

## *Innovative designs for loaded mesoporous structures and their evaluation in the desorption profiles for chestnut extract*

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### *Abstract*

Mesoporous materials attracted great interest in the last decade, for their applications in new drug design fields, especially for drug delivery. Morphology features and the capacity of obtaining tunable structures based on adjustment of the synthesis conditions, besides the lack of toxicity and the biodegradability properties, recommend this type of materials for loading with a great diversity of active molecules. The real challenges represent the obtaining of new materials with various properties and structures and loading with a complex mixture of bioactive compounds from plant extracts. The mesoporous-support material synthesized is a sophisticated delivery system with significantly improved results on bioavailability and modulation of release kinetics. The obtained mesoporous materials were characterized using B.E.T. method and FT-IR analysis. To investigate the effect of pore size (3,16 nm; 6,54 nm; 5,84 nm) and specific surface area- SSA (897,4 m<sup>2</sup>/g; 528,4 m<sup>2</sup>/g; 504,2 m<sup>2</sup>/g) value on release profile, three types of mesoporous materials with different structural properties were loaded with standardized chestnut extract (*Castanea sativa*) using concentration gradient method.

### *Speaker Publications:*

1. "Solution for green organic thin film transistors: Fe<sub>3</sub>O<sub>4</sub> nano-core with PABA external shell as p-type film"
2. "Effects of combined administration of weight reducing diet and spirulina platensis on anthropometric measures and glycemic markers in obese and overweight subjects: A randomized, double-blinded, placebo-controlled clinical trial"
3. "Brain-derived neurotrophic factor in obese women and its relationship with leptin and ghrelin"
4. "Hearing estimated threshold recovery after administering fish oil in sucking periods in n-3 fatty acid-deficient rat pups"
5. "PI3K/AKT and Mdm2 activation are associated with inhibitory effect of cAMP increasing agents on DNA damage-induced cell death in human pre-B NALM-6 cells"

[21<sup>st</sup> World Conference on Pharmaceutical Chemistry and Drug Design](#); Webinar, December 16, 2020.

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### *Biography:*

Purcareanu Bogdan has completed his master degree at the age of 25 years at University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science. In the present he is chemical engineer researcher at Biotehnos R&D department and PhD student at University Politehnica of Bucharest. He was a member in research team of two national projects.