Graduate Department of Pharmaceutical Sciences

The Graduate Department of Pharmaceutical Sciences, Leslie Dan Faculty of Pharmacy

PRESENTS

"Novel Targeted Nanoparticles for Amyloid Plaque Imaging"

PRESENTED BY

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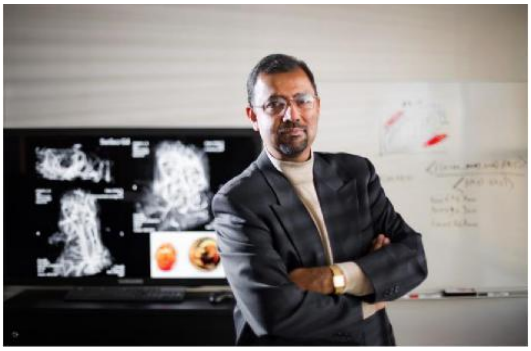

Alzheimer's Disease, the most common form of dementia in the elderly is characterized by the presence of Amyloid Plaques in the hippocampus and cerebral cortex; these plaques are higher molecular weight agglomerates of the Amyloid-β protein.In 2009 we discovered that liposomes bearing an amyloid-plaque binding thioflavine derivative (Methoxy XO4) on their surface, avidly crossed the blood brain barrier (BBB), and bound plaques in a mouse model of the disease. We have, in the last 6 years, progressively improved on this platform, with new ligands, better T1 agents, and improved formulations of these nanoparticles, to enable true T1 MR imaging of amyloid plaques in mouse models of Alzheimer's Disease. Further, we have used a variant of these particles, optimized for X-ray based computed tomography (CT) imaging, to evaluate the leakiness of the blood brain barrier, and shown that in aged mice, the BBB is actually quite leaky, consistent with the avid permeation of the amyloid-binding particles through the BBB. An overview of the development of this exciting new class of amyloid binding agents will be presented.

Declaration of Conflict of Interest: Ananth Annapragada is a co-founder of Alzeca LLC.

10:00 a.m., TUESDAY, February 23, 2016, Room 850
144 College Street, Leslie Dan Faculty of Pharmacy
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