 3, 2013

91. Speech on importance of education, particularly on STEM subjects, many times at schools and universities in Bangladesh (since 2003)

x) Contributory presentations in scientific conferences

Sultana N Nahar

v. RECENT SCIENTIFIC CONTRIBUTORY PRESENTATIONS IN CONFERENCES:

1. "Solar Iron Opacity and boradening of autoionizing resonances", G.D. Chari, S.N. Nahar, A. K. Pradhan, 56th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, June 16-20, 2025, Portland, OR

2. "The Iron Project: R-Matrix calculations for atomic data and spectral features of Fe-peak elements Ti I and Cr I", S.N. Nahar, 56th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, June 16-20, 2025, Portland, OR

3. "Spectral features of photoionization of P I", S.N. Nahar, 56th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, June 16-20, 2025, Portland, OR

4. "Spectral features of lanthanides for kilonovae emission using large scale atomic data", S.N Nahar, 2025 OSC Research Syposium, Ohio Supercomputer Center, Columbus, Ohio, April 8, 2025

5. "Two decades of stellar interior opacity research at Z", J.E. Bailey, G.P. Loisel1, T. Nagayama1, G.A. Rochau1, P.W. Lake1, G.S. Dunham1, S.B. Hansen1, D.C. Mayes, C. Blancard, Ph. Cosse, G. Faussurier, F. Gilleron, J.-C. Pain, J. Colgan, C.J. Fontes, D.P. Kilcrease, M. Sherrill, and J. Abdallah Jr., C.A. Iglesias, B.G. Wilson, R.C. Mancini, R. More, C. Orban, A.K. Pradhan, S.N. Nahar, I. Golovkin, M.F. Gu, W. Ping, J.J. MacFarlane, 20th International Workshop on Radiative Properties of Hot Dense Matter, Sorbonne Universite, Pierre et Marie Curie Campus, France, Nov 18-22, 2024

6. Abstract S 389-3,4 IAUS 389 Gravitational Wave Astrophysics: "Spectral features of ions: Ho I-III, Er I-IV, Tm I - V, Yb I - VI, Lu I-VII", Sultana N. Nahar, XXXII IAU General Assembly, Cape Town, South Africa, Aug 6 - 15, 2024

7. IAU GA Abstract-1565 E-1 E-1: Sun and Heliosphere: "Features of photoionization of Fe XVII, XVIII, Fe XIX impacting solar opacity", Sultana N. Nahar, Division E Sun and Heliosphere, XXXII IAU General Assembly, Cape Town, South Africa, Aug 6 - 15, 2024

8. IAU GA Abstract C-2: Education, Outreach and Heritage: "GLOBAL ONLINE TEACHING AND RESEARCH TRAINING IN ATOMIC ASTROPHYSICS", Sultana N. Nahar, XXXII IAU General Assembly, Cape Town, South Africa, Aug 6 - 15, 2024

9. Abstract: C11.00005 : "The Opacity Project: R-Matrix Calculations for Plasma Opacities", Anil K Pradhan, Sultana N. Nahar, 55th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics Monday-Friday, June 3-7, 2024; Fort Worth, Texas

10. Abstract: C11.00002 : "The Iron Project: R-Matrix calculations for opacities II.: Photoionization and oscillator strengths of iron ions Fe XVII, Fe XVIII, and Fe XIX*", Sultana N Nahar, Lianshui Zhao, Werner Eissner, Anil K. Pradhan, 55th Annual Meeting of

the APS Division of Atomic, Molecular and Optical Physics Monday-Friday, June 3-7, 2024; Fort Worth, Texas

11. Abstract: 4A.00006 : "R-Matrix calculations for opacities: IV.: Convergence, completeness, and comparison of relativistic R-matrix and distorted wave calculations for Fe xvii and Fe xviii*", Sultana N Nahar, Lianshui Zhao, Anil K. Pradhan, 55th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics Monday-Friday, June 3-7, 2024; Fort Worth, Texas

12. Abstract: 4A.00004 : "Enhancement of database NORAD-Atomic-Data for atomic processes in plasma*", Guillermo Hinojosa and Sultana N Nahar, 55th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics Monday-Friday, June 3-7, 2024; Fort Worth, Texas

13. Abstract: F02.00007 : "The Iron Project & The Opacity Project: i) Radiative data for the solar iron opacity, ii) Cl II-III spectra*" S.N. Nahar, W. Eissner, L. Zhao, A. Pradhan, 54th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, Jun 5 - 9, 2023; Spokane, Washington, USA (DOI:)

