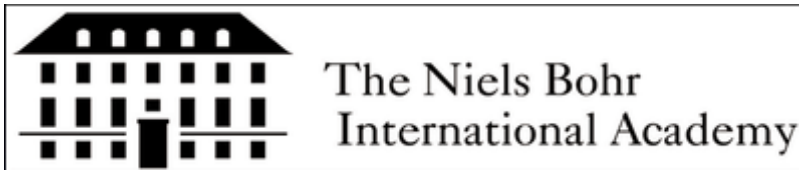
NBIA PhD School: Neutrinos Underground & in the Heavens II



Monday 1 August 2016 - Friday 5 August 2016

Niels Bohr Institute

Scientific Programme

Suggestions for preliminary reading for the lectures:

Neutrino Theory/Phenomenology (3 lectures)

Eligio Lisi (INFN Bari)

Analysis of neutrino mass, mixing and flavor change

E. Lisi

Prog. Part. Nucl. Phys. **64** (2010) 171-177

Neutrino Masses and Mixings: Status and Prospects

L. Camilleri, E. Lisi, J.F. Wilkerson,

Ann. Rev. Nucl. Part. Phys. **58** (2008) 343-369

Neutrino Astronomy/Astrophysics (3 lectures)

Teresa Montaruli (Université de Genève)

In search for extraterrestrial high energy neutrinos

L. Anchordoqui, T. Montaruli

Ann. Rev. Nucl. part. Phys. **60** (2010) 129-162

*High energy neutrino astronomy: the cosmic ray connection *

F. Halzen, D. Hooper

Rept. Prog. Phys. **65** (2002) 1025-1078

For a comprehensive collection of relevant papers see: http://www.nu.to.infn.it/Astrophysical_Neutrinos/

Neutrino Cosmology (3 lectures)

Steen Hannestad (Aarhus University)

Modern Cosmology

S. Dodelson

(Academic Press, 2003)

Neutrino physics from precision cosmology

S. Hannestad

Prog. Part. Nucl. Phys. **65** (2010) 185-208

Primordial neutrinos

S. Hannestad

Ann. Rev. Nucl. Part. Sci. **56** (2006) 137-161

The lectures will be interspersed with topical seminars by NBI researchers.

There will be a Discussion session after the talks every day, with all speakers present.

A problems class will also be held every day*. Students may offer to give brief talks on relevant work they have done.*

For attending all talks and discussion/problems classes, 2 ECTS points will be awarded.

Student talks selected for presentation will be awarded 1 additional ECTS point.

(except Wednesday when there is an excursion planned instead)