



QUANTUM BIOPHYSICS COURSE

Introduction

The main objective of this course is to provide innovative research content in the field of quantum biophysics, which is very important for healthcare professionals.

Over the past few years, research in quantum biophysics has shown that quantum effects play a role in the functioning of living organisms. In many biological phenomena, states of quantum coherence play a fundamental role.

The wave-particle duality, a hallmark of quantum physics, is intrinsic to every particle; however, conventional biology—which is still based on a Newtonian particle-based conception of the human being—does not take this wave-like aspect into account. This knowledge is now essential, since complementary therapies are based on this wave-like view of matter.

There are many biological processes in which, for example, quantum tunneling occurs, with the electron traveling as a wave. It is known that the coherent emission of biophotons by cells influences a person's state of health.

It is the biophotons that carry information and control our body, since the human body is an organized field of information. The state of consciousness of the individual plays a fundamental role in this coherent emission. Therefore, it is necessary to view human beings holistically, with mind and body forming part of a single unit.

Intended for

Anyone interested in quantum physics and its relationship to the study of human beings; of particular interest to healthcare professionals (no prior knowledge required)

Needs Assessment

- To provide healthcare professionals with an understanding of the nature of energy and its connection to the practice of their profession.

- Since the quantum world is the deepest level of matter and cellular life, it is a powerful tool for unifying the various fields of knowledge.
- Society's growing and increasingly significant demand to understand the fundamentals of quantum behavior and its applications in both daily life and therapeutic practice.

Course Objectives

1. To introduce the basic principles of quantum physics that govern the atomic and subatomic world.
2. Explain which are the most recent studies in quantum physics as applied to the study of human beings.
3. To provide healthcare professionals with the latest research in quantum biophysics.
4. To explore this aspect of the energies of which we are a part and consider its implications, particularly in the field of health.
5. Establish a key point of knowledge about consciousness and its interaction with the body and the environment.
6. To highlight some contributions from quantum physics related to health.
- 7.

List of Topics

PART 1 Quantum Fundamentals

UNIT 1 - The Quantum Paradigm

- 1.1. Paradigm shift: from the mechanistic-Newtonian view to the quantum paradigm

UNIT 2 – Fundamentals of Quantum Physics



2.1 Introduction to Quantum Field Theory and Elementary Particle Physics

- 2.1.1 History
- 2.1.2 Atomic Structure
- 2.1.3. The constitution of matter: from atoms to quarks and leptons
- 2.1.4 Bohr's atomic model. Energy levels of the atom. Quantum leap. Spontaneous and stimulated emission
- 2.1.5 Antimatter. Dirac's Theory
- 2.1.6 The four forces of nature, the laws that govern the universe
- 2.1.7 Theories in search of the unification of forces
- 2.1.8 From matter to energy. Matter-energy equivalence
- 2.1.9 The cathedrals of science: particle accelerators

2.2 Fundamental Concepts

- 2.2.1 Corpuscular properties: momentum, energy quantization
- 2.2.2 Wave properties: frequency, wavelength, phase, polarization, amplitude, speed, constructive and destructive interference, wave function
- 2.2.3 Quantum coherence: a key concept in quantum biophysics
- 2.2.4 Quantum tunneling
- 2.2.5 Schrödinger's mechanical-wave model

2.3 Principles of Quantum Theory

- 2.3.1 Wave-Particle Duality
 - On the Nature of Light
 - Light as a Particle
 - Light as a Wave. The Frequency Spectrum
 - Wave Superposition: Interference. Young's Experiment
 - The Wave Nature of Matter. De Broglie's Relationship
- 2.3.2 W. Heisenberg's Uncertainty Principle
- 2.3.3 Principle of Superposition
- 2.3.4 Alternative Interpretations of the "Collapse" of the Wave Function
- 2.3.5 Quantum nonlocality, entanglement

2.4 Applications of Quantum Theory

- 2.4.1 Technological applications
- 2.4.2 Introduction to Quantum Biophysics
- 2.4.3 Precursors to Quantum Biology
- 2.4.4 Photosynthesis. Enzymatic action. Magnetoreception. Sense of smell. Genetic inheritance. Neural transmission

PART 2 Quantum Biophysics

UNIT 3- Applications of quantum physics in the study of human beings

3.1 The Electromagnetic Field

- 3.1.1 Electromagnetic emissions in humans
- 3.1.2 Quantum resonance. Biocommunication channels. The importance of water. Coherent domains of molecular clusters
- 3.1.3. The Biofield. The Heart's Electromagnetic Field. Cardiac Coherence
- 3.1.4 The biophotonic field. Initial analyses. Properties and detection methods. The primordial role of biophotons
- 3.1.5 The Fröhlich pumping system. State of thermodynamic non-equilibrium
- 3.1.6 The Earth's electromagnetic field. Schumann resonance

3.2. The holographic information field

- 3.2.1 The holographic energy body. Consciousness as a coherent quantum state and quantum phenomena in mind-body interaction
- 3.2.2 The concept of a hologram. DNA as a holographic pattern
- 3.2.3 The Zero-Point Field or Quantum Vacuum
 - Introduction
 - Virtual Particles: Quantum Messengers
 - Scalar Fields and the Aharonov-Bohm Effect
 - Side Effects of the Field
 - The zero-point field and non-causal connections. David Bohm's Implicate Order

3.3 Multidimensional Structure

- 3.3.1 Beyond the Spacetime Fabric: The Multidimensional Universe
- 3.3.2 Models of the multidimensional nature of human beings. Current physical models

3.5 GDV Technology for Visualizing the Energy Body

3.6 Fundamental Principles and Basic Contributions of Quantum Physics in the Field of Health. Basic Concepts

Authorship

Course designed and supervised by M. Teresa Versyp in collaboration with Bircham International University

Bibliografía básica:

Dos manuales básicos y un anexo de pdf's con formulario de preguntas:

1. El Tao de la Física
2. Cuatro pdf de soporte con preguntas asociadas
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Libros y Artículos especializados

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