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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Epigenetic Mechanisms as an Interface Between the Environment and Genome -- Developmental Origins of Hypoxic Pulmonary Hypertension and Systemic Vascular Dysfunction: Evidence from Humans -- Acquired Mitochondrial Abnormalities, Including Epigenetic Inhibition of Superoxide Dismutase 2, in Pulmonary Hypertension and Cancer: Therapeutic Implications -- Epigenetics in Cardiovascular Regulation -- Why Are High Altitude Native So Strong at Altitude?: Maximal Oxygen Transport to the Muscle Cell in Altitude Natives -- Novel Insights into Cardiovascular Regulation in Patients with Chronic Mountain Sickness -- Why Are High Altitude Natives So Strong at High Altitude?: Nature vs. Nurture -- Functional Genomic Insights into Regulatory Mechanisms of High Altitude Adaptation -- Influence of Hypoxia on Cerebral Blood Flow Regulation -- Imaging the Respiratory Effects of Opioids in the Human Brain -- Regional Cerebrovascular Responses to Hypercapnia and Hypoxia -- Implications of Oxygen Homeostasis for Brain Tumors: Biology and Treatment -- Hyperoxia and Functional MRI -- Astrocytes and Brain Hypoxia -- Bidirectional Control of Blood Flow by Astrocytes:

A Role for Tissue Oxygen and Other Metabolic Factors -- Hypoxic Adaptation in the Nervous System: Promise for Novel Therapeutics for Acute and Chronic Neurodegeneration -- Optical Analysis of Hypoxia Inducible Factor (HIF)-1 Complex Assembly: Imaging of Cellular Oxygen Sensing -- Modulation of the Hypoxic Response -- Central Sleep Apnea at High Altitude -- Multigenerational Effects of Reading Atmospheric Oxygen Level on the Tracheal Dimensions and Diffusing Capacities of Pupal and Adult Drosophila Melanogaster -- Hypoxia and Its Acid-base Consequences: From Mountains to Malignancy -- Physiological and Clinical Implications of Adrenergic Pathways at High Altitude -- Hemoglobin Mass and Aerobic Performance at Moderate Altitude in Elite Athletes -- Does the Sympathetic Nervous System Adapt to Chronic Altitude Exposure? -- Integrative Conductance of Oxygen During Exercise at Altitude -- Modeling Variable Phanerozoic Oxygen Effects on Physiology and Evolution -- Caudwell Xtreme Everest: An Overview -- Energy Flux, Lactate Shuttling, Mitochondrial Dynamics, and Hypoxia -- Everest Physiology Pre-2008.

Sommario/riassunto

The latest in a series of books from the International Hypoxia Symposia, this volume spans reviews on key topics in hypoxia, and abstracts from poster and oral presentations. The biannual International Hypoxia Symposia are dedicated to hosting the best basic scientific and clinical minds to focus on the integrative and translational biology of hypoxia. Long before ‘translational medicine’ was a catchphrase, the founders of the International Hypoxia Symposia brought together basic scientists, clinicians and physiologists to live, eat, ski, innovate and collaborate in the Canadian Rockies. This collection of reviews and abstracts is divided into six sections, each covering new and important work relevant to a broad range of researchers interested in how humans adjust to hypoxia, whether on the top of Mt. Everest or in the pulmonary or cardiology clinic at low altitude. The sections include: Epigenetic Variations in Hypoxia High Altitude Adaptation Hypoxia and Sleep Hypoxia and the Brain Molecular Oxygen Sensing Physiological Responses to Hypoxia Dr. Robert Roach is the Director of the Altitude Research Center at the University of Colorado. He specializes in the study of physiological adaptations by humans to high altitude, with a recent emphasis on the genomic responses to allow humans to thrive in hypoxia. Dr. Peter Wagner is a Distinguished Professor of Medicine and Bioengineering at the University of California, San Diego. His research addresses the theoretical and experimental basis of oxygen transport and its limitations in the lungs and skeletal muscles in health and disease. Dr. Peter Hackett is a world-renowned high altitude expert and altitude research pioneer. He is a leading authority on altitude illness, high altitude climbing, wilderness medicine, and the effects of altitude on people living and working in the mountains.