



# International GeoScience Education Organisation

November 2018 Newsletter <http://www.igeoscienced.org/>

In this issue: **VIII GeoSci Ed Conference in Campinas, Brazil, p. 2**



**2018 International Earth Science Olympiad, Thailand, p. 5**



**Chris King wins IAPG Ethics Award, p. 10    MinerLima2018, p. 11**  
**EGU Geoscience Education Strategy Document approved, p. 12**  
**Opportunities of Interest and Upcoming Conferences, p. 14**

**2018 – 2022 IGEO Executive Committee**

Chair	Roberto Greco	Brazil	<a href="mailto:greco@ige.unicamp.br">greco@ige.unicamp.br</a>
Past Chair	Shankar Rajasekhariah	India	<a href="mailto:rshankargeo@gmail.com">rshankargeo@gmail.com</a>
Elected Chair	Clara Vasconcelos	Portugal	<a href="mailto:cvascon@fc.up.pt">cvascon@fc.up.pt</a>
Secretary	Anish Warriier	India	<a href="mailto:akwarrier@gmail.com">akwarrier@gmail.com</a>
Treasurer	Jean-Luc Berenguer	France	<a href="mailto:berenguer@unice.fr">berenguer@unice.fr</a>
Web Manager	Takashi Sawaguchi	Japan	<a href="mailto:tsawa@toyo.jp">tsawa@toyo.jp</a>
Newsletter Editor	Michael Passow	USA	<a href="mailto:michael@earth2class.org">michael@earth2class.org</a>
Next Conference Convener	Ichiro Matsumoto	Japan	<a href="mailto:chromim@edu.shimane-u.ac.jp">chromim@edu.shimane-u.ac.jp</a>

**Council Members:** <http://www.igeosced.org/about-the-igeo/officers/>

**Website:** <http://www.igeosced.org/>

**VIII GeoSci Ed Conference in Campinas, Brazil**

The VIII Geoscience Education (GeoSciEd) International Conference brought approximately 300 professors, students, teachers, and others to the University of Campinas (Unicamp), Brazil. From 22 to 27 July, they engaged with colleagues from six continents to share research, discuss projects, and plan future programs in geoscience education. Pre- and post-conference field trips and workshops expanded opportunities to successfully advanced the IGEO's goal of "Promoting Geoscience Education Worldwide."

The IGEO's GeoSciEd Conferences have been hosted every four years around the globe (<https://www.ige.unicamp.br/geosced2018/en/about/>). This year's meeting drew participants from Argentina, Australia, Canada, Chile, France, India, England, Germany, Ireland, Italy, Japan, Morocco, Paraguay, Peru, Republic of Korea, South Africa, United Kingdom, and USA, as well as teachers, students, and others from many Brazilian universities.



IGEO joined with the Institute of Geosciences of Unicamp and research and teaching teams from other Brazilian universities to conduct jointly the 8<sup>th</sup> National Symposium on Teaching and History of Earth Sciences. Guilherme de Oliveira Estrella served as Chairman of the Organizing Committee, and Pedro Wagner Gonçalves as General Coordinator. More information about the program and other sponsors are available at <https://www.ige.unicamp.br/geoscied2018/en/welcome/>.

The daily program was packed with keynote and plenary talks, 290 scientific papers presented during parallel sessions in three auditoriums, poster displays. Examples of Keynote presentations included:

- “Earth Sciences, Resources, Environment and Teaching” by Umberto Giuseppe Cordani;
- “Gigantic Cities and the New Challenge of an Old Science: Geoethics, Geoeducation and Geoknowledge in Porto Alegre, Brazil” by Rualdo Menegat;
- “Geoscience for Society: Communicating Geology for the Public Good” by Iain S. Stewart; and
- “Geoscience Education - an Overview: Past, Present and Future” by Chris King.



Presentations in two of the three rooms were in Portuguese and one in English. The **complete schedule** is available at: [http://www.ige.unicamp.br/geoscied2018/wp-content/uploads/sites/38/2018/07/CCU-Schedule-GeoSciEd-EnsinoGEO\\_2.pdf](http://www.ige.unicamp.br/geoscied2018/wp-content/uploads/sites/38/2018/07/CCU-Schedule-GeoSciEd-EnsinoGEO_2.pdf).

