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Educational Qualification:

Degree	Institution	Year of Pass
PhD in Nuclear Physics	CUET, Bangladesh. NST Fellow	2014
MPhil in Nuclear Physics	CUET, Bangladesh	2008
M.Sc. in Physics (Thesis Group)	NU, Bangladesh	1999
B.Sc. Hons. in Physics	NU, Bangladesh	1996
H.S.C (Science)	Govt. Haji Mohammad Mohsin College, Chittagong, Bangladesh	1991
S.S.C (Science)	Chittagong Govt. High School, Chittagong, Bangladesh	1989

Publications:

https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=bijoy+sonker+barua&oq=bijoy+sonker+

☆ Online publication: E-Book (Physics) at Learning Resource Center (<https://lrc-bd.com/>).

1. **B. S. Barua**, S. D. Gupta, M. Devi, M. A. Hossen. Vehicular Emission Inventory Analysis of A Certain Part of Chattogram City, Bangladesh. *Proc. Int. Conf. on Research and Innovation in Civil Engineering, SUB, 139-147 (2022)*.
2. **B. S. Barua**, M. Asaduzzaman, M. J. Hasan, M. S. Mia. Investigation of heavy metals in waste liquids discharged by the factories at kalurghat industrial area, Chittagong, Bangladesh. *Proc. Int. Conf. on Research and Innovation in Civil Engineering, SUB, 189-*

196 (2020).

3. S. Yasmin, M. U. Khandaker, **B. S. Barua**, M. N. Mustafa, F-U-Z Chowdhury, M. A. Rashid, D. A. Bradley. Ionizing radiation shielding effectiveness of decorative building materials (porcelain and ceramic tiles) used in Bangladeshi dwellings. *Indoor and Built Environment (Sage: Impact factor: 1.9)*, 28(6) 825–836(2019).
4. S. Yasmin, Z. S. Rozaila, M. U. Khandaker, **B. S. Barua**, F-U-Z Chowdhury, M. A. Rashid, D. A. Bradley. The radiation shielding offered by the commercial glass installed in Bangladeshi dwellings. *Radiation Effects and Defects in Solids (Taylor & Francis: Impact factor: 1.012)*, 173 (7-8), 657-672 (2018).
5. S. Yasmin, **B. S. Barua**, M. U. Khandaker, F-U-Z Chowdhury, M. A. Rashid, D. A. Bradley, M. A. Olatunji, M. Kamal. Studies of ionizing radiation shielding effectiveness of silica-based commercial glasses used in Bangladeshi dwellings. *Results in Physics (Elsevier: Impact factor: 4.019)*, 9, 541-549 (2018).
6. M. A. Ashraf, **B. S. Barua**. Assessing the effectiveness of question papers set by the department of Civil Engineering of a university in Chittagong following the principles of Bloom's Taxonomy. *Proc. Int. Conf. on Quality Assurance in Higher Education, IQAC, DUET*, 79-96 (2018).
7. S. Yasmin, **B. S. Barua**, M. U. Khandaker, M. Kamal, M. A. Rashid, S. F. A. Sani, H. Ahmed, B. Nikouravan, D. A. Bradley. The presence of radioactive materials in soil, sand and sediment samples of Potenga sea beach area, Chittagong, Bangladesh: Geological characteristics and environmental implication. *Results in Physics (Elsevier: Impact factor: 4.019)*, 8, 1268-1274(2018).
8. S. Yasmin, M. A. Rashid, F. U. Z. Chowdhury, B. S. Barua, M. U. Khandaker, Z. S. L. Rozaila, Susanta (Ed.). Study on thermoluminescence properties of commercial glasses used in Bangladeshi dwellings for accidental dosimetry. 4. International conference on application of radiotracers and energetic beams in sciences; Saha Institute of Nuclear Physics, Kolkata (India); International Atomic Energy Agency (IAEA), Vienna. *Radiat Prot Dosim(S61) (Oxford University Press: Impact Factor: 0.773)*, 185-186 (2018).
9. S. Yasmin, **B. S. Barua**, M. U. Khandaker, M. Kamal, M. A. Rashid, M. M. H. Miah, D. A. Bradley. Investigation on radiation protective capability of metamorphic rock used in Civil Engineering construction. *Proc. Int. Conf. on Research and Innovation in Civil Engineering, SUB*, 67-73 (2018).
10. N. U. Doulah, M. R. Karim, S. Hossain, N. Deb, **B. S. Barua**. Spatial distribution of heavy metals in surface and sub surface sediments of the coastal area of Kutubdia Island, Cox's Bazar, Bangladesh. *Journal of Environmental Analytical Chemistry (OMICSI International)*, 4 (3): 213, 1-8 (2017).
11. S. Yasmin, **B. S. Barua**, M. U. Khandaker, M. T. Chowdhury, M. Kamal, M. A. Rashid, M. M. H. Miah, D. A. Bradley. Investigation of ionizing radiation shielding effectiveness of decorative building materials used in Bangladeshi dwellings. *Radiation Physics and*

