



# PRETAM KUMAR DAS

## Curriculum Vitae

*To involve myself in the development and the improvement of the research and education quality of our country by involving myself in the novel profession teaching. My aim is to help the students by enhancing their concept in science and technology. I strongly believe that my first goal as a teacher is to inspire my students for self-study and for research. To involve myself in research for knowing the unknown and finding the mysteries of the universe*

### Education

- 10/2023-  
Continue **Postdoctoral Research Associate Position**, on TANGRA Project at Frank Laboratory of Neutron Physics (FLNP) at Joint Institute for Nuclear Physics (JINR), Dubna, Russia, *Nuclear Physics with Neutron (TANGRA Project)*.
- 10/2022-  
12/2022 **Visiting Scholar**, Department of Physics and Chemistry, Eastern Mediterranean University, Famagusta, Turkey Republic of Northern Cyprus, *Gamma Spectroscopy, Gamma Ray and their physical properties*.
- 07/2022-  
Continue **Research Collaborator**, Department of Physics, Indiana University Bloomington, Indiana, USA, .  
NOPTREX neutron time reversal experiment
- 04/2022 **Research Scholar & Collaborative Research**, Department of Physics and Astronomy, University of New Mexico, Albuquerque, New Mexico, USA, .  
Specialized in development of Si detector
- 2019-2020 **Research Scholar & Collaborative Research**, Indian Institute of Technology (IIT) Kharagpur, Kharagpur, West Bengal, India, .  
Specialized in Compton's Gamma Rays from the Laser Plasma Interaction Using EPOCH code, June 2019-January 2020
- 2019-2019 **Reactor Engineering Training Course (Two weeks Training Course)**, Bangladesh Atomic Energy Commission, Dhaka, Bangladesh, .

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- 2009–2010 **Masters of Science**, December 25, 2010, University of Rajshahi, Rajshahi, Bangladesh, Percentage of Marks – 75.13%, First in merit position.  
Specialized in Theoretical Nuclear Physics and Nuclear Astrophysics
- 2005–2008 **Bachelor of Science**, December 20, 2009, University of Rajshahi, Rajshahi, Bangladesh, Percentage of Marks -65.3%, 6th in merit position.

## Collaborative Research at Okayama University, Japan

Title *Measurement of Relative Intensity of the Discrete  $\gamma$  Rays from the Thermal Neutron Capture Reaction  $^{155,157}\text{Gd}(n, \gamma)$  Using ANNRI Detector (JPARC)*

## Ph.D. Thesis

Title *Measurement of Relative Intensity of the Discrete  $\gamma$  Rays from the Thermal Neutron Capture Reaction  $^{155,157}\text{Gd}(n, \gamma)$  Using ANNRI Detector (JPARC)*

Supervisor Professor Makoto Sakuda, Okayama University

Abstract The thermal neutron capture reaction on enriched gadolinium targets ( $^{155}\text{Gd}$ ,  $^{157}\text{Gd}$  isotopes) has been studied using ANNRI Germanium Spectrometer at MLF, JPARC which provides the most intense pulsed neutron beam for neutron time of flight experiments in the world. The purposes of our experiments and analysis are to provide precise  $\gamma$ -ray spectrum of  $\text{Gd}(n, \gamma)$  reactions and provide precise  $\text{Gd}$  decay model to neutrino physics field and other related fields. The  $\gamma$  rays produced from  $^{155,157}\text{Gd}(n, \gamma)$  reactions were measured. The photo-peak efficiencies of the spectrometer have been calibrated from 0.1 to 9 MeV using  $\gamma$  rays from the radioactive sources ( $^{60}\text{Co}$ ,  $^{137}\text{Cs}$ ,  $^{152}\text{Eu}$ ) and prompt  $\gamma$  rays from  $^{35}\text{Cl}(n, \gamma)$  reaction. The relative intensities of prominent discrete  $\gamma$  rays produced from  $^{155}\text{Gd}(n, \gamma)$  and  $^{157}\text{Gd}(n, \gamma)$  reactions were measured. Our data of relative intensities from  $^{157}\text{Gd}(n, \gamma)$  were found in fair agreement with the values published by the NNDC (CapGam). The relative intensities of prominent discrete rays from  $^{155}\text{Gd}(n, \gamma)$  reaction were measured for the first time. The properties of  $\text{Gd}$  nucleus and the previous  $\text{Gd}(n, \gamma)$  experiments have been reviewed. The accuracy of the  $\gamma$ -ray spectrum measurement for our thermal neutron capture experiments should be better than others, as we used most intense pulsed neutron beam in the world

