

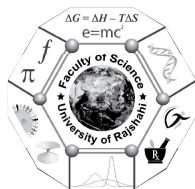


2nd ICRAST 2025

**2nd International Conference on
Recent Advances in Science and Technology**

14-15 November, 2025

PROGRAM SCHEDULE



Organized by

**Faculty of Science
University of Rajshahi**
Rajshahi-6205, Bangladesh



Program Summary

Day 1: Friday, November 14, 2025

Time	Event	Venue
08:00 - 09:30	Conference Kits Collection	Kazi Nazrul Islam Auditorium
09:30-11:00	Inaugural Ceremony	Kazi Nazrul Islam Auditorium
11:00-11:15	Tea and Coffee Break	
11:15-11:50	Keynote Session – I	Kazi Nazrul Islam Auditorium
11:50-12:25	Keynote Session – II	Kazi Nazrul Islam Auditorium
12:25-13:00	Keynote Session – III	Kazi Nazrul Islam Auditorium
13:10-14:30	Lunch and Prayer Break	
14:30-16:00	Invited/Contributed Session	Jabir Ibn Hayyan Science Building
16:00-16:15	Tea and Prayer Break	
16:15-17:15	Invited/Contributed Session	Jabir Ibn Hayyan Science Building
17:45-19:15	Cultural Program	Kazi Nazrul Islam Auditorium
19:30-21:00	Conference Dinner	Distillation Plant, Chemistry

Day 2: Saturday, November 15, 2025

Time	Event	Venue
09:00-09:35	Keynote Session – IV	Eng. Faculty Conf. Room
09:40-11:00	Invited/Contributed Session	Jabir Ibn Hayyan Science Building
11:00-11:15	Tea and Coffee Break	
11:15-13:15	Invited/Contributed Session	Jabir Ibn Hayyan Science Building
13:15-14:45	Poster Evaluation and Lunch Break	Jabir Ibn Hayyan Science Building
14:45-16:00	Invited/Contributed Session	Jabir Ibn Hayyan Science Building
16:00-16:15	Tea and Coffee Break	
16:15-17:15	Award Giving and Closing Ceremony	Faculty meeting room

Program Details

Keynote Speech

Day 1: Friday, November 14, 2025

Time	Event	Venue
08:00 - 09:30	Conference Kits Collection	Kazi Nazrul Islam Auditorium
09:30-11:00	Inaugural Ceremony	Kazi Nazrul Islam Auditorium
11:00-11:15	Tea and Coffee Break	
11:15-11:50 [ID 572]	Keynote Session – I Bridging Ethnopharmacology and Modern Drug Development: The Role of Natural Product-Based Drug-like Molecules <i>Mohammad A. Rashid</i> , Department of Pharmaceutical Chemistry, University of Dhaka Session Chair: Dr. Md. Shahed Zaman, Professor, Department of Chemistry, University of Rajshahi, Bangladesh	Kazi Nazrul Islam Auditorium
11:50-12:25 [ID 571]	Keynote Session – II Design of Enumeration Algorithms: A Tool to Assist 4IR <i>Md. Saidur Rahman</i> , Department of Computer Science and Engineering, BUET, and Member, University Grants Commission (UGC) of Bangladesh Session Chair: Dr. A. K. M. Azharul Islam, Professor Emeritus, Department of Physics, University of Rajshahi, Bangladesh	Kazi Nazrul Islam Auditorium
12:25-13:00 [ID 573]	Keynote Session – III Evidence-Based Decision and Meta-Analysis Models with Applications in Scientific Studies <i>Shahjahan Khan</i> , Professor & Vice Chancellor, Asian University of Bangladesh, Dhaka, and Emeritus Professor, University of Southern Queensland, Australia Session Chair: Dr. M. Khalilur Rahman Khan, Professor, Department of Physics, University of Rajshahi, Bangladesh	Kazi Nazrul Islam Auditorium

Day 2: Saturday, November 15, 2025

Time	Event	Venue
09:00-09:35 [ID 570]	Keynote Session – IV MXene-based Nanotech Wonders: ‘Science Fiction’ or Emerging Reality <i>A. K. M. Azharul Islam</i> , Professor Emeritus, Department of Physics, University of Rajshahi, Bangladesh Session Chair: Dr. Hasan Ahmad, Professor, Department of Chemistry, University of Rajshahi, Bangladesh	Eng. Faculty Conf. Room

Program Details

Invited/Contributed Session

Mathematics

Venue: Jabir Ibn Hayyan Science Building

Day 1: Friday, November 14, 2025

Invited/Contributed Parallel Session: MATH - I: Mathematical Approaches to Disease, Ecology, and Sustainability

Session Chair: Professor Dr. Abdul Malek, Department of Mathematics, RU

Session Co-Chair: Dr. Md. Abdul Kuddus, Department of Mathematics, RU

Time: 14:30-16:00

Room: 321

Paper ID	Title and Author
568 Invited	Mathematical Modeling for Optimal Sustainable Management of Coastal Unemployment Trends Under Climate Change Scenarios <u>Md. Haider Ali Biswas*</u> and Shahrin Tamanna Rimmi
29	Modelling the transmission dynamics and control strategies of influenza in Bangladesh <u>Sazia Islam Tithi</u> , Shewli Shamim Shanta, Dr. Raidah Rashid Taha, and Md Abdul Kuddus*
362	Identification of Anti-Neurological Diseases Compound from <i>Zingiber Officinale</i> and Common Biomarkers for Neurological Diseases Based on Bioinformatics Approaches <u>Sumi Rani Bayragi</u> , Riday Hossain, Md. Hussain Molla and Fee Faysal Ahmed*
66	A Vector–Host SEIR-SEI Mathematical Model for Dengue Transmission: Stability and Sensitivity Analysis <u>Md. Yasir Arafat</u> , Sakib Hosen, Razia Sultana and Md Rifat Hasan*
158	Herd Immunity and Prevention in HPV Transmission with Exogenous Reinfection Md Mehedi Hasan, and <u>Md Hamidul Islam*</u>
213	Mathematical analysis of scabies transmission and control at Rajshahi University in Bangladesh <u>B. K. Sharma*</u> , N. Ahmad, R. Ghosh, A. Rahim, M. A. Kuddus
421	When Guests Become Predators: An Analytical Predator–Prey Framework Linking Tourists and the Environment to Destination Sustainability <u>Soumitro Kumar Das*</u> , Shreya Dash Titli, Effat Rowja, Tithy Saha & Tahsin Fahim Ratul

Invited/Contributed Parallel Session: MATH – II: Mathematical and Data-Driven Modeling for Forecasting and Analysis

Session Chair: Professor Dr. Mahammed Harunor Rashid, Department of Mathematics, RU

Co-Chair: Professor Dr. Md. Masum Murshed, Department of Mathematics, RU

Time: 16:15-17:15

Room: 321

Paper ID	Title and Author
576 Invited	Facility Failure Uncapacitated Facility Location Problem with Time-Dependent Supply and Its Application in Emergency Logistics <u>M. Babul Hasan*</u> and Md. Sumon Ali
365	Adaptive Neuro-Fuzzy Inference System (ANFIS) Modeling for Forecasting the Coolest Month's Temperature: A Case Study of Rajshahi District, Bangladesh <u>Morioum Nesa</u> , Md. Sahadat Hossain*, Tamanna Tasnim Prova
399	Mathematical Framework for Cyclone Category Prediction Based on Fuzzy Logic Techniques <u>Shamiha Akter Akhi</u> , Md. Sahadat Hossain*
422	Early Detection of Parkinson's Disease Using Voice Biomarkers: Sensitivity Analysis of MDVP Features with ANFIS for Clinical Decision Support <u>Tamanna Tasnim Prova*</u> , Md. Mofrat Shahriar, Md. Sahadat Hossain
477	Persistent Homotopy: A Framework for Detecting Structures of Topological Spaces <u>Md. Mizanur Rahman*</u> , Md. Safik Ullah, Md. Masum Murshed, Nasima Akhter
510	A Taxonomic Framework for Graph-Theoretic Bifiltrations in 2-Parameter Persistent Homology <u>Md. Safik Ullah*</u> , Md. Mizanur Rahman, Md. Masum Murshed, and Nasima Akhter

Day 2: Saturday, November 15, 2025

Invited/Contributed Parallel Session: MATH - III: Fractional-Order and Nonlinear Mathematical Modeling: Solitons, Waves, and Applications

Session Chair: Professor Dr. Pinakee Dey, Department of Mathematics, Mawlana Bhashani Science and Technology University

Session Co-Chair: Professor Dr. Md. Zahurul Islam, Department of Applied Mathematics, RU

Time: 09:40-11:00

Room:321

Paper ID	Title and Author
12	Analytical Soliton Solutions of the Beta-Time Fractional Generalized Kadomtsev-Petviashvili Equation <u>Anish Kumar Adhikary</u> , Pinakee Dey* and M. Ali Akbar
41	Extended Modified Auxiliary Equation Mapping Approach for Solitary Wave Solutions and Stability of the Fractional Sawada-Kotera Equation <u>Saikh Shahjahan Miah*</u> , M. Ali Akbar and Kamruzzaman Khan
95	Mathematical analysis of the time-fractional Akbota equation with beta derivative: optical soliton solutions, impact of fractional parameters, and bifurcation analysis <u>S. M. Rayhanul Islam1*</u> , Kamruzzaman Khan, M Ali Akbar
360	A Qualitative Study of the Third WBBM Equation for Long Wave Propagation in Shallow Water: Unveiling Chaos, Sensitivity, and Multistability <u>Md. Al Amin*</u> , Gour Chandra Paul, Md. Atiqur Rahman, Dipankar Kumar

