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Impulsive Threshold Maintain Before the Outcome Switches? -- T. Ghosh, S. Ghosh, and E. Schwartz, P. Kumar Roy, Mathematical Overview of Bio-Chemical and Physical Interactions Considering Reverse Transcriptase and Integrase Enzymes to Explore HIV Progression: A Control Theoretic Approach -- T. Mondal, S. Ghosh, S. Mukherjee and A. Dénes, Mathematical Modeling of Leprosy Examining the Effect of Awareness Programs in the Disease Transmission: An optimal Control Approach -- S. Kushary, P. Kumar Roy, X. Cao, Introducing MSC Therapy to Inhibit Th₁ and Th₁₇ Mediated Cytokines: A Mathematical Study to Regulate Psoriasis -- H. Bose, S. Mukherjee, Xue- Zhi Li, Ratio-Dependent Vector-Host Model on Cutaneous Leishmaniasis - A Mathematical Study Based on Caputo-Fabrizio Fractional Derivative -- X. Cao, T. Ghosh, S. Ghosh -- Mathematical Modelling to Exhibit the Influence of Latently Infected Schwann cells in Leprosy: An Optimal Control-based Study -- Mst Sebi Khatun, Pritha Das, Dynamical behaviour of an SIR epidemic model with Holling type III treatment function and media control -- S. Majee¹, S. Jana, and T. Kumar Kar, Dynamical study of the spread of monkeypox including optimal vaccination and treatment with cost-effectiveness -- S. Mukherjee, T. Ghosh, S. Ghosh, Impact of Stem Cell Therapy in Leprosy Pathogenesis through Mathematical Study: An Impulsive Control based Treatment Design -- P. Samui and Jayanta Mondal, Determining pathogenic behaviors of chronic HCV Infection in presence of incubation delay -- P. Das, M. S. Khatun, and K. B. Mahato, Dynamics of a stochastic prey-predator model with Allee effect and fear-dependent prey refuge function -- Amit Kumar Bag, and Amar Nath Chatterjee, The role of screening programs in cervical cancer prevention: A mathematical study -- I. Schreiber and J. Cervený, Reaction network based model for carbon-nitrogen metabolism and ultradian rhythms in cyanobacteria -- Sanju Sardar, Priti Kumar Roy, Subhankar Kushary, and David Greenhalgh, Mathematical insight of Methanol Toxicity Management using Charcoal and Folinic Acid -- Sk Mosaraf Ahammed¹, Priti Kumar Roy¹, and Shu Wang, Effect of Ultrasound Technique for Production of Biodiesel using Enzyme as Catalyst: A Mathematical Study -- Ujjwal Kumar Deb, Temperature effects on microalgae cell growth in an outdoor HLTP -- A. Kumar Paul and M. H. A. Biswas, A Mathematical Theory for Studying and Controlling the Disinformation System Dynamics -- S. Aktar, F. Rahaman, Thin accretion disks around traversable wormholes of Teo class -- P. Baidya¹, S.K. Panja and S.C. Mandal, Stress Intensity factor of two co-linear rigid strips under impact load -- Amrita Bhattacharya , Discussion on strong field lensing by wormholes as black hole foils -- P. Mukherjee and S. Kumar Sardar, On a canonical multiplicative semigroup related with the C^* -algebra of a digraph -- Narendranath Mitra, Generalization of Ramanujan's Famous Nested Radicals to the n th Root and their Evaluation -- Shipan Chandra Deb Nath¹, Rajib Karmaker^{2*}, Ujjwal Kumar Deb, Comparison of Iron and Steel Helical Suspension Springs for Mechanical Load Management using Finite Element Method -- Marina Lallallawmzuali¹, Sundararajan Muniyan, Analysis of Rainfall Trend and Its Pattern in Uttarakhand Using Appropriate Probability Distributive Functions -- Manojit Das, Shariful Alam, Strategic product launch and pricing: Maximizing profitability in a dynamic consumer market -- Amit K. Ghosh^{*}, Lopamudra Roy and Stuti Saxena, Mathematical attributes applicable on the evolution of life forms and their adaptation with changing climate in the geologic past -- K. Lalnunsiami¹, M. Sundararajan and J.K. Pandey, Dispersion Pattern of PM₁₀, PM_{2.5} and PM_{1.0} in and around an Opencast Coal Mine Using Statistical and Gaussian Emission Models -- Divya Sharma¹,

Deepti Kaur and R. K. Mohanty, Bi-parametric compact sixth-order two-stage BGE iteration method for two-dimensional Helmholtz equation -- B.S. Mahapatra , S. Golui , M.K. Mondal, M.B. Bera, and G.S. Mahapatra, Fuzzy TOPSIS method for resource planning selection incorporating correlation measure -- S. Naskar, Shariful Alam, A. Garai, A study on closed-loop dual-channel supply chain with advertising level of online products.

Sommario/riassunto

This volume presents a comprehensive compilation of chapters whose topics were presented at the 2nd International Conference on Mathematical Analysis and Application in Modeling (CMAAM-2023), held at the Department of Mathematics & the Center for Mathematical Biology and Ecology, Jadavpur University, Kolkata, West Bengal, India, from 9–11 October 2023. It encompasses groundbreaking research on cutting-edge developments across various branches of mathematics and its applications in diverse disciplines. In the realm of epidemiology, the book delves into the utilization of advanced tools such as fractional calculus, optimal control therapy and impulse therapeutic approaches. These tools, integrated with mathematical models, offer innovative solutions for managing various diseases and optimizing drug dose regimens. Beyond the scope of epidemiology, the book also incorporates chapters elucidating fundamental concepts in pure mathematics. These include explorations of topological phenomena and diverse algebraic concepts. This dual focus on applied mathematics and pure mathematical principles enhances the book's usability, catering to a broad audience of researchers and scholars. The book primarily targets young researchers engaged in the specified areas of study. By bridging the gap between theoretical mathematics and real-world applications, it serves a valuable resource, providing insights and methodologies that contribute to advancements in research and application across multiple disciplines.