## Career Experience

### Teaching with Research

- 10/2022–12/2022 **Lecturer in Physics and Visiting Research Scholar**, Department of Physics and Chemistry, Eastern Mediterranean University, Farmagusta, Turkey Republic of Northern Cyprus, (Academic title is Associate Professor).
- 2019–Present **Associate Professor (July 5, 2019 - Continue)**, DEPARTMENT OF PHYSICS, Pabna University of Science and Technology, Pabna-6600, Pabna, Bangladesh.
- 2013–2019 **Assistant Professor (November 16, 2013 - July 4, 2019)**, DEPARTMENT OF PHYSICS, Pabna University of Science and Technology, Pabna-6600, Pabna, Bangladesh.

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2012–2013 **Lecturer (January 11, 2012 - November 15, 2013)**, DEPARTMENT OF PHYSICS, Pabna University of Science and Technology, Pabna-6600, Pabna, Bangladesh.

2011–2012 **Lecturer (November 17, 2011 - January 10, 2012)**, DEPARTMENT OF PHYSICS, Chittagong University of Engineering and Technology, Chittagong-4349, Chittagong, Bangladesh.

#### Administrator

2018–2021 **Proctor (April 17, 2018 - June 30, 2021)**, PROCTOR OFFICE, Pabna University of Science and Technology, Pabna-6600, Pabna, Bangladesh.

2018–2018 **Director (August 1, 2018 - November 30, 2018)**, STUDENT ADVISOR OFFICE, Pabna University of Science and Technology, Pabna-6600, Pabna, Bangladesh.

#### Trainings and Workshops

2021 **Train-The-Trainer Course "Technological Aspects of AES-2006 (VVER-1200). Development of Nuclear Curricula on VVER Technology" (November 08-21, 2021)**, ORGANIZED BY ROSATOM TECHNICAL ACADEMY, Rosatom, Russia. .

2021 **Research Based Online Course on Atomic Astrophysics and Spectroscopy with Computational workshops on Superstructure and R-Matix Codes (October 16-31, 2021)**, ORGANIZED BY DEPARTMENT OF ASTRONOMY, The Ohio State University, Ohio, USA. .

2020 **User Workshop on Supercomputing (November 23 -27, 2020)**, CONDUCTED BY C-DAC, UNDER THE AEGIS OF NATIONAL SUPERCOMPUTING MISSION , Indian Institute of Technology (IIT) Kharagpur, Kharagpur, India. .

#### Research experinece

2019–  
Continue **Theoretical Atomic Astro-physics and nuclear physics** , at *Nuclear Astro-Physics Lab, Pabna University of Science and Technology, Pabna, Bangladesh.*

With Professor M. Alfaz Uddin as a research collaborator. Worked on electron/positron scattering with atom, ions and molecules and which are discussed here in terms of Dirac partial wave analysis using a complex optical potential which comprises static, exchange, polarization and imaginary components at the impact energies using ELSEPA code.

2019–2020 **Collaboration Research**, *Department of Physics, Indian Institute of Technology (IIT) Kharagpur, Kharagpur, India.*

Spent some time with Dr. Prasanta Kumar Datta, Professor, IIT Kharagpur and worked with him as a research collaborator. Also visited TIFR and SINP for this research project. The research project is to generate the gamma rays from the laser-plasma interaction using EPOCH code.

