College of Science
Department of Physics & Astronomy

WEEKLY CALENDAR

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WEEKLY CALENDAR

January 27 – 31, 2014

DEPARTMENTAL COLLOQUIUM

"Clinical Research using the Monte Carlo Method"

3:30 PM January 30, 2014
109 Nicholson Hall

Uwe Titt
The University of Texas
MD Anderson Cancer Center

Host: Wayne Newhauser

• Refreshments served at 3:10 PM in 232 (Library) Nicholson Hall •

Research and development of novel and improved radiation delivery devices and methods can be prohibitively resource intensive in a clinical environment, based on the fact that accelerators are costly, beam time is sparse and patient treatments have, of course, the highest priority. Hence, performing physical experiments with radiation delivery devices may not be the most practical way of solving research problems, considering that many problems may as well be solved using a simulation environment. The Monte Carlo method provides a simulation system based on random numbers and on interaction probabilities, and is an extremely elegant and useful tool to investigate scientific problems in a virtual universe. In this presentation we will discuss development work and research of photon therapy and proton therapy related problems, using the Monte Carlo method.