



## Bioelectromagnetics: An Overview of the Field with a Focus Protein Electrodynamics & Terahertz Medicine

Ogan Gurel

MD, DGIST (South Korea)

### Abstract:

Bioelectromagnetics concerns the interaction with electromagnetic fields and waves with biological entities, from the molecular to the organismal. This seminar will provide a brief overview of this rapidly advancing field including some of the key medical applications of such technologies. Specific results concerning protein electrodynamics and terahertz medicine will also be discussed. In particular, it is well known that proteins exhibit dynamic behavior with their normal modes specifically vibrating at terahertz frequencies. These motions are essential to protein function and because these macromolecules are charged the existence of such vibrations suggest the possibility of specific interaction with electromagnetic radiation in the terahertz band.

### Biography:

Dr. OganGurel serves as Chief Medical Officer for Pso-magen USA (a division of Macrogen) and holds academic appointments as a Visiting Professor at the Solbridge International School of Business and Visiting Teaching Professor at DGIST (DaeguGyeongbuk Institute of Science & Technology), with previous DGIST positions as Vice-Chair & Distinguished Invited Professor in the



Management of Innovation. In the innovation world, Dr. Gurel is also Chief Scientific Officer for FRT – Field Robot Technology, Chief Marketing Officer for Eidware / SoundMind (Seoul), Advisor for the CREST-Malaysia Digital Health Cluster and a Venture Partner at The Yozma Group, with previous executive roles as CEO at NovumWaves (Seoul), Acting Chief Medical Officer at Nessa Hearing (Singapore), and Advisor at Frasen (Seoul).

### Recent Publications:

Protein Electrodynamics & Terahertz Medicine: An Update

Webinar on Healthcare Innovation and Technology| May 25, 2020 | Stockholm, Sweden

**Citation:** Ogan Gurel; Bioelectromagnetics: An Overview of the Field with a Focus Protein Electrodynamics & Terahertz Medicine; Healthcare 2020; May 25, 2020; Stockholm, Sweden