

Biophotons

Jiin-Ju Chang; Fisch, Joachim; Popp, Fritz-Albert (Eds.), 1998, 428 p.

Hardcover, ISBN 978-0-7923-5082-8

Softcover, ISBN 978-90-481-5033-5

ABOUT THIS BOOK

It is now well established that all living systems emit a weak but permanent photon flux in the visible and ultraviolet range. This biophoton emission is correlated with many, if not all, biological and physiological functions. There are indications of a hitherto-overlooked information channel within the living system. Biophotons may trigger chemical reactivity in cells, growth control, differentiation and intercellular communication, i.e. biological rhythms. The basic experimental and theoretical framework, the technical problems and the wide field of applications in the food industry, medicine, pharmacology, environmental science and basic sciences are presented in this book, which also includes the rapidly growing literature. This book is written by the most outstanding international scientists familiar with this topic who have been working in this field for many years.

TABLE OF CONTENTS

Preface. Introduction. Photophysical Reactions in Cells; *G. Renger*. Weak Light Emission from Bacteria and Their Interaction with Culture Media; *R. Vogel, R. Süßmuth*. Biophotons and Defense Response in Plants; *M. Hiramatsu*. Experimental Examination on the Possible Optical Interaction Between Two Separate Cell Populations; *L. Bei, et al.* Luminometry in Cellular Stress Research; *J.E.M. Souren, R. van Wijk*. UV-Induced DNA Damage and Repair: A Powerful Light Trapping System in DNA in Order to Convert Light Energy Into Biochemical Signals; *H.J. Niggli*. The Photon Count Statistic Study on the Photon Emission from Biological Systems Using a New Coincidence Counting System; *F.A. Popp, X. Shen*. Weak Photon Emission of Non-Linear Chemical Reactions of Amino Acids and Sugars in Aqueous Solutions; *V.L. Voeikov, V.I. Naletov*. Coherence and Biophoton Emission as Investigated on *Acetabularia Acetabulum*; *F. Musumeci, et al.* Biophoton Emission from Developing Eggs and Embryos: Non- Linearity, Holistic Properties and Indications of Energy Transfer; *L.V. Belousov, N.N. Louchinskaia*. Measuring Weak Light Signals not Far from the Noise Level; *W. Heering*. Measurement of Low-Level Emission Under Lab Conditions; *D. Gall, et al.* Whole-Body Counting of Biophotons and its Relation to Biological Rhythms; *S. Cohen, F.A. Popp*. Fluorescence Imaging Technique for Detection of Human Melanoma; *B.W. Chwirot, et al.* Electro-Luminescence and Its Application; *J.J. Chang, F.A. Popp*. **Biological Organization: A Possible Mechanism Based on the Coherence of Biophotons**; *J.J. Chang, F.A. Popp*. Do We Always Need to Know the Molecular Origin of Light Emitted by Living Systems? *B.W. Chwirot*. The Physical Background and the Informational Character of Biophoton Emission; *F.A. Popp, J.J. Chang*. Photon Emission of Cereal Seeds, 'Biophotons' as a Measure of Germinative Ability and Vigour; *B.F. Zeiger*. Biophotons and Nonclassical Light; *Q. Gu*. Coherent Nature of Biophotons: Experimental Evidence and Phenomenological Model; *R.P. Bajpai*. Quantum Coherence and the Understanding of Life; *G.J. Hyland*. The Concepts of Coherence and 'Binding Problem' as Applied to Life and Consciousness Realms; *M. Lipkind*. Holism and Field Theories in Biology; *M. Bischof*. Coherence in Art and in the Physical Basis of Consciousness; *F. Fröhlich*. Author Index. Subject Index.