61	Fractional-Order Modeling and Numerical Analysis of CAR T-Cell Therapy in Leukemia Using the Laplace-Adomian Decomposition Method <u>Rezaul Karim*</u> , M.A. Bkar Pk, Pinakee Dey
30	Modelling the effects of temperature and rainfall on malaria transmission and control in Bangladesh <u>Sazia Khatun Tithi</u> , Md Abdul Kuddus*, Ashabul Hoque and Azizur Rahman

Invited/Contributed Parallel Session: MATH – IV: Advanced Modeling and Simulation in Science and Technology

Session Chair: Professor Dr. Mohammad Wahiduzzaman, Mathematics Disipline, Khulna University

Session Co-Chair: Dr. Md. Hamidul Islam, Department of Applied Mathematics, RU

Time: 11:15-01:15

Room:321

Paper ID	Title and Author
182	On the segregation of heavy elements in nascent extrasolar protoplanets <u>Mrinal Chandra Barman</u> , Gour Chandra Paul*
187	Assessing the relationship among the temperature, nutrients, and dissolved oxygen in aquatic ecosystems <u>Md. Sulaiman</u> , Zahangir Alam , Nur Hossain and Ashabul Hoque*
366	Homotopy Analysis Method for the Lane-Emden Equation: Enhanced Convergence and Accuracy for Polytropic Stellar Systems <u>Tauhida</u> , Md. Zakir Hossain, Gour Chandra Paul*
335	Efficient Image Processing with Fast Fourier Transform: Feature Extraction, Enhancement, and Storage Optimization <u>Sraboni Mostofa</u> , Gour Chandra Paul*
337	Efficient Image Processing Using Singular Value Decomposition: From Enhancement to Compression <u>Tamanna Akter</u> , Sraboni Mostofa, Gour Chandra Paul*
358	Identification of Common Biomarkers and Therapeutic Targets in Kidney and Bladder Cancer Using Bioinformatics and Molecular Dynamics Simulations <u>Riday Hossain</u> and Fee Faysal Ahmed*
428	Human Emotion Recognition from Facial Images through Shallow Features with Machine Learning Classifiers <u>Lasker Ershad Ali*</u> , Md. Mehedi Hasan Tonmoy and Rakib Hossain
564	A Wavelet and Clustering Hybrid for Image Segmentation: A Probabilistic Rand Index Evaluation <u>Badhan Roy</u> , Soumyo Joti Chakraborty, Yeamin Hasan, and Lasker Ershad Ali*
86	Simulation of Mhd Micropolar Fluid Flow with Hall and Ion-Slip Effects Along A Vertical Wall <u>Toufiquur Rahman Tamim</u> , Nahid Sultana Mitu, Sourav Roy and Mohammad Wahiduzzaman*

Invited/Contributed Parallel Session: MATH - V: Mathematical and Computational Approaches in Fluid Dynamics

Session Chair: Professor Dr. Hosne Ara Jasmine, Department of Mathematics, RU

Session Co-Chair: Professor Dr. A. H. M. Rashedunnabi, Department of Mathematics, RU

Time: 14:45-16:00

Room: 321

Paper ID	Title and Author
144	Modeling Maximum Surge Height Along the Bangladesh Coast: A Hydrodynamic Simulation and Sensitivity Analysis <u>Md. Zakir Hossain</u> , Gour Chandra Paul*
183	Advancing Storm Surge Prediction for Coastal Bangladesh through a High-Order Finite Difference Model with Nonlinear Tide–Surge Coupling <u>Md. Atiqur Rahman</u> , Md. Abdullah Al Mamun, Gour Chandra Paul*
296	Solitary Wave Dynamics and Dissipation through Mangrove Forest <u>Zahangir Alam</u> *, Ashabul Hoque, and Nur Hossain
434	A Second-Order in Time Adaptive Lagrange–Galerkin Scheme for the Shallow Water Equations with Non-Homogeneous Bottom Topography <u>Md. Mamunur Rasid</u> *
448	Characteristics of Wave Breaking-Induced Aeration Zone and Its Effects on TMA Spectra <u>Md. Nur Hossain</u> * and Ashabul Hoque
554	Tide forecasting along the coast of Bangladesh using harmonic analysis <u>Md. Nuruzzaman</u> , Gour Chandra Paul*

Contributed Sessions

Physics

Venue: Jabir Ibn Hayyan Science Building

Day 1: Friday, November 14, 2025

Contributed Parallel Session: PHYS – I: Materials Science

Session Chair: Prof. M. Khalilur Rahman Khan, Department of Physics, RU

Session Co-Chair: Dr. M. Lokman Ali, Department of Physics, PUST

Time: 14:30-16:00

Room: 224

Paper ID	Title and Author
253	Band Gap Prediction in Inorganic Compounds Using Composition-Derived Features and Extra Trees Regression <u>Rafeuzzaman Roktim</u> and Md Saifur Rahman*
278	Synthesis and Characterization of Lanthanum Based Perovskites for Device Applications <u>Md. Abdur Razzaque Sarker</u> * and Md. Hafijur Rahman
304	Preparation and Characterization of Spin-Coated Cu ₂ MgSnS ₄ Thin Films for Photovoltaic Applications <u>Shad Afif Sovon</u> , Most. Halima Khatun and M. Julkarnain*

326	Synthesis and Characterization of $Mn_xCd_{1-x}O$ Thin Films for Optoelectronics and Photovoltaic Applications <u>Rituporna Roy*</u> , Md. Saifur Rahman, Md. Suzauddulah, M. Riju Khandaker, M.S.I. Sarker and M.K.R. Khan
338	Synthesis of La and Mg co-doped $BiFeO_3$ Nanoparticles for Structural and Magnetic Studies <u>Zubayer Abhi*</u> , M.S.I. Sarker and M.K.R. Khan
397	Structural, Optical and Electrical Properties of CBD Deposited Copper Sulphide Thin Films <u>Apurbo Kumar Biswas*</u> , Khadija Akter Akhi and Rahima Nasrin
465	First-Principles Study of Band Gap Engineering, Spin-Orbit Coupling and Multifunctional Properties of Heavy-Element-Doped Graphene(Se,Te,Bi,Sb) Rupenra Nath Saha, <u>Sakib All Mahmud</u> , Ramalika Biswas and Dr. Jibon Krishna Modak*

Contributed Parallel Session: PHYS – II: Materials Science

Session Chair: Prof. M. Mozibur Rahman, Department of Physics, RU

Session Co-Chair: Prof. M. Samiul Islam Sarker, Department of Physics, RU

Time: 16:15-17:15

Room: 224

Paper ID	Title and Author
407	Synthesis and Characterization of $Sr_{1-x}Eu_xFe_{12-y}Ni_yO_{19}$ Nanomaterials through Hydrothermal Route <u>Md. Mahmudul Hasan Biplob*</u> , Md. Suzauddulah, M.K.R. Khan and M.S.I. Sarker
408	Synthesis and Characterization of $Mn_xZn_{1-x}O$ Thin Films for Optoelectronic Applications <u>Mst. Serajum Munira</u> , Md. Saifur Rahman, Md. Suzauddulah, M. Riju Khandaker, M.S.I. Sarker and M.K.R. Khan*
409	Structural and Optical Behaviors of Pristine and Ni-doped CuO Thin Films Synthesized via CBD Technique <u>Khadija Akhi*</u> , Apurbo Kumar Biswas and Rahima Nasrin
491	Green Functionalization of CuO/NiO/SiO ₂ Nanocomposites Derived from Agricultural Waste for Efficient Photocatalytic Dye Degradation <u>Md. Suman Islam*</u> , Md. Sakib Ahmed and Abu Bakar Md. Ismail
535	Preparation and Characterization of TiO ₂ Thin Film onto Glass Substrate by Spray Pyrolysis Technique <u>Md. Alomgir Hossain</u> , M.K.R. Khan*, M.S.I. Sarker

Day 2: Saturday, November 15, 2025

Contributed Parallel Session: PHYS – III(A): Computational Condensed Matter Physics

Session Chair: Prof. Fahmida Parvin, Department of Physics, RU

Session Co-Chair: Dr. M. Abdur Rashid, Department of Physics, JUST

Time: 09:40-11:00

Room: 224

Paper ID	Title and Author
134	Cotton-Assisted Deposition: A Low-Cost Strategy for Uniform Perovskite Solar Cell Films Mehedi Hasan ¹ , Md. Antajul Islam ² , Md. Rasadujjaman ^{1*}
45	Phase stability and outstanding figure of merit of Zintl phases: MIn_2C_2 (M= Sr, Ba) <u>Md. Mukter Hossain*</u> , Aslam Hossain, Hasina Akter, Md. Mohi Uddin, Md. Ashraf Ali and Saleh Hasan Naqib
126	Comprehensive DFT Benchmark on Boron Arsenide: Plane-Wave CASTEP and Full-Potential WIEN2k for Multi-Property Characterization <u>Maahi Sabah</u> , M. S. Islam, M. T. Ahmed, R. Parvin, M. A. Rahman* and M. S. Ali*
137	Exploring the multifunctional properties of MC_2B_2 (M = Lu, La): An <i>ab initio</i> study <u>Chandon Sarker*</u> , Sushmita Sadhu Pakhi, M.N.H. Liton, Mst. H. Khatun, M. Shahjahan and Arpon Chakraborty
146	First-Principles Study of Mechanical, Thermodynamical, and Optoelectronic Properties of Orthorhombic Nb_3SiTe_6 : A Spin–Orbit Coupling Enabled Hourglass Semimetal <u>Jahid Hassan*</u> , S. K. Sutradhar, J. H. Abir, M. A. Afzal and S. H. Naqib
147	Effect of mono- and bi-layer of Al on physical properties of predicted MAB phases Zr_2AlB_2 and $ZrAlB$ for industrial applications – DFT investigations <u>Md. Masum Rabbi</u> , Mst. A. Khatun, M.H. Mia, M.M.I. Sujon, F. Parvin* and A.K.M.A. Islam
333	Pressure-Induced Structural, Mechanical, Electronic, Optical, and Thermoelectric Properties of the Binary Intermetallic Compound Hf_5Si_3 for Advanced High-Temperature Applications <u>Md. Emon Hassan</u> , Md. Riad Khan, Md. Khairul Alam, Md. Lokman Ali*