Chemistry (Elsevier: Impact factor: 2.226), 140, 98-102 (2017).

12. M. S. Rahman, **B. S. Barua**, M. R. Karim, M. Kamal. Investigation of Heavy Metals and Radionuclidic Impact on Environment Due to the Waste Products of Different Iron Processing Industries in Chittagong, Bangladesh. *Journal of Environmental Protection (Scientific Research: Impact factor: 1.310)*, 8(9), 974-989 (2017).
13. **B. S. Barua**, M. S. Uddin, M. A. Shariff, M. I. Chowdhury, M. Kamal, M. A. Rashid. Measurement of radioactivity in ship scraps and environmental materials of ship breaking area of Chittagong, Bangladesh. *SUST Journal of Science and Technology*, 26(3), 21-26 (2016).
14. A.A.M. S. Islam, **B. S. Barua**, M. Kamal, M. A. Rashid. Investigation on Radiological Hazard and Uptake of Natural Radionuclides from Soil to Food Grains Produced in Coastal Area of Cox's Bazar, Bangladesh. *Bangladesh Journal of Physics*, 17, 51-57(2015).
15. S. Yasmin, **B. S. Barua**, M. Kamal, M. A. Rashid. An analysis for distribution of natural radionuclides in soil, sand and sediment of Potenga sea beach area of Chittagong, Bangladesh. *Journal of Environmental Protection (Scientific Research: Impact factor: 1.310)*, 5(17), 1553-1563 (2014).
16. M. S. Uddin, **B. S. Barua**, M. A. Shariff, M. Mehedi Hasan, M. A. Rashid, M. Kamal. Investigation of elemental and radiological contamination of soils in two shipyards in Chittagong, Bangladesh. *Radiochimica Acta (De Gruyter: Impact factor: 1.62)*, 102(8), 741-749 (2014).
17. A. A. M. S. Islam, **B. S. Barua**, M. Kamal, M. A. Rashid. Study on radiological contamination of soil samples collected from coastal area of Cox's Bazar, Bangladesh. *Bangladesh Journal of Physics*, 15, 57-65 (2014).
18. **B. S. Barua**, M. S. Uddin, M. A. Shariff, S. I. Bhuiyan, M. Kamal, M. A. Rashid. Study on radiological contamination of ship scraps and environmental materials in ship breaking area of Chittagong, Bangladesh. *Radiation Protection and Environment (Medknow)*, 36(2), 52-56 (2013).
19. M. A. Shariff, **B. S. Barua**, M. S. Uddin, M. M. Hasan, A. K. M. Shafiq Ullah, M. A. Huq, M. A. Shameem, M. A. Rashid. Heavy elemental contamination of soil in ship breaking area. *Proc. Int. Conf. on Industrial Waste Management and Process Efficiency, DUET*, 541-545 (2012).
20. **B. S. Barua**, M. Kamal, M. A. Rashid, M. I. Chowdhury. Determination of actual cement content in commercial blend cement from the natural radionuclide study using gamma-ray spectrometry: preamble to the method development. *Proc. Nat. Conf. on Materials Science & Technology for Sustainable Development Bangladesh Perspective, CUET*, 81-84 (2009).

