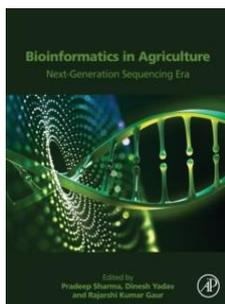


## Bioinformatics in Agriculture: Next Generation Sequencing Era



v měkké vazbě, 706 stran  
vyd. Academic Press, IV/2022  
ISBN 9780323897785

katalog.cena 3.640 Kč vč.DPH  
v této nabídce **2.730 Kč** vč.DPH

Bioinformatics in Agriculture: Next Generation Sequencing Era is a comprehensive volume presenting an integrated research and development approach to the practical application of genomics to improve agricultural crops. Exploring both the theoretical and applied aspects of computational biology, and focusing on the innovation processes, the book highlights the increased productivity of a translational approach. Presented in four sections and including insights from experts from around the world, the book includes: Section I: Bioinformatics and Next Generation Sequencing Technologies; Section II: Omics Application; Section III: Data mining and Markers Discovery; Section IV: Artificial Intelligence and Agribots.

Bioinformatics in Agriculture: Next Generation Sequencing Era explores deep sequencing, NGS, genomic, transcriptome analysis and multiplexing, highlighting practices for reducing time, cost, and effort for the analysis of gene as they are pooled, and sequenced. Readers will gain real-world information on computational biology, genomics, applied data mining, machine learning, and artificial intelligence. This book serves as a complete package for advanced undergraduate students, researchers, and scientists with an interest in bioinformatics.

## Biotechnologies for Gene Therapy

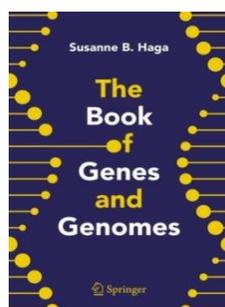


v pevné vazbě, 203 stran  
vyd. Springer, VI/2022  
ISBN 9783030933326

katalog. cena 3.840 Kč vč DPH  
v této nabídce **2.880 Kč** vč DPH

The purpose of this book is to highlight some of latest developments and applications of CRISPR, RNA, and DNA to treat diseases ranging from cancers to cardiovascular and degenerative disorders. It also features innovations of the delivery methods for nucleic acids ranging from nanodevices made from DNA and pseudo amino acids to viral vectors. This is an ideal book for academics, clinicians, and students interested in gene therapy.

## Book of Genes and Genomes



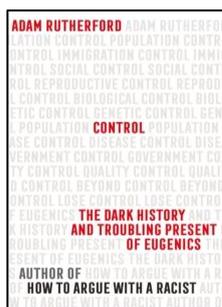
v měkké vazbě, 236 stran  
vyd. Springer, I/2022  
ISBN 9780387709154

katalog.cena 720 Kč vč.DPH  
v této nabídce **540 Kč** vč.DPH

The Book of Genes & Genomes presents a concise overview of the advances in genetics and genomics and provide the unfamiliar reader with a succinct description of many of the applications and implications of this field. Given the substantial investment in genetics and genomics over the past several decades and the many recent discoveries and developments, this book will help the reader begin to understand the importance of genetics and genomics to us all. This exciting new title includes information on how genetics and genomics has advanced our understanding of health and medicine, evolution, and biology, as well as how they are pushing the boundaries of ethics and social values.

Assumes no prior knowledge on the part of the reader; Easy to understand writing style, enabling novices to read and speak the "language" of genes and genomes; Inclusion of case-studies that depict how genes and genomics have advanced understanding of health, medicine, evolution and biology, but juxtaposed to ethics and social values; Recommended reading offered to facilitate self study; Clear, up to date and affordable.

