



# International GeoScience Education Organisation

November 2022 Newsletter

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

2018 – 2022 IGEO Executive Committee

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Next convention coordinator : TBA (see announcement on p. 4.)

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

## Contents

p. 3 Dr. Chris King Obituary

p. 4 Preliminary announcement GeoSciEd X

p. 6 From the desk of the Chair

p. 8 The GLESE (Growth of Leadership in the Earth Science Education) Program

p. 10 NTFI (National Team Field Investigations) in Spain 2022

p. 16 IESO (International Earth Science Olympiads) Announcement

### Reports of Activities

p. 17 The Geological Science for Sustainable Development (SG2D) in Togo

## OBITUARY



1949 - 2022

Prof. Chris King, Emeritus Professor of Earth Science Education, Keele University, passed away on February 17, 2022. I was totally devastated on hearing of this news. May his soul rest in peace. My deep sympathies to Phoebe and family. Chris has left behind not only his beloved wife, Phoebe, and his loving children - Will, Tom, Dave and Pete, but several colleagues and friends around the globe. He was an educationist par excellence, a committed trainer, a visionary, a great institution-builder, and an initiator of novel programs in earth science education (ESE).

Chris received his Geology degree from Bristol University. He completed M. Sc. with distinction in Sedimentology at Reading University and received teacher training in science and geology education at Keele University. He was a diamond prospector, geology teacher, and Head of Lower School Science and School Development Officer, and a professor of earth science education at Keele University. He was Director, Earth Science Education Unit in Keele.

My first encounter with Chris was during the international conference on Geoscience Education (GeoSciEd) in Hilo, Hawai'i in 1996 where his wonderful presentation made an impact on me. There, he held discussions with colleagues (me included) at a café that paved the way for starting the International Geoscience Education Organisation (IGEO; [www.igeoscienced.org](http://www.igeoscienced.org)) in 2000 of which he was Founder Chair. He served as its Adviser too later. He was a signatory to the document registering IGEO in India in 2015.

Chris was instrumental in starting the International Union of Geological Sciences' Commission on Geoscience Education (IUGS-COGE; [www.iugscoge.org](http://www.iugscoge.org)). Chris was Commissioner for many years and its most recent Chair. He was Chair, Committee on Education, European Geosciences Union ([www.egu.eu/education/committee](http://www.egu.eu/education/committee)) at the time of his demise. He initiated the earthlearningidea program (ELI; [www.earthlearningidea.com](http://www.earthlearningidea.com)), along with his colleagues – Peter Kennett and Elizabeth Devon – in 2007 when the International Year of Planet Earth was launched.

Chris had a well thought out plan and strategy to enhance the quality of ESE in schools. He was involved in global and regional surveys to gain insights into the state of earth science education. From this, he recognised the problems afflicting ESE and devised and implemented programs to solve them:

**1) School teachers' lack formal education/training in imparting ESE:** He offered several teacher training workshops - short ones at ESE conferences and full-fledged, 1- to 4-day ones (for

e.g., GIFT workshops) where teacher participants carried out experiments, made observations and understood earth processes/ phenomena. The teachers, in turn, could effectively teach their students. Impressed by his workshops, I invited him and Prof Nir Orion (Israel) to conduct similar workshops at Mangalore, Bangalore and Goa (India). Realising the difficulty of training thousands of teachers across the world, he proposed the concept of Field Officers wherein earth scientists would be trained, and be ambassadors of ESE, to train school teachers in their respective countries. He created a synergy amongst IGEO, IUGS, COGE and EGU to fund and implement this ongoing program. Chris firmly believed that well trained teachers are the backbone of ESE.

**2) Lack of proper syllabus in school curriculum and teaching-learning resources:** He organised group discussions at IGC's and GeoSciEd conferences and collaborated with ES educationists to draw up a syllabus and prepare a textbook. The syllabus included aspects of earth science that every child must learn to grow up to be responsible citizens of the world ([www.igeoscienced.org/activities/international-geoscience-syllabus](http://www.igeoscienced.org/activities/international-geoscience-syllabus)). He prepared a text-book (titled EXPLORING GEOSCIENCE ACROSS THE WORLD) and revised it based on comments from colleagues that serves as a useful teaching resource ([www.igeoscienced.org/teachingresources/geoscience-text-books](http://www.igeoscienced.org/teachingresources/geoscience-text-books)). One can use it as a template and replace examples and photographs with local ones to produce a country- or region-specific textbook to provide a local flavour.

