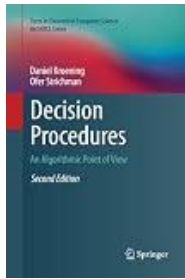


Science Collection



Decision Procedures: An Algorithmic Point of View

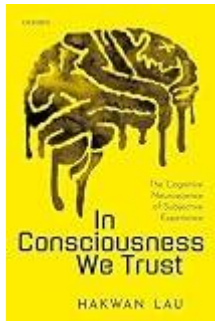
Author: Daniel Kroening, Ofer Strichman

Publisher: Springer Nature

Overview: It is the definitive, textbook-standard guide to the computational engines of automated verification. Daniel Kroening and Ofer Strichman provide a rigorous algorithmic blueprint for Satisfiability Modulo Theories (SMT), detailing how propositional logic can be combined with domain-specific theories such as linear arithmetic, bit-vectors, and arrays via the standard DPLL (T) framework.

Acc. No: 103164

Call No: [004.0151 KRO-D](#)



In Consciousness We Trust: The Cognitive Neuroscience of Subjective Experience

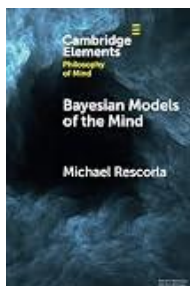
Author: Hakwan Lau

Publisher: Oxford University Press

Overview: In Consciousness We Trust: The Cognitive Neuroscience of Subjective Experience is a definitive, data-driven defence of the Perceptual Metacognition theory of mind. Neuroscientist Hakwan Lau uses twenty years of empirical research to show that subjective awareness is not a mystical cosmic baseline, but rather a higher-order cognitive prediction engine that relies on structural signal-detection mechanisms to evaluate its own sensory data.

Acc. No: 103189

Call No: [128.2 LAU-I](#)



Bayesian Models of the Mind

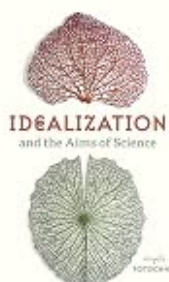
Author: Michael Rescorla

Publisher: Cambridge University Press

Overview: Bayesian Models of the Mind is a foundational exploration of the probabilistic turn in cognitive science. Michael Rescorla evaluates how mathematical frameworks originally designed as idealized normative rules for optimal decision-making under uncertainty have been successfully adapted to describe the actual, sub-conscious mechanics of human perception, motor control, and navigation. [Read more.](#)

Acc. No: 103190

Call No: [153.4 RES-B](#)



Idealization and the Aims of Science

Author: Angela Potochnik

Publisher: The University of Chicago Press

Overview: Idealization and the Aims of Science is a provocative intervention in the philosophy of science that argues truth is not the primary, direct aim of scientific inquiry. Angela Potochnik demonstrates how limited human agents must systematically utilize deliberate falsehoods idealizations to isolate and exploit complex causal patterns, positioning science as a pragmatic tool for understanding and manipulation rather than a mirror of absolute reality.

Acc. No: 103176

Call No: [501 POT-I](#)



Science for a Fragile World

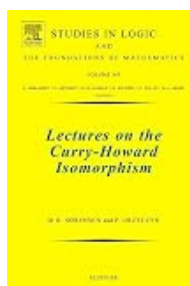
Author: Robert Northcott

Publisher: Oxford University Press

Overview: A groundbreaking critique of scientific realism and predictive modelling in the modern era. Robert Northcott argues that the causal mechanisms governing the social and biological phenomena we care about most are inherently "fragile" and unpredictable, requiring a shift away from grand unified stability theories toward a pragmatic, localized "Case Worker" approach to scientific expertise. [Read more.](#)

Acc. No: 103140

Call No: [501 NOR-S](#)



Lectures on the Curry-Howard isomorphism

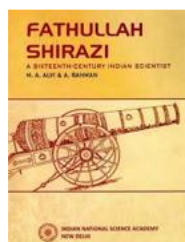
Author: Morten Heine Sorensen and Pawe Urzyczyn

Publisher: Elsevier

Overview: Lectures on the Curry-Howard Isomorphism is a definitive, graduate-level monograph that explicates the deep structural identity between formal proof systems and computational calculi. It systematically bridges intuitionistic logic and typed λ -calculus, detailing how formulas operate as types, proofs as programs, and proof normalization as computational reduction. [Read more.](#)

Acc. No: 103209

Call No: [511.326 SOR-L](#)



Fathullah Shirazi: a sixteenth century Indian scientist

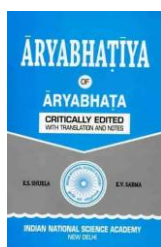
Author: Alvi, M. A

Publisher: Indian National Science Academy

Overview: It documents the life of Sayyed Mir Fathullah Shirazi, an Indo-Persian polymath at the court of Mughal Emperor Akbar.