Experiences:

24 years of teaching experience in Physics/Engineering Physics and nineteen years of research experience in this field. I have experience to review papers of many journals. I am also serving as Controller of Examinations of Southern University Bangladesh from 20 April 2021 to till. In this duration I have experience to write the Exam Rules and Regulations for inclusion in the academic ordinance and also have experience to implement these Exam Rules and Regulations to the examination procedure. I am experienced regarding the verification procedure, preparing official transcript, certificate and issuing to the graduated students and other related works like investigation, convocation, etc.

Research Experience:

- ❖ PhD research work has been accepted as satisfactory in partial fulfillment of the requirement for the degree of Doctor of Philosophy in Physics from Chittagong University of Engineering and Technology, Bangladesh with collaboration of Tandem Accelerator Facilities Division, INST, AERE, Bangladesh Atomic Energy Commission, Savar, Dhaka and Radioactivity Testing and Monitoring Laboratory, Chittagong.

PhD Thesis Title: Investigation on Elemental and Radionuclidic Contamination of Soil in some Ship Breaking Areas of Chittagong, Bangladesh.

- ❖ MPhil research work has been accepted as satisfactory in partial fulfillment of the requirement for the degree of Master of Philosophy in Physics from Chittagong University of Engineering and Technology, Bangladesh with collaboration of Radioactivity Testing and Monitoring Laboratory, Bangladesh Atomic Energy Commission, Chittagong.

MPhil Thesis Title: Assessment of Cement Content from the Determination of Natural Radionuclides in Cement Using Gamma-Ray Spectrometry.

- ❖ M.Sc. research work has been accepted as satisfactory in partial fulfillment of the requirement for the degree of Master of Science in Physics from National University, Bangladesh with collaboration of Department of Physics, Chittagong University, Bangladesh.

M.Sc. Thesis Title: Fluctuation Characteristics of Dry Season in the Hilly Area of Bangladesh.

- ❖ Undergraduate Thesis work in environmental science has been conducting as a supervisor since 2018.

Research Report Experience:

- Report Title: ‘Post Self-Assessment Improvement Plan’ for the years 2019-2022. Department of Civil Engineering, Southern University Bangladesh, June 2018, under

Higher Education Quality Enhancement Project (HEQEP), implemented by University Grants Commission (UGC) with the financial assistance of World Bank.

- Report Title: ‘Report on Result Evolution of Fall-2016’, Department of Civil Engineering, Southern University Bangladesh, March 2017, under the head of the department.
- Report Title: ‘Self-Assessment Report’, Department of Civil Engineering, Southern University Bangladesh, January 2017, under Higher Education Quality Enhancement Project (HEQEP), implemented by University Grants Commission (UGC) with the financial assistance of World Bank.
- Report Title: ‘Report on the Assessment of Existing Curriculum, Syllabus and Course Plans & Revised Curriculum, Syllabus & Course Plans (proposed)’, Department of Civil Engineering, Southern University Bangladesh, December 2016, under Higher Education Quality Enhancement Project (HEQEP), implemented by University Grants Commission (UGC) with the financial assistance of World Bank.
- Report Title: ‘Questions Analysis Following Bloom’s Taxonomy’, Department of Civil Engineering, Southern University Bangladesh, November 2016, under Higher Education Quality Enhancement Project (HEQEP), implemented by University Grants Commission (UGC) with the financial assistance of World Bank.
- Report Title: ‘Self-Assessment Survey Outcomes and Analysis’, Department of Civil Engineering, Southern University Bangladesh, November 2016, under Higher Education Quality Enhancement Project (HEQEP), implemented by University Grants Commission (UGC) with the financial assistance of World Bank.

