

UCA Department of Chemistry Seminar

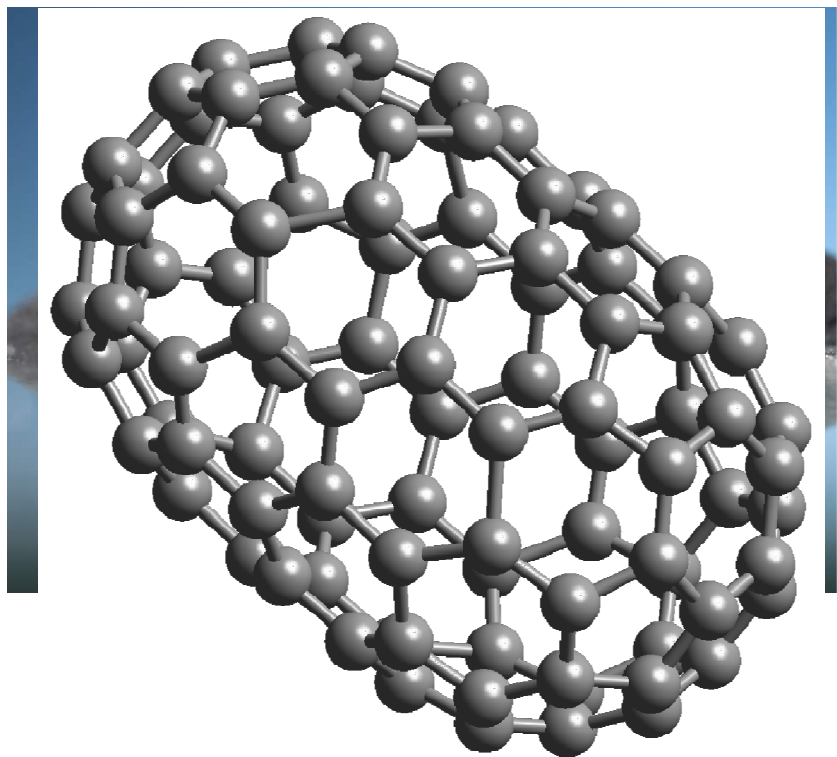
February 1, 2013 2:00 pm Laney 104

Kevin Raney

UA for Medical Sciences

Carbon Nanotube Delivery of Antisense Agents for inhibition of the Hepatitis C Virus

The Hepatitis C (HCV) affects about 200 million people worldwide, resulting in an increased risk for liver cirrhosis and cancer in infected individuals. Antisense inhibition in which complimentary oligonucleotides anneal to the internal ribosomal entry site (IRES) of RNA, thus preventing translation of the HCV polyprotein, has previously been shown to be an effective HCV inhibitor in vitro. Nevertheless, cells do not readily take up oligonucleotides reducing the therapeutic viability of antisense inhibition. Carbon nanotubes (CNT) have been successfully employed as delivery agents for oligonucleotides. Therefore, single walled CNT were wrapped with antisense oligonucleotides complementary to the HCV IRES. The CNT-oligonucleotide complexes were tested for inhibition of HCV viral protein synthesis using a subgenomic replicon of the virus. Results indicate that the antisense oligonucleotide-CNT complexes were capable of inhibition of viral protein synthesis while control oligonucleotide-CNT complexes had no effect on viral protein levels.



Lunch provided for students with the seminar speaker from
12:00 – 1:15 pm in Laney Hall Rm 105.
Contact P. Desrochers (patrickd@uca.edu) for more information.