Contributed Parallel Session: PHYS – III(B): Materials Science

Session Chair: Prof. M. Golam Mortuza, Department of Physics, RU

Session Co-Chair: Prof. Md. Abdur Razzaque Sarker, Department of Physics, RU

Time: 09:40-11:00

Room: 225

Paper ID	Title and Author
494	Hydrothermal Fabrication and Multifunctional Behavior of Pb Free and Bi-based Piezoelectric Materials Md Mukhlasur Rahman Biswas, <u>Md. Tahmidur Rahman Sadd</u> , Aparna Bashir Jui and Mirza H.K. Rubel*
495	Nano-Priming of Maize Seeds with Silicon-Rich Silica Nanoparticles Synthesized from River Sand <u>Md. Sakib Ahmed</u> , Md. Suman Islam, Biswanath Sikdar and Abu Bakar Md. Ismail*
509	Preparation and Characterization of (Ni, Cr) Co-doped SnO_2 Nanoparticles via Sol-gel Method <u>Istak Jahan Dola</u> , Md. Suzauddulah, M. Riju Khandaker, Md. Saifur Rahman, M.S.I. Sarker and M.K.R. Khan

522	Synthesis and Characterization of Gd and Tm co-doped NiO Nanoparticles through Hydrothermal Method <u>Jubaer Said</u> and Md. Samiul Islam Sarker*
538	Synthesis and Characterization of SnO ₂ , Sn _{1-x} Mn _x O ₂ and Sn _{1-2x} Mn _x Co _x O ₂ Nanoparticles by Sol-Gel Method. <u>Afiya Jahin</u> and Md. Samiul Islam Sarker*
540	Applicability of Ethylene Glycol Based Electrochemically Deposited Ni-doped ZnO for Next Generation Supercapacitor Application <u>Parvaj Rana</u> , Md. Earul Islam, Samia Tabassum and Abu Bakar Md. Ismail*

Contributed Parallel Session: PHYS – IV(A): Computational Condensed Matter

Session Chair: Prof. Raihana Shams Islam, Department of Physics, RU

Session Co-Chair: Dr. Samiron Kumar Saha, Department of Physics, PUST

Time: 11:15-13:15

Room: 224

Paper ID	Title and Author
201	Electronic Structure, Optical Response, and Mechanical Behavior of B ₆ X (X = S, Se) under Varying Pressure: A First-Principles Study <u>Sourav Kumar Sutradhar*</u> , Tanvir Khan, Tauhidur Rahman and Saleh Hasan Naqib*
231	Physical properties of recently discovered BaCd ₂ P ₂ Zintl compound: an <i>ab-initio</i> study for possible applications Md. Enamul Haque* and S. H. Naqib
251	Tailoring the Optoelectronic and Thermoelectric Properties of Ba ₂ ZrS ₄ for Green Energy Harvesting via Uniaxial Strain Engineering <u>Mst. A. Khatun</u> , M. A. Hossain, F. Parvin* and A. K. M. A. Islam*
271	First principles study of the physical properties of newly synthesized 312 MAX phase Zr ₃ SbC ₂ <u>Iesrat Jahan</u> , Fatin Rahman and F. Parvin*
273	Theoretical Study of Pressure Dependent Physical Properties of Superconducting Ta ₂ Se Chalcogenide <u>Tauhidur Rahman</u> , Jubair Hossan Abir, Sourav Kumar Sutradhar and Saleh Hasan Naqib*
279	Unveiling the potential of Li ₅ MO ₅ (M = Sb, Bi): A comprehensive DFT analysis for next-generation energy technologies <u>Ripon Das</u> , Anik Kundu, M. N. H. Liton, Noor-E-Ashrafi, Mst. H. Khatun, M. Shahjahan and Arpon Chakraborty*
291	Doping Effect of Antimony on BaFeO ₃ Perovskite Oxide: Optical, Electronic, Magnetic and Thermoelectric Properties <u>Md. Riad Khan</u> , Sanzida Naznin Mim, Zihad Hossain, Md. Emon Hassan, Md. Saiful Alam, Mohammad Abdur Rashid and Md. Lokman Ali*
346	Exploring the physical and superconducting properties of hexagonal ZrRuAs and HfRuP: Topological superconductor <u>Jubair Hossan Abir</u> and S.H. Naqib
415	Designing the Future of Sustainable, High-Efficiency Photovoltaics with Eco-Friendly Chalcogenide CuBiSeCl ₂ through Atomic-to-Device-Level Engineering Using DFT, SCAPS-1D, and Machine Learning <u>Zihad Hossain</u> , Md. Riad Khan, Sanzida Naznin Mim, Snigdha Dev Saha Prapya and Md. Lokman Ali*
515	Pressure-induced theoretical insight into the physical properties of electride superconductor Nb ₅ Ir ₃ N <u>M. Abdul Hadi Shah*</u> and S. H. Naqib

Contributed Parallel Session – IV(B): Nuclear, Atomic, Particle Physics and Applied Sciences

Session Chair: Prof. F. Nazrul Islam, Department of Physics, RU

Session Co-Chair: Prof. M. Atiqur Rahman Patoary, Department of Physics, RU

Time: 11:15-13:15

Room: 225

Paper ID	Title and Author
482	Intranuclear Cascade Model for Light-Ion Emission in Alpha-Induced Nuclear Reactions <u>Taskin Sultana</u> and Monira Jannatul Kobra*
516	Modeling and Benchmarking of Double-Differential Cross Sections for Proton-Induced Reactions on Medium-Mass Nuclei Using TALYS and PHITS <u>Md. Zahidul Islam Apu</u> and Monira Jannatul Kobra*
349	Dirac's Relativistic Treatment of Electron and Positron Scattering from SiH ₄ M. Sanzida Sarkar, M. Shorifuddoza, Pretam Kumar Das*, M. A. R. Patoary, A. K. Fazlul Haque and M. Alfaz Uddin
500	An Investigation on the Habitability of the Weakless Universe <u>Kazi Tasneem Shafayat*</u> , Md. Shahab Uddin Ahmmed and Abdullah Shams Bin Tariq
138	Fractional-Controlled Cotton-Assisted Deposition: A Cost-Effective Pathway to Uniform Perovskite Solar Cell Films Mehedi Hasan ¹ , Md. Antajul Islam ² , Md. Rasadujjaman ¹ *
293	A Comparative study of Three-Dimensional Conformal Radiotherapy (3DCRT), Intensity Modulated Radiotherapy (IMRT), Volumetric Modulated Arc Therapy (VMAT) Treatment Planning Techniques in Laryngeal Cancer Patients <u>Arifa Sultana*</u> , F. Nazrul Islam and Md. Motiur Rahman (Mithu)
463	Heavy-Ion Induced Nuclear Reactions for Hadron Therapy and Medical Applications <u>Mst. Shagarika Khatun</u> and Monira Jannatul Kobra*
413	An Innovative Multi-layered Octa-driven RGB Image Encryption System (MORIES) for Enhanced Security <u>Abu Juha Ahmed Muid*</u> and Md. Mahbubur Rahman
553	Towards Secure and Efficient Blockchain-IoT Integration: A Survey of Lightweight Protocols <u>Durjoy Basak*</u> and Farhana Chowdhury Ananda*

Invited/Contributed Session

Chemistry

Venue: Jabir Ibn Hayyan Science Building

Day 1: Friday, November 14, 2025

Invited/Contributed Parallel Session - I(A): Materials Chemistry

Session Chair: Dr. Md. Monirul Islam, Professor, Department of Chemistry, RU

Session Co-chair: Dr. Md. Masuqul Haque, Professor, Department of Chemistry, RU

Time: 14:30-16:00

Room: 101

Paper ID	Title and Author
438 Invited	Electro-oxidation of ethanol using IrO _x -Pt electrode in the alkaline medium <u>Mohammad A. Hasnat*</u> , Md. Fahmidul Islam, Mohammad Imran Hossain