2014 **Experimental Nuclear Physics**, *With Nuclear Astro-Physics Lab, Okayama University, Japan using ANNRI Ge detector. Used CERN ROOT program for analyzing the experimental data and used Geant4 MC code for simulational wor .*

2009–2011 **Theoretical Nuclear Physics and Nuclear Astrophysics** , *Master Thesis Research Workat Nuclear Physics Lab, University of Rajshahi, Rajshahi, Bangladesh .*

Worked with Professor Emeritus Dr. Arun Kumar Basak as M.Sc. a master thesis researcher.

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### Research as a Thesis and Project Supervisor

- 2020–Present **Theoretical Atomic and Nuclear Physics a**, *Master Thesis Research Work at Nuclear Physics Lab, Pabna University of Science and Technology, Pabna, Bangladesh..*  
"Study the elastic and inelastic scattering cross-section of electron and positron with NO and NO<sub>2</sub> molecules".
- 2020–Present **Theoretical Atomic and Nuclear Physics a**, *Bachelor Project Research Work at Nuclear Physics Lab, Pabna University of Science and Technology, Pabna, Bangladesh..*  
Study the elastic and inelastic scattering cross-section of electron and positron with Alkali Atoms.
- 2018–2020 **Experimental Nuclear and Medical Physics**, *Master Thesis Research Work at Nuclear Physics Lab, Pabna University of Science and Technology, Pabna, Bangladesh and Institute of Nuclear Medicine centre at Bangladesh Atomic Energy Commission, Savar, Dhaka, Bangladesh..*  
"Dosimetric characteristics of 6 MV linear accelerator".
- 2017–2020 **Experimental Nuclear and Reactor Physics**, *Bachelor Project Research Work at Nuclear Physics Lab, Pabna University of Science and Technology, Pabna, Bangladesh and at TRIGA reactor centre of Bangladesh Atomic Energy Commission, Savar, Dhaka, Bangladesh..*  
"1. Study and check of different systems of BAEC TRIGA research reactor. 2. Application of TRIGLAV Code to the BAEC TRIGA Research Reactor."
- 2017–2020 **Medical Physics**, *Bachelor Project Research Work at Nuclear Physics Lab, Pabna University of Science and Technology, Pabna, Bangladesh and at the Institute of Nuclear Medicine and Allied Sciences (INMAS), Rajshahi, Bangladesh..*  
"1.Measurement of Dose Rate Resulted From Bone Scintigraphy Patient. 2.Study the Brachytherapy in the treatment procedure of cervical cancer using <sup>60</sup>Co source. 3.Calibration of HDR Brachytherapy source <sup>60</sup>Co 4.Comprehensive Quality Assurance of <sup>60</sup>Co Teletherapy."

### Seminar Talks as a speaker

- 2020 **"The Basics of Pressure Vessel and it's Function in a Nuclear Powerplant"**, ORGANIZED BY INFORMATION CENTER, ENERGY OF THE FUTURE AND ROSATOM, RNPP, Bangladesh. .
- 2021 **"Modern Nuclear Technologies: Safety System of RNPP"**, ORGANIZED BY INFORMATION CENTER, ENERGY OF THE FUTURE AND ROSATOM, RNPP, Bangladesh. .
- 2021 **"Safe NPP: What Do You Know About it?"**, ORGANIZED BY INFORMATION CENTER, ENERGY OF THE FUTURE AND ROSATOM, RNPP, Bangladesh. .
- 2021 **"Nuclear Energy vs Fossil Fuel: Which one is better?"**, ORGANIZED BY INFORMATION CENTER, ENERGY OF THE FUTURE AND ROSATOM, RNPP, Bangladesh. .
- 2021 **"Nuclear Energy Vs Fossil Fuel: Environmental Effects and Advantages"**, ORGANIZED BY INFORMATION CENTER, ENERGY OF THE FUTURE AND ROSATOM, RNPP, Bangladesh. .
- 2021 **"Basic Introduction of MCNP" Online Workshop on Montecarlo Simulation (Geant4, Gate and MCNP)**, ORGANIZED BY INTERNATIONAL PHYSICS ADDA, Pabna, Bangladesh. .