## Control: Dark History and Troubling Present of Eugenics



v pevné vazbě, 288 stran  
vyd. Weidenfeld & Nicolson, II/2022  
ISBN 9781474622387

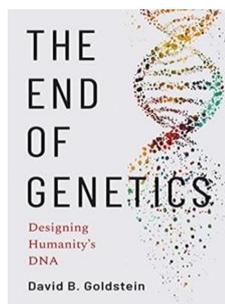
katalog.cena 420 Kč vč.DPH  
v této nabídce **315 Kč** vč.DPH

FROM THE SUNDAY TIMES BESTSELLING AUTHOR OF HOW TO ARGUE WITH A RACIST Throughout history, people have sought to improve society by reducing suffering, eliminating disease or enhancing desirable qualities in their children. But this wish goes hand in hand with the desire to impose control over who can marry, who can procreate and who is permitted to live. In the Victorian era, in the shadow of Darwin's ideas about evolution, a new full-blooded attempt to impose control over our unruly biology began to grow in the clubs, salons and offices of the powerful.

It was enshrined in a political movement that bastardised science, and for sixty years enjoyed bipartisan and huge popular support. Eugenics was vigorously embraced in dozens of countries. It was also a cornerstone of Nazi ideology, and forged a path that led directly to the gates of Auschwitz.

But the underlying ideas are not merely historical. The legacy of eugenics persists in our language and literature, from the words 'moron' and 'imbecile' to the themes of some of our greatest works of culture. Today, with new gene editing techniques, very real conversations are happening - including in the heart of British government - about tinkering with the DNA of our unborn children, to make them smarter, fitter, stronger.

## End of Genetics: Designing Humanity's DNA



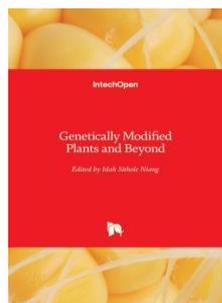
v pevné vazbě, 192 stran  
vyd. Yale University Press, III/2022  
ISBN 9780300219395

katalog.cena 640 Kč vč.DPH  
v této nabídce **480 Kč** vč.DPH

An urgent plea for a broader understanding and awareness of the unconsidered dangers of new genetic technologies. Since 2010 it has been possible to determine a person's genetic makeup in a matter of days at an accessible cost for many millions of people. Along with this technological breakthrough there has emerged a movement to use this information to help prospective parents "eliminate preventable genetic disease." As the prospect of systematically excluding the appearance of unwanted mutations in our children comes within reach, David B. Goldstein examines the possible consequences from these types of choices.

Engaging and accessible, this clarion call for responsible and informed stewardship of the human genome provides an overview of what we do and do not know about human genetics and looks at some of the complex, yet largely unexplored, issues we must be most careful about as we move into an era of increasing numbers of parents exercising direct control over the genomes of their children.

## Genetically Modified Plants and Beyond

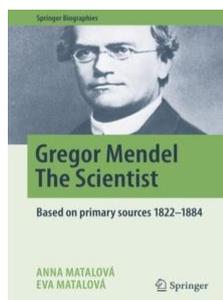


v pevné vazbě, 174 stran  
vyd. IntechOpen, VI/2022  
ISBN 9781839698750

katalog.cena 3.780 Kč vč.DPH  
v této nabídce **2.835 Kč** vč.DPH

Genetically Modified Plants and Beyond takes a fresh look at methodologies used in developing crop plants, discusses genome editing, and interrogates the regulatory approaches that different countries are proposing to use to regulate genetically modified (GM) vs genome-edited crop plants. The book focuses on root and tuber crops, ginger, and industrial/oil seed crops. A chapter on the production of pharmaceuticals in plants is also included. Going beyond the usual debate, the book includes case studies from Africa on the adoption of GM crops.

## Gregor Mendel - Scientist: Based on Primary Sources 1822-1884



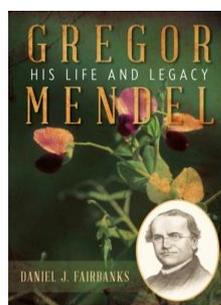
v pevné vazbě, 304 stran  
vyd. Springer, VIII/2022  
ISBN 9783030989224

katalog.cena 1.920 Kč vč.DPH  
v této nabídce **1.440 Kč** vč.DPH

The major purpose of this book is to present Johann Gregor Mendel (1822-1884) in a real and interesting way based on the most recent historical research and analysis of authentic sources. The authors aim to show Mendel's scientific thinking and inner feelings together with his environment and to communicate his message as a multifaceted personality and modern experimentalist. The book draws from the only existing short sketch of Mendel's youth, his letters and the biographical ceiling paintings that were made according to his proposal.