566 Invited	Next-Generation Molecular Sensing with Atomically Thin MoS ₂ Microfluidic Transistors <u>Dr. Nasiruddin*</u>
91	Aminated Nanocrystalline Cellulose-Supported Ag-ZnO Nanocomposite Electrodes for Ascorbic Acid Detection in Real Samples <u>Md. Mahabur Rahman</u> , Md. Sohel Rana, Hideto Minami, Md. Mahbubor Rahman, Md. Abdur Rahman, Md. Ashraful Alam, Hasan Ahmad*
321	Comparative Theoretical Analysis of CaTiO ₃ in Orthorhombic, Tetragonal, and Cubic Phases: Electronic, Optical, and Elastic Properties Safal Chakma*, A. Nayeem Faruqui, Ajoy Kumer, Md. Araf Islam, Sejuty Islam Reya, Unesco Chakma
206	Solvent-Driven Modulation of Structural and Nonlinear Optical Properties of a Novel Hydrazide Derivative: Synthesis, DFT, and TD-DFT Study <u>Jenia Afrin Tanni</u> , Md. Sohel Rana, Md. Belayet Hossain Howlader, Md. Rezaul Haque Ansary*
551	Influence of Synthesis Methods on the Electrocatalytic Hydrogen Evolution Reaction Performance of Rhodium-Decorated Graphene Oxide Nanocomposites <u>S. M. Nizam Uddin</u> , ^{1,2*} S. Hussain, ² R. Akhter, ² N. M. Butt, ² S. Beura, ² and S. S. Maktedar ^{2*}

Invited/Contributed Parallel Session – I(B): Synthetic Chemistry

Session Chair: Dr. M. Shahed Zaman, Professor, Department of Chemistry, RU

Session Co-chair: Dr. Md. Abdul Mannan, Professor, Department of Chemistry, RU

Time: 14:30-16:00

Room: 106

Paper ID	Title and Author
88	Synthesis and Characterization of Fluorescent Magnetic Nanoparticles: A Dual-Function Platform for DNA Separation and Real-Time Visualization Md. Shamiull Alim Munna, Md. Mahbubor Rahman*
513	One-pot multi-component synthesis of 7-Arylbenzo[c]acridine-dione Derivatives Mediated by Nicotinic acid <u>Md Anamul Hossain</u> , Izarul Islam, Pran Gopal Karmakar, and Harendra Nath Roy*
443	Co@MOF synthesis with N/O donor linker and ligand by mechanochemical, hydrothermal and solvothermal method and investigation of photocatalysis and photoluminescence Muhaimin Helal Efat, and Md. Azharul Arafath*
525	Synthesis, Characterization, and Enhanced Nonlinear Optical Properties of Octyloxy-Substituted Azo-Imine Copper(II) Complex: Experimental and Theoretical Studies <u>Md. Mohon Shek</u> , Md. Shakil Hossen, Md. Shofiur Rahman, Monirul Islam1, Md. Rabiul Karim
351	Synthesis and Evaluation of Azithromycin-Loaded PCL-Chitosan Films for Enhanced Wound Healing Baratul Islam Sabbir, Roushown Ali and Tariqul Hasan*
442	Synthesis, Characterization and Antimicrobial Potentials of Tannic acid Functionalized Metallic-bismuth Nanoparticles <u>Md. Ataur Rahman</u> , Md. Ahasanur Rabbi, Hasan Ahmad, Md. Abdul Jalil Miah, and Md. Abdur Rahman*

Invited/Contributed Parallel Session – II(A): Environmental Chemistry**Session Chair:** Choudhury Md. Zakaria, Professor, Department of Chemistry, RU**Session Co-chair:** Dr. Md. Rezaul Haque Ansary, Professor, Department of Chemistry, RU**Time: 16:15-17:15****Room: 101**

Paper ID	Title and Author
567 Invited	Photo-Batteries and Supercapacitors: Next Big Trends for Self-Rechargeable Wireless Electronics <u>Md. Aftabuzzaman*</u>
148	Development of Corn-Based Low-Cost Hybrid Biodegradable Film to Reduce the Use of Harmful Plastic <u>Raihanul Islam Ullash</u> , Mst. Nahida Akter, Khandokar Rifa Tasfia, Md. Mazharul Islam, and Md. Ibrahim H. Mondal*
101	Junk Food Consumption Trends, Patterns, and Awareness of Its Health Risks among University Students in Bangladesh <u>Istiaque Bin Islam</u> , Md. Samiul Ali, Md. Rakibul Islam, Sumaia Islam, Nazifa Tabassum, Md. Masud Rana & Arafat Hassan Razon*
136	Source, Occurrence, and Geochemical Distribution of Iron, Manganese, and Lead in Groundwater of Northwestern Bangladesh <u>Md Zahidul Islam</u> , Md Golam Mostafa*
431	Biodegradable Hydrogel from Rice Husk Ash for Simultaneous Heavy Metal and Dye Removal in Textile Wastewater <u>Hasib Ahmed</u>

Invited/Contributed Session – II(B): Nano Chemistry**Session Chair:** Dr. Hasan Ahmad, Professor, Department of Chemistry, RU**Session Co-chair:** Dr. Md. Mahbubor Rahman, Professor, Department of Chemistry, RU**Time: 16:15-17:15****Room: 106**

Paper ID	Title and Author
56	Development and Characterization of Biogenic Zinc oxide nanoparticles and <i>Aloe vera</i> incorporated Carboxymethyl Starch Based Bio-composite Hydrogel for Enhanced Wound Healing Applications <u>H. Jahan Kadri</u> , Firoz Ahmed, Md. Rezaul Karim, Md. Hasinur Rahman, Md. Nuruzzaman, and Md. Ibrahim H Mondal*
469	Utilizing Plasmonic Gold Nanoparticles in SERS: A Novel Approach to Trace Element Detection <u>Md. Nur Amin Bitu*</u> , Syed Farid Uddin Farhad, Nazmul Islam Tanvir, Md. Shaha Alam, Md. Kudrat-E-Zahan
426	pH Responsive Photocatalytic Degradation of Dyes by Using Hydrothermal and Sol-Gel Preparation of TiO ₂ Nanoparticles <u>Anik Ray</u> , Md. Humayun Kabir, Md. Mahadi Hasan, Delton Biswas, Md. Khairul Bashar Palash, Md. Shamim Hossan*
59	Preparation and Characterization of TiO ₂ nanoparticles from river-born rutile Toukir Biswas, <u>Md. Nuruzzaman*</u> , Md. Aminur Rahman, Md. Golam Mostafa and Md. Ibrahim H. Mondal

Day 2: Saturday, November 15, 2025

Invited/Contributed Parallel Session – I(A): Nano Chemistry

Session Chair: Dr. M. Nurul Islam, Professor, Department of Chemistry, RU

Session Co-chair: Dr. Md. Shahidul Islam, Professor, Department of Chemistry, RU

Time: 09:40-11:00

Room: 101

Paper ID	Title and Author
390	Synthesis of Cu–Ag-Modified Magnetic Iron Oxide Nanoparticles Using <i>Pennisetum purpureum</i> for Dye Reduction and Antibacterial Applications Md. Sujan Basunia, Morseda Khatun, Md. Abdul Latif, Bijan Mohon Chaki, and Abinash Chandro Sarker*
371	Surface-Enhanced Raman Scattering (SERS)-Active Gold Nanoprobes for Selective Dye Detection via Aggregation Control Kazi Mohammed Mehedi Hassan, Towfiq Ahmed Chowdhury, Md. Saiful Alam*
532	Covalent Linkage of Vancomycin with Silica Coated Magnetic Nanoparticles for Separation and Efficient Killing of Gram-positive and Gram-negative Bacteria Md. Mazharul Islam, Samiull Allim Munna, Mst. Ferdousi Begum, Mirza H. K. Rubel, Md. Shahidul Islam, Hasan Ahmad, Md. Mahbubor Rahman*
441	Gallic acid Mediated Aqueous Production of Functionalized Bismuth Nanoparticles for Reducing Multiple bonds in Organic compounds Jishan Ahmed, Shipon Mia, Rakibul Islam, Md. Ahsanur Rabbi, Anwar Ul Hamid, Hasan Ahmad, Md. Abdur Rahman*
71	Development and Characterization of Titanium Dioxide Nanoparticles/Quaternized Chitosan based Hybrid Nanofluids for Improved Heat Transfer Capacity Firoz Ahmed* and Md. Ibrahim H. Mondal
361	Stabilizing Bismuth Nanoparticles by Aqueous Hydrolysis of Raw Silk for Catalytic Applications Rakibul Islam, Most. Sabiha Islam, Anwarul Hamid, Hasan Ahmad, Md. Abdur Rahman*
27	Sustainable Development and Characterization of Biodegradable Collagen-Calcium Carbonate (COL-CaCO ₃) Microporous Composite Scaffold for Bone Tissue Regeneration Md Shariful Islam ^{1*} , Prantor Karmaker ¹ , Md. Zakaria ³ , Jafor Raihan ¹ , Alam Khan ⁴ , Razon Ahmad ² & GM Shafiur Rahman ²

Invited/Contributed Parallel Session – I(B): Environment Chemistry**Session Chair:** Dr. M. Nazrul Islam [2], Professor, Department of Chemistry, RU**Session Co-chair:** Tapan Kumar Biswas, Professor, Department of Chemistry, RU**Time:** 09:40-11:00**Room:** 101

