

International Conference on **Medical Physics** August 03-05, 2015 Birmingham, UK

Pharmaceutical Fractal-omics: The application of –omics in design and development of advanced drug delivery nano systems

Natassa Pippa and Costas Demetzos
University of Athens, Greece

Fractal analysis can be an attractive and alternative tool for characterizing the morphology of nanoparticles. From the experimental point of view, determined fractal dimension comprehensively illustrates the self-assembly and the morphological complexity of drug nanocarriers. In recent literature, it is well established that the regulatory considerations are of great importance aiming at providing proof, concerning not only the design and preparation protocol of drug delivery systems, but also the final formulation's physicochemical and morphological characteristics, especially in the pharmaceutical nanotechnology's area. Additionally, fractal dimension plays a key role in the elucidation of morphological characteristics, while size and/or size distribution of drug nanocarriers did not change by changing the colloidal parameters, like temperature and concentration. In coming years, the above approach could be a useful tool for the development of innovative drug nanocarriers for drug or gene delivery with complete knowledge of their structural and morphological characteristics. In conclusion, on the ubiquitous presence of fractals and fractal concepts in Pharmaceutical Sciences, the "pharmaceutical fractalomics" a term which can be correlated with other –omics in pharmaceuticals can be considered as an alternative path in the field of novel pharmaceuticals.

Biography

Natassa Pippa has completed her PhD from Faculty of Pharmacy, National and Kapodistrian University of Athens, under the guidance of the expert of Pharmaceutical Nanotechnology, Prof. Costas Demetzos. During her PhD, she participated in the Research Programme "NANOMACRO: Functional Self-assembled Nanostructures from Block Copolymers and Proteins) in Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation. She has published more than 30 peer –review papers and 2 chapters in books. She has been selected as speaker in national and international conferences and presented more than 35 posters. She has been awarded in three congresses for her oral and poster presentations.

natpippa@pharm.uoa.gr

Notes: