Advanced Engineering Mathematics By Santosh

Engineering and ScienceTen Equations to Explain the Mysteries of Modern AstrophysicsEmerging Photovoltaic MaterialsSurface Engineering of GrapheneThe Finite Element Method in EngineeringMathematics Applied to EngineeringAnimal Models of Speech and Language DisordersContinents and SupercontinentsContributions to Hardware and Software ReliabilityNovel Strategies to Improve Shelf-Life and Quality of FoodsFluid Mechanics and Its ApplicationsMedical ImagingMobile HealthIrrigation Engineering And Hydraulic StructuresSky is Not the LimitApplications of Hybrid Metaheuristic Algorithms for Image ProcessingRecent Trends in Image Processing and Pattern RecognitionComponent-Based Software EngineeringEnergy Efficient Computing & ElectronicsComputational Science and its ApplicationsAdvanced Engineering MathematicsRecent Trends in the Acetylcholinesterase SystemEnvironmental Engineering Dictionary and DirectoryMathematics in Engineering SciencesRecent Advances in Mathematics for EngineeringCurrent Topics in EchinococcosisMathematics Applied to Engineering and ManagementEngineering MathematicsWater Supply EngineeringComplex AnalysisAdvanced Engineering MathematicsAnimal BiometricsThe Theory of ProbabilityHigh-Dimensional ProbabilitySpectral AlgorithmsDark Sides of Organizational Behavior and LeadershipNumerical Methods for EngineersFluid Mechanics and Its ApplicationsEngineering MathematicsThe British National Bibliography

Engineering and Science

Mathematics Applied in Engineering presents a wide array of applied mathematical techniques for an equally wide range of engineering applications, covering areas such as acoustics, system engineering, optimization, mechanical engineering, and reliability engineering. Mathematics acts as a foundation for new advances, as engineering evolves and develops. This book will be of great interest to postgraduate and senior undergraduate students, and researchers, in engineering and mathematics, as well as to engineers, policy makers, and scientists involved in the application of mathematics in engineering. Covers many mathematical techniques for robotics, computer science, mechanical engineering, HCI and machinability Describes different algorithms Explains different modeling techniques and simulations

Ten Equations to Explain the Mysteries of Modern Astrophysics

This Book Is Intended To Be A Text For Either A First Or A Second Course In Numerical Methods For Students In All Engineering Disciplines. Difficult Concepts, Which Usually Pose Problems To Students Are Explained In Detail And Illustrated With Solved Examples. Enough Elementary Material That Could Be Covered In The First-Level Course Is Included, For Example, Methods For Solving Linear And Nonlinear Algebraic Equations, Interpolation, Differentiation, Integration, And

Simple Techniques For Integrating Odes And Pdes (Ordinary And Partial Differential Equations).Advanced Techniques And Concepts That Could Form Part Of A Second-Level Course Includegears Method For Solving Ode-Ivps (Initial Value Problems), Stiffness Of Ode- Ivps, Multiplicity Of Solutions, Convergence Characteristics, The Orthogonal Collocation Method For Solving Ode-Bvps (Boundary Value Problems) And Finite Element Techniques. An Extensive Set Of Graded Problems, Often With Hints, Has Been Included.Some Involve Simple Applications Of The Concepts And Can Be Solved Using A Calculator, While Several Are From Real-Life Situations And Require Writing Computer Programs Or Use Of Library Subroutines. Practice On These Is Expected To Build Up The Reader'S Confidence In Developing Large Computer Codes.

Emerging Photovoltaic Materials

Surface Engineering of Graphene

The Finite Element Method in Engineering

A groundbreaking and comprehensive reference that's been a bestseller since 1970, this new edition provides a broad mathematical survey and covers a full range of topics from the very basic to the advanced. For the first time, a personal tutor CD-ROM is included.

Mathematics Applied to Engineering

Echinococcosis remains an important cause of morbidity and mortality in certain areas of the world, tropical and non-tropical, particularly in rural settings. This book includes different topics with regard to the epidemiology, biology, clinical manifestations, treatment and prevention of the wide spectrum of diseases caused by the different species of Echinococcus involved in human and animal infection, with an aim to update the most significant research in many of them as well as to offer a multinational perspective on different aspects. The book has been organized into three major sections: (I) Epidemiology; (II) Biological and Clinical Aspects; and (III) Treatment and Prevention. Section I includes topics covering epidemiological studies in Colombia, Chile, Mexico and Tunisia, including molecular biology approaches to the study of parasite species. Section II includes topics covering the biology of some Echinococcus species affecting mainly animals, as also the human clinical manifestations in the central nervous system (CNS), genitourinary tract and other organic typical and atypical locations, as well as radiological manifestations of pulmonary disease. Section III includes topics on the usefulness of immunotherapy for antihelmintic treatment and intervention strategies.

