

PHYSICS COLLOQUIUM

# Seminars

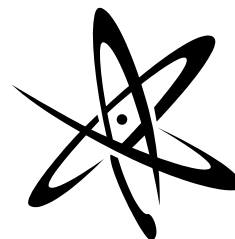
**Stefan Ballmer**

Caltech

“Precision length measurements in LIGO: Finding gravitational waves and more”

**Monday, April 21, 2008**

4:00 PM, Ronald Geballe Auditorium, Rm. A-102



*April 21-25, 2008*

Abstract: The Laser Interferometer Gravitational-Wave Observatory finished its two-year long science run last fall. While the analysis of this data set is still underway, some preliminary results that are of astrophysical interest have already been published. Stefan will discuss these results in this talk. Meanwhile the LIGO interferometers embarked on an incremental upgrade path that will ultimately, with the completion of the Advanced LIGO project, reach an at least ten times better sensitivity. This promises the observation of astrophysical events on a regular basis. But it also makes the interferometers themselves interesting to fundamental science, as effects such as the pondermotive squeezing of the light resonating in the interferometer and the optical cooling of macroscopic mirrors become relevant. In addition, laboratory measurements of space-time curvature effects like the Shapiro Time delay will become feasible.

**Physics General Exam**

10:30 AM, Rm. C-520, PAT

Gang Shu, UW Physics

**Tuesday, April 22**

**Condensed Matter Seminar**

4:00 PM, Rm. C-421, PAT

John Rehr, UW Physics

“Parameter free calculations of optical response from visible to X-ray wavelengths”

**Wednesday, April 23**

**Physics General Exam**

1:30 PM, Rm. C-341, PAT

Esmeralda Yitamben, UW Physics

**Thursday, April 24**

**Astronomy Colloquium**

4:00 PM, Rm. A-102, PAA

Kim Venn, University of Victoria

“Where and What are the First Stars?”

**Friday, April 25**

**Particle Astrophysics Seminar**

3:30 PM, Rm. A-110, PAA

Michael Dziomba, UW Physics

“Antares project”