DR. MAYURI DEVEE

Assistant Professor, Department of Physics

Jorhat Engineering College, Jorhat-785007

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- Email: deveemayuriphys@gmail.com
- Google Scholar link:

  https://scholar.google.co.in/citations?user=cALwXPoAAAAJ&hl=en
- ResearchGate link: https://www.researchgate.net/profile/Mayuri-Devee

PERSONAL DETAILS

Address:

C/o. Narayan Chandra Nath,

Gharapara Chuburi, Tezpur-784001, Assam.

EDUCATIONAL QUALIFICATIONS

- **Ph.D. in High Energy Physics** (Phenomenology)

  Tezpur University.
- **M.Sc. in Physics** (First Class)

  Gauhati University

  Specialization: High Energy Physics, Condensed Matter Physics.
- **B.Sc. (Hons.) in Physics** (First Class)

  Darrang College (Affiliated to Gauhati University)

  Major Subject: Physics. *Minor Subjects:* Mathematics, Chemistry, English.
- **HSSLC** (First class)

  Darrang College (Under AHSEC)

  Subjects: Physics, Mathematics, Chemistry, Statistics, English, MIL(Assamese).
- **HSLC** (First class)

  TGGHS & MP School, Tezpur (Under SEBA)

  *Subjects:*Assamese, English, General Science, General Mathematics, Social Studies, Advanced Mathematics.

AWARDS & ACHIEVEMENTS

1. InSc Young Researcher Award 2023, Institute of Scholars (InSc), registered under MSME & Corporate Affairs, Government of Indiia.
2. Faculty Researcher of the Month (October 2022*),* USTM.
3. Performer Faculty (2017) award, ERD Foundation for outstanding performance during the academic year 2016-17.

PROFESSIONAL MEMBERSHIPS

- Life Member, Physics Academy of North-East (PANE)
- Member of Editorial Board, **IOP Jounal of Physics: Conference Series** (Proceedings of ICFPAP2024)
- Reviewer for **Journal of Physics Communications** (IOP Publishing)
- Potential Reviewer of InSc International Publishing Platforms.
- Member, **Asam Sahitya Sabha**

TEACHING EXPERIENCE

Total Teaching Experience: 12+ years at the Postgraduate and Undergraduate levels.

- **Assistant Professor**
  Department of Physics, Jorhat Engineering College, Jorhat
  July 2024 – Present
  Teaching physics in B.Tech. courses.
- **Assistant Professor**
  Department of Physics, University of Science & Technology, Meghalaya
  September 2016 - July 2024
  Subjects Taught: High Energy Physics, Nuclear Physics, Mathematical Physics, Electrodynamics & Plasma Physics, Electromagnetic Theory, Classical Mechanics, Condensed Matter Physics, General Physics (M.Sc. & B.Sc.) Laboratory, Nuclear Physics Laboratory, Electromagnetic Theory Laboratory, B.Sc. Passcourse and Ph.D. coursework classes.
- **Guest Faculty**
  Department of Physics, Tezpur University
  January 2016 - August 2016
  Subjects Taught: Quantum Mechanics, Statistical Physics, Mathematical Physics, General Physics Laboratory (M.Sc. Physics) and General Physics in B.Tech courses.
- **Teaching Assistant**
  Department of Physics, Tezpur University
  January 2009 - December 2011
  Subjects Taught: Mathematical Physics, High Energy Physics and Physics Laboratory (B.Tech).
- **Lecturer in Physics**
  Srimanta Sankar Academy, Panbazar, Guwahati
  May 2015 - January 2016
  Taught physics in Higher Secondary (HS) level courses.

RESEARCH EXPERIENCE

Research Interests: High Energy Physics (Phenomenology), Quantum Chromodynamics (QCD), Higher Order QCD Corrections, Neutrino Physics.

RESEARCH PROJECT (UGC-SPONSORED):

- *Project Title*: "Studies on Gluon Distribution Function and Recombination of Partons" (UGC Approval No. F. 37-369/2009(SR), Ref. Letter F. No. 37-1/2009(ASS)(SR), dated 12 January 2010)
  Institution: Tezpur University (2010-2013)
  Role: Worked as a Project Assistant under Prof. J. K. Sarma, focusing on theoretical investigations related to gluon recombination and the GLR-MQ equation in QCD.

RESEARCH MENTORSHIP FOR DST FUNDED STUDENT PROJECT:

- *Project Title*: "Innovative Solar Lighting System for Sunlight Deprived Buildings"
  Role: Mentored a team of 10 postgraduate and undergraduate students in the development of a prototype for this project.
  Funding and Implementation: Funded by NSTEDB-DST (Govt. of India) under NewGen IEDC-USTM and implemented by EDII Ahmedabad.
  Reference: Letter No. EDII/DST-NewGen IEDC/17-18/07, dated 15/06/2017.

