

Kavli Institute for Theoretical Physics

Neutrinos: Recent Developments and Future Challenges

Coordinators: Graciela Gelmini, Danny Marfatia, Sandip Pakvasa

Monday, November 3, 2014

Morning Session Chair: Ina Sarcevic (U. Arizona)

Talks are 30 min + 15 min discussion

- 8:50am Lars Bildsten (KITP Director) *Welcome*
- 9:00am Bruce Vogelaar (Virginia Tech) *Solar Neutrinos*
- 9:45am Aldo Serenelli (Institute of Space Sciences) *Solar Models and Neutrinos: Latest Developments*
- 10:30am MORNING BREAK
- 11:00am John Learned (U. Hawaii) *Atmospheric Neutrinos*
- 11:45am Ty DeYoung (Michigan State) *Atmospheric Neutrinos at IceCube*
- 12:30pm LUNCH BREAK

Afternoon Session Chair: Kaladi Babu (Oklahoma State)

Talks are 30 min + 15 min discussion

- 2:00pm Susanne Mertens (LBNL) *Absolute Neutrino Mass Measurements*
- 2:45pm Lisa Everett (U Wisconsin-Madison) *Neutrino Mass Models*
- 3:30pm AFTERNOON BREAK
- 4:00pm Rabi Mohapatra (U. Maryland) *Probing Physics Behind Neutrino Mass*
- 5:00pm SHUTTLE TO BWSCI

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Tuesday, November 4, 2014

Morning Session Chair: Brajesh Choudhary (Delhi)

Talks are 30 min + 15 min discussion

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| 9:00am | Bill Louis
(LANL) | <i>Sterile Neutrino Implications from Short-Baseline Neutrino Experiments</i> |
| 9:45am | Anna Hayes-Sterbenz
(LANL) | <i>Uncertainties in the Reactor Neutrino Anomaly</i> |
| 10:30am | MORNING BREAK | |
| 11:00am | Soo-Bong Kim
(Seoul National U.) | <i>RENO Hierarchy+Reactor Anomaly</i> |
| 11:45am | Karsten Heeger
(Yale) | <i>Non-beam Hierarchy+Reactor Anomaly</i> |
| 12:30pm | LUNCH BREAK | |

Afternoon Session Chair: Boris Kayser (FNAL)

Talks are 30 min + 15 min discussion

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| 2:00pm | Serguey Petcov
(SISSA) | <i>Theoretical Aspects of Neutrinoless Double Beta Decay</i> |
| 2:45pm | Steve Elliott
(LANL) | <i>An Overview of the Experimental Program for Double Beta Decay</i> |
| 3:30pm | AFTERNOON BREAK | |
| 4:00pm | Tom Banks
(Berkeley) | <i>CUORE-0 Performance, and Prospects for CUORE</i> |
| 5:00pm | RECEPTION <i>KITP Courtyard</i> | |
| 5:45pm | SPECIAL EVENTS DINNER <i>KITP Courtyard</i> | |
| 7:45pm | SHUTTLE TO BWSCI | |

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Wednesday, November 5, 2014

Morning Session Chair: Janet Conrad (MIT)

Talks are 30 min + 15 min discussion

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

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Thursday, November 6, 2014

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

Talks are 30 min + 15 min discussion

- 9:00am Gary Steigman (Ohio State) *BBN and the CMB Constrain Equivalent Neutrinos*
- 9:45am Georg Raffelt (Max Planck, Munich) *Astrophysical and Cosmological Neutrino Constraints*
- 10:30am MORNING BREAK
- 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 LUNCH BREAK

Afternoon Session Chair: Hallsie Reno (U. Iowa)

Talks are 30 min + 15 min discussion

- 2:00pm Francis Halzen (U. Wisconsin-Madison) *IceCube: The Discovery of Cosmic Neutrinos*
- 2:45pm Claudio Kopper (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) *Where are the Neutrino Events with Energy above 2 PeV?*
- 5:30pm RECEPTION *KITP Courtyard*
- 6:00pm SPECIAL EVENTS DINNER
- 8:00pm SHUTTLE TO BWSCI

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Friday, November 7, 2014

Morning Session Chair: Steven Parke (FNAL)

Talks are 30 min + 15 min discussion

- 9:00am Raj Gandhi *LBNE+INO; Physics Aspects*
(Harish-Chandra Research Institute)
- 9:45am Etam Noah Messomo *Long-Baseline Neutrino Observatory*
(Geneva)
- 10:30am MORNING BREAK
- 11:00am Silvia Pascoli *LBNO Theory*
(Durham U.)
- 11:45am Milind Diwan *Long-Baseline Neutrino Experiment*
(BNL)
- 12:30pm LUNCH BREAK

Afternoon Session Chair: Hisakazu Minakata (Sao Paulo)

Talks are 30 min + 15 min discussion

- 2:00pm David Wark *Experiment Summary*
(Oxford U.)
- 2:45pm Paul Langacker *Theory Summary*
(IAS)
- 3:30pm CONFERENCE END
- 4:00pm SHUTTLE TO BWSCI *Also available to SB Airport and SB Airbus, Goleta location.
(See Registration Desk to sign up.)