Workshop Experience:

- Successful participation in a workshop on ‘Online Academic Management’ held at Southern University Bangladesh on 11 October 2018 organized by Institutional Quality Assurance Cell (IQAC), Southern University Bangladesh.
- Successful participation in a workshop on ‘Research Methodology for Science & Engineering’ held at Southern University Bangladesh on 14 August 2018 organized by Self Assessment Committee, Department of Civil Engineering, Southern University Bangladesh.
- Successful participation in a workshop on ‘Methods, Techniques and Tools of Research in Higher Education’ held at Southern University Bangladesh on 23 July 2018 organized by Self Assessment Committee, Department of Law, Southern University Bangladesh.
- Successful participation in a workshop on ‘Post Self-Assessment Improvement Plan’ held at Southern University Bangladesh on 28 June 2018 organized by Self Assessment Committee, Department of English, Southern University Bangladesh.
- Successful participation as a key-speaker of a workshop on ‘Post Self-Assessment Improvement Plan’ held at Southern University Bangladesh on 11 June 2018 organized by Self Assessment Committee, Department of Civil Engineering, Southern University Bangladesh.
- Successful participation in a workshop on ‘Assessment Strategy for Students’ held at

Southern University Bangladesh on May 28, 2018 under the initiative of Institutional Quality Assurance Cell (IQAC) of the University.

- Successful participation in a workshop on ‘Modern Teaching Methodology’ held at Southern University Bangladesh on May 27, 2018 under the initiative of Institutional Quality Assurance Cell (IQAC) of the University.
- Successful participation in an ‘Experience Sharing Session with Program Evaluators of BAETE’ held at IEB Headquarters, Ramna, Dhaka-1000 on May 03, 2018 under the initiative of Board of Accreditation for Engineering and Technical Education (BAETE), Institution of Engineers, Bangladesh (IEB).
- Successful participation in a workshop on ‘Guidelines for Post Self Assessment Improvement Plan’ held at Chittagong Veterinary and Animal Sciences University on April 2018 under the initiative of HEQEP, UGC, Bangladesh.
- Successful participation in a workshop on ‘Review & Modification of University Rules, Regulations and Ordinance for Good Governance’ held at Southern University Bangladesh on March 20, 2018 under the initiative of Institutional Quality Assurance Cell (IQAC) of the University.
- Successful participation in a workshop on ‘Good Governance in the Higher Education of Bangladesh’ held at Southern University Bangladesh on March 19, 2018 under the initiative of Institutional Quality Assurance Cell (IQAC) of the University.
- Successful participation in a workshop on ‘Advanced Research Methodology: Tools & Techniques’ held at Southern University Bangladesh on February 01, 2018 under the initiative of Institutional Quality Assurance Cell (IQAC) of the University.
- Successful participation in a workshop on ‘Role and Responsibility & Ethical Principles of University Teachers’ held at Southern University Bangladesh on January 31, 2018 under the initiative of Institutional Quality Assurance Cell (IQAC) of the University.
- Successful participation in a workshop on ‘University Act, Policies, Ordinance and Rules’ held at Southern University Bangladesh on September 26, 2017 under the initiative of Institutional Quality Assurance Cell (IQAC) of the University.
- Successful participation in a workshop on ‘Accreditation Manual for Undergraduate Engineering Programs’ organized by Board of Accreditation for Engineering and Technical Education (BAETE), Bangladesh, on 18th April 2017 at the IEB Headquarters, Ramna, Dhaka 1000, Bangladesh.
- Successful participation in a workshop on ‘Online Teaching, Examination and Evaluation Techniques’ held at Southern University Bangladesh on February 10, 2017 under the initiative of Institutional Quality Assurance Cell (IQAC) of the University.
- Successful participation in a workshop on ‘Online Academic Management’ held at Southern University Bangladesh on February 09, 2017 under the initiative of Institutional Quality Assurance Cell (IQAC) of the University.
- Successful participation in the ‘Accreditation Workshop for Faculty and Program Directors’ organized by Board of Accreditation for Engineering and Technical Education (BAETE), Bangladesh, on 4th January 2017 at the BAETE Secretariat, IEB New Building,

Ramna, Dhaka 1000.

