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Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Preface -- Biographical Summary of Ronald E. Mickens -- Deterministic and Stochastic SIR Epidemic Models with Power Function Transmission and Recovery Rates -- 1. Introduction -- 2. ODE Model -- 3. CTMC Model -- 4. SDE Model -- 5. Computational Results -- 6. Summary -- Acknowledgments -- References -- Evaluating the Cost-Effectiveness of Vaccination Programs -- 1. Introduction -- 2. Background and modeling framework -- 3. Model extensions and future research -- 4. Summary and concluding remarks -- References -- A Simple Two-Patch Epidemiological Model with Allee Effects and Disease-Modified Fitness -- 1. Introduction -- 2. A two-patch SI model -- 3. Endemic states -- 4. The effects of dispersal -- 5. Discussion -- 6. Proofs -- Acknowledgements -- References -- Designing NSFD Methods for Models of Population Interactions -- 1. Introduction -- 2. Definitions and Preliminaries -- 3. PESN methods for systems with hyperbolic equilibria -- 4. PAESN methods for systems with non-hyperbolic equilibria -- 5. Numerical Simulations -- 6. Discussion and Conclusions -- References -- Nonstandard Discretizations of the SIS Epidemiological Model with and without Diffusion -- 1. Introduction -- 2. Qualitative properties of the model

-- 3. Nonstandard Runge-Kutta Method for the SIS Model -- 4. NSFD scheme for the SIS model -- 5. NSFD schemes for SIS-Diffusion Model -- 6. Conclusion -- Acknowledgements -- References -- Galerkin-Least Squares Approximations for Delay Differential Equations: Application to a Circadian Rhythm Model -- 1. Introduction -- 2. Galerkin-Least Squares Approximation -- 3. DDE Model for Circadian Rhythm -- 4. Equilibria and Linear Stability Analysis -- 5. Numerical Simulations -- Conclusions -- Acknowledgements -- References -- Exact Finite Difference Schemes -- 1. Introduction -- 2. Exact Finite Difference Schemes for ODEs -- 3. First-order linear system of two equations -- 4. Exact finite difference schemes for some PDEs -- 5. Discussion -- Acknowledgements -- References -- Design and Analysis of NSFD Methods for the Diffusion-Free Brusselator -- 1. Introduction -- 2. The diffusion-free Brusselator system -- 3. Design of NSFD methods -- 6. Conclusions and perspectives.