Acc. No: 103212

Call No: [509.2 ALV-F](#)



Aryabhatīya of Aryabhata

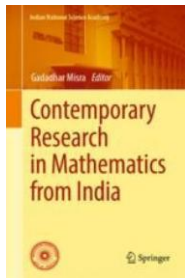
Author: Kripa Shankar Shukla

Publisher: Indian National Science Academy

Overview: The present volume, which forms Part II of our edition of the Aryabhatiya, contains the Sanskrit text of the Aryabhatiya along with its commentary in Sanskrit by Bhaskara who the greatest authority on Aryabhata.

Acc. No: 103215

Call No: [510.954 ARY-A](#)



Contemporary Research in Mathematics from India

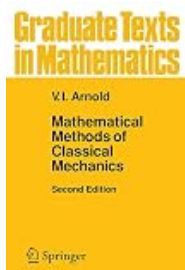
Editor: Gadadhar Misra

Publisher: Springer Nature

Overview: It is a high-level, curated anthology showcasing the cutting edge of modern Indian mathematical science. Edited by Gadadhar Misra, the volume compiles fourteen advanced research essays spanning algebraic geometry, quantum learning, and operator theory, anchored by authoritative historical and valedictory tributes to India's post-Independence mathematical legacy.

Acc. No: 103165

Call No: [510.954 CON-C](#)



Mathematical Methods of Classical Mechanics

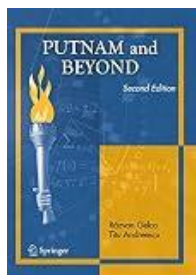
Author: V.I. Arnol'd

Publisher: Springer Nature

Overview: It is a legendary, field-defining graduate text that revolutionizes traditional Newtonian dynamics using modern differential geometry. V. I. Arnold reconstructs classical physics from the ground up, utilizing the language of differentiable manifolds, simplistic geometry, phase flows, and Lie algebras to explain everything from simple oscillations to advanced Hamiltonian mechanics.

Acc. No: 103162

Call No: [531.01515 ARN-M](#)



Putnam and Beyond

Author: Razvan Gelca

Publisher: Springer Nature

Overview: Putnam and beyond is a rigorous, problem-centric bridge transforming advanced undergraduate competitors into mathematical researchers. Razvan Gelca and Titu Andreescu use the prestigious William Lowell Putnam Mathematical Competition as a framework to master complex proof methodologies across linear algebra, real analysis, combinatorics, and number theory.

Acc. No: 103163

Call No: [510.76 GEL-P](#)



Logic and Structure

Author: Dirk Dalen

Publisher: Springer Nature

Overview: Widely celebrated textbook that provides a mathematically elegant introduction to mathematical logic. Dirk van Dalen uses Gentzen's system of natural deduction to guide students from foundational propositional and predicate logic into advanced model theory, Kripke semantics for intuitionistic logic, and a self-contained exposition of Gödel's first incompleteness theorem. [Read more.](#)

Acc. No: 103104

Call No: [511.3 DAL-L](#)



Book of Proof

Author: Richard H Hammack

Publisher: Richard Hammack

Overview: Book of Proof is a fundamental, widely acclaimed pedagogical transition text designed to bridge the gap between computational mathematics and abstract reasoning. Richard Hammack provides a structured, accessible introduction to mathematical logic, set theory, and formal methodologies of proof, constructing the foundational cognitive infrastructure required for advanced theoretical mathematics.

