1. Record Nr. UNINA9910300124603321 Autore **Eklund Patrik Titolo** Semigroups in Complete Lattices: Quantales, Modules and Related Topics / / by Patrik Eklund, Javier Gutierrez Garcia, Ulrich Höhle, Jari Kortelainen Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2018 3-319-78948-1 **ISBN** Edizione [1st ed. 2018.] Descrizione fisica 1 online resource (XXI, 326 p.) Collana Developments in Mathematics, , 1389-2177; ; 54 Disciplina 511.33 Soggetti Algebra Ordered algebraic structures Category theory (Mathematics) Homological algebra Mathematical logic Order, Lattices, Ordered Algebraic Structures Category Theory, Homological Algebra Mathematical Logic and Formal Languages Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Introduction -- 1 Foundations -- 2 Fundamentals of Quantales -- 3 Nota di contenuto Module Theory in Sup -- Appendix -- References -- Index. Sommario/riassunto This monograph provides a modern introduction to the theory of quantales. First coined by C.J. Mulvey in 1986, quantales have since developed into a significant topic at the crossroads of algebra and logic, of notable interest to theoretical computer science. This book recasts the subject within the powerful framework of categorical algebra, showcasing its versatility through applications to C\*- and MValgebras, fuzzy sets and automata. With exercises and historical remarks at the end of each chapter, this self-contained book provides readers with a valuable source of references and hints for future research. This book will appeal to researchers across mathematics and computer science with an interest in category theory, lattice theory, and

many-valued logic.