Paper ID	Title and Author
204	Eco-Friendly Synthesis of Iron Oxide Nanoparticles Using taro (<i>Colocasia esculenta</i>) Leaf Extract: Structural and Morphological Characterization Animesh Sarkar*, <u>Debjuti Paul</u> and Ritu Sarker
246	Magnetic Hollow Carbon Microfiber from Jute Fiber for Removal of As(III) from waste water: The Study of Kinetic and Thermodynamic Aspects H. M. T. Islam*, H. Ahmad, M. M. Rahman
230	Characterization, Health Issues and Suitability of Surface Water in Rajshahi city corporation area of Bangladesh Md. Habibur Rahman, <u>Md. Mahabub Alam</u> , Md. Khabbab Ali, Md. Shafiul Alam, Humayun Kabir, Md. Shamim Hossan, M. Habibur Rahman, A A S Mostofa Zahid*
149	A competitive kinetics study for the biodegradation of polyethylene (PE) by <i>S. aureus</i> and <i>Bacillus sp.</i> with enhancer Na-surfactin <u>Siddhartha Sankar Saha</u> , Md. Mazharul Islam and Md. Ibrahim H. Mondal*
31	Advantages of AEOP Technology over Conventional Processes for Reducing Effluent Pollution in the Textile Industry <u>Mitali Halder</u> , A. Mitali Halder and A. Ahmad Amirullah Khan*

Contributed Parallel Session – II(A): Materials Chemistry**Session Chair:** Dr. A. B. M. Hamidul Haque, Professor, Department of Chemistry, RU**Session Co-chair:** Md. Motahar Hossain, Professor, Department of Chemistry, RU**Time:** 11:15-13:15**Room:** 101

Paper ID	Title and Author
552	Fish Waste Derived Nano-structured Hydroxyapatite for Effective Remediation of Cationic and Anionic Dye: Kinetic, Isotherm and Thermodynamics Studies Nahida Akter*, Protap Chakroborty, Md. Emam Hossain, Habiba Akter, Md. Hassan Shahriar, S.M. Nizam Uddin*
243	Antimicrobial Amine-Functionalized Microcrystalline Cellulose Incorporated Gold Nanocomposite for Use in Health Products Md. Zahidul Islam, Hasan Ahmad*
197	Hydrothermal Synthesis and Characterization of Iron-Doped Barium Strontium Titanate Nanopowders <u>Md. Parvej Mosaraf Sohel</u> *, Maariz Rahman, Fabiha Nawshin Satta
245	Design of Mesoporous Fe ₃ O ₄ /SiO ₂ /Poly(2-Carboxyethyl Acrylate) Composite Polymer Particles for Tunable Biomolecule Release Most. Nusrat Jahan*, Hasan Ahmad
329	Biodegradable Triblock PCL- <i>b</i> -PEG- <i>b</i> -PCL Copolymer: Synthesis, Characterization and Biomedical Application <u>Asikur Rahman</u> , Roushown Ali and Tariqul Hasan*
244	Conducting copolymer poly(aniline-pyrrole) supported Fe ₃ O ₄ nanocomposite particles for catalytic degradation of industrial dye Md. Kawsar Hossain*, Hasan Ahmad
89	Thiosemicarbazone Polydentate Ligands and Their Ni(II) Complexes: Synthesis, Metal Sensing, Antioxidant and Antimicrobial Activities <u>Md. Abdur Rakib</u> , Arfina Akter, Sadia Afrin, Md. Shidul Islam, Md. Rabiul Karim*

Invited/Contributed Parallel Session – II(B): Phytochemistry and Environmental Chemistry**Session Chair:** Dr. Md. Tariqul Hasan, Professor, Department of Chemistry, RU**Session Co-chair:** Md. Badrul Islam, Principal Scientific Officer, BCSIR Rajshahi Laboratories, Rajshahi**Time: 11:15-13:15****Room: 106**

Paper ID	Title and Author
73	Barrier Properties Study of Edible Film Using Various Natural Extracts for Food Packaging Application <u>Md. Mazharul Islam</u> ¹ , Firoz Ahmed ² and Md. Ibrahim H. Mondal ^{1*}
74	Sustainable Methyl Cellulose-Based Hydrogels Reinforced with Neem Extract for Antimicrobial and Biocompatible Wound Dressings <u>Md. Hasibul Islam</u> ¹ , Md. Monirul Islam ¹ , Firoz Ahmed ^{1,2} and Md. Ibrahim H. Mondal ^{1*}
454	Synthesis, Spectroscopic Characterization, and Antibacterial Properties of Azomethine-Linked Cu(II) and Ni(II) Complexes Dr. Rockshana Begum*, Mst Marzana Rayhan and <u>Afrat Hossain</u>
530	Prioritizing Safe COX-2 Inhibitors from Phytochemicals via ML-Guided Toxicity Clustering and MD-Informed Mechanistic Insights <u>Md. Shakil Hossen</u> , Md. Mohon Shek, Md. Monirul Islam*
555	Experimental and Theoretical Insights into Synthesized Benzyl-N'-(3,4,5-trimethoxyphenylmethylene) Hydrazinecarbodithioate: Molecular Docking and Dynamics Simulation-Based Evaluation of its Inhibitory Potential Against the Monkeypox Virus <u>Abdullah Al Mahmud</u> , Md. Mohon Shek, Md. Shakil Hossen, Md. Monirul Islam*
406	Development of a Functional Terephthaloyl Chloride–Ethanolamine Material for Sweet Water Restoration with Potential Biochemical Applications Md. Zahid Hasan, Md. Shamim Hossan, Md. Ashraful Alam*

Invited/Contributed Session**Statistics****Venue: Jabir Ibn Hayyan Science Building****Day 1: Friday, November 14, 2025****Invited/Contributed Parallel Session - I(A): Public Health-I****Session Chair:** Prof. Md. Golam Hossain, Department of Statistics, RU**Co-Chair:** Prof. Farhana Hasan, Department of Statistics, RU**Time: 14:30-16:00****Room: 323**

Paper ID	Title and Author
577 Invited	Moderating Effects of Types of Childbirth and Residence on Postpartum Depression Dr. Shahuria Enam, Dr. Md. Shariful Islam*
359	Exploring the Role of Academic Stress and Mental Health in Suicidal Ideation Among University Students in Bangladesh Jannatul Mawa, Smita Sarker*, <u>Payel Roy</u> , Md. Assaduzzaman Mondol, Amal Sarker

235	Factors Associated with Obesity, Diabetes, and Hypertension in Elderly Populations: A Regional View <u>Gowranga Kumar Paul</u> , Md. Atiqul Islam, Md. Asraf-Ul-Alam*
490	Institutional Care for Children in Bangladesh: How are their Health Issues Addressed in Baby Home? <u>Sarmin Sultana</u> , Rabiul Islam*, Morsalin, Md. Azizul Haque, Rimon Raihan, Sumon Bala
208	Sleep duration and nutritional status of adolescents: A nationally representative cross-sectional study in Bangladesh <u>Shamima Akter</u> , Raufun Hasan Arnob, Md. Mosfequr Rahman*
173	Body Image of People Living with Diabetes type 2 in Rural Bangladesh: An Ethnography <u>Md. Mostafizur Rahman*</u> , Bijoy Krishna Banik
460	Menstrual Health and Academic Performance: Effects of Premenstrual Syndrome and Dysmenorrhea Among Female Students at HSTU, Bangladesh Sathi Yeasmin, Smita Sarker*, <u>Tasmia Tabassum Nitu</u>
191	Prediction of Minimum Dietary Diversity among Children in Bangladesh: A Comparative Study of Machine Learning Algorithms Md. Binyamin, Md. Mahfuz Uddin, <u>Mahbub Hasan Shanto</u> , Md. A. Salam, Tonmoy Shil, Md. Rezaul Karim*

Invited/Contributed Parallel Session – I(B): Bioinformatics-I

Session Chair: Prof. Md. Nurul Haque Mollah, Department of Statistics, RU

Co-Chair: Prof. Mohammad Ohid Ullah, Department of Statistics, Shahjalal University of Science and Technology

Time: 14:30-16:00

Room: 324

Paper ID	Title and Author
353 Invited	A non-linear predictor for heterogenous gene expression data <u>Md. Shahjaman*</u> , Atul Chandra Singha, and Md. Nurul Haque Mollah
401	Subtractive Genomic Approach for Identification of Pathogen-Specific Key Genes and Drug Targets in Major Foodborne Bacteria <u>Most. Nusrat Jahan Resma</u> , Md. Tahalil Islam Rahat, Most. Shermin Akter Sumi, Md. Abdul Kayum, Md. Kaderi Kibria*
372	Identification of Shared Disease-Associated Genes in Papillary Thyroid Carcinoma and Clear Cell Renal Cell Carcinoma Highlighting Their Functions, Pathways, Regulatory Components, and Potential Therapeutic Targets <u>Md. Feroj Ahmed</u> , Ovi Sharma, Md. Nurul Haque Mollah*
461	Facial Emotion Recognition with Dimensionality Reduction: A Comparative Study of PCA, FA, and Combined PCA-FA with a CNN Baseline <u>Md. Abdur Rakib</u> , Md. Razu Ahmed, Abu Bakar Shiddik, Md. Shamim Reza
439	Identification of Shared Genomic Biomarkers Highlighting Key Molecular Mechanisms and Pathways for Potential Dual-Targeted Therapy in Chronic Lymphocytic Leukemia Associated with Type 2 Diabetes <u>Sohail Al Mahmood</u> , Md. Feroj Ahmed, Nusrat Jahan Puspo, Dewan Mumdoood Ahmed, Md. Alamin Hossain, Md. Nurul Haque Mollah*