They form the basis of the self-portrait concept. The structure of the book follows thematic groups covering Mendel's activities from a poor village boy in search for education and financial security, as not being physically suitable for running his father's farm. The book does not perpetuate the myths invented by some creative authors to make Mendel's biography more attractive.

## Gregor Mendel: His Life and Legacy



v pevné vazbě, 240 stran  
vyd. Prometheus Books, XI/2022  
ISBN 9781633888388

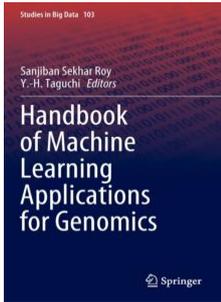
katalog.cena 720 Kč vč.DPH  
v této nabídce **540 Kč** vč.DPH

Gregor Mendel, the founder of genetics, is renowned as one of the world's most ingenious and influential scientists. Nonetheless, he remains misunderstood and enigmatic, his history shrouded in controversy and myth. Escaping poverty, he joined a scholarly community of Augustinian friars in a monastery and studied at the University of Vienna under some of Europe's most accomplished scientists.

He returned to a tumultuous milieu at the monastery as he and his fellow friars suffered a harrowing investigation accusing them of secularism and pantheistic philosophy. Against this backdrop, Mendel initiated an epic set of experiments with the common garden pea that would lead him to reveal the mystery of inheritance. The article he published would become a classic in the history of science.

Darwin's Origin of Species shook the world in 1859. Its impact eclipsed Mendel's discovery, presented just a few years after Darwin's pivotal book. Unlike Darwin, who witnessed his work attain immediate worldwide fame (and infamy), Mendel would never know how powerfully his discoveries would impact science and humanity; his achievements languished in obscurity until well beyond his death.

## Handbook of Machine Learning Applications for Genomics



v pevné vazbě, 218 stran  
vyd. Springer, VI/2022  
ISBN 9789811691577

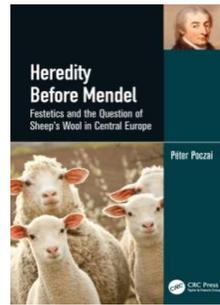
katalog.cena 5.480 Kč vč.DPH  
v této nabídce **4.110 Kč** vč.DPH

Currently, machine learning is playing a pivotal role in the progress of genomics. The applications of machine learning are helping all to understand the emerging trends and the future scope of genomics. This book provides comprehensive coverage of machine learning applications such as DNN, CNN, and RNN, for predicting the sequence of DNA and RNA binding proteins, expression of the gene, and splicing control.

In addition, the book addresses the effect of multiomics data analysis of cancers using tensor decomposition, machine learning techniques for protein engineering, CNN applications on genomics, challenges of long noncoding RNAs in human disease diagnosis, and how machine learning can be used as a tool to shape the future of medicine. More importantly, it gives a comparative analysis and validates the outcomes of machine learning methods on genomic data to the functional laboratory tests or by formal clinical assessment. The topics of this book will cater interest to academicians, practitioners working in the field of functional genomics, and machine learning.

Also, this book shall guide comprehensively the graduate, postgraduates, and Ph.D. scholars working in these fields.

## Heredity Before Mendel



v měkké vazbě, 258 stran  
vyd. Taylor & Francis Ltd, VI/2022  
ISBN 9781032015088

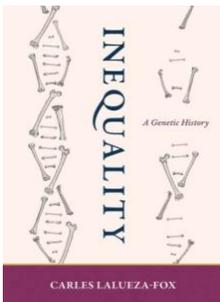
katalog.cena 1.360 Kč vč.DPH  
v této nabídce **1.020 Kč** vč.DPH

The history of Science is replete with untold stories and this book is one of these accounts. The author shares a narrative of heredity, an active topic of inquiry long before Gregor Mendel - the father of genetics - planted his peas. One such interlude unfolded in Mendel's home city and involved the sheep breeder, Imre Fesetics.