14. Abstract: C11.00009 : "Biosignature Line Ratios of [P II] in Exoplanetary and Nebular Environments" Kevin Hoy, S.N. Nahar, A. Pradhan, 54th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, Jun 5 - 9, 2023; Spokane, Washington, USA (DOI:)

15. Abstract: C11.00006 : "Atomic and Molecular Spectral Models of Biosignatures in Exoplanetary Atmospheres", Michael Rothman, A. Pradhan, D. Begeny, S.N. Nahar, K. Hoy, 54th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, Jun 5 - 9, 2023; Spokane, Washington, USA (DOI:)

16. Abstract: C11.00002 : " R-Matrix calculations of astrophysical opacities (RMOP)", Anil Pradhan S.N. Nahar, 54th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, Jun 5 - 9, 2023; Spokane, Washington, USA (DOI:)

17. Abstract: C11.00001 : "CHARACTERISTIC FEATURES IN PHOTOIONIZATION OF Cl III*", S.N. Nahar, 54th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, Jun 5 - 9, 2023; Spokane, Washington, USA (DOI:)

18. Abstract: M04.00005 :"Study of level-specific photoionization and electron-ion recombination of Ca XVIII - Ca XX using unified method"*, S.N. Nahar, 53rd Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, May 30-June 3 2022; Orlando, Florida, USA (DOI: https://doi.org/10.26226/m.6275705b66d5dcf63a311503)

19. Abstract: X10.00007 :"Collision Strengths and Line Ratios for PII as a Biosignature in Exoplanets"*, K M Hoy, S N Nahar, A K Pradhan, 53rd Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, May 30-June 3 2022; Orlando, Florida, USA

20. Abstract: V01.00143 :"The Iron Project & The Opacity Project: Iron ions at the solar radiative-convection boundary - Fe XVII, Fe XVIII, Fe XIX"*, S N Nahar, W Eissner, L Zhao, A K Pradhan, 53rd Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, May 30-June 3 2022; Orlando, Florida, USA (DOI: https://doi.org/10.26226/m.6275705f66d5dcf63a311770)

21. Abstract: M04.00007 :"Single Photoionization of Cl2+ induced by synchrotron radiation".* G. Hinojosa. S N Nahar, D A Kilcoyne, E M Hernandez, A M Juarez, L Hernandez, A. Antillon, A Morales-Mori. O Gonzalez, A M Covington, V Davis, D. Hanstorp, D Calabrase, 53rd Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, May 30-June 3 2022; Orlando, Florida, USA

22. Abstract: K11.00003: "The Opacity Project: R-Matrix Calculations of Opacities (RMOP)",* A K Pradhan, S.N Nahar, L Zhao, W Eissner, 53rd Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, May 30-June 3 2022; Orlando, Florida, USA

23. Abstract: Z08.00008 : "Using Atomic and Molecular Data to Model Biosignature Abundances in Exoplanetary Atmospheres", Michael Rothman, Anil Pradhan, Sultana Nahar, 53rd Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, May 30-June 3 2022; Orlando, Florida, USA

24. Abstract: J01.00005 : Modelling PII Emission to Aid in the Search for Life*, Kevin Hoy, S. Nahar, A. Pradhan, APS Fall 2021 Meeting of the Eastern Great Lakes Section (EGLS), November 12-13, 2021

25. Abstract: J03.00008 : "Application of Monte Carlo Method to Simulate Radiation Transfer through Exoplanetary Atmospheres", Michael Rothman, A. Pradhan, S. Nahar, B. Shafique, K. Hoy, APS Fall 2021 Meeting of the Eastern Great Lakes Section (EGLS), November 12-13, 2021

26. Abstract: C01.00010 : "Recent determination of solar oxygen abundance and atomic data", S.N. Nahar, APS Fall 2021 Meeting of the Eastern Great Lakes Section (EGLS), November 12-13, 2021

27. Abstract: V01.00012 : "The Iron Project & The Opacity Project: 1.Photoionization of Fe XVII-XVIII for solar plasma opacities", Sultana N Nahar, Werner Eissner, Anil K Pradhan, the 52nd Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics (DAMOP), May 31-June 4 2021; Virtual; Central Time Zone, USA

28. Abstract: N01.00010 : "Collision strengths and rate coefficients of electron-impact excitation and photo-excitation of Ca IV", Sultana N Nahar, Bilal Shafique, the 52nd Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics (DAMOP), May 31-June 4 2021; Virtual; Central Time Zone, USA

29. Abstract: E03.00007 : "Interpreting the spectrum of lanthanides following the gravitational waves", Sultana N Nahar, the 52nd Annual Meeting of the APS Division of Atomic,