Animal Models of Speech and Language Disorders

Surveys the origin of continents, and the accretion and breakup of supercontinents through earth history. This book also shows how these processes affected the composition of seawater, climate, and the evolution of life.

Continents and Supercontinents

The book discusses varied topics pertaining to advanced or up-to-date techniques in medical imaging using artificial intelligence (AI), image recognition (IR) and machine learning (ML) algorithms/techniques. Further, coverage includes analysis of chest radiographs (chest x-rays) via stacked generalization models, TB type detection using slice separation approach, brain tumor image segmentation via deep learning, mammogram mass separation, epileptic seizures, breast ultrasound images, knee joint x-ray images, bone fracture detection and labeling, and diabetic retinopathy. It also reviews 3D imaging in biomedical applications and pathological medical imaging.

Contributions to Hardware and Software Reliability

Concept of fluid mechanics explained starting from simple flow phenomena. Level of mathematics kept low to emphasize phenomena itself. Rich experience of teaching utilized to avoid misunderstandings, over-generalizations and misapplications. Solved problems to highlight applications.

Novel Strategies to Improve Shelf-Life and Quality of Foods

This book includes research studies, novel theory, as well as new methodology and applications in mathematics and management sciences. The book will provide a comprehensive range of mathematics applied to engineering areas for different tasks. It will offer an international perspective and a bridge between classical theory and new methodology in many areas, along with real-life applications. Features Offers solutions to multi-objective transportation problem under cost reliability using utility function Presents optimization techniques to support eco-efficiency assessment in manufacturing processes Covers distance-based function approach for optimal design of engineering processes with multiple quality characteristics Provides discrete time sliding mode control for non-linear networked control systems Discusses second law of thermodynamics as instruments for optimizing fluid dynamic systems and aerodynamic systems

Fluid Mechanics and Its Applications

This book presents the state of the art in the processing, properties, and applications in various fields of science and technology related to graphene and its derivatives. It also discusses the limitations and drawbacks of graphene due to some of its intrinsic properties. Further, it provides a brief overview of graphene analogs, comparing the properties of graphene with those of other similar 2D materials.

Medical Imaging

We are often dissatisfied with our current situation in life, while knowing perfectly well that where we find ourselves today, is exactly where we have chosen to be. This book uncovers the barriers which lie between you and the unlimited potential within you. Once you can locate what is holding you back, you can shatter the barriers keeping you from being the powerful individual that you already are. The only limitations you have are self-imposed and this book shows you how to get out of your own way and act out of your original self. Using real life stories, examples and more importantly the time-tested techniques, this book shows you how to: Unleash the powerful you Believe in your own self Reach your highest potential Emerge a winner even in the most challenging situations Achieve your dreams Live a highly successful, healthy and bountiful life Read this book and discover that even the Sky is Not the Limit!

Mobile Health

Basic research over the last decade or two has uncovered similarities between speech, especially its sensori-motor aspects, and vocal communication in several non-human species. The most comprehensive studies so far have been conducted in songbirds. Songbirds offer us a model system to study the interactions between developmental or genetic predispositions and tutor-dependent influences, on the learning of vocal communication. Songbird research has elucidated cellular and molecular mechanisms underlying learning and production of vocal patterns, perception of vocal sounds, vocal motor control and vocal neuromotor plasticity. More recently, the entire genome of the songbird zebra finch has been sequenced. These discoveries, along with the identification of several genes implicated in familial human speech and language disorders, have made it possible to look for analogues of speech and language dysfunction in zebra finches, at least at the perceptual and sensori-motor levels. Two approaches in particular have led us closer to the development of animal models of human speech conditions, namely developmental stuttering and a familial verbal dyspraxia associated with a mutation in the gene for the transcription factor FoxP2. Work on other animals that show developmental sensori-motor learning of vocal sounds used for communication have also shown significant progress, leading to the possibility of development of models of speech and language dysfunction in them. Among mammals, the principal ones include dolphins and whales. In non-human primates, while vocal learning per se is not very prominent, investigations on their communicative abilities have thrown some light on the rudiments of language. These considerations make the publication of a book focused on animal models of

