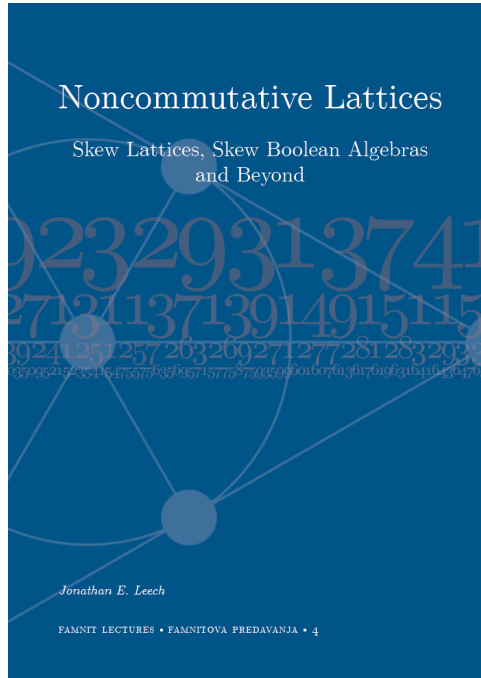




## Jonathan E. Leech: Noncommutative Lattices: Skew Lattices, Skew Boolean Algebras and Beyond



**About the book:** The extended study of non-commutative lattices was begun in 1949 by Ernst Pascual Jordan, a theoretical and mathematical physicist and co-worker of Max Born and Werner Karl Heisenberg. Jordan introduced noncommutative lattices as algebraic structures potentially suitable to encompass the logic of the quantum world. The modern theory of noncommutative lattices began forty years later with Jonathan Leech's 1989 paper "Skew lattices in rings." Recently, noncommutative generalizations of lattices and related structures have seen an upsurge in interest, with new ideas and applications emerging, from quasilattices to skew Heyting algebras. Much of this activity is derived in some way from the initiation of Jonathan Leech's program of research in this area. The present book consists of seven chapters, mainly covering skew lattices, quasilattices and paralattices, skew lattices of idempotents in rings and skew Boolean algebras. As such, it is the first research monograph covering major results due to this renewed study of noncommutative lattices. It will serve as a valuable graduate textbook on the subject, as well as a handy reference to researchers of noncommutative algebras.

**About the author:** Jonathan Leech graduated from the University of Hawaii and earned a PhD at the University of California, Los Angeles. He has taught mathematics at the University of Tennessee, later at Missouri Western State University and finally at Westmont College in Santa Barbara, California. He has been a Visiting Professor at Case Western Reserve University, the Universidad de Granada in Spain and Universidade Mackenzie



in Brazil, and a scholar in residence at both the University of Sidney and the University of Tasmania in Australia. Throughout his academic career Professor Leech has studied algebraic structures related to semigroups, with much of his emphasis being on the theory of noncommutative lattices, and of skew lattices in particular. He laid the foundations of the modern theory of noncommutative lattices in a number of (co)authored seminal publications. His work has inspired many mathematicians around the world to pursue research in this area.

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