PUBLICATIONS

JOURNALS:

- *Devee Mayuri,* Shadowing corrections to the evolution of singlet structure function, *Physica Scripta,* 98 (2023) 105305.
- *Devee Mayuri* and Sarma J. K., The NNLO QCD analysis of gluon density at small-*x*, *International Journal of Modern Physics A* 37 (2022) 2250203..
- *Devee Mayuri*, Effect of shadowing and antishadowing corrections to the evolution of gluon density at small- x, *IOP Journal of Physics: Conference Series* 1468 (2020) 012102.
- *Devee Mayuri* and Sarma J. K., Analysis of the small-x behavior of gluon distribution and a search for gluon recombination, *Nuclear Physics B* 885 (2014) 571–582.
- *Devee Mayuri* and Sarma J. K., Nonlinear GLR-MQ evolution equation and Q^2-evolution of gluon distribution function, *European Physical Journal C* 74 (2) (2014) 2751.
- *Devee Mayuri* and Sarma J. K., Evolution of singlet structure functions from DGLAP equation at next-to-next-to-leading order at small-x, *European Physical Journal C* 72 (6) (2012) 2036.
- *Devee Mayuri* and Baishya R. and Sarma J. K., Solution of singlet Dokshitzer-Gribov-Lipatov-Altarelli-Parisi evolution equation in next-to- next-to-leading order at small-x, *Indian Journal of Physics* 86 (2) (2012) 141–144.
- *Devee Mayuri* and Sarma J. K., Analytical approach for the approximate solution of gluon distribution function in the framework of GLR-MQ evolution equation at small-x, *Proc. Indian Natn Sci Acad* 81 (1) (2015) 16-21
- *Devee Mayuri* and Sarma J. K., Solution of nonlinear Gribov-Levin-Ryskin-Mueller-Qiu evolution equation for gluon distribution function, *J. of Phys.: Conf. Ser.* 481 (2014) 012026.

BOOK CHAPTERS:

- Borgohain Devashree and *Devee Mayuri,* Assesment of Radiation Concentration in Soil and Rocks: Environmental Health and Safety Analysis, Proceedings of the Internation Conference on Innovations in Management Science, Technology and Automation in Sports, Vol 2, *ISBN:978-81-966587-2-4* [2024].
- *Devee Mayuri*, Nonlinear Effects in Singlet Quark Distribution predicted by GLRMQ Evolution Equation, Springer Proceedings in Physics, Vol. 261, 641-647; *ISBN:978-981-33-4408-2* [2021].
- *Devee Mayuri*, Fundamentals of High Density QCD, Frontiers in High Density Physics, Purbayon Publication, *ISBN:978-93-92699-52-8* [2021].
- *Devee Mayuri*, Barbhuiya S. A. and Barbhuiya M. A., Q^2 evolution of Gluon distribution predicted by DGLAP equation at NNLO, Recent Trends in Basic Science Researches, *ISBN: 978-81-933-69005* [2017].
- *Devee Mayuri* and Sarma J. K., Regge like behaviour of gluon distribution function in the framework of nonlinear GLR-MQ evolution evolution; Basic and Applied Physics: Recent Advances, Narosa Publishing House. *ISBN: 978-81-8487-517-1* [2016].

CONFERENCE PRESENTATIONS:

- Participated in the "North-East Meet of Astronomers-VII" held in hybrid mode at Rajiv Gandhi University, Arunachal Pradesh in association with IUCAA, Pune during January 27-29, 2022.
- Participated in the Webinar on "Teacher's Role in Implementation of National Education Policy (NEP): Awareness, Orientation, Challenges and Responses" organized by Bharatiya Shikshan Mandal, NITI Aayog in collaboration with USTM, held at USTM on 26th February 2021.
- Participated as an Invited Member in the XVI Workshop on High Energy Physics Phenomenology held at Indian Institute of Technology, Guwahati during December 1-10, 2019.
- Presented a paper at the "16th International Conference on Topics in Astroparticle and Underground Physics" held at Toyama International Conference Center, Toyama, Japan during September 9-13, 2019.
- Presented a paper (oral) at the "International Conference in Nuclear and Particle Physics" held at Viswa Bharati University, Shantiniketan, Kolkata during February 3-5, 2019.
- Presented a paper (oral) at the 23rd DAE-BRNS International Symposium on High Energy Physics held at IIT, Madras during December 10-14, 2018.
- Participated in UGC Sponsored National Seminar on "Progresses in Nuclear Physics and High Energy Physics" from March 30-31, 2018 at Gauhati University.
- Presented a paper (oral) at the NEC-sponsored National Seminar on "Socio-economic and Scientific Development in Northeast India: Problems and Prospects" on October 27-28, 2017 at Arya Vidyapeeth College, Guwahati.
- Presented a paper (poster) at the UGC Sponsored National Seminar on "Recent Trends in Basic Science Researches" held at S. S. College, Hailakandi from September 21-23, 2017.
- Presented a paper (oral) at the National Seminar on Current Trends in Physics Research held at Darrang College, Assam from January 30 - February 1, 2014.
- Presented a paper (poster) at the International Conference on Matter at Extreme Conditions: Then & Now held at Bose Institute, Kolkata during January 15-17, 2014.
- Presented a paper (oral) at the International Conference on Triggering Discoveries in High Energy Physics organized by the Department of Physics and Electronics at the University of Jammu, Jammu during September 9-14, 2013.
- Presented a paper (oral) at the National Conference on Contemporary Issues in High Energy Physics & Cosmology during February 12-14, 2013 at the Physics Department, Gauhati University, Assam.

