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Titolo	Lectures on random interfaces / / by Tadahisa Funaki
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2016
ISBN	981-10-0849-3
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (XII, 138 p. 44 illus., 9 illus. in color.)
Collana	SpringerBriefs in Probability and Mathematical Statistics, , 2365-4333
Disciplina	519.2
Soggetti	Probabilities Differential equations, Partial Mathematical physics Probability Theory and Stochastic Processes Partial Differential Equations Mathematical Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Sommario/riassunto	Interfaces are created to separate two distinct phases in a situation in which phase coexistence occurs. This book discusses randomly fluctuating interfaces in several different settings and from several points of view: discrete/continuum, microscopic/macroscopic, and static/dynamic theories. The following four topics in particular are dealt with in the book. Assuming that the interface is represented as a height function measured from a fixed-reference discretized hyperplane, the system is governed by the Hamiltonian of gradient of the height functions. This is a kind of effective interface model called - interface model. The scaling limits are studied for Gaussian (or non-Gaussian) random fields with a pinning effect under a situation in which the rate functional of the corresponding large deviation principle has non-unique minimizers. Young diagrams determine decreasing interfaces, and their dynamics are introduced. The large-scale behavior of such dynamics is studied from the points of view of the hydrodynamic limit and non-equilibrium fluctuation theory. Vershik curves are derived in that limit. A sharp interface limit for the Allen–Cahn equation, that is, a reaction–diffusion equation with bistable

	reaction term, leads to a mean curvature flow for the interfaces. Its stochastic perturbation, sometimes called a time-dependent Ginzburg–Landau model, stochastic quantization, or dynamic P()-model, is considered. Brief introductions to Brownian motions, martingales, and stochastic integrals are given in an infinite dimensional setting. The regularity property of solutions of stochastic PDEs (SPDEs) of a parabolic type with additive noises is also discussed. The Kardar–Parisi–Zhang (KPZ) equation , which describes a growing interface with fluctuation, recently has attracted much attention. This is an ill-posed SPDE and requires a renormalization. Especially its invariant measures are studied. .

2.

Record Nr.	UNINA9911021156403321
Autore	Karwowski Waldemar
Titolo	Advances in Artificial Intelligence Applications in Industrial and Systems Engineering
Pubbl/distr/stampa	Newark : , : John Wiley & Sons, Incorporated, , 2025 ©2025
ISBN	1-394-25709-0 1-394-25707-4 1-394-25708-2
Edizione	[1st ed.]
Descrizione fisica	1 online resource (402 pages)
Collana	Advances in Industrial and Systems Engineering Series
Altri autori (Persone)	DuffyVincent SalvendyGavriel
Disciplina	620.0028563
Soggetti	Artificial intelligence - Industrial applications Industrial engineering Systems engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Cover -- Table of Contents -- Advances in Industrial and Systems Engineering -- Title Page -- Copyright -- Advisory Board -- About the Editors -- Preface -- Chapter 1: Introduction to Industrial Artificial Intelligence -- 1.1 Fundamental Problems in Industry -- 1.2 The

	Purpose of Industrial AI -- 1.3 Difference Between AI and Industrial AI -- 1.4 Definition and Meaning of Industrial AI -- 1.5 Key Elements in Industrial AI: ABCDE -- 1.6 CPS Framework for Industrial AI -- 1.7 Technological Elements of CPS Framework -- 1.8 Developing Industrial AI Talents -- 1.9 Training Industrial AI Talents Using Open-source Datasets -- 1.10 Issues in Industrial AI -- 1.11 Conclusion -- References -- Chapter 2: Autonomous Systems and Intelligent Agents -- 2.1 Definitions and Scopes -- 2.2 Core Concepts and Components -- 2.3 Applications and Case Study: Autonomous Vehicle -- 2.4 Challenges and Future Directions -- References -- Chapter 3: Natural Language Processing for Industrial and Systems Engineering -- 3.1 Introduction -- 3.2 Advances and Trends in NLP
Sommario/riassunto	Comprehensive guide offering actionable strategies for enhancing human-centered AI, efficiency, and productivity in industrial and systems engineering through the power of AI.