More complete information about most presentations is now available in the **Official Proceedings** at: [http://www.ige.unicamp.br/geoscied2018/wp-content/uploads/sites/38/2018/10/2018\\_ProceedingsGeoSciEdFinal.pdf](http://www.ige.unicamp.br/geoscied2018/wp-content/uploads/sites/38/2018/10/2018_ProceedingsGeoSciEdFinal.pdf)

Special presentations were included to bring in wider participation. With the support from the Association of Teachers of Unicamp (ADunicamp), a Round Table was organized on the Guarani Aquifer System. This is an interdisciplinary theme of critical interest to Brazil, Argentina, Paraguay and Uruguay. Local high school students shared results of their experiments and projects in a special "Geoscientists of the Future" poster session.

Interested teachers and students participated in 12 teaching workshops offered in both Portuguese and English before, during, and after the Conference. One of special interest was the “**GET2Class Workshops—Geoscience Education for Teachers in the Classroom**” ([https://earth2class.org/site/?page\\_id=15145](https://earth2class.org/site/?page_id=15145)). Day 1 focused on the geology and geological evolution of South America with presentations by Chris King (Keele University, UK) and Celso Dal Ré Carneiro (Unicamp). On Day 2, Helenice Vital and Miguel Evelim Penha Borges (UFRN) featured Brazilian contributions to the international scientific ocean drilling program.



Teachers from six countries interacted during the activities. These workshops were modeled on the GIFT (Geoscience Information For Teachers) workshops organized at annual meetings of the American Geophysical Union (<https://education.agu.org/education-activities-at-agu-meetings/gift/>) and European Geoscience Union (<https://www.egu.eu/education/gift/workshops/>). The first GIFT Workshop in Brazil was held during the AGU Joint Assembly of the Americas in Iguassu Falls, 2010 ([https://earth2class.org/site/?page\\_id=4887](https://earth2class.org/site/?page_id=4887)).

The Brazilian Society of Geology played an important role in supporting **publication of selected presentations from the VIII GeoSciEd/ EnsinoGEO 2018 Conference** in the special **September and December 2018 issues of *Terrae Didatica*** ([https://www.ige.unicamp.br/terraedidatica/v14\\_3/00.html](https://www.ige.unicamp.br/terraedidatica/v14_3/00.html)). These in part provide important steps in developing an international network to foster co-operation among geoscience educators in South and Central America. Members of the Brazilian Society of Geology Education Commission for the High School level began to organize plans to increase the presence of Earth Science in basic education.

**Japan** was selected to host the **IX GeoSciEd** conference in 2022. Dr Ichiro Matsumoto leads the Organizing Team. More information will be available in future Newsletters.