He sought to improve wool and proposed important rules of heredity. Unfortunately, aspects of wool quality, now known to be polygenic, complicate interpretations of the work of Fesetics and explain why it is neglected. The forebearers of Mendel never get the credit they deserve.

Heredity Before Mendel resurrects Fesetics, the grandfather of heredity. Key Features 1) Documents a vibrant community of scholars interested in heredity before Mendel 2) Highlights the work of Imre Fesetics, the forgotten grandfather of genetics 3) Describes political repression which stifled the nascent foundation of heredity research 4) Emphasizes the role sheep and wool played as the first model system of genetics 5) Challenges 19th century taboos in Moravia leading to malicious rumors about the inbred royal House of Austria (Habsburgs).

## Inequality: Genetic History



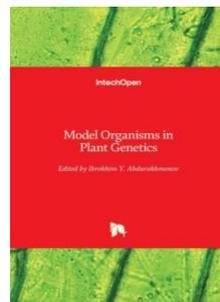
v pevné vazbě, 216 stran  
vyd. MIT Press, II/2022  
ISBN 9780262046787

katalog.cena 740 Kč vč.DPH  
v této nabídce **555 Kč** vč.DPH

Inequality is an urgent global concern, with pundits, politicians, academics, and best-selling books all taking up its causes and consequences. In *Inequality*, Carles Lalueza-Fox offers an entirely new perspective on the subject, examining the genetic marks left by inequality on humans throughout history. Lalueza-Fox describes genetic studies, made possible by novel DNA sequencing technologies, that reveal layers of inequality in past societies, manifested in patterns of migration, social structures, and funerary practices. Through their DNA, ancient skeletons have much to tell us, yielding anonymous stories of inequality, bias, and suffering.

Lalueza-Fox, a leader in paleogenomics, offers the deep history of inequality. He explores the ancestral shifts associated with migration and describes the gender bias unearthed in these migrations—the brutal sexual asymmetries, for example, between male European explorers and the women of Latin America that are revealed by DNA analysis. He considers social structures, and the evidence that high social standing was inherited—the ancient world was not a meritocracy. He untangles social and genetic factors to consider whether wealth is an advantage in reproduction, showing why we are more likely to be descended from a king than a peasant. And he explores the effects of ancient inequality on the human gene pool. Marshaling a range of evidence, Lalueza-Fox shows that understanding past inequalities is key to understanding present ones.

## Model Organisms in Plant Genetics



v pevné vazbě, 114 stran  
vyd. IntechOpen, VI/2022  
ISBN 9781839697494

katalog.cena 3.780 Kč vč.DPH  
v této nabídce **2.835 Kč** vč.DPH

Model plants are required for research when targeted plant species are difficult to study or when research material is unavailable. Importantly, knowledge gained from model plants can be generally translated to other related plant species because many key cellular and molecular processes are conserved and regulated by 'blueprint' genes inherited from a common ancestor. *Model Organisms in Plant Genetics* addresses characteristics of model plants such as Arabidopsis, moss, soybean, maize, and cotton, highlighting their advantages and limitations as well as their importance in studies of plant development, plant genome polyploidization, adaptive selection, evolution, and domestication, as well as their importance in crop improvement.

## Mutagenesis and Mitochondrial-Associated Pathologies

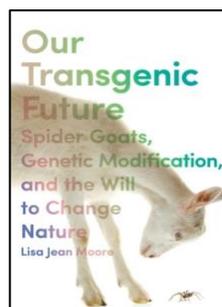


v pevné vazbě, 116 stran  
vyd. IntechOpen, VI/2022  
ISBN 9781803551715

katalog.cena 3.780 Kč vč.DPH  
v této nabídce **2.835 Kč** vč.DPH

Reactive oxygen species (ROS) and DNA double-strand breaks can result from mitochondrial defects and external sources, such as ionizing radiation. If not repaired properly, pathogenic mutations are generated. Human diseases resulting from inherited mitochondrial defects manifest in organs that physiologically require a high level of ATP synthesis. These diseases are clinically challenging, but new experimental clinical therapies include gene editing and mitochondrial transplants. Pathogenic ROS-associated cellular damage includes DNA double-strand breaks, and mouse models are now available to study multiple repair pathways. This book discusses the clinical manifestations of mitochondrial diseases in both the eye and the kidney, and presents new insights into double-strand break repair pathways and developmental phenotypes of g-ray-associated ontogenic mutations of *Drosophila melanogaster*.

