

1. Record Nr.	UNINA9910720087703321
Autore	Bunde Armin <1947->
Titolo	Diffusive Spreading in Nature, Technology and Society / / edited by Armin Bunde, Jürgen Caro, Christian Chmelik, Jörg Kärger, Gero Vogl
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	3-031-05946-8
Edizione	[2nd ed. 2023.]
Descrizione fisica	1 online resource (518 pages)
Disciplina	530.475
Soggetti	System theory Building materials Epidemiology Animal migration Emigration and immigration Atmospheric science Complex Systems Structural Materials Animal Migration Human Migration Atmospheric Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	What the Book Is Dealing With -- Spreading Fundamentals -- Dispersal in Plants and Animals -- Search for Food of Birds, Fish and Insects -- Epicuticular Wax Formation and Regeneration—A Remarkable Diffusion Phenomenon for Maintaining Surface Integrity and Functionality in Plant Surfaces -- Brain Interstitial Structure Revealed Through Diffusive Spread of Molecules -- Turbulent Diffusion in the Atmosphere -- Hot Brownian Motion -- On Phase Transitions in Biased Diffusion of Interacting Particles.
Sommario/riassunto	What do the movements of molecules and the migration of humans have in common? How does the functionality of our brain tissue resemble the flow of traffic in New York City? How can understanding

the spread of ideas, rumors, and languages help us tackle the spread a pandemic? This book provides an illuminating look into these seemingly disparate topics by exploring and expertly communicating the fundamental laws that govern the spreading and diffusion of objects. A collection of leading scientists in disciplines as diverse as epidemiology, linguistics, mathematics, and physics discuss various spreading phenomena relevant to their own fields, revealing astonishing similarities and correlations between the objects of study—be they people, particles, or pandemics. This updated and expanded second edition of an award-winning book introduces timely coverage of a subject with the greatest societal impact in recent memory—the global fight against COVID-19. Winner of the 2019 Literature Prize of the German Chemical Industry Fund, this book targets an interdisciplinary readership, featuring an introductory chapter that sets the stage for the topics discussed throughout. Each chapter provides ample opportunity to whet the appetite of those readers seeking a more in-depth treatment, making the book also useful as supplementary reading in appropriate courses dealing with complex systems, mass transfer, and network theory. Chapter "Neolithic Transitions: Diffusion of People or Diffusion of Culture?" is available open access under a Creative Commons Attribution 4.0 International License via [link.springer.com](http://link.springer.com).

---