

1. Record Nr.	UNINA9910866568403321
Autore	Witzany Gunther
Titolo	Epigenetics in Biological Communication / / edited by Guenther Witzany
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2024
ISBN	9783031592867 9783031592850
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (441 pages)
Disciplina	570.28 572.86
Soggetti	Biology - Technique Genomics Genetics Evolutionary genetics Epigenetics Genomic Analysis Evolutionary Genetics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Epigenetics in Biological Communication Integrates -- Epigenetic control of cell fate decisions by enhancer derived long noncoding RNAs -- RNA mediated inheritance of mammalian spermatozoa -- Bi directional transcription double stranded RNA and the implications on genome evolution -- Epigenetic Inheritance -- Epigenetic Processes as Mediators of the Impact of the Social Environment -- Epitranscriptomics Regulating brain plasticity through dynamic RNA modifications -- Perinatal Epigenetic Programming of Functional Brain Circuits -- Genomic risk for schizophrenia the early life environment and the space left for developmental epigenetic plasticity -- Prospective intergenerational consequences of paternal stress experiences on offspring immune health -- Nuclear Pore Complex regulated Transcription and Memory -- Potential Contribution of Retrotransposons to Learning and Memory -- Transposons as environmental stress detectors are eukaryotic genomes evolved to

evolve -- Evolution and diversity of DNA methylation in eukaryotes -- Unraveling the Histone Code Exploring the Dynamic Relationship between DNA and Chromatin Structure in Epigenetic Signaling -- The role of CTCF mediated chromatin looping in enhancer promoter communication -- Do inteins serve as mediators of epigenetic inheritance in prokaryotes -- The roles of transposable elements in transgenerational inheritance and genome evolution -- The inheritance of an acquired taste Learning and passing on new food odor preferences in butterflies -- Epigenetic Regulations during Plant Microbe Interactions -- The role of epigenetics communication in the co regulation of holobionts biology interspecies probabilistic epigenesist.

#### Sommario/riassunto

Epigenetics in Biological Communication is the first book that integrates Development, Signaling, Context, Genetics and Evolution. Every cell, tissue, organ and organism is competent to use signals to exchange information reaching common coordinations and organisations of both single cell and group behavior. These signal-mediated interactions we term biological communication (biocommunication). The regulatory system that works in development, morphology, cell fate and identity, physiology, genetic instructions, immunity, memory/learning, physical and mental disease depends on epigenetic marks. The communication of cells, persistent viruses and their defectives such as mobile genetic elements and RNA networks ensures both the transport of regulatory instructions and the reprogramming of these instructions. But how are the different states of the epigenome orchestrated? With the emergence of epigenetic memory, organisms can fix historical and context- dependent impressive experiences. Evolution from now on learnt to learn. Learning means organisms can avoid reproduction of always the same. This is key to adaptation. However, inheritance of acquired characteristics is only one of the many examples of the explanatory power of epigenetics. Behavioral epigenetics demonstrates the way in which environmental and social experiences produce individual differences in behavior, cognition, personality, and mental health. This book assembles leading experts to outline the various motifs of epigenetic regulation of cellular life.