**3) Lack of simple, doable experiments, hands-on training and field learning:** Chris and his colleagues started the earthlearningidea program (ELI; [www.earthlearningidea.com](http://www.earthlearningidea.com)) that publishes on the web simple experiments using inexpensive, locally available materials to demonstrate earth processes and phenomena for the benefit of school students and teachers. ELI activities have been translated to 11 languages and the total downloads as of February 2022 was > 5.7 million. He demonstrated how earth science could be effectively taught in the field setting. To pass on the good work done by ES educationists to, and enthuse, the next generation, he initiated the “My Earth Science Educator Story” series ([www.igeoscienced.org/activities/my-earthscience-educator-story](http://www.igeoscienced.org/activities/my-earthscience-educator-story)), where ES educators could share their ES educational experiences during their careers. So far, 71 have shared their experiences.

Chris collected information and photos from colleagues to compile the EVOLUTION OF THE INTERNATIONAL GEOSCIENCE EDUCATION ORGANISATION – AND RELATED ORGANISATIONS (including GeoSciEd conferences, IGEO, IESO, and IUGS-COGE) and shared it with colleagues ([www.igeoscienced.org/activities/my-earth-science-educator-story](http://www.igeoscienced.org/activities/my-earth-science-educator-story)).

Chris' contributions were recognised by many organisations. For e.g., the “Distinguished Service Award” of the Geological Society of London, the “Halstead Medal” of the Geologists' Association and the “Geoethics Medal” of the International Association for Promoting Geoethics.

Above all, Chris was a fine human being. He was warm and gentle, committed and industrious, humorous and jovial, understanding and accommodative. He never hurt anyone with his words or actions. He practised what Basavanna, a 13<sup>th</sup> century social reformer from southern India, said: Work itself is heaven! That goes beyond the WORK IS WORSHIP tenet.

Very few people reveal their terminally ill diagnosis. Chris' conviction and openness enabled him to share this as well with colleagues and friends whom he considered as family. Even fewer people have the level of satisfaction that Chris had while looking back in the dusk of their lives. He has helped so

many people in the world, and wonderfully, marvellously, and superbly at that. I fondly recall my association with him, which was most memorable.

To me, Chris, who worked at the University of Keele, was the keel of the “Earth Science Education” ship! Chris was not a star, but an ever-shining superstar in the galaxy of earth science educationists. He will always remain a fountain of inspiration and a treasure house of admiration for me and all ES educators across the world.

On January 28, 2022, days before he passed away, he called and spoke to me for 21 minutes. Though his voice was hoarse because of hospitalisation, his mind was calm and thoughts crystal clear. He wished me “Aum” and said, Goodbye, Shankar. When it was my turn to reciprocate, it was emotional for me, and barely managed to say, “Goodbye, My dear Friend!”

March 02, 2022,  
Bangalore, India

R. SHANKAR  
Past Chair, IGEO



Dear IGEO members,

It is a great privilege and honor to start my post as the Chair of IGEO for the next four years, but above all, it is a huge responsibility.

The IGEO was launched at the beginning of the 21<sup>st</sup> century with one main goal – to promote Earth Science Education (ESE) in schools worldwide. However, promoting ESE is not only a purpose – it is a tool. It is a vehicle for the development of Environmental insight. Earth science is the science that can provide humankind with the understanding of how to integrate sustainably with the natural Earth systems. It involves almost every

critical component of our life on Earth, starting from the air we breathe, the water we drink, the food we eat, the energy we use, the buildings we live and work in, and the materials used for our daily lives. However, there is a disturbing gap between the educational potential of Earth science and

its low profile in schools. Over the next four years, IGEO will focus on narrowing this troubling gap. Every activity we do will be tested and measured by its contribution to promoting ESE in schools.

ESE is a profession, and our ability to influence educational systems worldwide depends on the amount and distribution of Earth science education professionals. The main effort of the new Executive Committee of IGEO is to expand the ESE professional community worldwide and to encourage the active involvement of IGEO members in promoting ESE. We already started this process by involving the Council with crafting a new Constitution and how the EC members are elected.

