



PROGRAMME SCHEDULE

*International Conference on Nonlinear Analysis and Applications-2022 (ICNAA-2022)
(India and Mexico)*

*Assam Don Bosco University, Sonapur, Assam, India, Technological University of the Mixteca, Oaxaca,
Mexico and Ramniranjan Jhunjhunwala College (Autonomous), Ghatkopar, Mumbai, India*

22-23 November, 2022

(OFFLINE)

Venue: Academic Block-I & Academic Block-V
Assam Don Bosco University, Sonapur, Assam, India

DAY 1 (22-11-2022)

Time	Events		Venue
8:00 – 8:40	Registration -Reception Desk, Academic Block I		
8:55- 10:15	Inaugural Ceremony		Academic Block-I (Auditorium)
10:15-11:05	Plenary Talk by Keynote Speaker Prof. Erik Trelle , University of Linköping, Linköping, Sweden	Is there a knot-linear wave-packing of real atomic and molecular composition? With examples of DNA and the amino acids	
11:05-11:30	TEA BREAK		
Invited talk I			
11:30 - 12:10	Invited talk by Prof. Pratulananda Das Jadavpur University, India	Selection principles and Bornological covering properties in metric spaces: A survey	Academic Block-I (Auditorium)
12:10 -12:50	Invited talk by Prof. Anita Tomar SriDev Suman Uttarakhand University, India	On Existence of Multivalued Fixed Points its Geometry and Solution of Boundary Value Problem	
12:50 – 1:30	Invited talk by Prof. Surajit Borkotoky Dibrugarh University, Dibrugarh, Assam, India	The Expected Shapley value on a class of probabilistic games	
1:30 – 2:30	LUNCH BREAK		

2:30 – 4:30		Oral Presentation - Session I	
Parallel Sessions 1A			
Session Chair : Prof. B. C. Tripathy, Tripura University, Tripura, India			
2:30 - 2:40	Ruhit Bardhan	ICNAA2022/A01	Cesàro Summable Sequences of Bi-Complex Numbers
2:40 - 2:50	Asik Hossain	ICNAA2022/A02	Results on Suzuki-generalized Ciric type nonlinear contraction in a relational partial metric space with application
2:50 - 3:00	Dr. Khirod Boruah	ICNAA2022/A25	An Introduction to Bigeometric Time Scale Calculus and its Application in Mathematical Modelling Using Maple and MATLAB
3:00-3:10	Partha Pratim Saha	ICNAA2022/A12	Weighted Variable Lebesgue Algebra on Locally Compact Groups
3:10-3:20	Babita Mehta	ICNAA2022/A05	Examination of convergence of a family of third order iterative method in Riemannian Manifolds
3:20-3:30	Vipul Kumar	ICNAA2022/A06	Application of Relation theoretic contraction in partial b-metric-like space
3:30-3:40	Dr. Gorachand Chakraborty	ICNAA2022/A36	On transcendental semigroups with omitted value
3:40-3:50	Mainak Mitra	ICNAA2022/A17	Results On Fixed Point Using Two New phi-Implicit Relations In A G-Metric Space.
3:50-4:00	Ajit Kumar Gupta	ICNAA2022/A09	Lebesgue Number and Total Boundedness
4:00-4:10	Bikash Gogoi	ICNAA2022/A24	Nonlinear fractional dynamic equation with initial and boundary conditions on time scale
Parallel Sessions 1B			
Session Chair : Prof. Erik Trelle, University of Linköping, Linköping , Sweden			
2:30 - 2:40	Bishnu Ram Das	ICNAA2022/F02	A Study On MHD Forced Convective Flow Of Titanium Oxide ($TiO_2 - H_2O$) Nanofluid In A Vertical Rectangular Duct
2:40 - 2:50	Heramb Aiyar	ICNAA2022/F03	Quasilinearization Technique For Periodic Boundary Value Problem Of First Order Delay Differential Equations
2:50 - 3:00	Dr. Ashim Jyoti Baruah	ICNAA2022/F04	Effect Of Thermal Radiation And Chemical Reaction In A Boundary Layer Flow Of Non-Newtonian Fluid Over A Stretching Surface In A Porous Medium
3:00-3:10	Fahim Sayed	ICNAA2022/F05	Fifth Mixed Moment of Kloosterman Sums And Traces Of Frobenius Endomorphism For Elliptic Curves
3:10-3:20	Sushmita Anand	ICNAA2022/F06	Dynamical Behavior Of Solitons Of Nonlinear Degasperis Processi Equation
3:20-3:30	Partha Pratim Gogoi	ICNAA2022/F07	Development Of Thin Nanoliquid Film Over A Porous Stretching Cylinder In Presence Of Thermal Radiation And Suction/Injection
3:30-3:40	Shreya Mukherjee	ICNAA2022/F08	Fractional Homotopy Analysis Transform Method For Solving Fuzzy Heat Conduction Equation
3:40-3:50	Sanjalee Maheswari	ICNAA2022/F09	Magnetohydrodynamics Peristaltic Flow Of Gold-Iron Oxide Hybrid Casson Nanofluid Under Heat Generation And Chemical Reaction
3:50-4:00	Atul Kumar Kushwaha	ICNAA2022/F10	Vertical Vibration And Throughflow Effects On Stability Of Convective Heat Transfer
4:00-4:10	Dr. Nava Jyoti Hazarika	ICNAA2022/F15	Viscous Dissipative Heat With Chemically Reacting / Radiating Fluid Past An Infinite Vertical Porous Plate : A Finite Difference Scheme.

