

## Aquaphotomics as New Technology for Water Measurement and Understanding

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In our days, we want to know more about our health, to understand diseases and to know how to prevent from them. In order to achieve this goal, we have to know more about the living systems that make our food, too. Especially important is to be able to control the environment. In the center of all these systems is the knowledge about the water molecular system as a matrix and its relation with biological functions.

Aquaphotomics is a complimentary “-omics” discipline that combines the reductionist approach in order to measure and understand water structure with the holistic approach. Aquaphotomics uses so called “water as molecular mirror” approach where water spectral pattern is used as holistic marker of aqueous and biological systems. The development of a big data base of all water spectral patterns for various aqueous and biological systems, i.e. the aquaphotome, gives the opportunity to identify water absorbance bands all over the electromagnetic spectrum. The aquaphotome contains, also, all the “holistic markers” describing respective functionalities of these systems at each condition.

The development of instruments for “in-vivo”, nondestructive spectral analysis and methods for analysis of big spectral data and their use for diagnosis and prognosis of disease, to define optimal feeding protocols and well-being procedures, the discovery of new phenomena in biology, life science and other disciplines are among the most important priorities for the technological development of aquaphotomics.