# IESO 2018

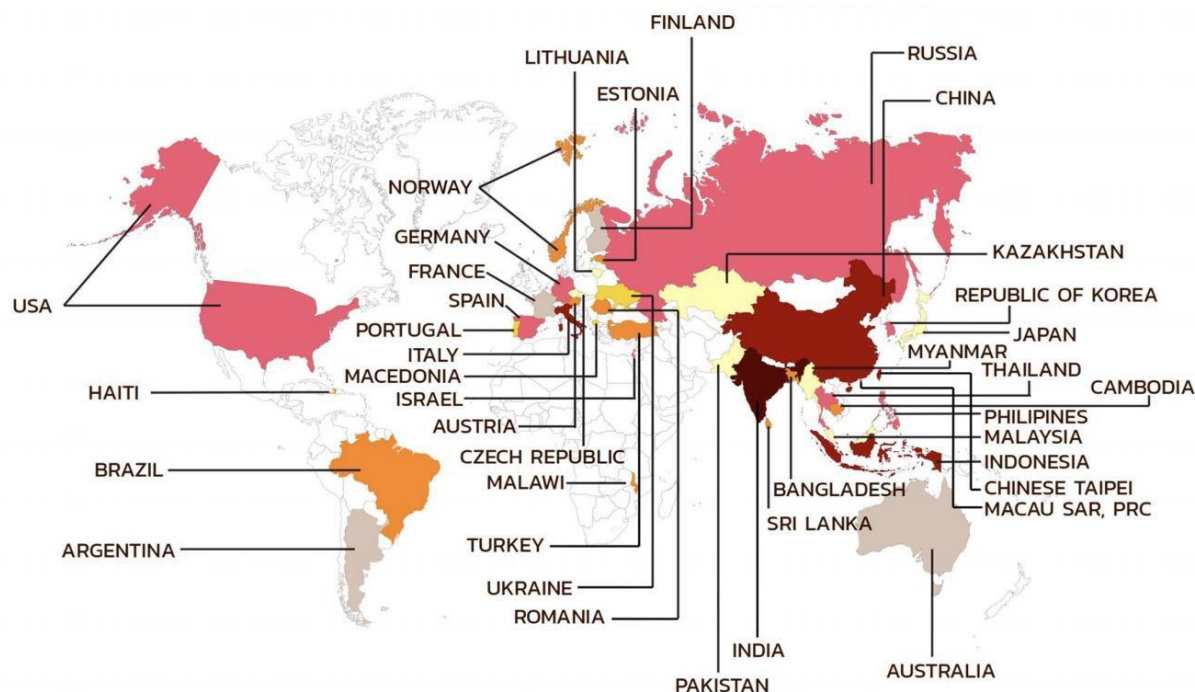
Kanchanaburi Thailand



38 teams from six continents participated in the **12<sup>th</sup> International Earth Science Olympiad 2018 (IESO 2018)** held in Kanchanaburi, Thailand, October 8-17. Competition included two days of theoretical and practical examinations and another two days of International Team Field Investigation (ITFI) and Earth System Project (ESP) for student contestants. Earth scientists from around the world served as mentors and observers. They attended meetings to finalize exam papers, observed and judged ITFI and ESP presentations, participated in a session to discuss how to improve Earth System Sciences education, and related activities. All participants also went on fieldtrips relating to Earth Sciences and cultural inheritances of the country. Last but not least, they enjoyed festivities celebrating the culture of Thailand.

IESO 2018 was hosted by Thailand at Mahidol University Kanchanaburi Campus. The organizing committee included the Promotion of Academic Olympiad and Development of Science Education Foundation under the patronage of Her Royal Highness Princess Galyani Vadhana Krom Luang Naradhiwas Rajanagarindra (POSN), Mahidol University and several other organizations in Thailand. The theme of this year's competition, "Earth Science for All", was chosen because it reflected the effort to promote awareness of the global challenges all are facing.

IESO 2018 also served as a tribute to His Late Majesty King Bhumibol Adulyadej of Thailand, who was the first recipient of both the International Union of Soil Sciences (IUSS): Humanitarian Soil Scientist Award and the United Nations' Global Development Network (UNDP): Human Development Lifetime Achievement Award. His Majesty's understanding of soil and water resources management, environmental and natural resources conservation resulted in thousands of royal development projects that now benefit every citizen of Thailand and of many other countries.



**Fig. 1.** Participating teams in the IESO 2018 competition

Students competed in individual and team competitions to answer a wide range of geoscience questions and challenges. Several days were devoted to experiences across the country (Fig. 2). Groups of students participated in the **International Team Field Investigation (ITFI)** of five different geologic-related field sites in the area near Mahidol University Kanchanaburi Campus: Mueang Sing Historical Park, Sai Yok Noi waterfall, Krasae cave, Wang Krajae hot spring, and a section of the Kwai Noi River. Mentors and observers accompanied them to observe these activities and evaluate student work and interactions at field sites. After they returned to the university, students separated to discuss the data they collected and prepare oral presentations of their assigned field sites.

Another group assignment, the **Earth System Project (ESP)**, was distributed to all ITFI teams. One of the main challenges of the IESO was to showcase the current state of 21st century science in general and Earth Science in particular. The 7<sup>th</sup> IESO in India introduced this activity to promote the evaluation and development of the following scientific skills: data collection, data analysis, reasoning, system thinking, communications, and collaborations and oral and written presentations. Multinational groups of students research each topic using and analyzing the data they collect from the internet and other experiences. They presented their findings in the form of posters which were evaluated to receive Gold, Silver, and Bronze status.



Fig. 2. Student contestants of the IESO 2018 visited PANDS dolomite mine to learn about the survey and production of dolomite.

Academic competitions were interspersed with social and morale-building activities. For example, to provide a permanent remembrance of IESO 2018, participants planted trees in the Geopark of the Mahidol University Kanchanaburi Campus. (Fig. 3).



Fig. 3. Group photo following tree planting in the Geopark of Mahidol University Kanchanaburi Campus.



The hosts capitalized on opportunities to highlight some of Thailand culture and history. One day provided a full-day trip starting with a State Railway of Thailand train ride specifically reserved for IESO participants to the Bridge over the River Kwai Station in downtown Kanchanaburi (Fig. 4). This steel bridge is one of important historical landmarks and memorials in Thailand. It was built by forced labor of Prisoners of War during World War II, resulting in approximately 100,000 deaths during its construction. The Japanese Army planned it as part of the railway lines during the war, but prisoners sabotaged and partially destroyed it. The damaged bridge was renovated by the Thai government in 1946 and became the basis for an award-winning novel and film.



