



The Abdus Salam
**International Centre
for Theoretical Physics**
www.ictp.it



The Abdus Salam International Centre for Theoretical Physics (ICTP), will hold the

School and Workshop on Large Scale Structure: from Galaxies to the Cosmic Web

1 - 12 February 2016

Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune, India

DESCRIPTION

Understanding the cosmological Large Scale Structure (LSS) — both its growth starting from small fluctuations to the evolution of its constituent galaxies and inter-galactic medium — is at the frontier of research in extra-Galactic astronomy and cosmology. A number of large international efforts are enabling these studies by providing an unprecedented quantity and quality of data, with low redshift surveys already under way and Stage IV surveys (e.g., Euclid, LSST) being planned. The near future will also see the construction and commissioning of high quality instruments such as the Thirty Metre Telescope and the Square Kilometre Array, which will offer unparalleled advances in observations at, respectively, optical and radio wavelengths.

Painting a holistic picture of the Cosmos from these observational efforts requires a deep understanding of the complex interplay of the physics on atomic, astrophysical and cosmological scales that determines the evolution of galaxies on the one hand, and fundamental questions such as the nature of Dark Matter, Dark Energy and tests of General Relativity at the largest scales, on the other. The School for graduate students will cover the necessary basics in multiple areas of cosmology and astrophysics, including the following topics:

- * **Growth of cosmological LSS and the Cosmic Web**
- * **Physics of the evolution of galaxies and the inter-galactic medium**
- * **Connection between LSS and galaxy evolution**
- * **Large sky surveys and cosmological probes**
- * **Analytical and (semi-)numerical methods for studying LSS**

The Workshop following the School will bring together a larger number of scientists working in these areas for a more advanced discussion of the latest developments in these as well as complementary topics.

PARTICIPATION

The School is meant for advanced Ph.D. students and post-docs working on the listed topics. As a rule, travel and subsistence expenses of the participants should be borne by the home institution. Every effort should be made by candidates to secure support for their fare (or at least half-fare). However, limited funds are available for some participants who are nationals of, and working in, a developing country, and who are not more than 45 years old. Such support is available only for those who attend the entire activity. There is no registration fee to be paid.

The **Application Form** can be found at the activity webpage www.iucaa.ernet.in/~lss and will be active from 15 August 2015. Once in the website, comprehensive instructions will guide you step-by-step, on how to fill out and submit the application form.

Contact: Local Organizing Committee
E-mail: lss_galaxies@iucaa.ernet.in
Fax: 0091-20-25604698, 25604699
Web page: www.iucaa.ernet.in/~lss

ICTP Activity Web page: <http://indico.ictp.it/event/7630/>

ICTP Home Page: <http://www.ictp.it/>

ORGANIZERS:

Tirthankar R. CHOUDHURY
(NCRA, Pune)

Vincent DESJACQUES
(University of Geneva)

Aseem PARANJAPE
(IUCAA, Pune)

Ravi SHETH
(University of Pennsylvania)

List of confirmed lecturers for the School:

Roy Maartens (UWC)
Nikhil Padmanabhan (Yale)
Alexandre Refregier (ETHZ)
Raghunathan Srianand (IUCAA)
Rien van de Weygaert (Kapteyn)
Simon White (MPA Garching)

List of invited speakers for the Workshop (confirmed):

Marcella Carollo (ETHZ)
Martin Crocce (Barcelona)
Nissim Kanekar (NCRA)
Guinevere Kauffmann (MPA Garching)
Subha Majumdar (TIFR)
Surhud More (IPMU)
Marcello Musso (UPenn)
Mario Santos (UWC)
Shiv Sethi (RRI)
Matteo Viel (INAF-OATS)

To be confirmed:

Raul Angulo (CEFCA)
Jayaram Chengalur (NCRA)
Oliver Hahn (OCA Nice)
Simon Lilly (ETHZ)

DEADLINE
for requesting participation

20 September 2015