Academic Block-V
(B1-012-PA Class Room-4, Dept of Public Administration)

Academic Block-V
(B1-019-PA Class Room-5, Dept of Public Administration)

Parallel Sessions 1C				
Session Chair : Dr. Rajeev, Indian Institute of Technology, BHU, India				
2:30 - 2:40	Prof. Anuradha Devi	ICNAA2022/D01	A mathematical model for plant Biomass and nutrient with application of fertilizers	Academic Block-V (B1-011A-PA Class Room-3, Dept of Public Administration)
2:40 - 2:50	Charutha Sukumaran	ICNAA2022/D02	Fractal analysis on complex system: A case study on Global stock market	
2:50 - 3:00	Dr. Ankur Jyoti Kashyap	ICNAA2022/D03	Complex dynamics in an eco-epidemiological model due to non-consumptive risks	
3:00-3:10	Dipak Maji	ICNAA2022/D04	A mathematical modelling study of two interacting viruses : Influenza and Sars Cov -2	
3:10-3:20	Arnab Jyoti Bordoloi	ICNAA2022/D05	A stage-structured predator-prey model with fear-affected conversion	
3:20-3:30	Fanitsha Mohan	ICNAA2022/D06	A stage-structured predator-prey model with group defence in prey and hunting cooperation among predators.	
3:30-3:40	Akhlaq Husain	ICNAA2022/D07	Fractal Dimension of KSA using Box Counting Method based on Multicore Parallel Processing Algorithm	
3:40-3:50	Dipam Das	ICNAA2022/D15	Dynamics of a two predator one prey competing for the same prey with one predator having an advantage over the other	
3:50-4:00	Deepjan Gohain	ICNAA2022/D09	An efficient class of chain dual to ratio type Imputation method for estimating Finite Population Mean under double Sampling in case of missing data	
Parallel Sessions 1D				
Session Chair : Prof. Surajit Borkotoky, Dibrugarh University, Dibrugarh, Assam, India				
2:30 - 2:40	Shelly Shelly	ICNAA2022/S01	The Deterministic Inventory Model with Partial Backlogging for Variable Production	Academic Block-V (B1-010A-PA Class Room-2, Dept of Public Administration)
2:40 - 2:50	Abhibasu Sen	ICNAA2022/S02	Hyperparameter Optimization of a Long Short-Term Memory network and a Gated Recurrent Unit network using Particle Swarm Optimization to predict ESG Index prices	
2:50 - 3:00	Shyamoli Tamuli	ICNAA2022/S03	The Study of the application of Fuzzy Set and Fuzzy logic control of Blood Pressure during Anesthesia	
3:00-3:10	Shewali Saikia	ICNAA2022/S04	A Review on application of fuzzy soft sets in medical diagnosis	
3:10-3:20	Bonjit Bondon Buragohain	ICNAA2022/S05	A Review on Applications of Fuzzy Soft Matrix	
3:20-3:30	Mary Basumatary	ICNAA2022/S06	Solution of fuzzy boundary value problem using the concept of H-differentiability	
3:30-3:40	A S Wungreiphi	ICNAA2022/S07	Correlation of Fuzzy set using membership function and reference function	