speech and language disorders, detailing the overall investigative approach of neurobehavioral studies in animals capable of vocal communication and learned vocalizations, a much-needed and worthwhile project. It would serve as a unifying review of research in this new multidisciplinary frontier, spanning the molecular to the behavioral, for clinicians and researchers, as well as a teaching resource for advanced speech pathology and neuroscience students. This book will also be the first of its kind.

Irrigation Engineering And Hydraulic Structures

This volume focuses on food preservation prior to distribution and sale, which is a major challenge in the tropical climates of most developing nations. In order to assure that food products are safe for human consumption, due importance must be given to the quality and safety aspects of production, processing, and distribution. This volume provides an informative overview of recent research on the therapeutic potential of various new and natural compounds along with novel technologies for enhanced shelf-life longevity and food safety. It also looks at the antimicrobial constituents of different sources and the history of their use as biopreservatives. It includes scientific evaluations of their use as alternative or potential biopreservatives. Focusing on real-life applications in consumer and food products, the book is divided into three parts, covering health and quality aspects of food preservation, applications of novel biomolecules for quality and safety of foods, and novel research techniques in food biopreservation.

Sky is Not the Limit

Applications of Hybrid Metaheuristic Algorithms for Image Processing

This book presents state-of-the-art methodologies and a comprehensive introduction to the recognition and representation of species and individual animals based on their physiological and phenotypic appearances, biometric characteristics, and morphological image patterns. It provides in-depth coverage of this emerging area, with an emphasis on the design and analysis techniques used in visual animal biometrics-based recognition systems. The book offers a comprehensive introduction to visual animal biometrics, addressing a range of recent advances and practices like sensing, feature extraction, feature selection and representation, matching, indexing of feature sets, and animal biometrics-based multimodal systems. It provides authoritative information on all the major concepts, as well as highly specific topics, e.g. the identification of cattle based on their muzzle point image pattern and face images to prevent false insurance claims, or the monitoring and registration of animals based on their biometric features. As such, the book provides a sound platform for understanding the Visual Animal Biometrics paradigm, a vital catalyst for researchers in the field, and a valuable guide

for professionals. In addition, it can help both private and public organizations adapt and enhance their classical animal recognition systems.

Recent Trends in Image Processing and Pattern Recognition

Component-Based Software Engineering

Appropriate for one- or two-semester Advanced Engineering Mathematics courses in departments of Mathematics and Engineering. This clear, pedagogically rich book develops a strong understanding of the mathematical principles and practices that today's engineers and scientists need to know. Equally effective as either a textbook or reference manual, it approaches mathematical concepts from a practical-use perspective making physical applications more vivid and substantial. Its comprehensive instructional framework supports a conversational, down-to-earth narrative style offering easy accessibility and frequent opportunities for application and reinforcement.

Energy Efficient Computing & Electronics

The enzyme acetylcholinesterase (AChE) has drawn the attention of scientist as it has played a striking role in Alzheimers disease, Cardiac diseases and other diseases. A good discussion and overview document on AChE enzyme and its various aspects was felt lacking since long time in the field of enzyme Biochemistry as well as enzyme Biotechnology and this publication fills this gap. Before this publication there was no data available in AChE enzyme inhibition, its kinetics, its peripheral sites, their role in catalytic and noncholinergic function of enzyme, Ach receptors, AChE and BuChE genes etc. All these topics together form a good basis for researchers and post graduate students in this field of interest. This book is exclusively based on recent works reported in the field of AChE enzyme and is a collection volume of recent advanced reports and data on AChE Enzyme.

Computational Science and its Applications

Advanced Engineering Mathematics

With better computing facilities now available, there is an ever-increasing need to ensure that elegant theoretical results on hardware reliability are computationally available. This book discusses those aspects which have relevance to computing

systems and those where numerical computation was a problem. It is also well known that nearly 70% of the cost goes into software development and hence software reliability assumes special importance. The book not only gives an extensive review of the literature on software reliability but also provides direction in developing models which are flexible and can be used in a variety of testing environments. Besides, several alternative formulations of the release time problem are discussed along with variants such as allocation of testing effort resources to different modules of the software, or the testing effort control problem. Software reliability has now emerged as an independent discipline and requires a strong partnership between computer scientists, statisticians and operational researchers. This aspect is broadly highlighted in the book.