Fig. 4. Students pose on the “Bridge over the River Kwai.

The award ceremony started with ITFI and ESP awards, followed by competition medals. Altogether, 53 bronze medalists, 29 silver medalists, and 15 gold medalists (Fig. 5.) were awarded. Ju Hyung Lee (Republic of Korea) won the highest total score award. Andrew Drake Xu (USA) won the highest written test score award. Krisana Supadee (Thailand) won the highest practical test score award.





Fig. 5. Gold medalists of the IESO 2018 competition (rear row).

**ESO 2019 will take place in Daegu, the Republic of Korea, with the theme, “Passion for Earth Science ... Continued.”**



More information about the IESO is available at <http://www.ieso-info.org>.



*"For his valuable contribution in promoting Earth Sciences in society by introducing innovative methods and tools to teaching, aiming at the proactive involvement of end-users based on developing their critical thinking and observational scientific approaches..."* the International Association for Promoting Geoethics has awarded Dr. Chris King its 2018 "Geoethics Medal" (<http://www.geoethics.org/geoethics-medal>).



IGEO joins in congratulating our colleague on receiving this recognition. Chris has been one of IGEO's officers since its origins and continues to provide great visions and guidance to geoscience educators across the globe.

# MinerLima2018

22-24 November 2018

Venue: Geological, mining, metallurgical and geographical engineering faculty – National University of San Marcos (San Miguel District, Lima-Peru).

We invite you to the 4th edition of **MinerLima2018, International Mineral Exhibition of Lima**. It is a space to disseminate the mineralogical heritage of Peru, through a rock and mineral exhibition, short courses, conferences and workshops (for children and the general public), geological excursions and more.

The motto of MinerLima2018 is: "**Knowing our wealth through minerals**", and aims to highlight the value of Peruvian Geological-Mineralogical Heritage recognized in the world, and show Geosciences to a general public. The venue of the exhibition is the geological, mining, metallurgical and geographical engineering faculty of the National University of San Marcos (San Miguel District, Lima-Peru).

MinerLima2018 is organized by the Peruvian Section of the IAPG (International Association for Promoting Geoethics), in association with the Geological, Mining and Metallurgical Institute INGEMMET and the company BIZALAB. It has the support of institutions such as the Geological Society of Peru, the Institute of Mining Engineers of Peru, among other national and international institutions.

Organizers: Erika Gabriel, Sonia Bermúdez, Hernán Parra, Edmundo Alfaro, Jorge Sáez, Luis Araujo, Emilio Lacho (IAPG-Peru).

**Information and Registration at:**  
**Web page:** <http://minerlima.com/>

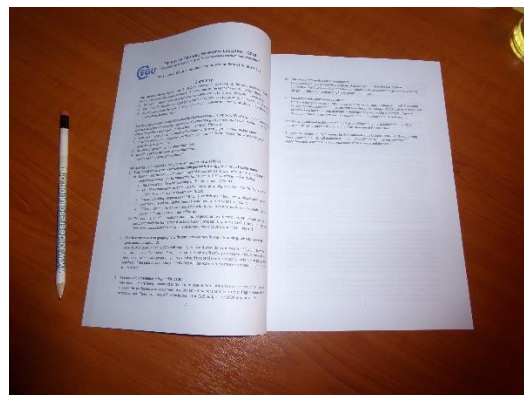
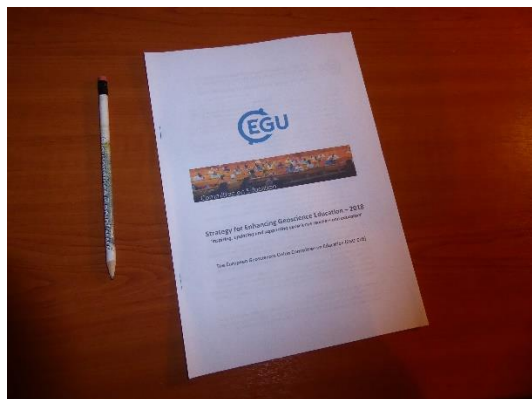
Facebook page: <https://web.facebook.com/feriainternacionalmineraleslima/>

E-mail: [iapg.peru@gmail.com](mailto:iapg.peru@gmail.com) / Telephones: +51 989 230 387; +51 997 288 262



## EGU Geoscience Education Strategy Document approved ---Dr. Chris King

The European Geosciences Union (EGU) has recently approved the document prepared by its **Committee on Education (CoE)** entitled: **'Strategy for Enhancing Geoscience Education'** with its strapline of **'Inspiring, updating and supporting geoscience teachers and educators'**. The budget for 2019 was approved and indicative budgets for the years until 2023 were noted.