We continue to encourage the involvement of the Council and other members of IGEO by establishing committees (like Fund-Raising, Journal, IESO, Ethics, Financial audit) and Special Task Groups (STG) (like Social media, to attract more younger members, and strategies for the introduction of ESE into schools). All these committees and STGs will include IGEO members worldwide.

Finally, instead of twice-in four years, the Council will meet twice yearly (via zoom meetings). Our first meeting for 2023 will be in January (the exact date will be announced), and the focus of our first meeting will be the interrelationships between IGEO and IESO. Our second meeting will be in June.

I wish us four years of hard, innovative, and satisfying work to promote ESE in your schools and countries.

Yours,

Nir

22.09.2022 nir.orion@weizmann.ac.il 972-545223614

## **The GLESE Program**

### **The Growth of Leadership in the Earth Science Education Program**

#### **A. Introduction**

There is a wide gap between the importance of Earth sciences for humankind's quality and ability of life and the low profile of the educational potential of Earth science in schools. The IGEO was established 22 years ago to narrow this disturbing gap. However, so far, its success is partial. Moreover, while the founders of IGEO are getting older, there is insufficient growth of a younger generation of leadership in Earth science education.

#### **B. Goal of the program**

To identify potential national leaders in ESE and provide them with a wide range of tools for raising the status of ESE in their countries.

#### **C. The program**

The GLESE program will provide its participants with a wide range of practical and theoretical tools for implementing the Earth systems approach with earth science and science teachers.

The program will include a 7-days workshop (in Israel) and online monthly meetings.

During the workshop, participants will experience and acquire the following facets of the Earth Systems Approach:

- Inquiry-based learning.
- Adjusting the learning for a variety of learners with different competencies.
- Integrating the outdoor environment as an integral component of the learning.
- High-order thinking skills such as System thinking and Logic thinking.
- Environmental insight.
- Lesson plans and innovative educational resources.
- The emotional and social aspects of learning and the learning instinct

Then, the participants will submit a work plan with a schedule for implementing ***The Earth systems approach*** in their education schools.

During the implementation phase of the work plans, the participants will present their progress and the difficulties they encounter. After each presentation, a discussion and brainstorming session will be held regarding possible solutions to the problems that will be raised.

If the budget will allow us, the program will be concluded in a physical workshop where participants present their outcomes and conclusions.

#### **D. A pilot**

A pilot of about 10 participants will be conducted in 2023.

#### **E. Who are we looking for?**

Earth Science Education is a profession. Thus, educational leadership can only rely on a solid practical and theoretical background—the ability to accomplish what you are preaching for by modelling.

The GLESE is designed for Earth science teachers and researchers who can demonstrate ability and vision.

Educational leadership in Earth sciences also includes creating an active and effective support of leading geoscientists to convince the Ministry and the Minister of Education to incorporate it within the curricula.

Thus, the program will also be open to geoscientists with an educational vision who want to get the tools to act and contribute to raising the status of Earth science education in schools.

The new generation of leaders will be designated from the following three resources:

- Early-career ESE researchers.
- National exemplary ES teachers.
- Geoscientists who are keen on promoting ESE at the school level.

#### **F. Application and criteria for selecting the suitable candidates.**

All those who consider themselves suitable candidates for the program are invited to submit the following documents to [nir.orion@weizmann.ac.il](mailto:nir.orion@weizmann.ac.il):

1. CV
2. A motivation letter with this information:
  - My experience in contributing to the promotion of ESE in schools.
  - My vision of ESE in schools (0.5-1 page).
  - What do I expect to gain from participation in the GLESE program?

## NTFI in Spain 2022

This review was written by: Anna Anglisano, Xavier Juan, María Álvarez, Amelia Calonge and David Brusi

For this second edition (2022) of the National Team Field Investigation (NTFI), our team decided to prepare it much in advance than for the previous IESO 2021. Our evaluation of the 2021 IESO showed that, for our students, this was the most motivating activity and the one that they enjoyed at the most. On the other hand, they found it very stressful, and they felt that they didn't have time enough to plan their work since the moment they were proposed the issue to investigate until the moment of their presentation. Note that all the NTFI work was done during the International Earth Science Olympiad (IESO) simultaneously with other activities like the Data Mining Test (DMT), the Earth System Project (ESP) and the game Mission to Mars.