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- 2021 **"Nuclear Energy Vs Fossil Fuel: Environmental Effects and Advantages" One day International Webinar on Role of Physical Science towards Environmental Sustainability: Prospects and Challenges**, ORGANIZED BY DEPARTEMNT OF PHYSICS, DR. MEGHNAD SAHA COLLEGE, Ranipur, Uttar Dinajpur, West Bengal, India. .
- 2021 **"Research Methodology and research Techniques in Physical Sciences" Online Workshop on Research Methodology: Technical Writing**, ORGANIZED BY CHADPUR GOVERNMENT COLLEGE, Chadpur, Bangladesh. .
- 2021 **"Modern Nuclear technologies And Monte Carlo Simulation"**, ORGANIZED BY DEPARTMENT OF CHEMISTRY AND DEPARTMENT OF PHYSICS, Amity Institute of Applied sciences, Amity University, Kolkata. .
- 2022 **"Combating Global Warming with Nuclear Energy"**, ORGANIZED BY INFORMATION CENTER, ENERGY OF THE FUTURE AND ROSATOM, RNPP, Bangladesh. .
- 2022 **"Nuclear Physics and It's Role on Modern Civilization"**, ORGANIZED BY SA CITIZEN SCIENCE GROUP, India. .
- 2022 **"Role of Nuclear Physics in Unravelling the Mystery of Evolution of the Universe"**, WORKSHOP ON RECENT PROGRESS IN ASTROPHYSICS (WRPA)- A TRIBUTE TO PROF. M. N. SAHA" ORGANIZED BY THE DEPARTMENT OF PHYSICS, AIAS, AMITY UNIVERSITY UTTAR PRADESH, INDIA. , India. .

#### ANNRI-Gd Model

- 2019–Present **ANNRI-Gd Model**, *Our group have developed the ANNRI-Gd model.*  
 "The model was developed on the basis of data that were taken with an enriched <sup>157</sup>Gd sample placed inside a neutron beam at the Material and Life Science Experimental Facility (MLF) of J-PARC".

#### Simulation

- 2014–Present **Monte carlo Simulation**, *GEANT4.*, Studied gamma ray spectrum and gamma ray spectroscopy of thermanl necutron capture on Gd.
- 2021–Present **Monte carlo Simulation**, *PHITS*, Nuclear Physics, Radiation Physics and Shieldings.
- 2019–Present **Particle in Cell**, *EPOCH Code.*, Studied gamma rays from the laser plasman interation.
- 2018–2020 **TRIGLAV: A program package for TRIGA reactor calculations**, *TRIGLAV Code.*, Studied the application of TRIGLAV code to the BAEC TRIGA Research Reactor.

#### Awards

- 2019 Post-Doctoral Research fund by the SGR International Research Scholar Support Program (SGR-RSSP) and Ashoke Deysarkar International Program (ADSIP) for collaborating research with Prof. P. K. Datta, Department of Physics, IIT Kharagpur, India.
- 2014 MEXT-Scholarship for research scholar.

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- 2011 National Science and Information and communication Technology (NSICT) Fellowship 2010-11 from the Ministry of Science and Information and communication Technology, Government of the People's Republic of Bangladesh.
- 2010 Gold medal from Ziaur Rahman Hall, Rajshahi University, Bangladesh for good result in B.Sc.(Hons.).
- 2010 Feroza Malik Scholarship of the year 2009-10 for good research work and good result.

