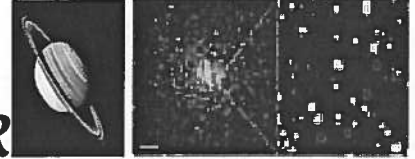




WEEKLY CALENDAR



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October 16, 2006

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General Seminar

“Research and Clinical Application of Medical Imaging”

3:40PM / Tuesday, 17 October 2006 / Room 109

[Refreshments served at 3:15 PM in Room 229 Nicholson]

Host: Dr. Kenneth Hogstrom

Dr. Sameer Tipnis

Mayo Clinic

The talk will cover two areas, research in scintillators for medical imaging and clinical protocols. Results showing the improved image quality with micro-machined scintillators will be presented. Clinical implementation of gated PET protocols will be discussed.

General Seminar

“Photon Counting in Medical X-ray Imaging and Computed Tomography”

3:40PM / Thursday, 19 October 2006 / Room 109

[Refreshments served at 3:15 PM in Room 229 Nicholson]

Host: Dr. Kenneth Hogstrom

Dr. Polad Shikhaliev

University of California-Irvine

An X-ray beam is digital in nature as it consists of individual photons. However, x-ray detectors used in medical x-ray imaging and computed tomography (CT) cannot detect each photon separately. Rather, each detector pixel integrates many photons, and this integrated signal is used to estimate the number of detected photons. It is known that detecting each photon separately and measuring its energy have significant advantages. However, this approach has not been used in clinical practice due to inherent difficulties with photon counting in x-ray imaging. This presentation will describe (1) potential advantages of photon counting/energy resolving in medical x-ray and CT imaging, (2) difficulties for practical realization of this method, (3) current status of research and developments, and (4) contributions of the speaker in this area.

Publications:

“Waveshifting Fiber Readout of Lanthanum Halide Scintillators,” G. L. Case, M. L. Cherry and J. G. Stacy, Nuclear Instruments and Methods in Physics Research A563, 355 (2006).

“Fermi Surface Changes across the Néel Phase Boundary of NdB_6 ,” R. G. Goodrich, N. Harrison and Z. Fisk, Physical Review Letters, 97, 146404 (2006).