### Andrés Mirat, one of the Spanish IESO 2022 Team, comments:

*"It was a very good experience, even if it was not entirely face-to-face. In our case, we were able to get together and this led to excursions and outings, which together with the company of both students and teachers, were among the strongest points of the Olympiad.*

*Regarding the tests, most of them were interesting and with an extra difficulty in some of them due to the change of language"*



After discussing, our Spanish Team decided to organize the Spanish NTFI 2022 in four steps:

### First Step: 24<sup>th</sup> to 30<sup>th</sup> June 2022: A 7-day training course in Madrid

The aim of this course was to offer the students with a wide range of sessions to introduce the concepts they need to cope with during the IESO. Some of these topics are not part of the Spanish curriculum like, for example, Astronomy. Another main goal is to make them to know each other and the mentors as this is crucial during the IESO days: a good working atmosphere and to get used to teamwork is not a minor benefit of the IESO.

During the course we introduced them to this years' case study (how to address the problem, the geological context). They also discussed about the methodology to be used to solve this year problem.

We also trained them about how to prepare a presentation about a scientific problem and we encouraged them to start working in it before the IESO days.

**Andrés Palomino, one of the Spanish IESO 2022 Team, comments on this:**

*"Some time before the celebration of the IESO 2022, we started to prepare for it. This preparation consisted in an intensive one-week course in Madrid. There, we were trained by university teachers, senior geologists (GeoSen) and the Spanish IESO mentors. They put us in contact not only with Geology, but with a wide range of Geosciences: hydrology meteorology, and the study of the different Earth Subsystems and the relationships among them. In my opinion, all this knowledge was very useful when addressing the different challenges of the IESO 2022. But it was not only knowledge, but also **strengthening the friendship links among all members of our national team**. In our free time (not very much, indeed) we could not only comment on the training activities of the day, but also talking with each other.*

*After this training week in Madrid, we spent about two months working at home and starting to think about how we could present our NTFI results on-line during the IESO. Anyway, the topic of our investigation was not that clear and many ideas of this lapse of time weren't used during our presentation as we had to introduce many modifications to the previous ideas."*

### Second Step: 24 August to 1 day before IESO 2022

The field investigation was focused on a phreatomagmatic eruption that took place near the village of Canet d'Adri (Girona, Spain). We chose this place because the Spanish team (students and mentors) were together during the IESO at the Residence Montilivi of the University of Girona. Thus, like in 2021, we had the opportunity of having together the Spanish team.

We were lucky to get funding to hire a taxi that took us to all the places we visited during these days, and, for example, it took us to several outcrops. This easy mobility allowed us to get to know well the geological context and to take measures in the outcrops of the pyroclastic flow. That same day, in the afternoon, the students could work with the data and start to prepare their presentation.



Again, more comments by Andrés Palomino:

*“Finally, by the end of August, the day to go to Girona had arrived. The IESO 2022 was about to start. We spent our first IESO day to take samples and make measures on the field that we would need for our NTFI. We collected samples from different outcrops; this would allow us to recognize any type of rock present in the pyroclastic flow that we were to analyse. A beautiful river flew across the pyroclastic flow; this river has given origin to a unique ecosystem. Thus, **while measuring the sizes of the different clasts, we could enjoy the beauty of the spectacular landscape**. However, we had to fight with the very high temperatures of one of the hottest days of the week (...and the whole year!). Luckily, with the help of our IESO umbrellas and the water of a nearby spring, we were able to enjoy of an excellent field day.”*



### Third Phase: 25<sup>th</sup> to -31st August 2022 – During IESO

During the IESO there were a lot of on-line activities programmed by Italy, the coordinating country. Nevertheless, the Spanish team of mentors also organized short trips around Girona. These trips had a cultural or even gastronomical flavour, but always from the point of view of the Earth sciences. Thus, our programme was really dense so that we recommended our students to take advantage of the late hours in the night in order to prepare their NTFI presentation.

Just the day before the presentation of their NTFI, we suggested them to perform a simulation in order to check their abilities with the language (a major challenge for some of them), the technology, the audio control, etc.

