# albedo

# PHARMAMEET2023

## February 09-11, 2023 | Porto, Portugal

**Location:** *"Holiday Inn Porto-Gaia", Portugal*
*Diogo Macedo 220, 4400-107 Vila Nova de Gaia,*
*Portugal*

## Abstract Book

**ALBEDO MEETINGS**
*Floor# 3, Advant Building, 99B, Kakatiya*
*Hills, Kavuri Hills, Madhapur Hyderabad,*
*TS 500033*
*Email: contact@albedomeetings.com*

# FOREWORD

Dear Colleagues,

It is our pleasure to invite all the scientists, academicians, young researchers, business delegates and students from all over the world to attend the International Meet on Pharmaceutics and Drug Delivery Systems (PHARMAMEET2023) will be held in Porto, Portugal during February 09-11, 2023.

PHARMAMEET2023 shares an insight into the recent research and cutting edge technologies, which gains immense interest with the colossal and exuberant presence of young and brilliant researchers, business, delegates and talented student communities.

PHARMAMEET2023 goal is to bring together, a multi-disciplinary group of scientists and engineers from all over the world to present and exchange break-through ideas relating to the Pharmaceutics and Drug Delivery Systems. It promotes top level research and to globalize the quality research in general, thus makes discussions, presentations more internationally competitive and focusing attention on the recent outstanding achievements in the field of Pharmaceutics and Drug Delivery Systems.

We're looking forward to an excellent meeting with scientists from different countries around the world and sharing new and exciting results in Pharmaceutics and Drug Delivery Systems

# COMMITTEES

## Organising Committee

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|---|---|
| **Sanjay Gupta** | Case Western Reserve University, USA |
| **Carmela Saturnino** | University of Basilicata, Italy |
| **Jinwei Zhang** | University of Exeter Medical School, UK |
| **Vincenzo Cuomo** | Sapienza University of Rome, Italy |
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| **Sajad Shahbazi** | Nencki Institute of Experimental Biology, Poland |
| **Mihail Lucian Birsa** | Alexandru Ioan Cuza University of Iasi, Romania |

# Cyclodextrin-Capped Mesoporous Silica-Based Nanomaterials for pH-Responsive Targeted Theranostics of Glioblastoma Multiforme

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## Abstract

**Purpose/Objectives:** Mesoporous silica nanoparticles (MSN) exhibit highly beneficial features for devising efficient nanosystems for applications in targeted cancer theranostics. Our research focuses on developing multifunctionalized and multifunctional MSN-based nanotherapeutics.

**Materials/Methods:** The surface of MSN is functionalized with suitable biomolecules for effective targeting of brain cancer (Glioblastoma multiforme, GBM). Further surface functionalization is performed to endow the materials with linkers that are cleavable in a weakly acidic environment. This attribute is desirable to enhance the specificity of drug delivery to cancer through favorable drug release at weakly acidic environment of tumor tissues. The anticancer drug paclitaxel is loaded in the mesopores of MSN and its retention is ensured bypore blocking witha covalently attached β-cyclodextrin analogs to the MSN surface through the acidification-cleavable linkeres.

**Results:** The release kinetics of cargo molecules is monitored and the enhanced drug release in the weakly acidic environment is observed. Furthermore, MSNs containing Gadolinium-based contrast agents were developed for enabling GBM-targeted magnetic resonance imaging (MRI) of tumor tissues. The toxicity of the materials and their cell uptake was demonstrated against GBM cellsin vitro, in addition to determination of their capabilities for tumor-targeted MRI. Conclusions:The research results evidence promising characteristics of the developed MSNs for applications in targeted treatment and magnetic resonance imaging of tumor tissues.

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## Biography

Dr. Nikola Knežević is a Full Research Professor at the BioSense Institute, University of Novi Sad, Serbia. He graduated with PhD in Chemistry in 2009 at Iowa State University, USA and obtained further research experience as a Postdoctoral fellow at University of Houston (research in multistep organic synthesis), Universidad Complutense de Madrid (research in nanomaterials science), Institute Charles Gerhardt Montpellier (research in nanomaterials science), FP7 – ERA Chairs Postdoctoral researcher at Vinča Nuclear Institute and as Pole Chimie Balard Visiting professor at the University of Montpellier. Nikola is the project coordinator of one H2020 project (NANOFACTS GA 952259), three Serbian national projects (PRECAST – 6060755, Proof of concept – 5566, Technology transfer-1135) and two bilateral research projects (with France and Germany). His research interests include synthesis of functional bioresponsive nanomaterials and their applications in health protection and construction of biosensors.