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Nota di contenuto	Chapter 1- CanonicalDuality-Triality: UnifiedUnderstanding Modeling, Problems,and NP-Hardness in Multi-Scale Optimization -- Chapter 2- Numerical Investigation of Stochastic Neural Field Equations -- Chapter 3- Nonstationary signal decomposition for dummies -- Chapter 4- Modeling the socio-economic waste generation factors using artificial neural network: A case study of Gurugram (Haryana State, India) -- Chapter 5- Regularization of Highly ill-Conditioned RBF Asymmetric Collocation Systems in Fractional Models -- Chapter 6- The Effect of Toxin and Human Impact on Marine Ecosystem -- Chapter 7- A Computational Study of Reduction Techniques for the Minimum Connectivity Inference Problem -- Chapter 8- Approximate Controllability of Nonlocal Impulsive Stochastic Differential Equations with Delay -- Chapter 9- Convergence of an Operator Splitting Scheme for Abstract Stochastic Evolution Equations -- Chapter 10- Modified Post-Widder Operators Preserving Exponential Functions -- Chapter

11- The Properties of Certain Linear and Nonlinear Differential Equations -- Chapter 12- Fixed Points for  $(\cdot, \cdot)$ -Contractions in Menger Probabilistic Metric Spaces -- Chapter 13- A Novel Canonical Duality Theory for Solving 3-D Topology Optimization Problems -- Chapter 14- High Performance Computing Challenges and Risks for the Future -- Chapter 15- Modern Parallel Architectures to Speed Up Numerical Simulation -- Chapter 16- Parallel Algorithms for Low Rank Tensor Arithmetic -- Chapter 17- The Resiliency of Multilevel Methods on Next Generation Computing Platforms: Probabilistic Model and Its Analysis -- Chapter 18- Visualization of Data: Methods, Software and Applications -- Chapter 19- HPC Technologies from Scientific Computing to Big Data Applications -- Chapter 20- Analysis and simulation of time-domain elliptical cloaks by the discontinuous Galerkin method -- Chapter 21- Dynamic Pore-network Models Development -- Chapter 22- Mean Field Magnetohydrodynamic Dynamo in Partially Ionized Plasma: Nonlinear, Numerical Results -- Chapter 23- Outcome of Wall Features on the Creeping Sinusoidal Flow of MHD Couple Stress Fluid in an Inclined Channel with Chemical Reaction -- Chapter 24- A Fractional Inverse Initial Value Problem -- Chapter 25- Three Dimensional Biomagnetic Flow and Heat Transfer over a Stretching Surface with Variable Fluid Properties -- Chapter 26- Effects of Slip on the Peristaltic Motion of a Jeffrey Fluid in Porous Medium with Wall Effects -- Chapter 27- Linear and Nonlinear Double Diffusive Convection in a Couple Stress Fluid Saturated Anisotropic Porous Layer with Soret Effect and Internal Heat Source -- Chapter 28- Modeling of Wave Induced Oscillations in Pohang New Harbor by using Hybrid Finite Element Model -- Chapter 29- Similarity Solution of Hydromagnetic Flow near Stagnation Point over a Stretching Surface Subjected to Newtonian Heating and Convective Condition -- Chapter 30- Modelling Corrosion Phenomenon of Magnesium Alloy AZ91 in Simulated Body Fluids -- Chapter 31- Approximate and Analytic Solution of Some Nonlinear Diffusive Equations.

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### Sommario/riassunto

This special volume of the conference will be of immense use to the researchers and academicians. In this conference, academicians, technocrats and researchers will get an opportunity to interact with eminent persons in the field of Applied Mathematics and Scientific Computing. The topics to be covered in this International Conference are comprehensive and will be adequate for developing and understanding about new developments and emerging trends in this area. High-Performance Computing (HPC) systems have gone through many changes during the past two decades in their architectural design to satisfy the increasingly large-scale scientific computing demand. Accurate, fast, and scalable performance models and simulation tools are essential for evaluating alternative architecture design decisions for the massive-scale computing systems. This conference recounts some of the influential work in modeling and simulation for HPC systems and applications, identifies some of the major challenges, and outlines future research directions which we believe are critical to the HPC modeling and simulation community.

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