- Presented a paper (oral) at the National Conference on Theoretical Physics held from February 8-12, 2013 at the Physics Department, Tezpur University, Assam.
- Presented a paper (oral) at the 8th National Conference of the Physics Academy of North East at Mizoram University, Mizoram during December 17-19, 2012.
- Participated in the International Workshop on Hadron Physics held at the Training School Campus, Anushaktinagar, BARC, Mumbai, from October 31 - November 4, 2011.
- Presented a paper at the National Workshop on Nuclear and Atomic Techniques based on Pure and Applied Sciences held at Tezpur University, Assam during February 1-3, 2011.
- Presented a paper at the 7th National Conference of the Physics Academy of North East organized by the Department of Physics, Manipur University, Manipur during October 5-6, 2010.
- Participated in a training program on C-Programming held at UGC Assam Staff College, Gauhati University, Assam during November 9-13, 2009.
- Participated in the national workshop on Applied Computer in Development Studies held at Tezpur University, Assam during March 30 - April 3, 2009.
- Participated in the XXIV SERC Main School in Theoretical High Energy Physics held at IIT Guwahati, Assam during March 2-21, 2009.
- Participated in the SERC Preparatory School in Theoretical High Energy Physics held at Banaras Hindu University, Varanasi during November 26 - December 15, 2007.
- Participated in the short-term course on A Roadmap of Quantum Mechanics to String Theory held at IIT Guwahati, Assam during September 3-7, 2007.

RESEARCH SUPERVISION: M.Sc. Dissertations at USTM (2018–2024)

Supervised multiple M.Sc. dissertations at the University of Science & Technology, Meghalaya (USTM) across various theoretical topics in high-energy physics. Key projects include:

- Title: Nonlinear Corrections to Gluon Distribution Function in the Framework of GLR-MQ Equation (Period: Jan-Jul 2018). ***Students***: Sabur A. Barbhuiya, Monjur A. Barbhuiya
- Title: Shadowing Corrections of Singlet Structure Function Using Regge-like Ansatz (Period: Jan-Jul 2018). ***Students***: Manju Jaiswal, Suvankar Deka, Tonmoi Hazarika, Subhash Ch. Sarma
- Title: A Phenomenological Study of Singlet Structure Function at Next-to-Leading Order (Period: Jan-Jul 2018). ***Students***: Zubin Talukdar, Kaushiki Saikia
- Title: Q^2 and Small-x Behavior of Non-Singlet Structure Function at Leading Order: A Comparative Analysis (Period: Jan-Jul 2018). ***Students***: Monirul Hussain, Rajesh Ahmed
- Title: Determining the Cross-section of Neutrino-Nucleon Scattering for Neutral Current and Charge Current Using Ultra High Energies (Period: Jan-Jul 2019). ***Students***: Alw Gwra Machahari, Amlanjyoti Bharati, Gabriel Brahma
- Title: Study of Q^2 Evolution of xF_3 Structure Function at Leading Order (Period: Jan-Jul 2019). ***Students***: Tanbir Arif, Honda Papang, Mohaimenul Islam, Iasmin Siddique
- Title: Study of Shadowing and Anti-Shadowing Effects on Gluon Distribution in the Context of the Modified DGLAP Equation (Period: Jan-Jul 2019). ***Students***: Rezaul Karim Sk, Abu Mahammad Talha, Khan Mehdi Hasan
- Title: Investigation of Geo-Neutrino Flux of Radioactive Elements in the Earth's Interior (Period: Jan-Jul 2020). ***Students***: Najir A.Choudhury, Mohibul Islam, Bhaskarjyoti Das
- Title:Phenomenological Study of Gluon Shadowing in DIS at Small-x (Period: Jan-Jul 2020). ***Students***: Jiaur Rahman, Ujjal Barman, Shikha Baishya