127	Identification of Bacterial Key Genes in Hypertension Through Subtractive Genomic and Repurposing of Targeted Drug Molecules <u>Md. Tahalil Islam Rahat</u> , Most. Shermin Akter Sumi, Most. Nusrat Jahan Resma, Md. Kaderi Kibria*
387	Uncovering Genetic Risk Factors for Chronic Lymphocytic Leukemia via Meta-Analysis of GWAS Summary Statistics for Diagnostic and Therapeutic Applications <u>Md. Shariful Islam</u> , Mohammad Ali, Hussain Muhammad Ryan, Md. Al Noman, Md. Foysal Ahmed, Md. Abdul Latif, Nibas Kumar Pal, Md. Nurul Haque Mollah

Invited/Contributed Parallel Session – I(C): Statistical Methods and Modelling

Session Chair: Prof. Dulal Chandra Roy, Department of Statistics, University of Rajshahi

Co-Chair: Prof. Md. Golam Mostofa, Department of Population Science and Human Resource Development, University of Rajshahi

Time: 14:30-16:00

Room: 331

Paper ID	Title and Author
288 Invited	Exact Inference in a Tetranomial Distribution <u>Papia Sultana*</u> , Manisha Pal, Bikas K. Sinha
327	Impact of Income Inequality on Ecological Footprint in Bangladesh: An ARDL Approach <u>Md. Johurul Islam</u> , Mst. Papia Sultana*
398	Data Science Approaches to Measuring Time Poverty and Residual Time in Bangladesh <u>Momtaz Jahan Mitu</u> , Masud Karim, Md. Nuruzzaman Haque*, J.A.M. Shoquillur Rahman
222	Optimum sample size in sampling design and experimental design <u>Syed Rakibul Islam</u> , Sajib Hasan, Nishat Anjume, Mohammad Ohid Ullah*
451	Unlocking Human Capital for the Circular Economy: Evidence from Green HRM Practices in Bangladesh <u>Md. Mustaqim Roshid</u> , Md. Shawan Uddin*, Most. Suraia Akter Shikha
458	Impact of Health Expenditure on Public Health Outcomes in Asian Countries <u>Mahir Islam Oyon</u> , Rana Roy, Tanjina Khan, Md. Sabiruzzaman*
52	Assessing Bus Service Quality Attributes in Dhaka City Using Multiple Linear Regression and Passenger's Stated Preferences <u>Muhammad Waresul Hassan Nipun*</u> , Farhana Muna, Prosenjit Das

Invited/Contributed Parallel Session – II(A): Public Health-II**Session Chair:** Prof. Papia Sultana, Department of Statistics, RU**Co-Chair:** Prof. Sumaiya Abedin, Department of Population Science and Human Resource Development, RU**Time: 16:15-17:15****Room: 323**

Paper ID	Title and Author
518	The Myth–Medicine Divide: How Stigma, Myths, and Social Curiosity Undermine Mental Health Care in Bangladesh Harold Sougato Baroi*, Ellmul Muntaha Eqra, <u>Shweta Acharya</u>
506	Rising trend and determinants of caesarean section practices in Bangladesh <u>Jaid Hossain</u> , Md. Kaderi Kibria, Md. Sabiruzzaman, Abu Sayed Md. Al Mamun, Md. Kamruzzaman, Md. Golam Hossain, Farhana Hasan*
290	Maternal exposure to intimate partner violence and the development of gestational diabetes mellitus: a health facility-based study in Rajshahi, Bangladesh <u>Rukaiya Khanam Rikta</u> , Md. Mosfequr Rahman*
488	Factor structure and validation of the Anger Tolerance Scale (ATS) for university students: Role of anger tolerance on classroom mindful attention mediated by the self-compassion <u>Sinithiya Ahmed Tonny</u> , Kazi Imrul Kayesh, Shakira Khatun, Mohd. Ashik Shahrier*
363	Assessing the Impact of Digital Exposure and Ocular Symptoms on Dry Eye Disease in Adults Aged 18–45 Partho Sarothi Sarker, Smita Sarker*, A. M. Mostahsin Billah Naiem, <u>Sackline Mostack Sohag</u> , Md. Siddiqur Rahman

Invited/Contributed Parallel Session – II(B): Environment-I**Session Chair:** Prof. Ayub Ali, Department of Statistics, University of Rajshahi**Co-Chair:** Prof. Md. Abdul Khaleque, Department of Statistics, University of Rajshahi**Time: 16:15-17:15****Room: 324**

Paper ID	Title and Author
519	Investigating Road Traffic Noise and Associated Public Health Risks in Rajshahi City Corporation, Bangladesh <u>Rakin Hasan</u> , Abu Sayed Md. Al Mamun*, Md. Sohel Rana, <u>Tanvir Anjum</u> , <u>Prottoy Nandi</u>
544	Spatiotemporal Variability of Atmospheric Pollutants across Divisional Districts of Bangladesh Using Sentinel-5P Precursor (2020–2024) Bipro Acharjee*, <u>Monim Abdullah</u> , Rudro Chanda, Priyom Dutta Purkaystha, Sadia Afrin, Md. Shoaib Hassan
508	Assessment of Chemical properties of soils collected from different Agricultural fields of Gopalganj District in Bangladesh Sanjida Binta Shafin Mishu, Rakin Hasan*, <u>Prottoy Nandi</u> , Md. Fahim Kashem Mazumder
512	Heavy Metal Contamination in Soils of Industrial and Agricultural Areas: A Comparative Study in Natore, Bangladesh <u>Md. Tanvir Anjum</u> , Rakin Hasan, Samsunnahar Popy*, Md. Shihab Biswas, Sanjida Binta Shafin Mishu, Md. Fahim Kashem Mazumder, Prottoy Nandi
16	A comprehensive analysis of integrated approaches to groundwater management: a case study of the northern region in Bangladesh <u>Dular Sarker*</u>

Invited/Contributed Parallel Session – II(C): Statistical Methods and Modelling

Session Chair: Prof. Tapan Kumar Roy, Department of Population Science and Human Resource Development, University of Rajshahi

Co-Chair: Prof. Md. Sabiruzzaman, Department of Statistics, University of Rajshahi

Time: 16:15-17:15

Room: 331

Paper ID	Title and Author
344	A meta-analysis of dengue infection in Bangladesh <u>Ali Ashraf Sakil</u> , <u>Papia Sultana</u> *
404	Automation of Central Cafeteria through Deep Learning with Food Detection, Calorie Estimation and Billing System from Platter Image <u>Protiva Rani Kundu</u> , Marufa Yeasmin, Md. Shamim Reza*
459	Co-movement among Health Outcome, Economic Growth and Health Indicators in Asia: A Panel Data Analysis from 2000 to 2023 Rana Roy, Mahir Islam Oyon, Tanjina Khan, Md. Sabiruzzaman*
85	Determining the Factors Influencing the Housing Rent in Rajshahi City <u>Sumita Roy</u> *, Mehjabin Jahangir Raffin
440	Measuring Attitudes toward AI's Impact on the Job Market in Bangladesh: A Study at Pabna University of Science and Technology <u>Md. Razu Ahmed</u> , Md. Abdur Rakib, Abu Bakar Shiddik, Md. Shamon Reza*

Day 2: Saturday, November 15, 2025

Invited/Contributed Parallel Session – III(A): Public Health-III

Session Chair: Prof. Md. Rafiqul Islam, Department of Population Science and Human Resource Development, RU

Co-Chair: Prof. Abu Sayed Md. Al-Mamun, Department of Statistics, RU

Time: 09:40-11:00

Room: 323

Paper ID	Title and Author
493	From Vulnerability to Resilience: Heatwave Impacts and Adaptation Strategies from Students' Perspectives in Northern Bangladesh <u>Azizul Haque</u> , Rabiul Islam*, Morsalin, Sarmin Sultana, Rimon Raihan
248	Factors influencing economic burden of diabetes in Bangladesh: A hospital-based cross-sectional study <u>Mst Fatema Akter</u> *, Md. Mothashin, Farhana Hasan, Abu Sayed Md. Al Mamun, Md. Golam Hossain
247	Parity and Maternal Nutrition in South Asia: Evidence from Comparative Data Analysis <u>Jannatul Ferdous</u> *, Monirul Islam, Abu Sayed Md. Al Mamun, Farhana Hasan, Md. Golam Hossain
214	Modern Contraceptive Use among Sexually Active Adolescent Females in Bangladesh: Trends and Determinants from 2011 to 2022 <u>Md. Nuralam Islam</u> , Md. Aslam Hossain, Md. Monsur Rahman, Abu Sayed Al Mamun, Md. Golam Hossain*
310	Area-Based Inequalities in Antenatal Care Utilization among Women in Bangladesh: Evidence from BDHS Data 2022-23 <u>M. S. S. Soby</u> , J. A. M. S. Rahman, M. N. I. Mondol*

Invited/Contributed Parallel Session – III (B): Bioinformatics-II

Session Chair: Prof. Md. Aminul Hoque, Department of Statistics, University of Rajshahi

