The International Earth Science Olympiad (IESO) is organised annually for higher secondary school students hailing from different countries across the world. It is one of the important programmes of the International Geoscience Education Organisation (IGEO; www.geoscied.org) promoting earth science education in schools all over the world. The principal objectives of IESO are to raise student interest in and public awareness of Earth Science, to enhance student’s learning of Earth Science, to upgrade and improve teaching of Earth Science in schools, and to build and foster friendship among the participants coming from different countries and promote international cooperation in exchanging ideas about Earth Science and Earth Science education. In the past, IESO events have been organised by South Korea (2007), the Philippines (2008), Taiwan (2009), Indonesia (2010), Italy (2011), Argentina (2012) and India (2013).

The Indian team was selected through an entrance test (19.04.2014) at 32 centres all over India. A total of 611 students took the entrance test spanning for 90 minutes. The questions were prepared by experts from Universities, National Laboratories, Ministry of Mines and Scientific Departments of the country and one hundred objective type questions were selected with multiple choice covering the syllabus prescribed by IESO. The top 21 students in order of merit were given intense training covering all the four branches of Earth Science viz., Geosphere (45%), Atmosphere (20%), Hydrosphere (15%) and Astronomy (20%) at Geological Society of India, Bangalore from 13th May – 1st June, 2014. The resource persons were drawn from Universities, Indian Institute of Technology, Indian Institute of Science, Government departments, National Laboratories etc. The participants were also given lab and field training by the geologists of Geological Survey of India. The laboratory facility of Geological Survey of India was utilised for imparting practical training.

The Indian National Earth Science Olympiad concluded at the end of the training on 01.06.2014 and the top four students viz., Maulashree Shanbhag (Thane, Mumbai), Akshat Mittal (Udaipur, Rajasthan), Lakshya Bhatnagar (Kota, Rajasthan) and Sourajit Sahoo (Cuttack, Orissa), were selected to represent India at the 8th IESO held at Santander, Spain.

A pre-departure training was organised during 13-19 Sept. 2014 one week before leaving for 8th IESO at Spain and selected resource persons delivered lectures. The National Team was also taken to Jawaharlal Nehru Planetarium, Bangalore and the Petrology / Palaeontology Lab at Geological Survey of India. They were also taken to peninsular gneiss complex for brief field training.

Group photo of participants at IESO-2014.
The 8th International Earth Science Olympiad, for the year 2014 was organised at the Palacio de Magdalena, Santander, Spain, from 22-29 September 2014. Prof. Juan D. Centeno, Chairman, IESO 2014 and his colleagues, University of Madrid, Madrid, Spain organised the event. A total of 24 countries participated in the event attended by 90 students, 44 mentors and 42 observers.

For this event, teams of all the participating countries arrived on 21st-22nd September 2014 and were accommodated in the premises of Palacio de Magdalena. The Inaugural function on September 23rd morning began with the Spanish classical music. This was followed by ceremonial welcome of all the participating national teams with their national flags. The Indian team was represented by two mentors, one observer and four student participants. The gathering was warmly welcomed by Prof. Juan D. Centeno, Chairman IESO 2014, the Dean of Science, University of Cantabria, Santander and the President of the Geological Society of Spain, Madrid. A welcome speech highlighting the IESO programme was delivered by Prof. R. Shankar, Chairman, International Geoscience Education Organisation and the vote of thanks was proposed by Ms. Tania Navalpotro, who assisted Prof. Juan D. Centeno in organising the programme.

After the inaugural ceremony, the International jury consisting of all the mentors and observers from participating countries scrutinized the question papers of the written and practical tests. The question papers were prepared by the Spanish Scientific Committee consisting of their professors and research workers. The question paper pattern was changed adopting the Earth System Science topics reflecting a holistic approach of understanding earth and its dynamic processes.

The first question paper was focussed on a prelude of a discovery travel conducted by Charles Darwin sailing in the ship ‘the Beagle’ cruising several continents. Similarly another question paper was set based on the famous archaeological site of understanding Human Evolution discovered by Dr. Louise Leakey and Dr. Mary Leakey, the Olduvai Gorge in Tanzania. The third question paper was set based on the Martian geology.

The questions spanned a wide range of earth science subjects like meteorology, atmospheric science, geochemistry, geophysics, hydrology, oceanography and astronomy. The written test consisted of multiple choice questions. A practical test based on specimen identification was also conducted. This year, wrong answers carried negative marking.

Further, an International Team Field Investigation (ITFI) test was conducted by forming several teams of international students. The teams were evaluated based on tests conducted on fieldwork, report preparation and presentation before a jury. For the smooth conduct of this test, the teams were given scientific background information and guided to a limited extent in the field along the Santander beach. Test pits were dug on the beach and litho-logged for sediment layers, mineral composition, shell content etc., to infer wave energy and deposition. ITFI test ended with the teams preparing a detailed report, presenting their reports before a jury that chose three best teams to receive the first, second and third ITFI prizes.

Based on the performance of the participating students in the tests, gold, silver and bronze medals (equal to approximately 10%, 20% and 30% respectively of the total number of students) were awarded. Best Performance Awards in Geosphere, Astronomy, Hydrosphere and Atmosphere were also given to students scoring the highest marks in the respective sections. The Indian team won one silver and two bronze medals in addition to two prizes in ITFI test.

A joint meeting of the International Co-ordinating Committee and the IESO
Advisory Board was held on 28th September 2014 to discuss issues relating to standards and enhancement in the participation of countries in the IESO. Students and mentors/observers were separately taken around the geological sites around Santander such as municipality council of Santander, zinc mine, and the Altamira cave site to study 18,500/14500 year old cave paintings, very old township - Santalena etc. In the evening of 27th and 28th September cultural (musical) programmes were organised for students, mentors and observers.

The Awards Ceremony and valedictory function on 28th September 2014, started with a Spanish traditional musical programme. The medals were awarded to the participants by the organising committee members. Gold, Silver and Bronze medals, Best Performance awards, IITFI Project awards were given to the winners. Besides, mementos were presented to all the participants, members of Scientific Committee and Organising Committee etc. The vote of thanks was proposed by Dr. Juan D. Centeno, Chairman IESO 2014.

The Indian team could actively participate and win medals due to the constant encouragement and support given by the Geological Society of India, Bangalore. The Geological Society of India, Bangalore, played an active role in conducting preliminary tests, organising training programmes for the selection of participants for this event, organising pre-departure training for the participants. The entire programme was encouraged and financially supported by Ministry of Earth Science (MOES), New Delhi as part of its outreach program. On my personal behalf and as the National Coordinator of IESO, I profusely thank Dr. H.K. Gupta, President, Shri. R.H. Sawarkar, Secretary, Geological Society of India, Bangalore, for making it possible for the Indian team to participate in this international event. The faculty members who trained the students, members of the National Steering Committee for Science and Astronomy Olympiads, Members of the Steering Committee for Earth Science Olympiad, Ministry of Earth Science, Government of India, and the International Union of Geological Sciences are profusely thanked for their constant encouragement. Special thanks are due to the Geologists of Geological Survey of India for giving field as well as lab training to the students. We are thankful to the faculty members of Department of Earth Science, University of Mysore for organising Magnesite Mine and Museum visit.