

PHYSICS COLLOQUIUM, partially funded by the GSFEI

Jim Lattimer

“Neutron Star Observations and the Prognosis for  
Equation of State Constraints”

Monday, 4/23

4:00 P.M., Ronald Geballe Auditorium, A-102, PAA

Reception at 3:45 P.M. in the lobby

**Abstract:**

Current and proposed observations of neutron stars can lead to an understanding of the state of their interiors and the key unknowns: the typical neutron star radius and neutron star maximum and minimum masses. Precise determinations of these neutron star properties would lead to significant restrictions on the poorly understood equation of state near and beyond the equilibrium density of nuclear matter. Recent developments include observations of pulsars (leading to mass, spin period, and crustal thickness estimates), optical and X-ray emissions from cooling neutron stars (which lead to estimates of core temperatures and ages and inferences about the internal composition), and X-rays from accreting and bursting sources (which shed light on both crustal properties and internal compositions). Proposed measurements of additional properties, such as neutron star moments of inertia, will also be important.

Tuesday, 4/24

**Condensed Matter (CMA) Seminar**

4:00 P.M., Rm. C-421, PAT

Marcel den Nijs, UW Physics

“Dynamic Instability Transitions in 1D Driven Diffusive Flow with Non-local Hopping”

**Chalkboard Club Seminar**

5:00 P.M., Rm. C-520, PAT

Can Kozcaz, UW Physics

“The *Refined* Topological Vertex”

Wednesday, 4/25

**INT Seminar**

10:30 A.M., Rm. C-421, PAT

Chris Gould, NC State University and TUNL

“Time-Variability of Alpha from Realistic Models of Oklo Reactors”

Thursday, 4/26

**INT Seminar**

10:30 A.M., Rm. C-421, PAT

Keith Olive, University of Minnesota

“Big Bang Nucleosynthesis and Constraints on the Variation of Fundamental Couplings”

**Condensed Matter (CMA) Seminar**

3:30 P.M., Rm. C-421, PAT

Michael Roukes, Caltech

“Title TBA”

**Astronomy Colloquium**

4:00 P.M., Rm. A-102, PAA

Tom Geballe, Gemini Observatories

“180 and the Origin of R Coronae Borealis Stars and Hydrogen-deficient Carbon Stars”

Friday, 4/27

**INT Seminar**

10:30 A.M., Rm. C-421, PAT

Eric Hudson, Yale University

“Probing the Variation of Fundamental Constants with Polar Molecule Microwave Spectroscopy”

**INT Seminar**

1:00 P.M., Rm. C-421, PAT

Dmitry Budker, University of California, Berkeley

“Search for a Temporal Variation of the Fine-Structure ‘Constant’ with Radio-Frequency Atomic Transitions”

**Particle Astrophysics Seminar**

3:30 P.M., Rm. A-110, PAA

Jeff Wilkes, UW Physics

“T2K: Progress Report”

# seminars



*April 23-27, 2007*