

**A comprehensive review and integration of cutting-edge research
worldwide that is revolutionizing science's understanding
of genetic variation and inheritance**

Somatic Genome Variation in Animals, Plants, and Microorganisms provides a wide-ranging review of one of the most exciting and promising areas of genomics research. Featuring contributions from a team of distinguished researchers from around the world, it summarizes the growing body of evidence for developmental and environmental genome variation in microorganisms, plants, and animals while offering authoritative interpretations of identified genome variations.

Research currently underway at laboratories worldwide has begun to overturn many fixed beliefs about the nature of somatic genomes. For example, it has long been held that, except for epigenetic variation and occasional mutations caused by external mutagens, somatic cells are genetically identical and contribute nothing to inheritance; that gene transcript abundance is determined purely by promoter activity and RNA stability; and that clones have the same genome. The evidence assembled in this book challenges those assumptions, shedding new light on changes that occur to primary nucleotide sequences and ploidy of nuclear and cytoplasmic genomes during somatic development. The authors explore somatic genome variation, update various basic concepts in genetics and breeding, consider the implications of somatic genome variation for human health and agriculture, and propose an updated synthesis of inheritance supported by the evidence.

- Provides an updated view of somatic genomes and fundamental genetic theories while also offering interpretations of somatic genome variation
- Features wide-ranging coverage of developments at the forefront of one of today's most fascinating fields of research
- Increases our understanding of genetic variation that occurs during development and in response to environment
- Authored by a global team of experts in the field it presents up-to-date coverage of somatic genomes and genetic theories

Somatic Genome Variation in Animals, Plants, and Microorganisms is an important source of information and inspiration for geneticists, bioinformaticians, biologists, plant scientists, crop scientists, and microbiologists, as well as biomedical researchers.

About the Editor

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