

**KITP Conference: Neutrinos: Recent Developments and Future Challenges**

(Nov 3-7, 2014)

**Coordinators: Graciela Gelmini, Danny Marfatia, Sandip Pakvasa****Monday, Nov 03, 2014****Morning Session, Chair: Ina Sarcevic (U. Arizona)**

- 8:50am Lars Bildsten (KITP Director) Welcome
- 9:00am Bruce Vogelaar (Virginia Tech) Getting at the Physics Still Hidden in the Solar Neutrino Spectrum
- 9:45am Aldo Serenelli (CSIC) Solar Models and Neutrinos: Latest Developments
- 10:30am **Morning Break**
- 11:00am John Learned (U. Hawaii) Atmospheric Neutrinos
- 11:45am Tyce DeYoung (Michigan State) Atmospheric Neutrinos with IceCube DeepCore and PINGU
- 12:30pm **Lunch Break**

**Afternoon Session, Chair: Kaladi Babu (Oklahoma State) (OklahomaState)**

- 2:00pm Susanne Mertens (LBNL) Absolute Neutrino Mass Measurements
- 2:45pm Lisa Everett (UW-Madison) Neutrino Mass Models
- 3:30pm **Afternoon Break**
- 4:00pm Rabi Mohapatra (U.Maryland) Probing Physics Behind Neutrino Mass
- 5:00pm **Shuttle to BWSCI**

**Tuesday, Nov 04, 2014****Morning Session, Chair: Brajesh Choudhary (Delhi)**

- 9:00am Bill Louis (LANL) Sterile Neutrino Implications from Short-Baseline Neutrino Experiments
- 9:45am Anna Hayes-Sterbenz (LANL) Uncertainties in the Reactor Neutrino Anomaly
- 10:30am **Morning Break**
- 11:00am Soo-Bong Kim (Seoul Nat'l U.) RENO Hierarchy+Reactor Anomaly
- 11:45am Karsten Heeger (Yale) Reactor Neutrinos: Recent Results and Next Steps
- 12:30pm **Lunch Break**

**Afternoon Session**

2:00pm	Serguey Petcov (SISSA)	Theoretical Prospects of Neutrinoless Double Beta Decay
2:45pm	Steve Elliott (LANL)	An Overview of the Experimental Program for Double Beta Decay
3:30pm		<b>Afternoon Break</b>
4:00pm	Tom Banks (Berkeley)	CUORE-0 Performance, and Prospects for CUORE
5:00pm		<b>Reception</b>
5:45pm		<b>Special Events Dinner</b>
7:45pm		<b>Shuttle to BWSCI</b>

### **Wednesday, Nov 05, 2014**

#### **Morning Session, Chair: Janet Conrad (MIT)**

9:00am	Chris Fryer (LANL)	Supernova Explosion/Simulation
9:45am	Alex Friedland (LANL)	Supernova Neutrino Oscillations
10:30am		<b>Morning Break</b>
11:00am	Kate Scholberg (Duke)	Detection of Supernova Neutrinos
11:45am	Michael Loewenstein (NASA)	Possible X-ray Detection of Sterile Neutrino Dark Matter
12:30pm		<b>Lunch Break</b>
2:00pm		<b>Shuttle to BWSCI</b>

### **Thursday, Nov 06, 2014**

#### **Morning Session, Chair: Mu-Chun Chen (UC-Irvine)**

9:00am	Gary Steigman (Ohio State)	BBN and the CMB Constrain Equivalent Neutrinos
9:45am	Georg Raffelt (MPI Munich)	Astrophysical and Cosmological Neutrino Constraints
10:30am		<b>Morning Break</b>
11:00am	Petr Vogel (Caltech)	How Difficult Would it be to Detect the Cosmic Neutrino Background?
11:45am	Pasquale Di Bari (Southampton)	Leptogenesis
12:30pm		<b>Lunch Break</b>

#### **Afternoon Session, Chair: Hallsie Reno (U. Iowa)**

2:00pm	Francis Halzen (UW-Madison)	IceCube: The Discovery of Cosmic Neutrinos
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2:45pm Claudio Kopper (Univ. Alberta) High-Energy Neutrino Searches in IceCube and their Results

3:30pm **Afternoon Break**

4:00pm Walter Winter (DESY, Zeuthen) Interpretation of Astrophysical Neutrino Signal, and the Multi-Messenger Context

4:45pm Tom Weiler (Vanderbilt Univ.) Where are the Neutrino Events with Energy above 2 PeV?

5:30pm **Reception**

6:00pm **Special Events Dinner**

8:00pm **Shuttle to BWSCI**

### **Friday, Nov 07, 2014**

#### **Morning Session, Chair: Steven Parke (FNAL)**

9:00am Raj Gandhi (Harish-Chandra) LBNE+INO; Physics Aspects

9:45am Etam Noah Messomo (Geneva) Long-Baseline Neutrino Observatory

10:30am **Morning Break**

11:00am Silvia Pascoli (Durham Univ.) LBNO Theory

11:45am Milind Diwan (BNL) Long-Baseline Neutrino Experiment

12:30pm **Lunch Break**

#### **Afternoon Session**

2:00pm David Wark (Oxford Univ.) Experiment Summary

2:45pm Paul Langacker (IAS) Theory Summary

4:00pm **Shuttle to BWSCI**