The strategy will develop **support for the following five groups:**

### **Teachers of geoscience in schools and colleges with strong geoscience backgrounds by:**

Maintaining the high profile and successful Geosciences Information for Teachers (GIFT) conferences/workshops including: annual Vienna GIFT conferences; GIFT conferences offered in tandem with international conferences, such as the International Geological Congress; 'capacity building' GIFT conferences in less economically developed countries and 'Dynamic Earth' workshops.

The coordination of international and national geoscience educator organisations across Europe through the formation of an IGEO/EGU European Chapter.

### **Teachers of science or geography with some geoscience in their teaching, who have weak geoscience backgrounds by:**

Appointing EGU geoscience education field officers in four European countries who will offer professional development to teachers of science and geography at regional and national teachers conferences. If the 2019/20 pilot is successful, the initiative will be extended to more European countries in future years and may be opened to other countries globally.

**Teachers of geoscience in Higher Education** by:

Appointing new members to the Committee on Education to devise initiatives to support the professional development of geoscience teachers and lecturers in Higher Education across Europe. These initiatives will be included in the EGU CoE budget for 2020 and beyond.

**Providers of informal geoscience education** by:

Working with the EGU Outreach Committee to support this large and diverse group.

**Researchers into geoscience education** by:

Since there are few geoscience education researchers across Europe, in comparison with the strong geoscience education communities elsewhere in the world, during 2019/20 research will be carried out into this group to find how they can best be supported. Proposals developed from this research will be included in the EGU CoE budget for 2020 and beyond.

The International Geoscience Education Organisation (IGEO) is working with the International Union of Geological Sciences Commission on Geoscience Education (IUGS-COGE) to devise a strategy to build on the EGU initiative in a global context. The strategy report will be submitted in January 2019.

## OTHER OPPORTUNITIES OF INTEREST TO IGEO MEMBERS

### Latin American Chapter of IGEO: LAIGEO

During the VIII GeoSciEd conference a Latin American Chapter of IGEO was created. The aim of regional chapters is to create local network and to involve new countries and colleagues in IGEO.

For more information contact the Coordinator General, Prof. Ana Clerici of Universidad Nacional de Asunción (UNA), Paraguay [ana.clerici@gmail.com](mailto:ana.clerici@gmail.com)

## UPCOMING CONFERENCES

**International Conference on Geoscience for Society (GeoSoc) -- March 14-17, 2019.** Bangladesh Shilpakala Academy Segunbagicha, Dhaka, Bangladesh

Themes:

Geoscience Education; Geo-Resources, Energy and Mineral based Industries; Geosciences in Developing Activities and Disaster Risk Reduction; Women in Geosciences. Download the second circular here:

[http://www.igeosci.org/wp-content/uploads/2018/10/Second-Announcement\\_GeoSoc.pdf](http://www.igeosci.org/wp-content/uploads/2018/10/Second-Announcement_GeoSoc.pdf). Deadline for submitting abstracts: 30 November 2018.

**X Congreso Iberoamericano de Educación Científica -- March 25-28, 2019**  
Montevideo, Uruguay, <http://www.cieduc.org>

**European Geoscience Union General Assembly -- April 7-12, 2019**  
Wien, Austria <https://www.equ2019.eu>

**20th Congress of the International Union for Quaternary Research (INQUA) -- July 25-31 2019.** Dublin, Ireland <http://www.inqua2019.org/>.

Abstract Submission is now open for INQUA 2019 Special Sessions.

Of special interest to IGEO members: **"Making the Quaternary Relevant: Outreach and Education"** (<http://www.inqua2019.org/special-sessions/#toggle-id-27>).

"This session aims to provide a forum for wide-ranging exchanges of ideas on methodologies and best practice for raising the awareness and relevance of the Quaternary Period among academia and the general public. Papers are invited from educators, journalists, curators and researchers alike to describe a range of projects and ideas on the dissemination of existing knowledge and new science."

**Geoethics and Responsible Groundwater Management Congress -- October 21-25, 2019**

Porto, Portugal, <https://geoeth-gwm2019.wixsite.com/porto>

**36th International Geological Congress -- March 2-8, 2020**  
Delhi, India, <http://www.36igc.org>