

4th Annual Conference on **Preventive Oncology**

4th Annual Conference on **Gynecologic Oncology, Reproductive Disorders Maternal-Fetal Medicine & Obstetrics**

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Nanoparticle delivery of cancer therapeutic RNAs *in vivo*

A major goal of personalized cancer medicine is the identification of molecular targets for therapeutic intervention on an individual patient basis. Targeted gene chemotherapies are currently focused on proteins. However, the fact that only 10% of genes are estimated to be “drugable” on the protein level is leading to increased interest in the transcriptional inhibition of cancer-driver mutations by small regulatory RNAs. A persistent barrier to the clinical implementation of transcriptional level therapy has been the inability to precisely target therapeutic RNAs to tumors *in vivo*. In this seminar, I will summarize our development of nanohydrogels as targeted siRNA/miRNA delivery vehicles and the use of these functionalized nanoparticles to induce cancer cell death in an animal model of ovarian cancer.

Biography

John F McDonald is Professor, School of Biological Sciences and Associate Dean Director of Georgia Institute of Technology. His research interest Using Genomics to design personalize cancer therapies, The role of non-encoding RNAs in cancer cancer stem cell therapy, The application of Nanotechnology to cancer diagnostics and therapy. His research areas mainly include cancer biology, drug design, development and delivery systems biology.

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