1. Record Nr. UNINA9910864186503321 Autore Lennox James Bryan Titolo Robert Rosen and Relational System Theory: An Overview / / by James **Bryan Lennox** Cham:,: Springer Nature Switzerland:,: Imprint: Springer,, 2024 Pubbl/distr/stampa **ISBN** 3-031-51116-6 Edizione [1st ed. 2024.] Descrizione fisica 1 online resource (150 pages) Collana Anticipation Science, , 2522-0403; ; 8 Disciplina 570.11 Biology - Philosophy Soggetti Logic, Symbolic and mathematical Biological models Philosophy Philosophy of Biology Mathematical Logic and Foundations **Biological Models** Lingua di pubblicazione Inglese Materiale a stampa **Formato** Livello bibliografico Monografia Preface -- 1. Introduction -- 2. Category Theory -- 3. The Modeling Nota di contenuto Relation in Science -- 4. Relational Models -- 5. Simple Systems and Complex Systems -- 6. Anticipatory Systems -- 7. (M, R) - Systems --8. The Realization Problem -- Appendix: J. S. Hofmeyr's (F, A) -Systems -- Bibliography. This book focuses on Robert Rosen's contributions to relational system Sommario/riassunto theory, which is the science of organization and function. This science was originally developed by Nicolas Rashevsky, and further developed by Rashevsky's student Robert Rosen, and continues to be developed by Rosen's student A. H. Louie amongst others. Due to its revolutionary character, it is often misunderstood, and to some, controversial. The formal and conceptual setting for Rosen's relational system theory is category theory. Rosen was the first to apply category theory to scientific problems, outside of pure mathematics, and the first to think about science from the point of view of category theory. To better

understand the work of Rosen, this book provides an overview of his theory of modeling, complexity, anticipation, and organism. It presents

the foundations of this science and the philosophical motivations behind it along with conceptual clarification and historical context in order to present Rosen's ideas to a wider audience.