Acc. No: 103105

Call No: 511.36 HAM-B



A Decade of the Berkeley Math Circle: The American Experience Volume I

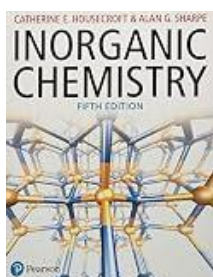
Editor: Zvezdelina Stankova

Publisher: Mathematical Sciences Research Institute

Overview: A Decade of the Berkeley Math Circle: The American Experience is a foundational compendium of Olympiad-level training materials and mathematical exposition. This volume chronicles the elite math circle's deep pedagogical culture, guiding advanced students through creative problem-solving, proof architecture, and unexpected thematic connections across pure mathematics.

Acc. No: 103103

Call No: 510.7127946 DEC-C



Inorganic Chemistry

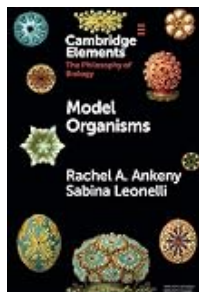
Author: Catherine Housecroft and Alan G. Sharpe

Publisher: Pearson Education Limited

Overview: It is a globally renowned, definitive core textbook that delivers a rigorous, visually immersive introduction to the principles of modern inorganic systems. Blending foundational chemical theory with contemporary applications, it seamlessly maps molecular structures, coordination chemistry, and periodicity using advanced three-dimensional modelling.

Acc. No: 103208

Call No: 546 HOU-I



Model Organisms

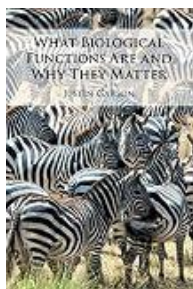
Author: Rachel A. Ankeny and Sabina Leonelli

Publisher: Indian National Science Academy

Overview: Model Organisms is a sharp philosophical investigation into how specific non-human species such as *C. elegans*, or *Drosophila* are standardized and deployed as epistemic tools in modern laboratories. Rachel A. Ankeny and Sabina Leonelli analyse the unique research norms, material practices, and representational commitments that allow these living organisms to function as universal models for broader biological systems. [Read more.](#)

Acc. No: 103196

Call No: 570 ANK-M



Bayesian Models of the Mind

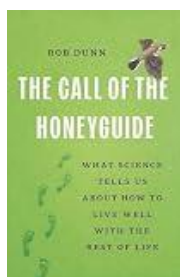
Author: Justin Garson

Publisher: Cambridge University Press

Overview: What Biological Functions Are and Why They Matter is a major unifying contribution to the philosophy of science. Justin Garson introduces the "generalized selected effects theory of function," a framework that integrates evolutionary natural selection with lifetime neural and developmental learning to redefine how we classify normal biological purposes, mental representations, and medical dysfunctions. [Read more.](#)

Acc. No: 103193

Call No: 570.1 GAR-W



The Call of the Honeyguide: What Science Tells Us About How to Live Well with the Rest of Life

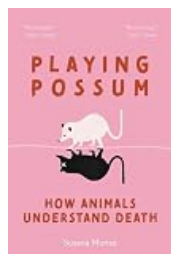
Author: Rob Dunn

Publisher: Basic Books

Overview: A corrective ecological narrative that challenges the survival of the fittest dogma of evolutionary biology. Using the real-world partnership between African honeyguide birds and human foragers as a baseline, Rob Dunn proves that mutualisms deeply cooperative, cross-species dependencies are just as powerful in shaping life on Earth as raw competition.

Acc. No: 103137

Call No: 578 DUN-C



Playing Possum: How Animals Understand Death

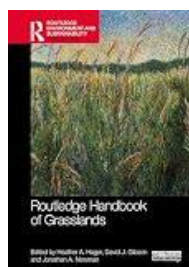
Author: Susana Monso

Publisher: Princeton University Press

Overview: A groundbreaking monograph in cognitive ethology and neuro-philosophy. Susana Monsó combines behavioural science with comparative psychology to dismantle anthropocentric biases, proving that a functional concept of death is widespread throughout the animal kingdom and exists in varying cognitive degrees across diverse species.