Molecular and Optical Physics (DAMOP), May 31-June 4 2021; Virtual; Central Time Zone, USA

30. Abstract: E03.00006 : "The Opacity Project: R-Matrix Calculations for Astrophysical Plasma Opacities", Anil K Pradhan, Sultana N Nahar, Werner Eissner, Lianshui Zhao, the 52nd Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics (DAMOP), May 31-June 4 2021; Virtual; Central Time Zone, USA

31. Abstract: J21.00009 : "Photoionization of Ca XVII-XIX*", S.N. Nahar, APS March Meeting 2021, March 15-19, 2021 Virtual; Time Zone: Central Daylight Time, USA

32. Abstract: U71.00259: "International Society of Muslim Women in Science*, S.N. Nahar, APS March Meeting 2021, March 15-19, 2021 Virtual; Time Zone: Central Daylight Time, USA

33. Abstract: F03.00001: "Xray to far infrared spectrum of phosphorus for astrophysical modeling", S. Nahar, B. Shafique, M. Rothman, R. Naghma, APS Ohio Section Fall 2020 Meeting, October 16-17, 2020; VIRTUAL from Ohio

34. Abstract: K01.00024 : R-Matrix Calculations of Plasma Opacities*, A. Pradhan, S. Nahar, L. Zhao, W. Eissner, R. Trampedach, C. Mendoza, 51th Meeting of the Division of Atomic, Molecular, and Optical Physics (DAMOP) of APS, June 1-5, 2020, Portland, Oregon

35. Abstract: Q01.00004 : The Iron Project & The Opacity Project: 1. Photoionization of Fe ions for Opacities, 2. P II transitions*, W. Eissner, L. Zhao, S. Nahar, A. Pradhan, Bull. 51th Meeting of the Division of Atomic, Molecular, and Optical Physics (DAMOP) of APS, Vol 65, No. 4, June 1-5, 2020, Portland, Oregon,

36. Abstract: T05.00003 : Electron-ion Recombination and Photoionization of Ca XV,S.N. Nahar, 51th Meeting of the Division of Atomic, Molecular, and Optical Physics (DAMOP) of APS, June 1-5, 2020, Portland, Oregon

37. Abstract: E01.00003 : "Characteristic Features of Photoionization of Fe XIX", S. Nahar, 50th Meeting of the Division of Atomic, Molecular, and Optical Physics of APS, May 27-31, 2019; Milwaukee, Wisconsin

38. Abstract: E01.00007 : "Monte Carlo study of alternative X-ray sources and K-alpha resonance fluorescence for enhancing radiation therapy", M. Westphal, S. Nahar, A. Pradhan, 50th Meeting of the Division of Atomic, Molecular, and Optical Physics of APS, May 27-31, 2019; Milwaukee, Wisconsin

39. Abstract: E01.00018 : "The Iron Project & The Opacity Project: 1. Photoionization of Fe ions for Opacities, 2. P II in exoplanetary environments*", W. Eissner, L. Zhao, S. Nahar, A. Pradhan, 50th Meeting of the Division of Atomic, Molecular, and Optical Physics of APS, May 27-31, 2019; Milwaukee, Wisconsin

40. Poster: "Large scale computations for plasma opacities", L. Zhao, S.N. Nahar, A.K. Pradhan, SUG Meeting of Ohio Supercomputer Center, Columbus, October 4, 2018

41. "Abstract C07.00002 : "Photoionization Of Ne III For Astrophysical Applications*", Sultana Nahar, 49th Meeting of the Division of Atomic, Molecular, and Optical Physics of APS, May 28 - June 1, 2018

42. Abstract S07.00006 : "Improved Collision Strength and Line Emissivity Ratios of Astrophysical Importance for Cl III*", R. Naghma, S. Nahar, A. Pradhan, 49th Meeting of the Division of Atomic, Molecular, and Optical Physics of APS, May 28 - June 1, 2018

43. Abstract M01.00008 : "Monte Carlo and numerical study of pumping Kα resonance fluorescence in high-Z nano-vehicles for enhancing radiation therapy", M. Weshphal, S. Nahar, A., Pradhan, 49th Meeting of the Division of Atomic, Molecular, and Optical Physics of APS, May 28 - June 1, 2018

44. Abstract C07.00003 : "R-Matrix calculations for Improved Atomic Data for Astrophysical Opacities and Plasma Effects", A. Pradhan, S. Nahar, 49th Meeting of the Division of Atomic, Molecular, and Optical Physics of APS, May 28 - June 1, 2018