Co-Chair: Prof. Md. Shahjaman, Department of Statistics, Begum Rokya University

Time: 09:40-11:00

Room: 324

Paper ID	Title and Author
221 Invited	Clustering Dietary Fat Induced Gene Expression Data Jakia Benta Sonia and <u>Mohammad Ohid Ullah*</u>
392	Genome-Wide Meta-Analysis of Breast Cancer Variants for Prioritizing Druggable Key Genes <u>Mohammad Ali</u> , Md. Shariful Islam, Hussain Muhammad Ryan, Umma Tanjina Azam Sipa, Md. Al Noman, Md. Foysal Ahmed, Nibas Kumar Pal, Md. Nurul Haque Mollah
348	In-silico identification of host-key-genes associated with dengue-virus-infections highlighting their pathogenetic mechanisms and therapeutic agents <u>Md. Abdul Latif</u> , Md. Al Noman, Reaz Ahmed, Md. Sanoar Hossain, Md. Foysal Ahmed, Md. Al Amin Pappu, Md. Shariful Islam, Tasfia Noor, Md. Hadiul Kabir, Md. Nurul Haque Mollah*
177	Exploring Bacterial Key Genes in Hypertensive Patients with Type 2 Diabetes through Subtractive Genomics and Drug Repurposing <u>Most. Shermin Akter Sumi</u> , Md. Tahalil Islam Rahat, Md. Nurul Haque Mollah, Md. Kaderi Kibria*
400	In-Silico Discovery of shared molecular signatures and Immune Cell Infiltration associated with Hashimoto's Thyroiditis (HT) and type-2 diabetes (T2D) for diagnosis and therapies <u>Ovi Sharma</u> , Md. Feroj Ahmed, Dipu Sharma, Md. Sanoar Hossain, Md. Al Noman, Md. Foysal Ahmed, Dewan Mumdoos Ahmed, Md. Nurul Haque Mollah*
395	In-Silico discovery of common genomic biomarkers to explore common drugs for the treatment of hepatocellular carcinoma and cholangiocarcinoma <u>Md. Al Noman</u> , Md. Foysal Ahmed, Md. Feroj Ahmed, Md. Abdul Latif, Md. Al Amin Pappu, Md. Shariful Islam, Hussain Muhammad Ryan, Mohammad Ali, Md. Sanoar Hossain, Ovi Sharma, Md. Nurul Haque Mollah*

Invited/Contributed Parallel Session – IV(A): Machine Learning

Session Chair: Prof. Ashraful Islam Khan, Department of Population Science and Human Resource Development, University of Rajshahi

Co-Chair: Prof. Md. Mostafizur Rahman, Department of Statistics, University of Rajshahi

Time: 11:15-13:15

Room: 323

Paper ID	Title and Author
403	Machine Learning-Based Prediction of Hypertension and Its Risk Factors among Adults in the Northern Region of Bangladesh <u>Most. Nusrat Jahan Resma</u> , Md. Tahalil Islam Rahat, Most. Shermin Akter Sumi, Md. Abdul Kayum, Md. Kaderi Kibria*
478	A DH-ML Framework for Predicting and Enhancing Digital Literacy Outcomes in Marginalized Rural Settings <u>Ummat Safwat Sristy*</u> , Mohammad Rumman, Md. Imran Hossain, Faran Farhat Maisha, Sadikur Rahman

416	Hypertension Prediction and Risk Factor Analysis in the Bangladeshi Population: A Machine Learning and Deep Learning Approach <u>Md. Ayub Ali*</u> , Shawrab Chandra, Maeen Molla, Samiul Islam
382	Ensemble Machine Learning Approaches for Predicting Pregnancy Complications in Bangladesh Dristi Rani, Smita Sarker*, <u>Sujan Chandra Sarker</u> , Md. Siddiqur Rahman
377	Breast Cancer Risk Prediction Using Ensemble Machine Learning and Explainable AI Techniques Ayesha Siddika, Smita Sarker*, <u>Iftada Fariha</u> , Dristi Rani, Md. Assaduzzaman Mondol, Md. Siddiqur Rahman
369	Machine Learning-Based Analysis of Student Stress, Academic Performance, and Lifestyle Factors in Higher Education <u>Md. Assaduzzaman Mondol</u> , Smita Sarker*, Amal Sarker
133	Machine Learning-Based Prediction and Identification of Risk Factors for Low Birth Weight: Insights from the Bangladesh Demographic and Health Survey 2022 <u>Nourin Sultana</u> , M. Ridwane Islam Roky, Zeba Afia, Tajin Ahmed Jisa, Jibon Kumar Sarkar, Md. Kaderi Kibria*
292	Identification of Potential Prognostic Biomarkers of Glioblastoma using Bioinformatics and Machine learning <u>Md. Jahangir Alam*</u> , Md. Symun Rabby, Sujit Kumar, Md. Merajul Islam

Invited/Contributed Parallel Session – IV (B): Data Science and Others

Session Chair: Prof. Md. Monsur Rahman, Department of Statistics, University of Rajshahi

Co-Chair: Prof. Md. Monimul Haque, Department of Statistics, University of Rajshahi

Time: 11:15-13:15

Room: 324

Paper ID	Title and Author
563	Enhancing Data Quality in National Statistics: Integrating Sample Survey Design with Administrative Records Elias Ahmed, <u>Asia Afrin*</u>
449	Use Patterns, Not Just Access: Learner Segments and SHAP-Explained Predictors of Satisfaction with Educational Technology Among Students at the University of Rajshahi <u>Md. Muhtasim Munif Fahim</u> , Md. Rezaul Karim
209	A Big data driven Sentiment and Thematic analysis of Mobile Banking App User Reviews Mahamudul Hasan*, <u>Rakibul Islam</u> , Sayed Imam Hossain Sadin
15	Developing Integrated Municipal Solid Waste Management Strategies for Promoting Healthy Environment in Urban Areas <u>Dulal Sarker*</u> , Md. Mostafizur Rahman
53	Exploring the Travel Behavior Patterns and Mode Choices of Urban Residents in Rajshahi City <u>Muhammad Waresul Hassan Nipun*</u> , Farhana Muna, Rahatul Islam
10	Hydrodynamic Modeling for Urban Sewerage Design in Bangladesh: A Case Study from Kakrail Sub-Catchment, Dhaka <u>Md. Sazedur Rahman*</u> , Mahisha Islam Kuasha, A. Foisal, S. A. Tanim

Invited/Contributed Session**Biological Science****Venue: Jabir Ibn Hayyan Science Building****Day 1: Friday, November 14, 2025****Invited/Contributed Session - I(A):** Biochemistry, Molecular Biology, Pharmacy**Session Chair:** Prof. Dr. Tanzima Yeasmin, Dept. of Biochemistry and Molecular Biology, RU**Session Co-chair:** Prof. Dr. Md. Khaled Hossain, Dept. of Biochemistry and Molecular Biology, RU**Time: 14:30-16:00****Room: 449**

Paper ID	Title and Author
575 Invited	Nanotechnology in Pharmaceuticals: Revolutionizing Drug Delivery Systems for Enhanced Therapeutic Outcomes <u>Md. Elias Al-Mamun*</u>
28	Evaluation of carbofuran-induced morphological deformities and cellular toxicity in zebrafish (Danio rerio) embryo <u>Tanjima Akther*</u> , Alam Khan
32	The Adsorption Effect of Mignitol onto B₁₂N₁₂ and XB₁₁N₁₂ (where X= Ga, Al, In) Nanocages: A Comparative DFT Study with COSMO Insights <u>Samiron Kumar Saha</u> ^{1*} , Maliha Nishat ¹ , Md. Rayhan Mostofa ¹ , Al-Amin ¹ , and Md. Abul Hasnat ²
307	Exploring the Therapeutic Potential of <i>Ganoderma lucidum</i> Through In Vitro, In Vivo, and In Silico Models Mst. Soheli Akhter Nifa, Md. Abdullah, Ahidur Rahman, Lucky Akter, Monirul Islam*
37	Comprehensive Pharmacological Safety Assessment of Energy-Stimulating Herbal Medicines in Bangladesh: A Multi-Approach Contamination and Toxicity Analysis Ariful Islam, Md. Murshid Alom, Md. Khalekuzzaman, Rashed Zaman, Uzzal Kumar Acharjee, Biswanath Sikdar, Md. Asadul Islam, Rausan Zamir*
50	Arsenic Salts Disrupt Zebrafish Embryogenesis through Impaired Growth and Cartilage Development <u>Md. Emdadul Hasan Mukul</u> , Alam Khan
210	UV Gel/Resin Microfluidics: Enabling Accessible Device Fabrication to Early Detection of Cancer <u>Nahian Kabir</u> and Gokul Chandra Biswas*

Invited/Contributed Session – I(B): Food chemistry, Functional food, Phytochemistry

Session Chair: Prof. DR. M. Tofazzal Hossain, Dept. of Biochemistry and Molecular Biology, RU

Session Co-chair: Prof. Dr. A. H. M. Khurshid Alam, Dept. of Pharmacy, RU

Time: 14:30-16:00

Room: 437

Paper ID	Title and Author
25 Invited	Yogurt supplementation can ameliorate fatty liver diseases and metabolic syndrome in high fat induced conditions in mice Md Aminul Islam Amin, Masum Mia, Sumaiya Khatun, Yesir Arafat, Md. Royhan Gofur, Matiar Rahman, Amirul Islam ¹ and <u>Sohel Hasan*</u>
542	Biocatalytic Clarification of <i>Citrus sinensis</i> Juice Using Immobilized Pectinase on Magnetic Nanoparticles Asmaul Hosna Ema, <u>Md. Belal Hossain Sikder*</u> , Jubaida Jannat
81	Development and Characterization of Chitosan-Based Active Packaging incorporated with Essential Oils <u>S. M. Mehedi Hasan</u> , Md. Rayhanul Islam, Iffa Tara Mim, Md. Mazharul Islam, H. Jahan Kadri, Md. Nuruzzaman and Md. Ibrahim H. Mondal*
303	Domestication and Cultivation of Two Wild Ganoderma Strains of Bangladesh Fahmi Ferdous ¹ , Md. Ajijur Rahman ² , SM Shahinul Islam ¹
549	Synthesis and Characterization of Immobilized Laccase on Chitosan Functionalized Nickel nanoparticles <u>Jubaida Jannat</u> , <u>Md. Belal Hossain Sikder*</u> , Asmaul Hosna
51	Design and Characterization of Fluconazole-Naproxen Combined Gel: A New Approach for the Treatment of Fungal Infection <u>Ayesha Siddiqua</u> , Jannatul Fardous*

