

## WEEKLY CALENDAR

January 25, 2010

### Departmental Colloquium

**" Kirkman's Schoolgirls to Quantum Spin Pairs: A 150 Year Long Thread of Mathematics "**

3:40 PM, January 28, 2010  
109 Nicholson Hall

**A. Ravi Rau**

LSU – Department of Physics and Astronomy

**Host: Juhan Frank**

• *Refreshments served at 3:15 PM in 232 (Library) Nicholson Hall* •

In 1850, a clergyman and amateur mathematician, Thomas Kirkman, solved a combinatorial problem involving 15 schoolgirls. Later, this became an example of what are called "designs" in a branch of mathematics called Design Theory, born out of the work of the population geneticist R.A.Fisher from his "design of experiments" in agricultural statistics. The subject connects to coding theory, finite projective geometries, Latin squares (and the game SuDoKu) and other mathematical structures. Surprisingly, the (Lie and Clifford) algebra of the quantum operators involved in systems of qubits in the currently active area of quantum information is closely connected to Kirkman's problem. Links between all these topics will be discussed along with some interesting human interest stories.

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### Congratulations To:

Dr. Jeff Blackmon who has been elected to chair the Users' Executive Committee of the National Superconducting Cyclotron Laboratory and will represent the NSCL on the National User Facility Organization for 2010.

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### Publications:

"New variables for (1 + 1)-dimensional gravity," Rodolfo Gambini, **Jorge Pullin** and Saeed Rastgoo, Classical and Quantum Gravity 27 (2010) 025002 (10 pp).

"The Eclipsing Binary PG 1323-086A (GSC 05544-00493)", **James L. Clem** and **Arlo U. Landolt**, Publications of the Astronomical Society of the Pacific, 122, 27, 2010.