45. Abstract T01.00014 : "THE IRON PROJECT & Opacity Project: Photoionization of iron ions for Opacities and collisional excitation of P III*", E. Werner, L. Zhao, R. Naghma, S. Nahar, A. Pradhan, 49th Meeting of the Division of Atomic, Molecular, and Optical Physics of APS, May 28 - June 1, 2018

46. Abstract 31: "Converged close-coupling R-Matrix calculations for photoionization of iron ions in astrophysical plasmas", L. Zhao, S.N. Nahar, W. Eissner, A.K. Pradhan, international Workshop on Astrophysical Opacities, Western Michigan University, Kalamazoo, Michigan, Aug 1-4, 2017

47. Abstract 26: "Systematic measurements of opacity dependence on temper- ature, density, and atomic number at stellar interior conditions", NAGAYAMA, Taisuke et al (24 authors including S.N. Nahar), international Workshop on Astrophysical Opacities, Western Michigan University, Kalamazoo, Michigan, Aug 1-4, 2017

48. Abstract: K1.00187 : "Predicted broad resonant absorption feature in the continuum spectrum of Ho II", W. Eissner, S. Nahar,Bull.APS. 62, No 8, p.143, 48th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, June 5-9, 2017; Sacramento, California

49. Abstract: K1.00176 : "Analysis of monochromatic and quasi-monochromatic X-ray sources in imaging and therapy", M. Westphal, S. Lim, S. Nahar, C. Orban, A. Pradhan, Bull.APS. 62, No 8, p.142, 48th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, June 5-9, 2017; Sacramento, California

50. Abstract: J4.00008 : "New Calculations for Plasma Opacities: Atomic Processes, Equation-of-State, and Astrophysical Models", A. Pradhan, S. Nahar, L. Zhao, C. Orban, W. Eissner, R. Trampedach, Bull.APS. 62, No 8, p.104, 48th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, June 5-9, 2017; Sacramento, California

51. Abstract: J4.00007 : "Photoionization and Recombination of Astrophysically Important ION Cl II", S. Nahar. Bull.APS. 62, No 8, p.103, 48th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, June 5-9, 2017; Sacramento, California

52. Abstract: D1.00144 : "The Iron Project & Opacity Project: Photoionization, radiative transitions of iron ions for Opacities and Astrophysical Applications", L. Zhao, S. Nahar. A. Pradhan, W. Eissner, Bull.APS. 62, No 8, p.70, 48th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, June 5-9, 2017; Sacramento, California

53. Flash Talks 5: "The Solar Opacity: Large Enhancements in Photoionization and Bound-Free Opacity", S.N. Nahar, SUG Meeting of Ohio Supercomputer Center, Columbus, October 6, 2016

54. Poster 8: "Electron-ion Recombination and Photoionization of P II", S.N. Nahar, SUG Meeting of Ohio Supercomputer Center, Columbus, October 6, 2016

55. Abstract: N8.00003: "Electron-ion Recombination and Photoionization of P II", S. Nahar, 47th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics Monday-Friday, May 23-27, 2016; Providence, Rhode Island

56. Abstract: D1.00016 : "Electron Impact Collision Strength in Si IX", H. Noman, Y. Gokce, S. Nahar, A. Pradhan, 47th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics Monday-Friday, May 23-27, 2016; Providence, Rhode Island

57. Abstract: D1.00005: "Monochromatic X-ray propagation in multi-Z media for imaging and diagnostics including Kα Resonance Fluorescence, M. Westphal, S. Lim, S. nahar, A. Pradhan, 47th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics Monday-Friday, May 23-27, 2016; Providence, Rhode Island

58. Abstract: D1.00046 : "The Iron Project & Iron Opacity Project: Updates on Photoionization, Electron-Ion Recombination of Fe XVII and Ca XV", W. Eissner, S. Nahar, A. Pradhan, H. Hala, L. Zhao, L. Bailey,47th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics Monday-Friday, May 23-27, 2016; Providence, Rhode Island

59. Abstract: B9.00004 :"The solar elemental abundances problem: Large enhancements in photoionization and bound-free opacity", A. Pradhan, S. Nahar, 47th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics Monday-Friday, May 23-27, 2016; Providence, Rhode Island

60. "Iron abundance in the Sun", S.N. Nahar, Flash Talks, Session 1, SUG Meeting of Ohio Supercomputer Center, Columbus, December 3, 2015

61. "RNPT: Monochromatic X-rays for cancer treatment", S.N. Nahar, Poster 2, SUG Meeting of Ohio Supercomputer Center, Columbus, December 3, 2015

62. "Radiative properties measurements for stellar interiors and accretion powered objects", Loisel et al (...Nahar,Orban,Pradhan,..), The 5th International Conference on High Energy Density Physics, August 23-27, 2015, San Diego, California

