The principal objectives of IESO, the flag-ship activity of the International Geoscience Education Organisation (IGEO; www.geoscied.org), are to raise higher secondary school students’ interest in earth science, to enhance earth science learning of students, to improve teaching of earth science in schools, to forge friendship among young learners from different countries and to promote international cooperation in exchanging ideas and materials about earth science and earth science education. Previous IESO’s were held in South Korea (2007), the Philippines (2008), Taiwan (2009), Indonesia (2010), Italy (2011) and Argentina (2012). The 7th IESO, organized by the Geological Society of India during 11-19 September, 2013, (www.ieso2013.webs.com and www.ieso2013.in) was attended by 90 students, 11 guest students, 44 mentors and 42 observers from 27 countries. The team members were given a traditional welcome (like Mysore peta and angavastra) at the Bengaluru International Airport and taken to the picturesque venue at Infosys Campus, Mysore.

The 7th IESO was inaugurated on September 12th by Shri H.K. Patil, Minister for Rural Development and Panchayat Raj, Government of Karnataka and attended among others by Dr. Shailesh Nayak, Secretary, Ministry of Earth Sciences, Government of India, Shri Nagarajan Srinivasan, Associate Vice-President, Infosys Limited, Dr. Sylke Hlawatsch, Chair, International Geoscience Education Organisation, Dr K.S. Rangappa, Vice-Chancellor, Mysore University, Chiranjeevi Arunima Sinha, first female amputee to climb the Mount Everest and Chiranjeevi Raghav Joneja, the youngest Indian to climb the Mount Everest. Following the recitation of the IESO song, Shri R.H. Sawkar, Chair, 7th IESO Organizing Committee welcomed the gathering, Dr Harsh Gupta, President, Geological Society of India, presided over the function. Dr R. Shankar, Vice-Chair, Organising Committee for the 7th IESO, proposed a vote of thanks.

The International Jury consisting of all the Mentors and Observers from participating countries scrutinized the multiple-choice question papers that adopted the earth system approach for written and practical tests. Based on the performance of the participating students in the tests, gold, silver and bronze medals were awarded (for approximately 10%, 20% and 30% respectively of the total number of students). Best Performance Awards in Geosphere, Astronomy, and Hydrosphere + Atmosphere were given to students scoring the highest marks in the respective sections. The medals tally at the 7th IESO is as follows: Gold (South Korea and Taiwan 3 each; Thailand, Japan, Romania and Italy 1 each), Silver (India, Romania, Japan and Thailand 3 each; Indonesia 2; and Taiwan, South Korea, France and Bangladesh 1 each), and Bronze (Bangladesh, Russia, Israel and Italy 3 each; Ukraine, Indonesia, Spain and France 2 each; India, Austria, Sri Lanka, U.S.A., Cambodia, Germany, Brazil, Nigeria and Kuwait 1 each).

An integral part of the event is the International Team Field Investigation (ITFI) which was conducted to achieve IESO’s professed objectives of promoting international co-operation and forging bridges of friendship among young talented students across the world. This activity is unique to IESO and sets it apart from all other International Science Olympiads. This year, ITFI’s were conducted on seven different topics; each team had students from different nationalities and with diverse background and cultures. The ITFI themes were: (1) litho-spheric processes in the origin of rocks (the role of geosphere, hydrosphere and atmosphere in the formation of rocks at Bettadabeedu, in particular lithospheric processes); (2) role of hydrosphere in empowering homes (structural control on the course of Kaveri River, operation of the hydroelectric project at Shivanasamudram, interaction between geosphere, hydrosphere and biosphere in the area); (3) geosphere in building homes (measurements pertaining to dolerite, granite and other rocks at Alaganchi Village, quarrying operations and associated environmental hazards); (4) geosphere-hydrosphere in sculpting the landscape (geological mapping, structural studies, and the processes responsible for the formation of rocks and establishing the chronology of geological events at Karighatta); (5) earth system-human interaction: the Chamundi Hill scenario (the lithosphere-hydrosphere-biosphere-atmosphere-anthroposphere interaction); (6) geosphere-hydrosphere and mineral deposits (the role of geosphere, hydrosphere and...
atmosphere in the formation of magnesite deposits at Talur and the lines of evidence related to the origin of magnesite mineralization); and (7) ground water - an integral component of hydrosphere (principle behind and carrying out electrical resistivity survey to locate ground water). After the field investigation, students prepared and presented their reports before a jury that chose three best teams to receive the Gold/Silver/Bronze ITFI Awards.