#### Once more, the impressions of Andrés Palomino:

*“The following days were also very interesting; not only because of the work that we were doing during the mornings, but also because of the organized trips we did in the afternoon/evenings. Every day we went to a different place and all of them had a very particular interest. However, **our days didn’t finish after these trips because we had to use part of the nights to go on with the NYFI work. For me, this was the worst part of the experience as we had to lose many sleeping time in order to produce the slides... anyway it was worth!**”*

*As the presentation day approached, we started to rehearsal how to explain our research. This was a little bit frustrating because we had sound and ICT problems... but, step by step, and with the collaboration of all the team, we were able to finish our project. **We felt satisfied with the final result.”***



#### Fourth phase: Presentation of the NTFI

We did several previous rehearsals of the presentation. Despite the time invested in it, we couldn't avoid several connection failures. Our mistake was to make the previous tests with GoogleMeet instead of ZoomMeeting. In the moment of the presentation the computer we had to use failed and the students didn't have Zoom installed in their laptops...

Nevertheless, the fact that we had previously tested the presentation allowed our students to keep calm despite the technology failures that we had to face.

The Spanish mentors and the whole Spanish organizers are very proud of the work our students developed and we know that for them it was a wonderful experience: their effort brought them to a personal reward despite some difficult moments.



Another comment by Andrés Palomino and how he lived these days:

*“The last task we had to do was to present it to the IESO Jury; it run smoothly except for some minor technical problems.*

*Once finished all the activities we went for some field trips. Nevertheless, the best thing was to be all together during the nights, like we did in Madrid: **we strengthened our friendship, and we had the opportunity to know the surroundings of Girona with so many secrets and hidden wonders.**”*



As a summary, the NTFI is one of the preferred activities for the Spanish IESO students. For us, national mentors and coordinators, it's a big challenge to find appropriate topics for them. Although we strongly expect the next IESO to be in person and the NTFI becomes again the ITFI (International Team Field Investigation) we hope that whatever its modality (NTFI or ITFI) it remains forever linked to the IESO. When we ask our students to summarize what NTFI means to them, they usually answer in the same sense: a very interesting and amusing activity. However, the most valued aspect of it is to share this experience with their colleagues and mentors.

**This is the way Manuel Céspedes, another Spanish IESO 2022 students, talks about it**

*“The NTFI is one of the best activities in IESO. I found it amazing: we had to be in the position of researchers and gather samples and data in order to obtain our results. It was a very amazing activity: we had not only*

*to investigate, but also to get to know new places and I really enjoyed working with my mates and mentors."*

## **IESO 2023 Announcement**

IESO 2023 will be organised **online** by **IGEO** during **August 2023**. (Exact dates and schedule to be announced later). It will comprise of National Team Field Investigation (**NTFI**), Earth System Project (**ESP**), Data Mining Test (**DMT**), **IESO Pledge** and **Art in Earth Sciences**.

Each country can send a team with a **maximum of eight students, two mentors and two observers**. However, there may be restrictions on how many students can participate in a given activity. **Six guest students** may participate but will not be eligible for any medal/prize.

Registration fee will be **1000 Euros** per country. Third World and other countries that are unable to find enough financial resources can make a request for **fee waiver**. Depending on finances, registration fee may be waived fully or partially.

Other details will be as per **IESO statutes** (<http://www.igeoscienced.org/activities/ieso-2/>)

We will post you with more details as we make further progress.



## REPORT OF ACTIVITIES

The **Geological Science for Sustainable Development (SG2D)** NGO, an association of young geologists and environmentalists in Togo (West Africa) is the first organization or association that promotes not only Geosciences but also Astronomy in Togo. It was created in August 2017 and aims to promote, popularize and value Geosciences and Astronomy among the Togolese population in general and among pupils and students in particular. It works to bring its contribution to the improvement of the teaching of Geosciences in the Togolese educational system.

Since its creation, our association does not cease to multiply actions of sensitization, education and scientific culture around the sciences of the Earth and the Universe in Togo.

The activities of the NGO SG2D are therefore of two kinds: activities related to Geosciences (primarily) and activities related to Astronomy (secondarily).

### ACTIVITIES RELETED TO GEOSCIENCES

Given that the Earth sciences are unknown and marginalized in Togo, our activities began in earnest **in 2018**, by raising awareness and practical workshops in schools (1st and 2nd cycle of secondary) and at the University of Lomé (Department of Geology).