- Title: Importance of Ultra-High Energy Neutrino-Nucleon Scattering in the Investigation of Earth's Interior (Period: Jan-Jul 2021). ***Students***: Dhanmoni Saikia, Amar Mochahary, Anamika Das, Abdur Rahman
- Title: Nuclear Radiation and Its Effect on the Environment (Period: Jan-Jul 2021). ***Students***: Wanpynshai Nongsiej, Damonjongme Syiemlieh
- Title: Small-x Analysis on the Effect of Gluon Recombination in Perturbative QCD (Period: Jan-Jul 2022). ***Students***: Raktim Nath, Tohidur Alom
- Title: A Phenomenological Study of the Earth's Interior with Geo-Neutrinos (Period: Jan-Jul 2022). ***Students***:Rupam Paul, Bharkarjit Gayan, Bikas Giri
- Title: Phenomenological Analysis of Neutrino-Nucleon Cross Sections at HE and UHE Neutrino Energy Regimes (Period: Jan-Jul 2023). ***Students***: Deepjyoti Bora, Raisa Imtiaz, Fojul Hoque
- Title: Semi-Numerical Solution of Non-Singlet Structure Function at Moderate Q^2 (Period: Jan-Jul 2023). ***Students***: Fariqul Alom, Sahil Ahmed, Rowsinara Begum
- Title: Phenomenological Analysis of Ultra High Energy Cross-section and Q^2 Evolution Using Color Dipole Formalism (Period: Jul 2023 - Jun 2024). ***Students***: Umme Kulchuma Choudhury, Ayan Masood Alom, Dipamkar Deka, Lugge Nomuk

TRAINING AND PROFESSIONAL DEVELOPMENT

- Online Weeklong Faculty Development Program (FDP) on Academic Writing and Publication.
  Teaching Learning Centre, Tezpur University, 10-16 May 2023.
- Hands-on Training Workshop on LMS Moodle.
  University of Science & Technology, Meghalaya, 3-10 September 2022.
- Online Weeklong FDP on E–Content Development.
  Teaching Learning Centre, Tezpur University, Assam, 4-8 April 2022.
- FDP on Development & Management of MOOCs and Online Courses using LMS-Moodle.
  University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD, Completed with Grade A+. 30 June - 4 July 2020.
- FDP on E-Content Development.
  University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD, Completed with Grade A+. 27-31 July 2020.
- FDP on Role of Teachers in Technology Driven Higher Education.
  University of Science & Technology, Meghalaya, 30 September - 1 October 2019.
- FDP on Student Centric Curriculum & Teaching Learning'.
  University of Science & Technology Meghalaya, 3-9 June 2019.
- FDP on Professional Ethics and Development.
  University of Science & Technology Meghalaya, 15-23 December 2017.
- FDP on Academic Administration.
  University of Science & Technology Meghalaya, 23-30 June 2017.
- FDP on Art of Living.
  University of Science & Technology Meghalaya, 4-18 November 2017.

ADMINISTRATIVE AND OTHER EXPERIENCES

- IQAC Coordinator, Department of Physics, University of Science & Technology, Meghalaya, August 2019 - July 2024
- Convener, International Conference on Frontiers in Pure and Applied Physics (ICFPAP-2024), organized by USTM in collaboration with Physics Academy of North East (PANE), February 29 - March 2, 2024
- Organizing Secretary, National Exhibition and Seminar on Plasma Physics (NESPP-2022), organized by the Department of Physics, USTM in association with CPP-IPR Guwahati, August 1-5, 2022
- NET Convener, USTM, March 2019 - January 2021
- Founder Head, Department of Physics, USTM, September 2016 - January 2019
- NET Coordinator, Department of Physics, USTM, October 2016 - March 2019
- Joint Secretary, 98th DAE BRNS-IANCAS National Workshop on Radiochemistry and Applications of Radioisotopes, held at USTM, October 1-6, 2018

EDUCATIONAL OUTREACH CONTRIBUTIONS

- Served as a resource person for educational outreach programs broadcasted on prominent TV channels such as PragNews, DY365, and Praditin Time, representing the University of Science & Technology, Meghalaya (USTM).

TECHNICAL SKILLS

- Operating Systems: Linux (Fedora, Ubuntu), Windows
- Software: Mathematica, LaTeX, GNU Plot, OriginPro, MATLAB
- Programming Languages: C, Fortran-77
- Office Packages: OpenOffice, MS Office, Google Docs

PERSONAL INTERESTS

- Recitation, Traveling, Singing, Event Anchoring, Cooking, Gardening, Dancing, Listening to music, watching movies, ReadingNovels and Science fictions.

DECLARATION

I hereby declare that all information provided in this resume is accurate and complete to the best of my knowledge. I am prepared to present original certificates upon request at any time.

Date: 30/09/2024

Place: Jorhat Engineering College

Dr. Mayuri Devee