Architecture of colloidally stable silica nanodendrites dictate their biological behavior

<u>Achraf Noureddine</u>, Jeff Brinker, Angelea Maestas-Olguin, Jim Corman Hijar, Marian Olewine, Johanna Desirée Tsala Ebode, Chuzube Edeh, Caleb Dang

Affiliation of all authors:

Department of Chemical and Biological Engineering, Nanoscience and Nanomedicine Lab, University of New Mexico

Our capacity to control the colloidal mesoporous silica nanoparticle morphology allows for fine tuning of the surface features, namely the nanotopography. In this presentation, we will show how colloidally stable mesoporous silica nanoparticle with dendritic structure of different architectures (dense, light, stellar), and their surface chemistry affect their colloidal stability, interaction with lipids, cell uptake kinetics, hemolytic activity, and in vivo properties including blood circulation time and biodistribution.