Recent Trends in the Acetylcholinesterase System

In recent years, scholars have focused more on the "dark sides of leadership." Both the negative and positive aspects of the relationship between leaders and followers are considered. But the relationship between leaders and followers is also influenced by the context in which the relationship occurs. Organizational aspects such as culture and structures are studied in relation to how negative leadership develops. Organizations, just like humans, are able to develop justifications for their actions, to self-aggrandize by claiming their exclusivity. In this book, the dark sides of organizational behaviors and leadership are considered from different aspects and contexts. The book contributes knowledge of how negative leadership develops, what part organizational structures play, and what the consequences are for the leader, the subordinates and the organization.

Environmental Engineering Dictionary and Directory

Spectral methods refer to the use of eigenvalues, eigenvectors, singular values and singular vectors. They are widely used in Engineering, Applied Mathematics and Statistics. More recently, spectral methods have found numerous applications in Computer Science to "discrete" as well "continuous" problems. Spectral Algorithms describes modern applications of spectral methods, and novel algorithms for estimating spectral parameters. The first part of the book presents applications of spectral methods to problems from a variety of topics including combinatorial optimization, learning and clustering. The second part of the book is motivated by efficiency considerations. A feature of many modern applications is the massive amount of input data. While sophisticated algorithms for matrix computations have been developed over a century, a more recent development is algorithms based on "sampling on the y" from massive matrices. Good estimates of singular values and low rank approximations of the whole matrix can be provably derived from a sample. The main emphasis in the second part of the book is to present these sampling methods with rigorous error bounds. It also presents recent extensions of spectral methods from matrices to tensors and their applications to some combinatorial optimization problems.

Mathematics in Engineering Sciences

This book presents a collection of the most recent hybrid methods for image processing. The algorithms included consider evolutionary, swarm, machine learning and deep learning. The respective chapters explore different areas of image processing, from image segmentation to the recognition of objects using complex approaches and medical applications. The book also discusses the theory of the methodologies used to provide an overview of the applications of these tools in image processing. The book is primarily intended for undergraduate and postgraduate students of science, engineering and computational mathematics, and can also be used for courses on artificial intelligence, advanced image processing, and computational intelligence. Further, it is a valuable resource for researchers from the evolutionary computation, artificial intelligence and image processing communities.

Recent Advances in Mathematics for Engineering

High-dimensional probability offers insight into the behavior of random vectors, random matrices, random subspaces, and objects used to quantify uncertainty in high dimensions. Drawing on ideas from probability, analysis, and geometry, it lends itself to applications in mathematics, statistics, theoretical computer science, signal processing, optimization, and more. It is the first to integrate theory, key tools, and modern applications of high-dimensional probability. Concentration inequalities form the core, and it covers both classical results such as Hoeffding's and Chernoff's inequalities and modern developments such as the matrix Bernstein's inequality. It then introduces the powerful methods based on stochastic processes, including such tools as Slepian's, Sudakov's, and Dudley's inequalities, as well as generic chaining and bounds based on VC dimension. A broad range of illustrations is embedded throughout, including classical and modern results for covariance estimation, clustering, networks, semidefinite programming, coding, dimension reduction, matrix completion, machine learning, compressed sensing, and sparse regression.

Current Topics in Echinococcosis

Mathematics Applied to Engineering and Management

This volume provides a comprehensive introduction to mHealth technology and is accessible to technology-oriented researchers and practitioners with backgrounds in computer science, engineering, statistics, and applied mathematics. The contributing authors include leading researchers and practitioners in the mHealth field. The book offers an in-depth exploration of the three key elements of mHealth technology: the development of on-body sensors that can identify key

health-related behaviors (sensors to markers), the use of analytic methods to predict current and future states of health and disease (markers to predictors), and the development of mobile interventions which can improve health outcomes (predictors to interventions). Chapters are organized into sections, with the first section devoted to mHealth applications, followed by three sections devoted to the above three key technology areas. Each chapter can be read independently, but the organization of the entire book provides a logical flow from the design of on-body sensing technology, through the analysis of time-varying sensor data, to interactions with a user which create opportunities to improve health outcomes. This volume is a valuable resource to spur the development of this growing field, and ideally suited for use as a textbook in an mHealth course.

