

WEEKLY CALENDAR

13 March 2006



Department of Physics and Astronomy
202 Nicholson Hall
Louisiana State University and A&M College
Baton Rouge, Louisiana 70803-4001
Tel: 225-578-2261 / Fax: 225-578-5855
<http://www.phys.lsu.edu>



Special General Seminar

3:40PM / Tuesday, 14 March 2006 / Room 109 Nicholson

Host: Kenneth R. Hogstrom, PhD

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

Skeletal Dosimetry Models: Past, Present, and Current Research for Future Models

Phillip W. Patton, PhD

Department of Health Physics
University of Nevada, Las Vegas

Toxicity of the hematopoietically active bone marrow continues to limit the amount of radioactivity that can be delivered to patients undergoing radioimmunotherapy. Accurate dosimetry of the active bone marrow provides the best indicator of marrow toxicity, but only if the dose estimate is highly patient specific. S values for skeletal dosimetry are currently taken from a Reference Man model that utilizes 30-year-old optical scanning data of a single male subject. Recent studies using NMR microscopy have shown that scaling of Reference Man to female subjects is poor and inconsistent. Current skeletal dosimetry research is targeted at developing appropriate reference individuals for cancer patients, as well as determining which parameters are best to utilize as scaling parameters.

Chancellor's Distinguished Lecture Series

5:00PM / Wednesday, 15 March 2006 / Room 130 Nicholson

Host: Jorge Pullin, PhD

Einstein's Vision and the Quantum Universe

James Hartle, PhD

University of California, Santa Barbara

Albert Einstein was a great pioneer in the quest for the fundamental laws that govern the regularities exhibited universally by all physical systems, without exception, without qualification, and without approximation. We will discuss Einstein's vision for the nature of these laws and for their discovery by a process of abstraction, generalization, and unification guided by mathematical elegance. The discovery of his theory of gravitation --- general relativity --- will illustrate this vision. But Einstein's vision has had to be modified to accommodate the quantum mechanical laws of microscopic physics. We will discuss the implications of quantum mechanics for the nature of the fundamental laws, for our picture of the universe on the largest scales of cosmology, and for our understanding of the origin of the universe in the big bang where large and small are one. Lessons for the nature of scientific authority will be drawn.

General Seminar

3:40PM / Thursday, 16 March 2006 / Room 109 Nicholson

Host: Jorge Pullin, PhD

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

The Future of Gravity

James Hartle, PhD

University of California, Santa Barbara

Of the four fundamental forces, gravity has been studied the longest, yet gravitational physics is one of the most rapidly developing areas of science today. This talk will give a broad brush survey of the past achievements and future prospects of general relativistic gravitational physics. Gravity is a two frontier science being important on both the very largest and smallest length scales considered in contemporary physics. Recent advances and future prospects will be surveyed in precision tests of general relativity, gravitational waves, black holes, cosmology and quantum gravity. The aim will be an overview of a subject that is becoming increasingly integrated with experiment and other branches of physics.