



## PHYSICS & ASTRONOMY WEEKLY CALENDAR

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October 29, 2007

### Departmental Colloquium

#### "The Demography of Massive Black Holes"

3:40 PM - Thursday, November 1, 2007

109 Nicholson Hall

**Scott Tremaine**  
Princeton University

*Host – Luis Lehner*

• Refreshments served at 3:15 PM in 229 Nicholson Hall •

If accretion onto massive black holes is the power source for quasars, then many nearby galaxies should contain "dead quasars"—massive black holes that do not shine because they are starved for fuel. I will review the evidence that most nearby galaxies contain black holes at their centers, and will discuss how the local distribution of black holes is related to the demographics and history of quasars.

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### **Material Science and Engineering**

#### "Meeting Grand Challenges in Science with New Light Sources"

3:40 PM - Wednesday, October 31, 2007

109 Nicholson Hall

**Gwyn Williams**  
Jefferson Laboratory

Dave Ederer, CAMD – Host

In the United States, the National Academy of Sciences, and the Department of Energy's Office of Science have recently identified a number of "Grand Challenges in Science". Addressing them will require a new suite of tools, among them new light sources. This talk will discuss these new scientific challenges, and will then report on the physics and enabling technology of the latest round of brightness improvements, which have been achieved in the IR and THz range at Jefferson Lab but whose principles are extendable to light sources at shorter (uv to x-ray) wavelengths. This presents an opportunity for the Southeast to propose such a facility. Examples of scientific applications in the IR will also be given.

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### **Congratulations To:**

**Dr. Joel Tohline** for being elected as a Fellow of the American Association for the Advancement of Science. Each year the Council elects members whose "efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished." Dr. Tohline is being honored for his "...contributions in the astrophysical application of numerical hydrodynamics, in particular to star formation, galactic dynamics, and compact objects, and for contributions to the development of computational astrophysics in Louisiana."

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### **Publications:**

- "Measured quantum probability distribution functions for Brownian motion?" G. W. Ford, R. F. O'Connell, Physical Review A 76, 042112-1 to 21, 2007.