DAY 2 (23-11-2022)

9:00 – 10:40		Oral Presentation - Session II	
Parallel Sessions 2A			
Session Chair : Prof. Bipan Hazarika, Gauhati University, Assam, India			
9:00-9:10	Faruk S. K.	ICNAA2022/A10	Discussion on Generalized Nonlinear Contractions
9:10-9:20	Jahnabi Chakravarty	ICNAA2022/A11	On A New Iterative Method for Solving Interval Linear Equations
9:20-9:30	Dr. Anamika Sarma	ICNAA2022/A04	Some Fixed point Theorems for a class of Extended centralizers on C*-algebras
9:30-9:40	Dr. Rupam Haloi	ICNAA2022/A13	Two valued measure and convergence of sequences in probabilistic normed linear space
9:40-9:50	Manalisha Bhujel	ICNAA2022/A14	Existence of solution of nonlinear integral equation in Holder space
9:50-10:00	Dakjum Eshi	ICNAA2022/A15	Some Best Proximity Results on cyclic Meir-Keeler Kannan-Chatterjea-Reich type contraction mappings on complete metric space
10:00-10:10	Sapan Kumar Nayak	ICNAA2022/A16	A study of two step higher order fractional iterative methods and its convergence plane.
10:10-10:20	Sudip Deb	ICNAA2022/A08	A Generalization of Darbo's Fixed Point Theorem by using New Contraction Operator
10:20-10:30	Santonu Debnath	ICNAA2022/A19	ϱ -Statistical Convergence in Neutrosophic Normed Space
10:30-10:40	Niraj Sapkota	ICNAA2022/A07	On the Solvability of an Infinite System of Integral Equations of Product type in the Difference Sequence Space $\mathcal{M}(\Delta^u_v, \Phi, p)$ using Measure of Noncompactness and Fixed Point Theory
Academic Block-V (B1-012-PA Class Room-4, Dept of Public Administration)			
Parallel Sessions 2B			
Session Chair : Prof. Erik Trelle, University of Linköping, Sweden			
9:00-9:10	Nayan Mani Majumdar	ICNAA2022/F11	Magnetohydrodynamic flow of Casson fluid on an inclined permeable moving plate with viscous dissipation, thermal radiation, Joule heating and Soret effect
9:10-9:20	Indushri Patgiri	ICNAA2022/F12	Effects of viscous dissipation, gravity modulation and Joule heating on MHD Casson fluid flow over a vertically moving plate with second-order slip velocity
9:20-9:30	Jubi Begum	ICNAA2022/F13	Magnetohydrodynamic flow around an elongated cylinder in non-darcian porous regime with higher order chemical reaction and soret/dufour effects
9:30-9:40	Dr. Kamal Debnath	ICNAA2022/F14	Flow Behavioural Study of Guava Puree by Power-Law Fluid Model for Food Processing Industries
9:40-9:50	Dr. Kishor Kumar Das	ICNAA2022/F17	Mass Transfer in Unsteady hydrodynamic Couette flow in between two vertical parallel plates
9:50-10:00	Dr. Ridip Sarma	ICNAA2022/F01	Stability of solitons in a strongly dispersive modulated beam plasma
10:00-10:10	Dr. Mokshed Ali	ICNAA2022/F16	Two-Layered casson fluid model of blood flow in constricted blood vessels under body acceleration and velocity slip at the wall
10:10-10:20	Dr. Maushumi Mahanta	ICNAA2022/F18	Homotopy Perturbation Method Over A Non-Linear Stretching Sheet On The Solution Of MHD Flow Problem
10:20-10:30	Bhaskarjyoti Deka	ICNAA2022/F19	Flow Aspects of Newtonian Electrically Conducting Fluid With The Influence Of Thermal Radiation And Heat Sink Along a Divergent Channel
Academic Block-V (B1-010-PA Class Room-2, Dept of Public Administration)			