**From 2019**, we began to organize for secondary school students (first and second cycle), a national competition in Earth Sciences whose objective is to take students on the one hand, to be interested in science in general and Earth Sciences in particular, and on the other hand, to cultivate excellence in the field of Earth Sciences and to be more competitive on the national, regional and international level. Thus, we succeeded in organizing the 1st edition of the “**Togolese Earth Science Olympiads**” in April 2019 (**TESO 2019**) with a participation of **08 schools** in the final phase and about **90 candidates**.

***TESO 2019: 08 schools in the final phase (left) and the course of the tests (right)***

The candidates underwent three types of tests: an oral test, a written test and a practical test. At the end of the tests **15 winners** were selected to receive their awards according to the level of excellence: bronze, silver and gold medals.





**TESO 2019: Photo of the winners on the left and photo of the winner (gold medal) on the right**

Due to the pandemic situation of covid-19, we were not able to organize face-to-face events in **2020**.

Only online events were held.

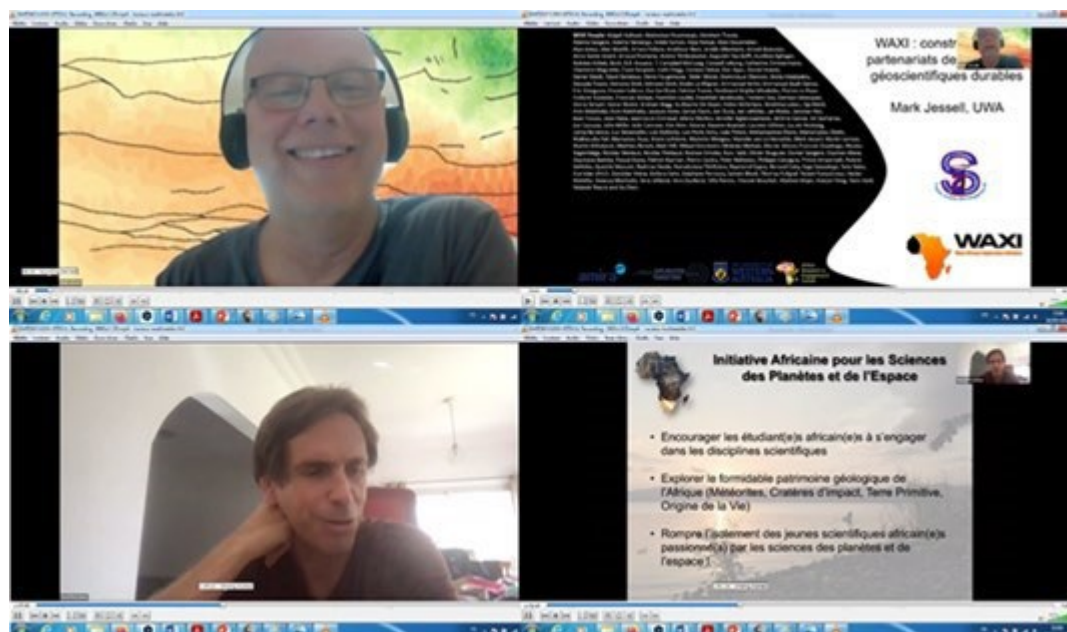
In **2021**, the activities resumed, and we were able to organize the 2nd edition of the "**Togolese Earth Science Olympiads (TESO 2021)**" in **December 2021**. TESO 2021 saw the participation of **08 schools** in the final stage with about **150 candidates**. After a written test, **08 winners** were chosen to receive their prize.

A particularity of this second edition of the *Togolese Earth Science Olympiads* is the endowment of a case of rocks and fossils to each of the 8 schools that participated in the final phase of this competition. The objective is to promote the practical teaching of Earth sciences in the schools of Togo which until now is almost absent.



