1. Record Nr. UNINA9910584584603321 Autore Frigg Roman Titolo Models and Theories / / Roman Frigg Pubbl/distr/stampa Taylor & Francis, 2022 England:,: Routledge,, 2022 **ISBN** 1-000-60955-3 1-00-328510-4 1-000-60953-7 1-003-28510-4 Descrizione fisica 1 online resource (508 pages) 100 Disciplina Philosophy Soggetti Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Theory and language -- Models in the received view -- Delineating the observable -- Framing the theoretical -- Thinking through structures -- Representing with structures -- Family ties -- Beyond structures --Reconsidering representation -- Analogy -- Abstraction, approximation, idealisation -- Limit idealisations and factor exclusions -- Challenging subordination -- What are models? -- Taming abundance -- The model muddle. Models and theories are of central importance in science, and scientists Sommario/riassunto spend substantial amounts of time building, testing, comparing and revising models and theories. It is therefore not surprising that the nature of scientific models and theories has been a widely debated topic within the philosophy of science for many years. The product of two decades of research, this book provides an accessible yet critical introduction to the debates about models and theories within analytical philosophy of science since the 1920s. Roman Frigg surveys and discusses key topics and questions, including: What are theories? What are models? And how do models and theories relate to each other? The

linguistic view of theories (also known as the syntactic view of

theories), covering different articulations of the view, its use of models, the theory-observation divide and the theory-ladenness of observation,

and the meaning of theoretical terms. The model-theoretical view of theories (also known as the semantic view of theories), covering its analysis of the model-world relationship, the internal structure of a theory, and the ontology of models. Scientific representation, discussing analogy, idealisation and different accounts of representation. Modelling in scientific practice, examining how models relate to theories and what models are, classifying different kinds of models, and investigating how robustness analysis, perspectivism, and approaches committed to uncertainty-management deal with multi-model situations. Models and Theories is the first comprehensive book-length treatment of the topic, making it essential reading for advanced undergraduates, researchers, and professional philosophers working in philosophy of science and philosophy of technology. It will also be of interest to philosophically minded readers working in physics, computer sciences and STEM fields more broadly.