Acc. No: 103141

Call No: 591.5 MON-P



Routledge Handbook of Grasslands

Editor: Heather A. Hager

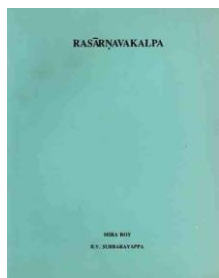
Publisher: Routledge

Overview: The Routledge Han

dbook of Grasslands is a comprehensive, multidisciplinary reference work. The volume synthesizes global research across five core divisions, balancing traditional grassland ecology and agronomy with critical discussions on social-ecological governance, environmental justice, and cultural history. [Read more.](#)

Acc. No: 103089

Call No: 577.4 ROU-R



Rasarnavkalpa: manifold powers of the ocean of rasa

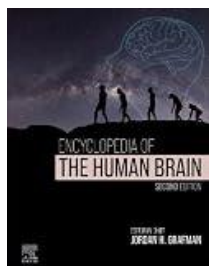
Author: Mira Roy and B.V. Subbarayappa

Publisher: Indian National Science Academy

Overview: The present work Rasarnavakalpa is a part of the Rudrayamalatantra, which describes a number of alchemical ideas and practices, the use of herbs and their extracts in the treatment of minerals and metals. Thanks to the efforts of Mira Roy and B.V. Subbarayappa, we now have an authentic translation of this important alchemical text done by competent scientists and published by the Indian National Science Academy.

Acc. No: 103214

Call No: 509.54 ROY-R



Encyclopedia of the Human Brain

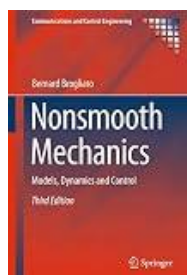
Editor: Jordan H. Grafman

Publisher: Elsevier

Overview: A monumental, seven-volume reference work tracking the massive expansion of modern neuroscience over the last twenty years. Edited by Jordan H. Grafman, Stephanie Forkel, and Hugo Critchley, this expanded edition features 440 updated articles spanning advanced neuroimaging, non-invasive brain stimulation, neurogenetics, and evolutionary cognitive neuroscience.

Acc. No: 103119 - 103123

Call No: 612.82 ENC-E



Nonsmooth mechanics: models, dynamics and control

Editor: Bernard Brogliato

Publisher: Springer Nature

Overview: Nonsmooth Mechanics: Models, Dynamics and Control is the definitive mathematical and engineering treatise on dynamical systems governed by unilateral constraints. The monograph provides a rigorous framework for modelling and controlling rigid-body mechanical systems where impacts, collisions, and friction introduce time-discontinuous, non-differentiable velocities into the state equations.

Acc. No: 103161

Call No: 629.8 BRO-N



Selected Philosophical and Scientific Writings

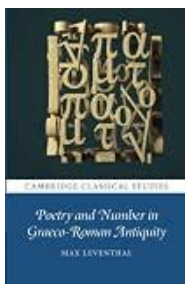
Author: Emilie Du Châtelet

Publisher: The University of Chicago Press

Overview: Selected Philosophical and Scientific Writings is a seminal recovery anthology that translates the foundational intellectual contributions of Émilie Du Châtelet into English. Edited by Judith P. Zinsser, this volume presents her groundbreaking synthesis of Newtonian physics and Leibnizian metaphysics, along with her radical biblical critiques and autobiographical essays, restoring her to her rightful position as a premier luminary of the Enlightenment.

Acc. No: 103198

Call No: 848.509 CHA-S



Poetry and Number in Graeco-Roman Antiquity

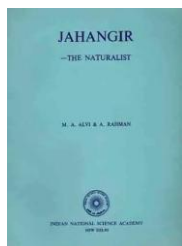
Author: Max Leventhal

Publisher: Cambridge University Press

Overview: It is an innovative interdisciplinary monograph that uncovers the hidden mathematical architecture of classical verse. Max Leventhal bridges the modern gap between the sciences and the humanities by demonstrating how ancient poets from Catullus and Callimachus to mathematical writers like Archimedes utilized arithmetic, calculation, and isopsephy to redefine the aesthetics, composition, and interpretation of poetry.

Acc. No: 103186

Call No: 881.009 LEV-P



Fathullah Shirazi: a sixteenth century Indian scientist

Author: Alvi, M. A

Publisher: Indian National Science Academy

Overview: Jahangir The Naturalist by M.A. Alvi and A. Rahman is a seminal monograph that examines the fourth Mughal Emperor as an empirical scientist. The book translates and analyses excerpts from his autobiography, the Tuzuk-i-Jahangiri, highlighting his meticulous observations of flora and fauna alongside accurate Mughal miniature paintings.

Acc. No: 103213

Call No: 954.0256 ALV-J