## Publications List

- 2023 Pretam K. Das et. al., Scattering of  $e^{\pm}$  by Silicon atoms and transport coefficients in mixtures of inert gas with silicon Vapor, Eur. Phys. J. D (2023) 77, 173.
- 2022 Saurav Saha, Pretam Kumar Das, Neutrino Interactions and Detections: Review and Future Potential, International Journal of Modern Physics A (Published 04 October, 2022)
- 2022 Saurav Saha, Pretam Kumar Das, Neutrino for peace: Nuclear Reactor Monitoring with Reactor Antineutrinos, NEUTRINO 2022 (Conference), XXX International Conference on Neutrino Physics and Astrophysics, Virtual Seou May 30 (Mon)-June 4 (Sat),2022 (Submitted)
- 2021 Tusher Kumer, Pretam Kumar Das et. al., Comparative Studies of Absolute Dose in Water Phantom, Solid Water Phantom and MatriXX with MULTICube Phantom, nternational Journal of Medical Physics, Clinical Engineering and Radiation Oncology, 2021, 10, 169-177, <https://doi.org/10.4236/ijmpcero.2021.104014>
- 2021 Md. Mizanur Rahman et. al., "Calculation of fuel burnup and excess reactivity using TRIGLAV code for the BAEC TRIGA research reactor", Int. J. Nuclear Energy Science and Technology, Vol. 14, No. 4, 2020
- 2021 R. Hassan et.al. , "Scattering of  $e^{\pm}$  off silver atom over the energy range 1eV-1MeV", European Physical Journal D 75, 204 (2021). <https://doi.org/10.1140/epjd/s10053-021-00222-4>.
- 2021 Sudeb Kumar Roy, Pretam Kumar Das, Rajada Khatun et. al., "Dosimetric Characteristics of 6 MV Medical Linac at BAEC", nternational Journal of Medical Physics, Clinical Engineering and Radiation Oncology 10(01):38-46, January, 2021 DOI: 10.4236/ijmpcero.2021.101004
- 2020 M. Shorifuddoza A. K. F. Haque, M. A. R. Patoary, Raihan Kabir, Pretam K. Das, M. Alfaz Uddin, "Angular distributions and critical minima in the elastic scattering of electron by atomic Copper", International Journal of Quantum Chemistry, 07 September 2020, Issue Online: 09 January 2021 DOI: <https://doi.org/10.1002/qua.26460>
- 2020 Tomoyuki Tanaka, Kaito Hagiwara, Enrico Gazzola, Ajmi Ali, Iwa Ou, Takashi Sudo, Pretam Kumar Das et.al, "Gamma-ray spectra from thermal neutron capture on gadolinium-155 and natural gadolinium", Prog. Theor. Exp. Phys. 2020, 043D02 pp: 1-15 DOI: 10.1093/ptep/ptaa015.

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- 2020 Pretam Kumar Das, "Comparative Studies of Photo-peak Efficiencies of Ge detector by Using  $^{60}\text{Co}$  radioactive source with Monte Carlo (MC) Simulation Data", Pabna University of Science and Technology Studies, ISSN: 2308-6246, Volume 4, Issue 2. 2020, pp:19-23.
- 2020 Afroz, T., Das, P. K., Chawdhury, S. I., and Roy, S. K. (2020). Study the Calibration of the High Dose Rate Brachytherapy Radioactive Source  $^{60}\text{Co}$ . *Physical Science International Journal*, 24(7), 19-32. <https://doi.org/10.9734/psij/2020/v24i730200>
- 2020 Md. Ahsan Habib ,Pretam Kumar Das 1 , Md. Sohelur Rahman, Shudeb Kumar Roy, "Evaluation of Indoor Radiation Hazard on Worker and Public Health in Mitford Hospital, Dhaka, Bangladesh (EJEPH-06512-2020)" has been published in "European Journal of Environment and Public Health. October, 2020. DOI: <https://doi.org/10.29333/ejeph/8576>.
- 2020 Pretam Kumar Das, Ashim Chandra Mondal and Md. Shariful Islam Chowdhury, "Measurement of the Dose Rate Resulted from the Bone Scintigraphy Patient at INMAS", Pabna University of Science and Technology Studies, ISSN: 2308-6246, Volume-4, Issue-1, 2020, pp:7- 11.
- 2019 Kaito Hagiara, Takatomi Yano, Tomoyuki Tanaka, Pretam Kumar Das, Sebastian Lorenz et. al., "Gamma Ray Spectrum from Thermal Neutron Capture on Gadolinium-157", *Prog. Theor. Exp. Phys.* 2019, 023D01. DOI: 10.1093/ptep/ptz002.
- 2018 Pretam Kumar Das "Comparison of the Photo-peak Efficiencies between the Experimental Data of  $^{137}\text{Cs}$  radioactive source with Monte Carlo (MC) Simulation Data". *International Journal of Advanced Research in Physical Science (IJARPS)* Volume-5, Issue- 10, PP 24-28, ISSN (online) 2349-7882.
- 2018 Pretam Kumar Das "Measurement of the Photo-peak efficiency of HPGe Semiconductor Detector using  $^{22}\text{Na}$ ,  $^{60}\text{Co}$  &  $^{137}\text{Cs}$ ", Volume 7 Issue 11, pp: 1200-1204, November 2018. ISSN (online): 2319-7064..
- 2018 Pretam Kumar Das "Measurement of the Photo-peak efficiency of HPGe Semiconductor Detector using  $^{22}\text{Na}$ ,  $^{60}\text{Co}$  &  $^{137}\text{Cs}$ ", Volume 7 Issue 11, pp: 1200-1204, November 2018. ISSN (online): 2319-7064..
- 2017 Pretam Kumar Das et. al., "Measurement of the relative intensity of the discrete  $\gamma$  rays from the thermal neutron capture reaction  $^{155,157}\text{Gd}(n,\gamma)$  using ANNRI detector (JPARC)", *PoS(KMI2017)045*.
- 2017 Hagiara et. al., "Comparison of  $\gamma$  ray's production data from thermal neutron capture on gadolinium with the Monte Carlo simulation", *PoS(KMI2017)035*.
- 2014 Pretam et. al., "Non-monotonic potential description of  $^6\text{Li}$  elastic scattering by  $^{16}\text{O}$  at low energies", Pabna University of Science and Technology Studies, Volume 1, Number 1, February 2014.
- 2013 Pretam K. Das et. al., "Nucleus-Nucleus (Non- monotonic) Potentials and Vector Analyzing Powers of  $^6\text{Li}$  Scattering by  $^{16}\text{O}$ ", *International Journal of Scientific Engineering and Technology(IJSET)*, Volume No.2 Issue No.11 pp: 1098-1102, 1 Nov. 2013.