## Our Transgenic Future



v měkké vazbě, 240 stran  
vyd. New York University Press, VI/2022  
ISBN 9781479814411

katalog.cena 800 Kč vč.DPH  
v této nabídce **600 Kč** vč.DPH

How scientific advances in genetic modification will fundamentally change the natural world? The process of manipulating the genetic material of one animal to include the DNA of another creates a new transgenic organism. Several animals, notably goats, mice, sheep, and cattle are now genetically modified in this way. In *Our Transgenic Future*, Lisa Jean Moore wonders what such scientific advances portend.

Will the natural world become so modified that it ceases to exist? After turning species into hybrids, can we ever get back to the original, or are they forever lost? Does genetic manipulation make better lives possible, and if so, for whom? Moore centers the story on goats that have been engineered by the US military and civilian scientists using the DNA of spiders. The goat's milk contains a spider-silk protein fiber; it can be spun into ultra-strong fabric that can be used to manufacture lightweight military body armor. Researchers also hope the transgenically produced spider silk will revolutionize medicine with biocompatible medical inserts such as prosthetics and bandages.

Based on in-depth research with spiders in Florida and transgenic goats in Utah, *Our Transgenic Future* focuses on how these spidergoats came into existence, the researchers who maintain them, the funders who have made their lives possible, and how they fit into the larger science of transgenics and synthetics. This book is a fascinating story about the possibilities of science and the likely futures that may come.

## Plant Genetic Resources, Inventory, Collection and Conservation



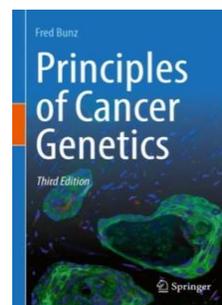
v pevné vazbě, 533 stran  
vyd. Springer, VI/2022  
ISBN 9789811676987

katalog.cena 4.660 Kč vč.DPH  
v této nabídce **3.495 Kč** vč.DPH

This edited book deals with plant genetic resources and their status, availability, and ecological niche in natural habitat. Usage and conservation practices followed by various tribal communities and their rationale are also discussed in the book. The book explores application of biological tools to conserve plant species and optimization protocols for conservation and elicitation of secondary metabolites and other value addition products.

The book is organized into sub-themes covering: (i) Ecological status of plant genetic resources (ii) Traditional ethnobotanical knowledge and conservation practices (iii) Ex-situ conservation practices and bioprospecting Globally, plant genetic resources are deeply rooted in culture and economy. Since the early 1990s, the changing socio-economic situation has increasingly put pressure on plant genetic resources, in some cases leading to a severe loss of their diversity. For this reason, most vulnerable areas at risk of genetic erosion have been demarcated and protected by forest laws and regulations.

## Principles of Cancer Genetics



v pevné vazbě, 431 stran  
vyd. Springer, VII/2022  
ISBN 9783030993863

katalog.cena 2.740 Kč vč.DPH  
v této nabídce **2.055 Kč** vč.DPH

This popular textbook, now in its third edition, provides a theoretical framework for understanding why cancers arise, how they develop and how they can be treated. Particular attention is devoted to the origins of cancer and the application of evolutionary theory to explain how mutant cell populations tend to expand and spread. Focused on the genes and signaling pathways involved in the most common tumors, *Principles of Cancer Genetics* is a highly readable account that will be of interest to anyone who would like to attain a basic understanding of cancer biology.

Students who have completed introductory coursework in genetics, biology and biochemistry, medical students and medical house staff will find this book to be a useful starting point toward mastery of this complex but fascinating topic. This updated edition delves into the critical interactions between growing tumors and the immune system, and introduces the concepts of T cell activation, immunoevasion and immune evasion. Novel strategies for cancer diagnosis and prognosis, including new roles for next-generation sequencing and liquid biopsies, as well as established and emerging therapeutic modalities are now described in detail.