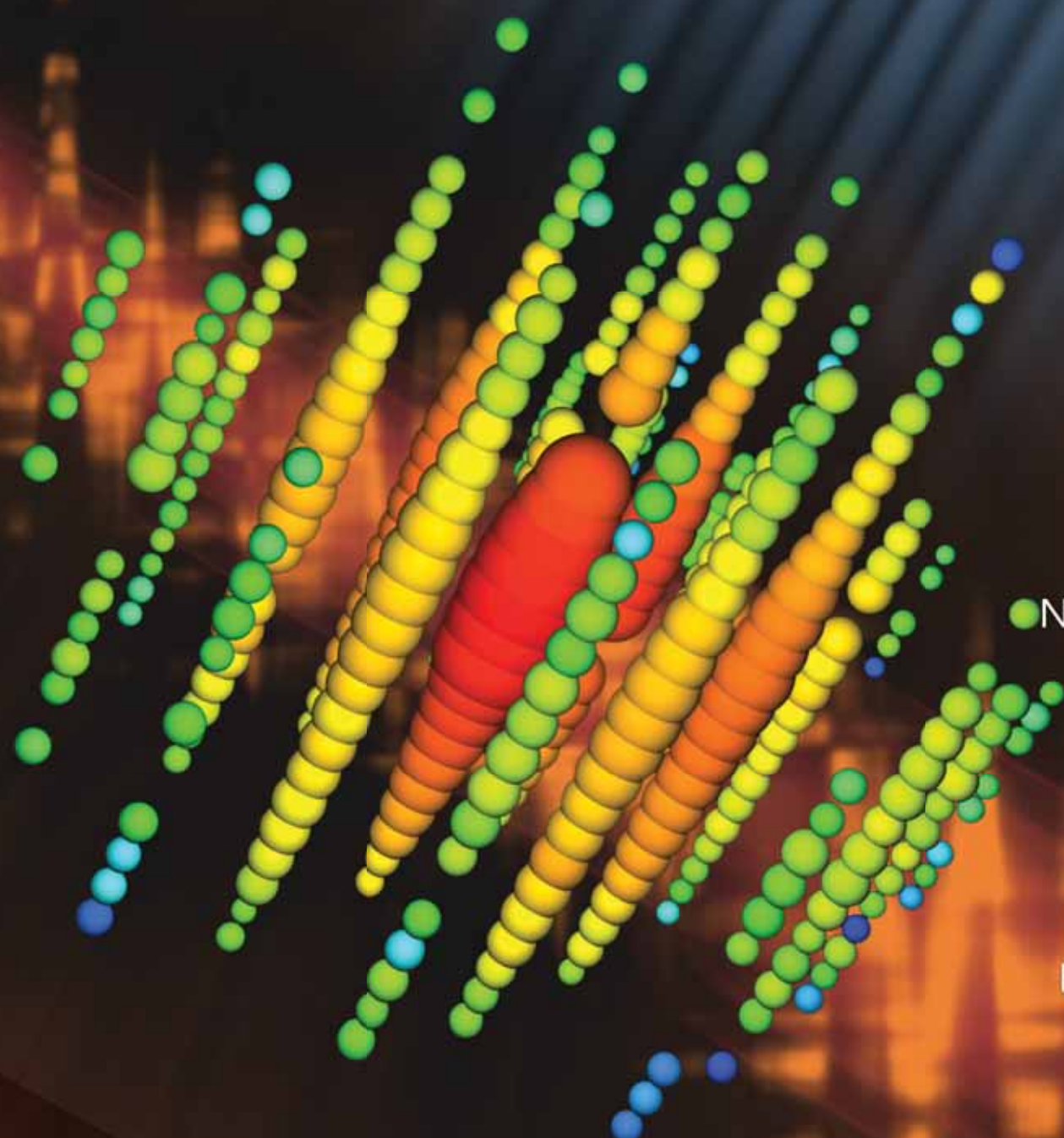


SSI2015 • August 10-21 • 43RD SLAC Summer Institute

The Universe of NEUTRINOS



The 2015 SLAC Summer Institute will focus on the physics of neutrinos. Although they were discovered almost 60 years ago, neutrinos remain in some ways the most mysterious part of the Standard Model – we don't even know their masses or whether they are their own anti-particles. The neutrino sector may be responsible for the baryon-antibaryon asymmetry of the universe and some form of neutrinos might be the gravitationally observed Dark Matter. The development of a variety of probes to illuminate the detailed nature of the neutrino sector has made this one of the most exciting and global frontiers today, inspiring a plethora of new experimental and theoretical efforts. Morning lectures will cover all aspects of neutrino physics. In the afternoons, topical conference talks will alternate with discussion sessions, student projects, tours, and poster sessions. SSI is especially targeted for graduate students and young postdocs.

SCHOOL LECTURES:

Why are Neutrinos Important? (F. Halzen)
Neutrino Basics (A. de Gouvea)
Neutrino Detectors (R. Svoboda)
Neutrino Cosmology (A. Melchiorri)
Reactor Neutrinos (K. Heeger)
Neutrino Cross Sections: Outstanding Issues (K. McFarland)
Long Baseline Neutrinos (G. Feldman)
Short Baseline Neutrinos (W. Louis)
Supernova Neutrinos (A. Friedland)
Neutrino Sources (D. Harris)
Direct Mass Measurements (J. Formaggio)
Neutrinoless Double Beta Decay: Theory (W. Rodejohann)
Neutrinoless Double Beta Decay: Experiment (L. Kaufman)
Lepton Flavor Violation (Y. Grossman)
Leptogenesis (Y. Grossman)
Neutrinos as Dark Matter (K. Abazajian)
The Neutrino Floor in DM Detection (E. Figueroa-Feliciano)
Neutrinos at the LHC (T. Han)
Geoneutrinos (G. Gratta)
Neutrino Astronomy (K. Hoffman)
Global Fit to the Neutrino Data (M. Gonzalez-Garcia)
BSM Searches Using Neutrino Detectors (K.S. Babu)
Future Neutrino Facilities (tbd)
The View Ahead (J. Lykken)

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SPONSORSHIP:

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