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- 2013 Samiron K. Saha et. al., "Measurement of liquid volume in stomach using 6-eltorde FIM for saline water intake at periodic intervals", Global Journal, Volume 13, Issue 7, Version 1.0, Year 2013.
- 2011 AK Basak, MM Billah, MJ Kobra, MK Sarkar, MM Rahman, PK Das, "Non-monotonic potentials and vector analyzing powers of 6,7Li scattering by 12C, 24Mg, 58Ni, and 120Sn", Euro-physics letters (EPL), 94(2011) 62002.

### List of Attended Conferences and Seminars

- 2020 International Conference on Physics - 2020, 05-07 March 2020 organized by Bangladesh Physical Society.
- 2020 International Conference on Physics - 2020, 05-07 March 2020 organized by Bangladesh Physical Society.
- 2017 3rd KMI International Symposium on "Quest for the Origin of Particles and the Universe" (KMI2017), Nagoya University, January 5-7, 2017, Nagoya, Japan.
- 2015 International School for Neutrino-Nucleus Scattering Physics by NuSTEC at Okayama University, Japan.
- 2011 Regional Conference on Medical Physics", Dhaka, Bangladesh, 18February, 2011.
- 2011 "Nuclear Physics at the service of Mankind" at Rajshahi, Bangladesh,2011, by Dr. Sayed M. Qaim, scientist at the Research Center Julich and University of Cologne Germany.
- 2011 "Charge transfer in collisions of Si<sup>3+</sup> with H: A molecular state close coupling treatment" at Rajshahi, Bangladesh, 2011, by Bidhan C. Saha, professor, dept. of Physics, Florida A and M University, Florida, USA.

### Membership

- 2009 Member, Nuclear Physics Research Group, Rajshahi University, Bangladesh.
- 2013 Elected Member of Teacher Association in 2013, Pabna University of Science and Technology (PUST), Pabna-6600.
- 2014 Member, Experimental Nuclear Physics & Astro-nuclear Physics group, Okayama University, Japan.
- 2018 Member and convener of the Law and Order Committee of the Admission Central Committee of Pabna University of Science and Technology, Pabna-6600.
- 2019 Member, Theoretical Atomic Astrophysics Group, Rajshahi University & Pabna University of Science and Technology, Pabna.
- 2017 Member, Nuclear and Radiation Lab, Pabna University of Science and Technology, Pabna, Bangladesh.
- 2020 Member, Laser-Plasma Interaction group at Indian Institute of India(IIT) Kharagpur, India.
- 2020 Member, Bangladesh Physical Society (BPS), Dhaka, Bangladesh.
- 2020 Member, American Physical Society (APS), USA.