Engineering Mathematics

Computational science is a rapidly growing multidisciplinary field concerned with the design, implementation, and use of mathematical models to analyze and solve real-world problems. It is an area of science that spans many disciplines and which involves the development of models and allows the use of computers to perform simulations or numerical analysis to understand problems that are computational and theoretical. Computational Science and its Applications provides an opportunity for readers to develop abilities to pose and solve problems that combine insights from one or more disciplines from the natural sciences with mathematical tools and computational skills. This requires a unique combination of applied and theoretical knowledge and skills. The topics covered in this edited book are applications of wavelet and fractals, modeling by partial differential equations on flat structure as well as on graphs and networks, computational linguistics, prediction of natural calamities and diseases like epilepsy seizure, heart attack, stroke, biometrics, modeling through inverse problems, interdisciplinary topics of physics, mathematics, and medical science, and modeling of terrorist attacks and human behavior. The focus of this book is not to educate computer specialists, but to provide readers with a solid understanding of basic science as well as an integrated knowledge on how to use essential methods from computational science. Features: Modeling of complex systems Cognitive computing systems for real-world problems Presentation of inverse problems in medical science and their numerical solutions Challenging research problems in many areas of computational science This book could be used as a reference book for researchers working in theoretical research as well as those who are doing modeling and simulation in such disciplines as physics, biology, geoscience, and mathematics, and those who have a background in computational science.

Water Supply Engineering

This book introduces ten equations that transcend the boundaries of time and space. It takes readers through a journey of self-discovery where they will learn the history, science, and significance of these equations in the context of their lives.

Moreover, the mathematical beauty of these equations is presented in a profoundly modest fashion to highlight the idea that equations are eternal but humans are transient. Each chapter offers readers a sublime experience and provides insights into the laws of nature that address the ever-expanding intricacy of our universe. The history of humankind, according to Franz Kafka, is the instant between two strides taken by a traveler. Therefore, what remains eternal when we finish our journey on this tiny rocky planet is our deep desire to connect with everything else in this universe. These equations capture the essence of that aspiration and remain everlasting while we continue our trivial human pursuits. These equations change the way we live and view the world and will outlast even the most enduring signs of our civilization. They have the potential to take us from planet to planet and perhaps to make us a cosmic species. They can destroy the last strand of DNA to terminate life as we know it and generate life again from the fundamental laws of nature. While these equations remain intangible, they can create a tangible world yet remain truly eternal.

Complex Analysis

In our abundant computing infrastructure, performance improvements across most all application spaces are now severely limited by the energy dissipation involved in processing, storing, and moving data. The exponential increase in the volume of data to be handled by our computational infrastructure is driven in large part by unstructured data from countless sources. This book explores revolutionary device concepts, associated circuits, and architectures that will greatly extend the practical engineering limits of energy-efficient computation from device to circuit to system level. With chapters written by international experts in their corresponding field, the text investigates new approaches to lower energy requirements in computing. Features • Has a comprehensive coverage of various technologies • Written by international experts in their corresponding field • Covers revolutionary concepts at the device, circuit, and system levels

Advanced Engineering Mathematics

This book focuses on a specialized branch of the vast domain of software engineering: component-based software engineering (CBSE). Component-Based Software Engineering: Methods and Metrics enhances the basic understanding of components by defining categories, characteristics, repository, interaction, complexity, and composition. It divides the research domain of CBSE into three major sub-domains: (1) reusability issues, (2) interaction and integration issues, and (3) testing and reliability issues. This book covers the state-of-the-art literature survey of at least 20 years in the domain of reusability, interaction and integration complexities, and testing and reliability issues of component-based software engineering. The aim of this book is not only to review and analyze the previous works conducted by eminent researchers, academicians, and organizations in the context of CBSE, but also suggests innovative, efficient, and better solutions. A rigorous and critical survey of traditional and advanced paradigms of software engineering is provided in the book.

Features: In-interactions and Out-Interactions both are covered to assess the complexity. In the context of CBSE both white-box and black-box testing methods and their metrics are described. This work covers reliability estimation using reusability which is an innovative method. Case studies and real-life software examples are used to explore the problems and their solutions. Students, research scholars, software developers, and software designers or individuals interested in software engineering, especially in component-based software engineering, can refer to this book to understand the concepts from scratch. These measures and metrics can be used to estimate the software before the actual coding commences.

