

GENETICS and RANDOMNESS

Anatoly Ruvinsky

**ANALYZES RANDOMNESS IN MAJOR GENETIC PROCESSES
AND EVENTS**

No matter how far science advances, the proportion of what is knowable to what is random will remain unchanged, and attempts to ignore this critical threshold are futile at best. With the revolutionary explosion in genetic information discovery, it is crucially important to recognize the underlying limitations of scientific prediction in genetics.

Genetics and Randomness furthers the understanding of the role randomness plays in critical biological processes. The book also navigates the complex nature of genetic uncertainty from different points of view and at various levels of biological organization.

**AVOIDS UNNECESSARY TECHNICAL DETAILS
AND SPECIFIC TERMINOLOGY**

Exploring areas ranging from basic quantum mechanics and molecular genetics to modern evolutionary genetics and the philosophy of mathematics, this well-organized text discusses:

- Spontaneity of mutations and their relation to subatomic randomness
- Deep links between subatomic fluctuations and long-term macroscopic changes in living organisms
- Multitude of random events that occur during development
- Segregation, genetic drift, and natural selection

Randomness and uncertainty are not occasional and regrettable deviations from the "true" principles upon which life is built. *Genetics and Randomness* illustrates the ubiquitous nature of randomness as an integral feature of all essential processes, effectively embracing a probabilistic understanding of the phenomena of life.



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