Parallel Sessions 2C				
Session Chair : Prof. Kuntala Patra, Retd. Professor, Gauhati University, Guwahati, Assam, India				
9:00-9:10	Eesam Vishnu	ICNAA2022/C01	Graph theoretical approach to predict the candidate genes for Type 1 diabetes mellitus	Academic Block-V (B1-011-PA Class Room-3, Dept of Public Administration)
9:10-9:20	Munesh Kumari	ICNAA2022/C02	On the norms of Hankel and Toeplitz matrices with Mersenne and Fermat numbers	
9:20-9:30	Bipanchy Buzarbarua	ICNAA2022/C03	On Some Spectral Properties Of Graphs In Terms Of Their Maximum Matchings And Minimum Edge Covers	
9:30-9:40	Dr. Kanan Kumari Ojah	ICNAA2022/C04	Some congruences for 9-regular over partitions	
9:40-9:50	Dr. Moytri Sarmah	ICNAA2022/C05	Total Near Ring Graph	
9:50-10:00	Dr. Bhabesh Das	ICNAA2022/C06	On odd 4-perfect number	
10:00-10:10	Partha Protim Gogoi	ICNAA2022/C07	A study on Non-torsion element Graph of a Module over a Commutative ring	
10:10-10:20	Sumon Bhowmick	ICNAA2022/C08	A study on S-k-prime ideals in semirings	
10:20-10:30	Dr. Sanjoy Kalita	ICNAA2022/C09	Properties of Divisor Prime Graph	
10:30-10:40	Chinmayee Kumar	ICNAA2022/C10	Conjugacy Class Graphs of some non-abelian groups	
Parallel Sessions 2D				
Session Chair : Dr. Surindar Pal Singh Kainth, Punjab University, India				
9:00-9:10	Suman Dowerah	ICNAA2022/R01	Weaving phase retrieval and weaving norm retrieval in tensor product space	Academic Block-V (B1-019-PA Class Room-5, Dept of Public Administration)
9:10-9:20	Mahesh Kumar	ICNAA2022/R02	Anisotropic model in Tolman-Buchdah metric potentials with Linear Equation of State	
9:20-9:30	Shomavo Chakraborty	ICNAA2022/R03	Vanishing coefficients in infinite Q-series expansions for certain Arithmetic Progression mod p, where p=13, 17, 29 and 37	
9:30-9:40	Krishna Pandit	ICNAA2022/R04	Reconstruction of f(R) theory of gravity from dark energy scenarios of variable polytropic gas and Chaplygin gas	
9:40-9:50	Kankana Pathak	ICNAA2022/R05	Cosmological Dynamics of Bianchi type III universe with a power-law expansion in f(R,T) theory of gravity.	
9:50-10:00	H. Dipali Singh	ICNAA2022/R06	A study of modified gravity on anisotropic compact star for spherically symmetric spacetimes	
10:00-10:10	Deepsikha Mahanta	ICNAA2022/R07	The effect of changed states of heavy positive ion in an anisotropic magnetically quantized electron positron ion plasma	
10:10-10:20	Dibyajyoti Das	ICNAA2022/R08	Bianchi type-I Tsallis holographic dark energy model with linearly varying declaration parameter	
10:20-10:30	Anindita Basumatary	ICNAA2022/R09	Flat Friedman-Lemaître-Robertson-Walker cosmological model with time- dependent cosmological constant in Brans-Dicke theory of gravity	
10:40-11:00	TEA BREAK			