63. Abstract: T5.00009: "Electron-ion Recombination and Photoionization of Ti I", S.N. Nahar, 46th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics (DAMOP), Vol 60, No 7, June 8-12, 2015; Columbus, Ohio

64. Abstract: Q1.00143 : "Spectral data for F-like ions: Ca, Ti, Cr, Ni", G. Celik, S. Ates, S. Nahar, 46th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics (DAMOP), Vol 60, No 7, June 8-12, 2015; Columbus, Ohio

65. Abstract: D1.00128 : "Extended Opacity Tables with Higher Temperature-Density-Frequency Resolution", Mark Schillaci, C. Orban, F. Delahaye, M. Pinsonneault, S. Nahar, A. Pradhan, 46th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics (DAMOP), Vol 60, No 7, June 8-12, 2015; Columbus, Ohio

66. Abstract: T5.00008 : "Photoionization Cross Sections of P II: Theory & Measurement", G. Hinojosa, E. Hernandez, A. Antillon, A. Morales-Mori, A. Juarez, A. Aguilar, A. Covington, D. Hanstorp, K. Chatkunch, O. Gonzalez, D. Macaluso, S. Nahar, 46th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics (DAMOP), Vol 60, No 7, June 8-12, 2015; Columbus, Ohio

67. Abstract: C5.00003 : "Uncertainties in X-ray Opacities: Investigating Problems in Precision Modeling of Laboratory and Astrophysical Plasmas", C. Orban, M. Schillaci, F. Delahaye, S. Nahar, M. Pinsonneault, P. Keiter, K. Mussack, A. Pradhan, 46th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics (DAMPS), Vol 60, No 7, June 8-12, 2015; Columbus, Ohio

68. Abstract: Q1.00131 : "THE IRON PROJECT & Iron Opacity Project: Evidence of increased opacity for solar plasmas", W. Eissner, Hala, S. Nahar, A. Pradhan, J. Bailey, 46th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics (DAMOP), Vol 60, No 7, June 8-12, 2015; Columbus, Ohio

69. Abstract: K1.00138 : "Enhancement of X-ray Energy Deposition via Heavy Element Sensitization in Biological Environments", S. Lim, A. Pradhan, S. Nahar, R. Barth, 46th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics (DAMOP), Vol 60, No 7, June 8-12, 2015; Columbus, Ohio

70. Abstract: H5.00003 : "Accelerating K-Alpha Resonance Fluorescence Via Monochromatic X-Ray Beams And Comparison With LCLS-XFEL", A. Pradhan, S. Nahar, S. Lim, 46th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics (DAMOP), Vol 60, No 7, June 8-12, 2015; Columbus, Ohio

71. Abstract: D1.00158: "New Measurement of Singly Ionized Selenium Spectra by High Resolution Fourier Transform and Grating Spectroscopy", Noman Hala, G. Nave, A. Kramida, T. Ahmad, S. Nahar, A. Pradhan, 46th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics (DAMOP), Vol 60, No 7, June 8-12, 2015; Columbus, Ohio

72. Abstract: K1.00133 : Photoionization of ClII¡/a¿, S Nahar, E. Hernández, A. Antillón, A. Morales, O. González, D. Macaluso, D. Hanstorp, A. Aguilar, A. Juárez, G. Hinojosa, Bull.

APS 45th Annual Meeting of the APS DAMON Vol 59, No 8, June 2-6, 2014; Madison, Wisconsin

73. Abstract: K1.00132 : Photoionization of PII, S Nahar, E. Hernández, L. Hernández, A. Antillón, A. Morales, O. González D. Macaluso, D. Hanstorp, A. Convington, K. Chartkunchand, A. Aguilar A. Juárez, G. Hinojosa , Bull. APS 45th Annual Meeting of the APS DAMOP Vol 59, No 8, June 2-6, 2014; Madison, Wisconsin

74. Abstract: N8.00008 : Broadband-To-Monochromatic X-ray conversion of Zr Kα, β Lines and High-Energy-Density (HED) Plasma Diagnostics, Anil Pradhan, S. Lim, S. Nahar, C. Orban, Bull. APS 45th Annual Meeting of the APS DAMOP Vol 59, No 8, June 2-6, 2014; Madison, Wisconsin

75. Abstract: N8.00003 : Photoionization of Ground and Excited States of Ti, S. Nahar, Bull. APS 45th Annual Meeting of the APS DAMOP Vol 59, No 8, June 2-6, 2014; Madison, Wisconsin

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