Animal Biometrics

This book is an in-depth and modern presentation of important classical results in complex analysis and is suitable for a first course on the topic, as taught by the authors at several universities. The level of difficulty of the material increases gradually from chapter to chapter, and each chapter contains many exercises with solutions and applications of the results, with the particular goal of showcasing a variety of solution techniques.

The Theory of Probability

From classical foundations to modern theory, this comprehensive guide to probability interweaves mathematical proofs, historical context and detailed illustrative applications.

High-Dimensional Probability

Spectral Algorithms

This book constitutes the refereed proceedings of the First International Conference on Recent Trends in Image Processing and Pattern Recognition, RTIP2R 2016, held in Bidar, Karnataka, India, in December 2016. The 39 revised full papers presented were carefully reviewed and selected from 99 submissions. The papers are organized in topical sections on document analysis; pattern analysis and machine learning; image analysis; biomedical image analysis; biometrics.

Dark Sides of Organizational Behavior and Leadership

This book covers the recent advances in photovoltaics materials and their innovative applications. Many materials science problems are encountered in understanding existing solar cells and the development of more efficient, less costly, and

more stable cells. This important and timely book provides a historical overview, but concentrates primarily on the exciting developments in the last decade. It includes organic and perovskite solar cells, photovoltaics in ferroelectric materials, organic-inorganic hybrid perovskite, materials with improved photovoltaic efficiencies as well as the full range of semiconductor materials for solar-to-electricity conversion, from crystalline silicon and amorphous silicon to cadmium telluride, copper indium gallium sulfide selenides, dye sensitized solar cells, organic solar cells, and environmentally-friendly copper zinc tin sulfide selenides.

Numerical Methods for Engineers

Fluid Mechanics and Its Applications

This book offers the latest research advances in the field of mathematics applications in engineering sciences and provides a reference with a theoretical and sound background, along with case studies. In recent years, mathematics has had an amazing growth in engineering sciences. It forms the common foundation of all engineering disciplines. This new book provides a comprehensive range of mathematics applied to various fields of engineering for different tasks in fields such as civil engineering, structural engineering, computer science, electrical engineering, among others. It offers articles that develop the applications of mathematics in engineering sciences, conveys the innovative research ideas, offers real-world utility of mathematics, and plays a significant role in the life of academics, practitioners, researchers, and industry leaders. Focuses on the latest research in the field of engineering applications Includes recent findings from various institutions Identifies the gaps in the knowledge of the field and provides the latest approaches Presents international studies and findings in modelling and simulation Offers various mathematical tools, techniques, strategies, and methods across different engineering fields

Engineering Mathematics

Like most technical disciplines, environmental science and engineering is becoming increasingly specialized. As industry professionals focus on specific environmental subjects they become less familiar with environmental problems and solutions outside their area of expertise. This situation is compounded by the fact that many environmental science related terms are confusing. Prefixes such as bio-, enviro-, hydra-, and hydro- are used so frequently that it is often hard to tell the words apart. The Environmental Engineering Dictionary and Directory gives you a complete list of brand terms, brand names, and trademarks - right at your fingertips.

The British National Bibliography

In recent years, mathematics has experienced amazing growth in the engineering sciences. Mathematics forms the common foundation of all engineering disciplines. This book provides a comprehensive range of mathematics applied in various fields of engineering for different tasks such as civil engineering, structural engineering, computer science, and electrical engineering, among others. It offers chapters that develop the applications of mathematics in engineering sciences, conveys the innovative research ideas, offers real-world utility of mathematics, and has a significance in the life of academics, practitioners, researchers, and industry leaders. Features Focuses on the latest research in the field of engineering applications Includes recent findings from various institutions Identifies the gaps in the knowledge in the field and provides the latest approaches Presents international studies and findings in modeling and simulation Offers various mathematical tools, techniques, strategies, and methods across different engineering fields

ROMANCE ACTION & ADVENTURE MYSTERY & THRILLER BIOGRAPHIES & HISTORY CHILDREN'S YOUNG ADULT FANTASY HISTORICAL FICTION HORROR LITERARY FICTION NON-FICTION SCIENCE FICTION