11:00 - 1:30		Invited talk II		
11:00 - 11:40	Invited talk by Prof. B. C. Tripathy , Tripura University, India	<i>An over view of Some Concepts of Fuzzy Sets and Fuzzy Topology</i>		Academic Block-I (Auditorium)
11:40 -12:20	Invited talk by Prof. Mangatiana A. Robdera , University of Botswana, Botswana	<i>A more unified approach to Integration</i>		Academic Block-I (Auditorium)
12:20 – 12:55	Invited talk by Dr. Surindar Pal Singh Kainth , Punjab University, India	<i>HK-integral on Metric Measure Spaces</i>		Academic Block-I (Auditorium)
12:55 – 1:30	Invited talk by Dr. Rajeev , IIT- BHU, India	<i>Finite Difference Method to a Moving Boundary Problem</i>		Academic Block-I (Auditorium)
1.30-2.30	LUNCH BREAK			
2:30 – 4:00	Oral Presentation - Session III			
Parallel Sessions 3A				
Session Chair : Prof. Mangatiana A. Robdera, University of Botswana, Botswana				
2:30 - 2:40	Matap Shankar	ICNAA2022/A18	Lyapunov Stability Analysis of the Terminal Value Caputo-Fabrizio Fractional Order Systems.	Academic Block-V (B1-012-PA Class Room-4, Dept of Public Administration)
2:40 - 2:50	Amit Halder	ICNAA2022/A20	Relationship among I-Statistical Convergence Concepts of Complex Uncertain Sequence	
2:50 - 3:00	Rashmita Baruah	ICNAA2022/A21	A weak Galerkin finite element method for singularly perturbed elliptic interface problem.	
3:00-3:10	Vikuozonuo Sekhose	ICNAA2022/A22	Extensibility of Banach-valued Riemann Type Integrals on Time Scale.	
3:10-3:20	Sandip Maji	ICNAA2022/A23	An efficient numerical method for non-autonomous time-fractional integro-partial differential equation with Caputo fractional derivative	
3:20-3:30	Abhay Pratap Singh	ICNAA2022/A27	Approximation of functions in generalized Holder space by means of Picard singular integral	
3:30-3:40	Md. Mridul Haque Choudhury	ICNAA2022/A28	Inclusion properties of H-Orlicz spaces	
3:40-3:50	Abdul Awal Hadi Ahmed	ICNAA2022/A29	Solvability of Dynamic Equations in Banach Space Over Time Scale	
3:50-4:00	Dr. Dinesh Tripathi	ICNAA2022/A39	On the zeros of a Lacunary type of Quaternionic Polynomial with restricted coefficients	