***TESO 2021: Photo of the winners on the left and a family photo with the rock and fossil kits offered to the schools (right)***

In order to better sensitize the Togolese population on the importance and the merits of Earth sciences and their contribution to the development of a country, we had devoted, for the first time, 4 days to organize a festival of Earth sciences and environment entitled "**Geological Days in Togo (JG-TOGO 2021)**" in December 2021, which are placed under the theme: "**Georesources, Geo-hazards and Environment**". This initiative has attracted a large number of geoscientists both national (05) and international (10). The activities of JG-TOGO 2021 were organized in hybrid mode (online by videoconference and face-to-face) and was a real success. The online conferences were animated by international geoscientists coming from different countries (France, Australia, Belgium, Haiti, Spain...), and the face-to-face conferences were animated by national geoscientists.



### ***Some online interventions on JG-TOGO 2021***



*Speakers' interventions in face-to-face during the JG-TOGO 2021*

## **Activities related to Astronomy**

Our activities in astronomy are among others observation sessions of the sky (Moon, planets...) using our telescopes, the organization of online conferences as for example the organization of the "Days of Discovery of Astronomy in Togo in July 2021 (JDA-TOGO 2021)", the organization of online training workshops in astronomy, astrophysics and astrobiology etc.

The biggest astronomical event we organized was the Astronomy Education and Awareness Tour called "TOGO UNDER THE STARS". It is a travelling astronomical event organized from March 13 to 27, 2022 in collaboration with SPACE BUS FRANCE, a French association of astronomers and astrophysicists who made the trip to Togo for this event. In summary: six (6) big cities of Togo were crisscrossed from North to South, 10 schools visited, 2 activities for the general public and about 10 000 people reached.



***Awareness in the streets of Lomé and invitation to observe the Moon with our telescopes***

### ***TOGO UNDER THE STARS: Visits to schools and public places from North to South***

The road traveled so far by the NGO SG2D in the sensitization, popularization and education in Geosciences as well as in Astronomy is full of pitfalls (lack of financial and logistical support) but remains salutary and positive considering that these two magnificent domains are not really known and especially are marginalized by the Togolese population. Hearts are being conquered and continuous events are essential to hope to be able to truly reach our goals.

We take the opportunity to inform everyone that a second edition of the **"Geological Days in Togo (JG-TOGO 2022)"**, the festival of earth sciences and environment is planned on **December 7 to 10, 2022**. They will be organized in collaboration with the Department of Geology of the University of Lomé, as an international symposium primarily in face-to-face mode in Lomé, the capital of Togo. We also plan, one day online activities. This edition will be placed under the theme: **"Geological Sciences for Sustainable Development"** and will be coupled with the organization of the third edition of the **Togolese Earth Science Olympiads (TESO 2022)**. We expect the support (financial, logistic and technical) of the whole geoscientific community to make this event a real success in TOGO.

## 9<sup>th</sup> GeoSciEd

As if to signal the end of the Covid-19 pandemic, the 9th International Conference on Geoscience education (GeoSciEd IX) was grandly held in Matsue City, Shimane Prefecture, Japan, from August 21 to 24, 2022. It was the first conference in the history of GeoSciEd to be held in an online/in-person hybrid format. All oral presentations were streamed worldwide via Zoom and e-Posters were displayed on the official website. Fourteen participants from eight foreign countries could land in Japan to meet old and new friends in-person at the venue and more than 100 participants had registered to join the conference online. Japanese participants numbered more than 150, including the high school students who study Earth science at the school. In each session of oral presentations, there were active discussions on the future of earth science education, pedagogy, STEAM education, etc., and 20 presentations were made in person and 13 presentations were made online from outside the venue.

Due to the time difference, GeoSciEd IX was held from 7:00 p.m. to 10:00 p.m. Japan time, so the 76th Annual assembly of the Japanese Society for Earth Science Education was held during the daytime hours. Honorary awards were presented to Chris King and Ian Mckay at the IGEO Assembly held on Aug. 22. Australia and Morocco gave presentations as candidates to host the next GeoSciEd. Council members voted to hold the 10th GeoSciEd in Australia in 2026. Almost fifty participants enjoyed the conference dinner at Matsue Vogel park, a theme park of flowers and birds. The Covid-19 pandemic has changed the way of life of people around the world, but the GeoSciEd IX reminded us once again that getting together with colleagues, walking together in the field trips, and having face-to-face discussions is truly a valuable and irreplaceable experience. See you all in person at the 37th IGC 2024 (Republic of Korea) and GeoSciEd X 2026 (Australia).









