Applications are called for
(1) THE 10th SRI LANKAN ASTRONOMY AND ASTROPHYSICS OLYMPIAD COMPETITION
(SLAAO) – 2016 for grades 10-13 students &
(2) THE 6th SRI LANKAN JUNIOR ASTRONOMY OLYMPIAD COMPETITION (SLJAO) – 2016 for grades 6-9 students

The purpose of above Olympiads is to popularize Astronomy and Astrophysics, and to attract bright young school students all over the country to Science stream and especially towards Astronomy and Astrophysics. The Institute of Physics, Sri Lanka in collaboration with the Department of Physics, University of Colombo, National Science Foundation and the Sri Lankan Astronomy Olympiad Association would conduct this Olympiad competition.

Participation in national competition
Both the 10th Sri Lankan Astronomy and Astrophysics Olympiad(SLAAO) competition and the 6th Sri Lankan Junior Astronomy Olympiad(SLJAO) will be held on June 18, 2016 (Saturday); SLAAO from 11.00 a.m. – 1.00 p.m. and SLJAO from 11.00 a.m. – 12.30 p.m. The knowledge of the applicants will be tested with a theory paper on Astronomy. Those who wish to participate in above competitions must inform us on or before June 03rd, 2016 and register themselves by sending the attached application form. (Application forms can be downloaded from the IPSL website. Photocopies or handwritten self prepared application forms containing the same information are also accepted). The age of the contestants must not exceed nineteen (19) years to the 31st December 2016.

The examinations will commence at 11.00 a.m. at the universities of Colombo, Kelaniya, Ruhuna(Matara), Rajarata(Mihinthale), Jaffna and the Open University Centres in Kandy(Polgolla) and Batticaloa soon after the completion of the Physics Olympiad Competition. As such, those who sit for the Physics Olympiad could also sit for Astronomy Olympiad, but should register themselves separately for both the Olympiads. Please post your registration forms together with the examination fee payment slip (bank slip) and two self addressed stamped envelopes to the following address by June 03, 2016:

Prof. K. P. S. Chandana Jayaratne, National Coordinator of the Astronomy and Astrophysics Olympiad, Institute of Physics Sri Lanka, C/o Department of Physics, University of Colombo, Colombo-03.

11th International Olympiad on Astronomy and Astrophysics (IOAA-2017) and 22nd International Astronomy Olympiad (IAO-2017)

The 11th IOAA will be held in Thailand around August or September, 2017. Maximum of five students those who do well in the 10th Sri Lankan Astronomy and Astrophysics Olympiad Competition (for grades 10-13 students) will have the chance to participate at the International Olympiad. Those selected students will be trained extensively before the departure to India.

Meanwhile maximum of three students those who excelled at the 6th Sri Lankan Junior Astronomy Olympiad competition (for grades 6-9 students) will have the opportunity to participate at the 22nd International Astronomy Olympiad (IAO) scheduled to be held around September 2017 in Korea.

Admission card for the above two National Olympiads and course contents
Those who send in their registration forms in time will be informed about their index numbers and examination centre details on or before 15.06.2016 by post. If you do not receive the admissions by 15th June 2016, please direct your quarry to the office from 16th – 17th using Tel: 0112584777. Please refer the IPSL website www.ipsl.lk for the course syllabus of 10th SLAAO and some of the past question papers. The questions for 6th SLJAO are mainly based on the astronomy course materials in school text books up to grade nine. However, general knowledge on astronomy is required to excel at the examination. (Please refer our websites for past papers to understand the structure of the question papers). Electronic calculators are allowed to use.

Prof. K.P.S.Chandana Jayaratne
National Coordinator-SLOAA &SLJAO (Date: 30.04.2016)
A. The examination on Sri Lankan Junior Astronomy Olympiad-SLJAO is mainly based on the astronomy course material in school textbooks and school curricula from grade 6 up to grade 9.

B. The Examination for the Astronomy and Astrophysics Olympiad (SLAAO) will be based on the following syllabus.

1. Basic Astrophysics

2. Coordinates and Times
   Celestial Sphere. Spherical trigonometry, Celestial coordinates, Equinox and Solstice, Circumpolar stars, Constellations and Zodiac; Concept of Time. Solar time, Sidereal time, Julian date, Heliocentric Julian date, Time zone, Universal Time, Local Mean Time

3. Solar System

4. Stars
   Stellar Properties. Distance determination, Radiation, Luminosity and magnitude, Color indices and temperature, Determination of radii and masses, Stellar motion, Stellar variabilities; Stellar Interior and Atmospheres. Stellar nucleosynthesis, Energy transportation, stellar atmospheres and spectra; Stellar Evolution. Stellar formation, Hertzsprung-Russell diagram, Pre-Main Sequence, Main Sequence, Post-Main Sequence stars, End states of stars

5. Stellar Systems
   Binary Star Systems. Classification, Mass determination in binary star systems, Light and radial velocity curves of eclipsing binary systems, Doppler shifts in binary systems; Star Clusters Classification and Structure. Milky Way Galaxy Structure and composition, Rotation, Interstellar medium; Normal and Active Galaxies Classification, Distance determination; Accretion Processes. Basic concepts

6. Cosmology
   Elementary Cosmology. Cluster of galaxies, Dark matter, Gravitational lenses, Hubble’s Law, Big Bang, Cosmic Microwave Background Radiation

7. Instrumentation and Space Technologies
   Multi-wavelength Astronomy; Observations in radio, microwave, infrared, visible, ultraviolet, X-ray, and gamma-ray wavelength bands, Earth’s atmospheric effects; Instrumentation and Space Technologies. Ground- and space-based telescopes and detectors (e.g. charge-coupled devices, photometers, spectrographs), Magnification, resolving and light-gathering powers of telescopes