

University of Washington • Department of Physics

PHYSICS COLLOQUIUM

Bill Dougherty (Applied Precision, Inc.) "Super-Resolution: Fluorescence imaging of biological structure well-below the diffraction limit"

Monday, April 13th, 2009

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

Abstract: Cell biologists are never satisfied. The most tantalizing cellular structures always seem to be just beyond the resolution of the best optical microscopes of the day. Although physics may never relieve this condition, practical new fluorescence microscopies just now appearing in the biology laboratories offer resolutions of 100–10 nm up to an order of magnitude better than the Abbé limit. No physical laws are broken, but these inventions entail some pretty clever lawyering. Information is encoded into a series of images that separately obey the classical diffraction rules, but permit the recovery of a high resolution image through (generally heavy) computation. We will review the physics behind 3D structured illumination microscopy (3D-SIM), STED, PALM, non-linear SIM and other optical microscopies currently moving out of the physics lab and into the biology lab. Compelling new images will reward our efforts. The biologists are cheered, if not satisfied.

Tuesday, April 14th, 2009

Particle Theory Seminar

2:30 PM, Rm. C-421, PAT

Rob Myres, Perimeter Institute

"Beyond $\eta/s = 1/4\pi$ "

CMA Seminar

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

Georg Seelig, UW CSE and EE

"Engineering molecular circuitry with DNA"

Thursday, April 16th, 2009

Astronomy Colloquium

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

Jason Barnes, U of Idaho

"Titan"

Friday, April 17th, 2009

INT Seminar

10:15 AM, Rm. C421, PAT

Gaute Hagen, ORNL

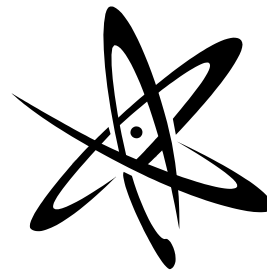
"Ab-initio coupled-cluster theory for nuclei"

Particle Astrophysics Seminar

3:30 PM, Rm. A-114, PAA

Kevin Wierman, UW Physics

Seminars



Apr 13th-17th