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## Organized International Webinar by me

2020 Have organized series of national and international webinar in Physics in the time of corona pandemic to encourage students and to motivate them in this situation. Still date (April, 2022), I've organized 276 webinars in physics as a host. Hosted four Nobel Laureates in my international Physics Webinar(1. Dr. David J. Wineland, One of the Physics Nobel Prize winner of 2012 and 2. Dr. William D. Phillips, American Nobel-Laureate Physicist, One of the Physics Nobel Prizer winner 1997, 3. Prof. Dr. Donna Strickland, Physics Nobel Prize Winner in 2018, 4. Prof. Dr. Ada E. Yonath, Chemistry Nobel Prize Winner in 2009 ). YouTube link: <https://www.youtube.com/channel/UCaTkWBBDToMiYS8kYskz8VdA>

## Core Courses

- M.Sc. Advanced Nuclear Physics (Including Astro-physics), Advanced Medical Physics, Electronic Communication, Particle Physics and Cosmology, Physics of Environment.
- B.Sc. Mechanics, Electromagnetism, Vibration and Waves, Optics, Thermal Physics, Classical Mechanics, Electrodynamics, Atomic and Molecular Physics, Nuclear Physics, Solid State Physics, Electronics, Quantum Mechanics, Statistical Mechanics, Numerical Methods, Pulse and Digital Electronics, Medical and radiation, Physics, Crystallography and Spectroscopy, Reactor Physics, Non- conventional Energy.

## Computer and Programming skills

- Basic JAVA, Adobe Illustrator
- MS Office Highly proficient in MS Word (word processing), MS Power Point (presentation preparation), MS Excel (spreadsheet preparation and data analysis) and Sigma Plot
- Programming FORTRAN77, Fortran90, Fortran95, C, C++, MathLab
- Intermediate PYTHON, , L<sup>A</sup>T<sub>E</sub>X, OpenOffice, Linux, Microsoft Windows, Macintosh
- Software CERN ROOT, LAHEY, XCODE
- ToolKit

## Simulation Work and Code

- Simulation GEANT4, PHITS, EPOCH, MCNP, GATE
- Code SFRESCO, ELSCATA, TRIGLAV

## Communication Skills

- 2020 Host at the national and international Webinar on Physics
- 2020 Co-ordinated the olympiad in Mathematics, Chemistry and Physics for talented student collaboration with Energy of the Future, Bangladesh.
- 2020 Organized a seminar on Dengue for making awareness of it
- 2017 Oral Presentation at the national and international Conference
- 2015 Poster at the national and international Conference

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## Languages

Bengali	<b>Mothertongue</b>	
English	<b>Intermediate</b>	<i>Con conversationally fluent</i>
Japanese	<b>Basic</b>	<i>Basic words and phrases only</i>
Hindi	<b>Basic</b>	<i>Basic words and phrases only</i>

## Interests

- Music
- Cricket
- Cooking
- Football
- Travelling
- Chess
- Ticket Collecting
- Cycling

## Thesis Supervisor

Master Dr. Arun Kumar Basak, Professor Emeritus, Department of Physics, University of Rajshahi Email: akbasak2001@yahoo.com.

## References

- Colleague Md. Khairul Alam Professor, Department of Physics, Pabna University of Science and Technology, Pabna-6600, Bangladesh. Email: drmkalam14@gmail.com
- Research Collaborator Dr. Nure Alam Abdullah, Professor, Department of Physics, Jagannath University, Dhaka, Bangladesh. Email: mnaa05@gmail.com

## Personal Information

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## Declaration

I, the undersigned, testify that all information contained in this form are true and correct to the best of my knowledge and available to present all proofs and supporting documents upon request by the authority.

**Pretam Kumar Das**

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