Parallel Sessions 3B				
Session Chair : Prof. Tarini K. Dutta, Assam Don Bosco University, Sonapur, Assam, India				
2:30 - 2:40	Tarun Kumari	ICNAA2022/D10	Improved Chain Ratio Type Estimator of Finite Population Mean with Imputation of Missing Data in Simple Random Sampling	Academic Block-V (B1-019-PA Class Room-5, Dept of Public Administration)
2:40 - 2:50	Balajied Me Syrti	ICNAA2022/D11	Stability, sensitivity index and bifurcation analysis of an SIR eco-epidemic model under pesticide control	
2:50 - 3:00	Tapasvini Roy	ICNAA2022/D12	Stage structured prey-predator model incorporating mortal peril consequential to inefficiency and habitat complexity in juvenile hunting	
3:00-3:10	Metoka Narzary	ICNAA2022/D13	Bouncing Cosmological Model in $f(Q,T)$ gravity with a Quadratic equation of state	
3:10-3:20	Ms. Nihir Basumatary	ICNAA2022/D14	LRS Bianchi type I cosmological model in $f(G)$ gravity with the bilinear deceleration parameter	
3:20-3:30	Sudem Brahma	ICNAA2022/D16	Differentials in fertility among sheduled tribes (With Special Reference to Kokrajhar District of Assam)	
3:30-3:40	Manju Sharma	ICNAA2022/D17	Approximation by neural network interpolation operator for irregular grid of data points	
3:40-3:50	Kusumbar Baishya	ICNAA2022/D18	On the Stability of Period Doubling Bifurcations and the Existence of Chaos in Nonlinear Discrete Systems	
3:50-4:00	Silmera A. Sangma	ICNAA2022/D08	Feigenbaum Universality, Time Series Analysis and Lyapunov Exponents in Nonlinear Two Dimensional Chaotic Models.	
Parallel Sessions 3C				
Session Chair : Prof. Kuntala Patra, Retd. Professor, Gauhati University, Guwahati, Assam, India				
2:30 - 2:40	Anurag Baruah	ICNAA2022/C11	On the complement graph of Γ^2 over the ring of integers modulo n	Academic Block-V (B1-011A-PA Class Room-3, Dept of Public Administration)
2:40 - 2:50	Kalika Prasad	ICNAA2022/C12	The k-binomial and Catalan Transforms of the k-Leonardo Sequences	
2:50 - 3:00	Nabajyoti Baro	ICNAA2022/C13	Random hypergraph: A Generalization of the Erdos Renyi model of Random Hypergraph	
3:00-3:10	Raju Doley	ICNAA2022/C14	Knot- separability of hypergraphs and its application towards infectious disease management	
3:10-3:20	Yangertola	ICNAA2022/C15	Some aspects of the conjugate graph of special linear groups	
3:20-3:30	Aronth Thungs Odyuo	ICNAA2022/C16	Super Power Mean Labeling	
3:30-3:40	Rajib Das	ICNAA2022/C17	Operator Gamma Modules, Operator Gamma Tensor products and their Applications	
3:40-3:50	Kamal Krishna Pathak	ICNAA2022/C19	A study on S-semi prime ideals of rings	
3:50-5:00	Hiranya Kumar Nath	ICNAA2022/C18	Nilpotent Graph of Gamma Ring	

Parallel Sessions 3D				
Session Chair : Dr. Hemen Bharali, Assam Don Bosco University, Sonapur, Assam, India				
2:30 - 2:40	Dibya Jyoti Gogoi	ICNAA2022/A30	Canonical Orlicz spaces and inclusion properties	Academic Block-V (B1-010A-PA Class Room-2, Dept of Public Administration)
2:40 - 2:50	Rachi Oleman	ICNAA2022/A31	ap-Mcshane integral on a Topological Vector Space	
2:50 - 3:00	Da Iai Kyrmen Sumer	ICNAA2022/A32	Some characteristics of ap-Mcshane integral	
3:00-3:10	Handakaruhi Passah	ICNAA2022/A33	Operator valued Mcshane integral and its properties	
3:10-3:20	Diwanson Shylla	ICNAA2022/A34	Convergence of ap-Mcshane	
3:20-3:30	Maphishisha Kharbudon	ICNAA2022/A35	The ap-Mcshane integral of vector valued function	
3:30-3:40	Kerdaphi Papang	ICNAA2022/A26	Convergence properties of operator valued McShane integral	
3:40-3:46	Gracing Dhar.	ICNAA2022/A37	Approximate Δ -derivatives and it's properties	
3:46-3.52	Keyon Sunslay A Sangma	ICNAA2022/A38	Approximate ∇ -derivatives and it's properties	
3.52-4.00	Moakhala Kapu	ICNAA2022/A41	Indefinite Integral of an ap-Mcshane integrable function	
4:00 – 4:30	Valedictory Ceremony			Academic Block-V (<i>Auditorium</i>)
4:30 – 5:00	Tea & Snacks			Academic Block-V (<i>Auditorium</i>)