1. Record Nr. UNISALENTO991002684669707536

Titolo	Differential equations and quantum groups : Andrey A. Bolibrukh memorial volume / [editors] Daniel Bertrand ... [et. al.]
Pubbl/distr/stampa	Zürich, Switzerland : European Mathematical Society, c2007
ISBN	9783037190203 (pbk.)
Descrizione fisica	x, 292 p. : ill., port. ; 24 cm
Collana	IRMA lectures in mathematics and theoretical physics ; 9
Classificazione	LC QA371 510.34
Altri autori (Persone)	Bolibrukh, A. A. Bertrand, Daniel
Disciplina	515.353
Soggetti	Differential equations Quantum groups Riemann-Hilbert problems Bolibrukh, A. A. Bolibrukh, A. A.
Lingua di pubblicazione	Inglese
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Autore	Aguiar Maira
Titolo	Predicting Pandemics in a Globally Connected World, Volume 2 : Toward a Multiscale, Multidisciplinary Framework through Modeling and Simulation / / edited by Maira Aguiar, Nicola Bellomo, Mark Chaplain
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Birkhäuser, , 2024
ISBN	9783031567940 3031567943
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (233 pages)
Collana	Modeling and Simulation in Science, Engineering and Technology, , 2164-3725
Altri autori (Persone)	BellomoN ChaplainMark
Disciplina	570,285
Soggetti	Biomathematics Mathematical models Mathematical and Computational Biology Mathematical Modeling and Industrial Mathematics COVID-19 Models matemàtics Epidèmies Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter. 1. Evolutionary Virus Pandemics: From modeling and Simulations to Society -- Chapter. 2. Development and Analysis of Multiscale Models for Tuberculosis: From Molecules to Populations -- Chapter. 3. The use of crowd models for risk analysis during the Covid-19 pandemic -- Chapter. 4. Modeling household effects in epidemics -- Chapter. 5. An analytic look at the last pandemic’s spread and its control by decision-makers -- Chapter. 6. A time-dependent SIRD nonlinear cross-diffusion dpidemic model: Multiscale derivation and computational analysis -- Chapter. 7. Optimal control of an epidemic using compartmental models and measure differential equations -- Chapter. 8. Complex network approaches for epidemic modeling: a case study of COVID-19 -- Chapter. 9. How vaccination helps to relax

	the population mobility: an agent-based model approach.
Sommario/riassunto	In an increasingly globally-connected world, the ability to predict, monitor, and contain pandemics is essential to ensure the health and well-being of all. This contributed volume investigates several mathematical techniques for the modeling and simulation of viral pandemics, with a special focus on COVID-19. Modeling a pandemic requires an interdisciplinary approach with other fields such as epidemiology, virology, immunology, and biology in general. Spatial dynamics and interactions are also important features to be considered, and a multiscale framework is needed at the societal level, the level of individuals, and the level of virus particles and the immune system. Chapters in this volume explore the latest research related to these items to demonstrate the utility of a variety of mathematical methods. Perspectives for the future are also offered.