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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Cover; Table of Contents; Title page; List of Contributors; Preface; I: Fundamental Concepts; 1 Cytosolic and Transcriptional Cycles Underlying Circadian Oscillations; 1.1 Introduction; 1.2 Assembling the transcriptional feedback loop; 1.3 Keeping the transcriptional clockworks in tune; 1.4 Building posttranslational mechanisms into the circadian pacemaker; 1.5 Is the transcriptional clock paramount?; 1.6 Conclusion: cytosillators, clocks and therapies; References; Acknowledgements; 2 Molecular Determinants of Human Circadian Clocks; 2.1 Molecular elements of human clocks: a brief review 2.2 Peripheral and central clocks 2.3 Signaling to peripheral circadian clocks; 2.4 Human peripheral and central clocks; 2.5 Human genetics; 2.6 Technologies for measurement of human circadian clocks; 2.7 Cellular methods; 2.8 Omics-based methods to analyze human clocks; 2.9 Summary and outlook; References; 3 The Suprachiasmatic Nucleus (SCN): Critical Points; 3.1 SCN is site of master circadian pacemaker in mammals; 3.2 SCN receives photic information through a specialized light detection pathway; 3.3 SCN neurons are endogenous single cell oscillators that generate rhythms in neural activity 3.4 The SCN has circuit level organization that is just beginning to be unraveled3.5 Coupling with the SCN circuit is mediated by a set of peptides with VIP on top of the hierarchy; 3.6 SCN outputs; 3.7 SCN in

aging and disease; References; 4 Sleep and Circadian Rhythms: Reciprocal Partners in the Regulation of Physiology and Behavior; 4.1 Introduction; 4.2 What is sleep; 4.3 Circadian regulation of sleep; 4.4 Reciprocity: sleep-wake feedback to the circadian clock; 4.5 Conclusions: Circadian clocks and sleep are intertwined processes; References

5 Circadian Regulation of Arousal and its Role in Fatigue 5.1 Defining arousal; 5.2 Brain structures important for arousal; 5.3 Neurochemicals signaling the states of arousal; 5.4 Circadian regulation of the arousal system; 5.5 Influence of input pathways on circadian regulation of arousal; 5.6 Sustained states of fatigue: a disorder of the arousal network?; 5.7 Conclusions; References; II: Circadian Regulation of Major Physiological Systems; 6 Physiology of the Adrenal and Liver Circadian Clocks; 6.1 Introduction; 6.2 Circadian control of adrenal function 6.3 Circadian control of liver function 6.4 Conclusion; References; Acknowledgements; 7 Nutrition and Diet as Potent Regulators of the Liver Clock; 7.1 Introduction; 7.2 Food is a "zeitgeber": The FEO in the brain; 7.3 The FEO in peripheral tissues; 7.4 What should we eat? What types of food can stimulate the peripheral clock?; 7.5 When should we eat? Application to human life science; 7.6 Circadian rhythm and obesity and diabetes; References; 8 The Cardiovascular Clock; 8.1 Introduction; 8.2 The vascular clock; 8.3 Circadian clock regulation of the endothelial cell layer of blood vessels 8.4 The circadian clock in vascular disease

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Sommario/riassunto

Circadian rhythms, the biological oscillations based around our 24-hour clock, have a profound effect on human physiology and healthy cellular function. Circadian Rhythms: Health and Disease is a wide-ranging foundational text that provides students and researchers with valuable information on the molecular and genetic underpinnings of circadian rhythms and looks at the impacts of disruption in our biological clocks in health and disease. Circadian Rhythms round  
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rk on circadian rhythm biology. Section II looks at the impact of circadian rhythms

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