Invited/Contributed Session – II(A):

Session Chair: Prof. Dr. Farzana Pervin, Dept. of Biochemistry and Molecular Biology, RU

Session Co-chair: Prof. Dr. Md. Rafiqul Islam Khan, Dept. of Pharmacy, RU

Time: 16:15-17:15

Room: 437

Paper ID	Title and Author
578 Invited	Impact of Cloud GPS Sensor Tracking on Person's Prostate to cause unforeseen Prostate Cancer Md Rahimullah Miah*, Mohammed Selim Reza, Jorin Tasnim Parisha, Md Mokhles Uddin, Chowdhury Shadman Shahriar, Shahriar Hussain Chowdhury, Mohammed Belal Uddin, Mohammad Shamsul Alam, Ahsan Habib, Farjana Siraj Shorna, Alexander Kiew Sayok, M.A. Awal Chowdhury, and Syeda Umme Fahmida Malik
57	Exploring the Therapeutic Mechanism of a Polyherbal Formulation in Alloxan-Induced Type 1 Diabetes in Mice and Integrated Bioinformatics Approaches <u>Reaz Ahmmmed</u> , Umme Samia Antu, Md. Taohid Hasan, Md. Shakil Ahmed, Mohammad Ismail Hossain, Mohammad Amirul Islam*

275	Analytical and Biological Evaluation of <i>Urena lobata</i> L. Leaves: An Integrated Approach Using ATR-FTIR, GC-MS, Thrombolytic and Anti-Inflammatory Assays, and Molecular Docking Afruz Dilshad Arney, Md. Aziz Abdur Rahman*
485	Effect of Culture Media and Nutritional Sources on Biomass Production and Bioactivities of Tiger Milk Mushroom <i>Lignosus rhinoceros</i> Soniya Nair Suresh, <u>Suat Hian Tan</u> *, Ros Azlinawati Ramli, Noor Suhana Binti Adzahar, Md. Rezaul Karim

Day 2: Saturday, November 15, 2025

Invited/Contributed Session – I(A): Biochemistry, Molecular Biology, Pharmacy

Session Chair: Prof. DR. M. Golam Sadik, Dept. of Pharmacy, RU

Session Co-chair: Prof. Muhammad Amirul Islam, Dept. of Biochemistry and Molecular Biology, RU

Time: 09:40-11:00

Room: 449

Paper ID	Title and Author
569 Invited	Natural product drug discovery: A multidisciplinary approach Abdull Manan Mat Jais
72	Citric acid crosslinked with polyvinyl alcohol, sodium alginate and humic acid-based hydrogel for a slow-release urea fertilizer to enhance wheat plant growth and yield <u>Most. Ripa Khatun</u> , M. Abul Kalam Azad and Md. Ibrahim H. Mondal*
559	Anticancer Potential of <i>Annona muricata</i> L. and Its Metabolite Profiling: In Vitro and Computational Insights <u>Md. Sabbir Hossain</u> , Joy Sarker, AHM Khurshid Alam*
83	Development of starch/polyvinyl alcohol/humic acid-based biodegradable hydrogel for the application of supplying plant growth regulators <u>Md. Amir Hamja</u> , Most. Ripa Khatun, Touhidul Haque, Md. Mazharul Islam and Md. Ibrahim H. Mondal*
104	Evaluation of Anti-diabetic, Antioxidant, and Anti-inflammatory Activities of <i>Mussaenda roxburghii</i> Extracts and Identification of Their Bioactive Constituents <u>Md. Sayedul Islam Shakib</u> , Mst. Shahnaj Parvina, Ayesha Tasnim Sinthi, Md. Ekramul Islam*

Invited/Contributed Session – I(B): Biochemistry, Molecular Biology, Pharmacy

Session Chair: Dr. Md. Rezaul Karim-3, Professor & Chairman, Dept. of Biochemistry and Molecular Biology, RU

Session Co-chair: Prof. Dr. Md. Aziz Abdur Rahman, Dept. of Pharmacy, RU

Time: 09:40-11:00

Room: 437

Paper ID	Title and Author
320	Multi-Modal Anti-Inflammatory Evaluation of Curcuma wilcockii Rhizome Extract <u>A. B. M. Ashraful</u> , Mst. Marium Khatun, Sajib Ghosh and, AHM Khurshid Alam*
316	Safety Assessment and Health Risk Investigation of Some Energy Stimulating Herbal Drugs Formulated in Bangladesh <u>Md. Mamun-Ar-Rashid</u> , Choudhury Md. Zakaria, Hasan Ahmad, Rausan Zamir*
329	Biodegradable Triblock PCL-b-PEG-b-PCL Copolymer: Synthesis, Characterization and Biomedical Application Asikur Rahman, Roushown Ali and Tariqul Hasan*
84	Adulteration of Herbal Antidiabetic Remedies with APIs: Prevalence and Concerns <u>Md. Jaki Ulla</u> , Md. Abu Hasnat, Md. Shahjalal Islam, Md Yeadun Islam, Md. Mukta Ali, Rausan Zamir*

Invited/Contributed Session – II(A): Biochemistry, Molecular Biology, Pharmacy

Session Chair: Prof. Dr. M. Rezaul Karim-2, Dept. of Biochemistry and Molecular Biology, RU

Session Co-chair: Prof. Dr. Md. Ekramul Islam, Dept. of Pharmacy, RU

Time: 11:15-13:15

Room: 437

Paper ID	Title and Author
116	Antimicrobial Activity and Drug Release Study of Azithromycin Encapsulated Polymethylmethacrylate-block-Poly(dimethylaminoethyl methacrylate) NPs <u>Md. Matiar Rahman</u> , Mohd. Roushown Ali and Tariqul Hasan*
157	Exploring Electroporation Mechanisms in Breast Cancer Membranes: An Integrated Molecular Dynamics and Machine Learning Approach <u>Pranto Das</u> , Shahariar Emon, Rayhan Mia, Sadman Sakib, Md. Khorshed Alam*
176	Unveiling the Healing Power of Piper betel: In vitro Evaluation of Antioxidant, Antidiabetic, Anti-inflammatory & Thrombolytic Effects <u>Md. Jihad</u> , Nasrin Akter, Jannatul Fardous*
492	Functional validation of TP53-dependent apoptosis induced by desloratadine in breast cancer cells (MCF-7) using CRISPR-Cas9 <u>Syed Rashed Kabir</u> *, Taufique Abdullah, Sayem Miah, Hasan Ali, Md. Gausul Azam, Md. Tamzid Hossain Molla, Mojnu Miah, Mohammad Taufiq Alam
523	Hierarchical Construction of Catalytic RNA Nanostructures through Oligomerization of Designed Unit Structures Derived from Natural Large Ribozymes <u>Mst. Ayesha Siddika</u> , Hiroki Oi, Masayuki Endo, Hiroshi Sugiyama, Shigeyoshi Matsumura ³ and Yoshiya Ikawa*

Invited/Contributed Session – II(B): Biochemistry, Molecular Biology, Pharmacy

Session Chair: Dr. Mst. Shahnaj Parvin, Professor & Chairman, Dept. of Pharmacy, RU

Session Co-chair: Prof. Dr. Alam Khan, Dept. of Pharmacy, RU

Time: 11:15-13:15

Room: 449

Paper ID	Title and Author
202	A cross-sectional study on the direct and obesity indices-mediated indirect associations between triglyceride-glucose index and hypertension <u>Nayan Chandra Mohanto</u> , Yeasin Arafat, Chaity Gour, Noshrat Sultana, Sanjida Ferdus Tuli
354	Synthesis of Silk Sericin-g-Polycaprolactone (SS-g-PCL) Copolymer and Its Biomedical Application <u>Ajay Kumar Das</u> , Majedul Shah, Roushown Ali and Tariqul Hasan*
380	Polymeric Encapsulation of SERS-Active Nanoparticles for Nucleic Acid Detection <u>Kazi Mohammed Mehedi Hassan</u> , Towfiq Ahmed Chowdhury, <u>Md. Saiful Alam</u> *
420	Synergistic Modeling of Neutron Transport and Radiolytic Chemistry in BNCT Using PHITS Simulation Maheraj Khan*, Yusuke Matsuya, A. K. F. Haque Md Ismail Hossain
103	Integrative <i>in Vitro</i> and <i>in Silico</i> Study of <i>Pithecellobium dulce</i> Extracts for Cytoprotective and Antidiabetic Applications <u>Nur Mohammad Rasel</u> , Afruz Dilshad Arney, Mst. Shahnaj Parvin, Abdul Kuddus, Jaytirmoy Barmon, Md. Ekramul Islam*
92	Anti-Inflammatory and Anticancer Potential of <i>Lagerstroemia speciosa</i> Bark Explored Through Experimental Models and Computational Simulations <u>Shahnaz Parvin Sweetey</u> , Mst. Shahnaj Parvin, Tahsin Ahmed Rupok, Md. Ekramul Islam*