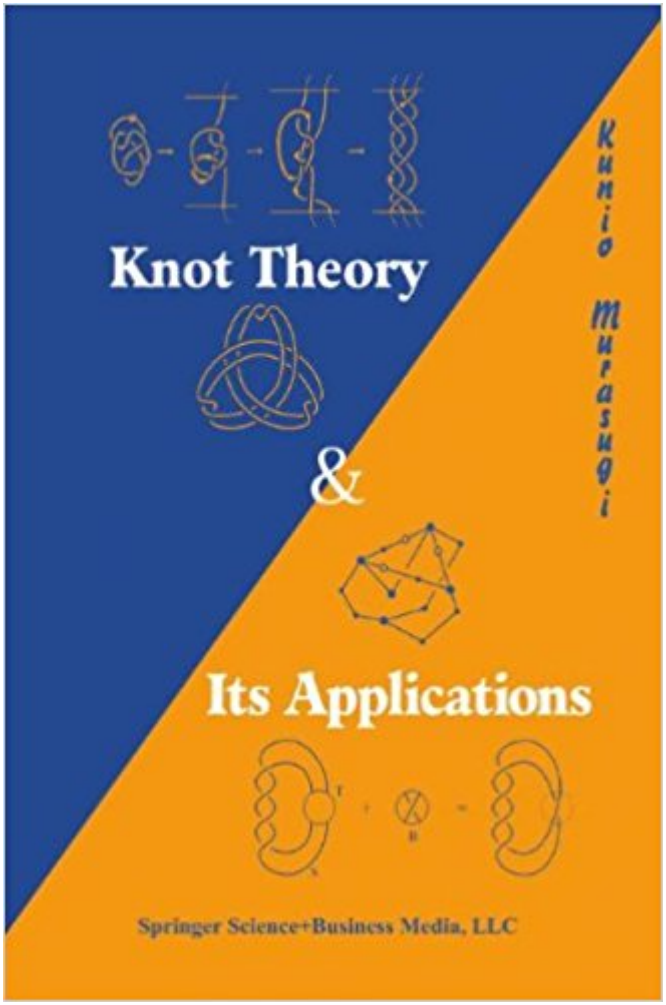
Knot Theory And Its Applications



Synopsis

This book introduces the study of knots, providing insights into recent applications in DNA research and graph theory. It sets forth fundamental facts such as knot diagrams, braid representations, Seifert surfaces, tangles, and Alexander polynomials. It also covers more recent developments and special topics, such as chord diagrams and covering spaces. The author avoids advanced mathematical terminology and intricate techniques in algebraic topology and group theory. Numerous diagrams and exercises help readers understand and apply the theory. Each chapter includes a supplement with interesting historical and mathematical comments.

Book Information

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Customer Reviews

From the reviews: "The book ...develops knot theory from an intuitive geometric-combinatorial point of view, avoiding completely more advanced concepts and techniques from algebraic topology.... intended for readers without a considerable background in mathematics...particular attention is given to connections and applications to other natural sciences. Thus the emphasis is on a lucid and intuitive exposition accessible to a broader audience... The book, written in a stimulating and original style,Ã Â will serve as a first approach to this interesting field for readers with various backgrounds in mathematics, physics, etc. It is the first text developing recent topics as the Jones polynomial and Vassiliev invariants on a level accessible also for non-specialists in the field."Ã Â Ã Â Ã¢â ¬â œZentralblatt Math "Noteworthy features here include applications to chemistry and biology and a final chapter on the very important Vassiliev invariants, a fairly

late-breaking development. Murasugi, an expert of stature on knots, begins absolutely from first principles and avoids sophisticated terminology, but he writes in a careful and rigorous style."Ã Â Ã Â Ã¢â ¬â œChoice "I grabbed the opportunity to review this book, and IÃ¢â ¬â„¢m still enthusiastic. Ã¢â ¬Â¦ I enjoyed it immensely. Ã¢â ¬Â¦ In general, the author strives for clarity, and that was appreciated by this reviewer and will be appreciated by students. Ã¢â ¬Â¦ I also enjoyed how he always keeps us abreast of the general picture, in particular keeping us up to date with respect to the various new results and successes Ã¢â ¬Â¦ ." (Marion Cohen, MathDL, June, 2008)

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