The 7th IESO introduced a new activity called the “EARTH SYSTEM PROJECT” to showcase the current state of 21st century earth science. It lays emphasis on the evaluation and development of scientific skills like data collection, data analysis, reasoning, system thinking, communication and collaboration, and oral and written presentation. The first ever Earth System Project of IESO was the Indian Monsoon - an important meteorological phenomenon that involves and affects the atmosphere, hydrosphere, geosphere, biosphere and cryosphere. It impacts the population of the Indian sub-continent and the economy. Too much or too little of monsoonal rains would result in floods or droughts. Ten multinational groups of students analysed the topic using web-based data and presented their results in the form of posters that were viewed by the 7th IESO participants. A jury evaluated and decided on the Gold/Silver/Bronze Research Project Team Awards.
The emphasis on Earth system approach is reflected in the logo and slogan of 7th IESO. The logo (shown below) comprises:

- Number 7 (representing the 7th edition of IESO)
- The Earth’s imagery from space (signifying Astronomy)
- The clouds and oceans in the imagery (representing the Atmosphere and Hydrosphere)
- The Earth’s cross section in number 7 (representing the Geosphere)
- The national flag of India, the host country, in number 7.

The logo, *Vasudhaiva Kutumbakam* (from ancient scriptures; *Maha Upanishad VI.71-73*), means “The Earth is indeed a family”, which is what IGEO has been striving to achieve: integration of the Earth’s subsystems in the school curriculum.

The participants had the opportunity to visit schools in Mysore where they interacted with the staff and students and discussed issues pertaining to syllabus, teaching and other aspects of education at the higher secondary level. As a part of IESO’s tradition, a plenary talk titled *Trends in Geomorphology (Study of landforms)* was delivered by Prof. R. Vaidyanadhan, a teacher par excellence with several decades of teaching and research experience. He outlined the changes in geomorphological concepts based on fresh observations and inputs from advanced technologies. The hectic schedule of IESO was interspersed with refreshing visits to places of tourist attraction like the Mysore Palace, Brindavan Garden, Jaganmohana Palace, Chamundi Temple, St. Philomena’s Church, Mysore Zoo, Srirangapattna Gumbaz, Belur, Halebeedu and Shravanabelagola. Cultural programmes in the evenings showcased a folk dance (*dollu kunita*) and other dance forms like *Dharma bhooomi* and *Panchavaktram*; the latter depicted how Lord Shiva created the five elements and the Universe from nothingness.

A joint meeting of the International Co-ordinating Committee and the IESO Advisory Board (September 11th) discussed issues relating to standards, finances and enhancement in the participation of countries in IESO. The International Jury also discussed and decided on changes to IESO statutes regarding the age limit of students to participate in IESO.

At the Awards Ceremony on 19th September, the Chief Guest Shri Vinayak Hegde, Associate Vice-President, Infosys Limited, and the guest of honour Shri D.V. Pichamuthu, Former President, Federation of Indian Mineral Industries (FIMI), distributed Gold, Silver and Bronze Medals, Best Performance Awards, ITFI Awards and Earth System Project Awards to the winners. Besides, mementos were presented to all the participants. To mark the end of the 7th IESO, the IESO flag was symbolically handed over to Tom Tailer and Elizabeth Tailer who will be organising the 8th IESO in Vermont, U.S.A.

This mega event was made possible by several individuals, institutions and organisations who gave their time, energy, efforts, ideas and resources whom I wish to thank on behalf of the Geological Society of India. Our thanks to the Members of Scientific and Organising Committees, Faculty Members, Department of Geology, Mysore University, Members of the Editorial Team, Daily News Bulletins, Chair and Members of the National Steering Committee for Science and Astronomy Olympiads, Members of the Steering Committee for Earth Science Olympiad. The Ministry of Earth Sciences, Government of India, provided generous funds to organise this event. Infosys Limited kindly provided their campus facilities. The International Union of Geological Sciences provided partial financial assistance to support the participation of a few developing country teams. A large number of volunteers and my research students (both past and present) worked tirelessly during this event.

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