- Successful participation in the workshop on ‘Research Methods, Tools & Techniques and Scientific Method of Report Writing’ held at Southern University Bangladesh on December 11, 2016 under the initiative of Institutional Quality Assurance Cell (IQAC) of the University. UGC/WB HEQEP Project.
- Successful participation in the ‘Self Assessment Workshop on Sharing the Survey Findings & Analysis’, organized by Self Assessment Committee, Department of Civil Engineering on December 05, 2016 at the Conference Room, Southern University Bangladesh. UGC/WB HEQEP Project.
- Successful participation in the ‘Workshop on Outcome Based Education’, organized by Board of Accreditation for Engineering and Technical Education (BAETE), Bangladesh, on 31st October 2016 at the BAETE Secretariat, IEB New Building, Ramna, Dhaka 1000.
- Successful participation in the ‘Self Assessment Workshop on Teaching Methodology & Governance’ organized by Self Assessment Committee, Department of Civil Engineering on June 25, 2016 at the Conference Room, Southern University Bangladesh. UGC/WB HEQEP Project.
- Successful participation in the international workshop on ‘Analysis of Trace Metal Data and Interpretation of Results in Climate Change Studies’ under IAEA/RCA project RAS-7/024. Held at Atomic Energy Centre Chittagong, Bangladesh. Duration: 26-30 October 2014.

Training Experience:

- Successfully completed a training program on ‘Salient Elements of Outcome-Based Curriculum’ held at Southern University Bangladesh on 18 July 2018 under the initiative of Institutional Quality Assurance Cell (IQAC) of the University. UGC/WB HEQEP Project.
- Successfully completed a training program on ‘Outcome-Based Education: Emergence, Benefits, Approaches and Structure’ held at Southern University Bangladesh on 17 July 2018 under the initiative of Institutional Quality Assurance Cell (IQAC) of the University. UGC/WB HEQEP Project.
- Successfully completed a training program on ‘Policy of University, Software Information System, Teaching at Higher Education, Research Methodology and Teaching Professional Integrity’ held at Southern University Bangladesh on 8 May 2017. Organized by the Authority of Southern University.
- Successfully completed a training program on ‘Learning Outcome, Assessment System, Curriculum Design and Self-Assessment’ held at Southern University Bangladesh from 19 to 21 July 2016 under the initiative of Institutional Quality Assurance Cell (IQAC) of the University. UGC/WB HEQEP Project.
- Successfully completed a training course on ‘Digital Content Development, Classroom Delivery, Software and Hardware Trouble Shooting and ICT Lab Operation’ held at Government Teacher’s Training College, Comilla from 29/05/2014 to 09/06/2014. Organized by DSHE, Ministry of Education, Bangladesh. Secured GPA: A.

- Successfully completed a training course on ‘Creative Question Setting, Moderating & Marking Answer Script of Physics’ held from 27/03/2013 to 29/03/2013 at Teachers’ Training College, Chittagong. Sponsored by Secondary Education Sector Development Project (SESDP), under the Ministry of Education, Bangladesh.
- Successfully completed the training course on the subject ‘physics’ for the teachers of higher secondary level educational institute through Higher Secondary Teacher’s Training Institute- Comilla from 24/09/2003 to 18/11/2003. Organized by NAEM, Ministry of Education, Bangladesh. Secured GPA: A⁺.
- Successfully completed a six months computer operating course.
- Successfully completed a four months IELTS course.

Conducted Courses:

1. Physics/Engineering Physics
2. Physics Lab
3. Basic Science
4. Undergraduate Thesis

Membership:

- ❖ Life member of the Bangladesh Physical Society (BPS). Membership No: LM Q 0253.
- ❖ Ex-Member of Self Assessment Committee (SAC), Higher Education Quality Enhancement Project (HEQEP), Department of Civil Engineering, Southern University Bangladesh, implemented by University Grants Commission (UGC) with the financial assistance of World Bank.

Research Interest:

1. Particles Induced Activation Analysis for Environmental Studies
2. Radioisotope Production
3. Environmental Radioactivity Analysis
4. Elemental Analysis
5. Analysis of Vehicular Emission