

1. Record Nr.	UNINA9910427669503321
Titolo	Traffic and granular flow 2019 / / Iker Zuriguel, Angel Garcimartíñ, Raúl Cruz Hidalgo, editors
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2020] ©2020
ISBN	3-030-55973-4
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (XXVII, 611 p. 278 illus., 246 illus. in color.)
Collana	Springer Proceedings in Physics ; ; Volume 252
Disciplina	388.41
Soggetti	Granular flow Pedestrian traffic flow Traffic flow
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Part 1: Pedestrian dynamics -- Chapter 1. Inuence of Corridor Width and Motivation on Pedestrians in Front of Bottlenecks -- Chapter 2. The Measurement of Stress at Open-Air Events: Monitoring Emotion and Motion Utilizing Wearable Sensor Technology -- Chapter 3. Smoothing trajectories of people's heads -- Chapter 4. Inuence of Small-Scale Obstacles on Passenger Flows in Railway Stations -- Chapter 5. Analysis of Pedestrian Motion Using Voronoi Diagrams in Complex Geometries -- Chapter 6. The trouble with 2nd order models or how to generate stop-and-go trac in a 1st order model -- Chapter 7. The impact of walking speed heterogeneity and ow ratio on the pedestrian fundamental diagram -- Chapter 8. Experimental investigation on information provision methods and guidance strategies for crowd control -- Chapter 9. The impact of guidance information on exit choice behavior during an evacuation - a VR study -- Chapter 10. Experimental study on crowds with dierent velocity composition -- Chapter 11. The eect of an obstacle before a bottleneck: inert particles, sheep, and persons -- Chapter 12. Towards Inferring Input Parameters from Measurements: Bayesian Inversion for a Bottleneck Scenario -- Chapter 13. Spatially dependent friction – a way of adjusting bottleneck ow in cellular models -- Chapter 14. Experimental study on the congestion-sharing eect of obstacle on

pedestrian crowd egress -- Chapter 15. Experimental setups to observe evasion maneuvers in low and high densities -- Chapter 16. How to change the value of Social Force Model's relaxation time parameter with desired speed such that bottleneck flow remains unchanged -- Chapter 17. An analytical solution of the Social Force Model for uni-directional flow -- Chapter 18. A cognitive, decision-based model for pedestrian dynamics -- Chapter 19. Exploring Koopman Operator Based Surrogate Models - Accelerating the Analysis of Critical Pedestrian Densities -- Chapter 20. Evacuation Characteristics of Students Passing through Bottlenecks. Chapter 21. An efficient crowd density estimation algorithm through network compression -- Chapter 22. Modelling Pedestrian Social Group Passing Strategy with Expression-Matrix and Social Force -- Chapter 23. Pedestrian fundamental diagram in between normal walk and crawling -- Chapter 24. Deep Fundamental Diagram Network for Real-time Pedestrian Dynamics Analysis -- Chapter 25. Data-driven simulation for pedestrian avoiding a fixed obstacle -- Chapter 26. Entropy, Field Theory and Pedestrian Dynamics: Prediction and Forensics -- Chapter 27. The impact of social groups on collective decision-making in evacuations: a simulation study -- Chapter 28. Set-up of a method for people-counting using images from a UAV -- Chapter 29. Modeling of positioning in waiting processes on platforms -- Chapter 30. Exploring the effect of crowd management measures on passengers' behaviour at metro stations -- Chapter 31. Rotation behaviour of pedestrians in bidirectional and crossing flows -- Chapter 32. Experimental study on one-dimensional movement with different motion postures -- Chapter 33. A decision model for pre-evacuation time prediction based on fuzzy logic theory -- Chapter 34. Clogging in velocity-based models for pedestrian dynamics -- Chapter 35. Exit-choice behavior in evacuation through an L-shaped corridor -- Chapter 36. Bidirectional Flow on Stairs at Different Flow Ratios -- Chapter 37. Gender profiling of pedestrian dyads -- Chapter 38. The effect of social groups on the dynamics of bi-directional pedestrian flow: a numerical study -- Chapter 39. Experimental study on pedestrian flow under different age groups and movement motivations -- Chapter 40. Experimental Analysis of the Restriction Mechanisms of Queuing on Pedestrian Flow at Bottleneck -- Chapter 41. Vadere - A simulation framework to compare locomotion models -- Part 2: Granular and active matter -- Chapter 42. First-order contributions to the partial temperatures in dilute binary granular suspensions -- Chapter 43. Acoustic resonances in a confined set of disks -- Chapter 44. Morphological response of clogging arches to gentle vibration. .

Sommario/riassunto

This book gathers contributions on a variety of flowing collective systems. While primarily focusing on pedestrian dynamics, they also reflect the latest developments in areas such as vehicular traffic and granular flows and address related emerging topics such as self-propelled particles, data transport, swarm behavior, intercellular transport, and collective dynamics of biological systems. Combining fundamental research and practical applications in the various fields discussed, the book offers a valuable asset for researchers and practitioners alike. .
