



**VIII GeoSciEd 2018 –
the 8th International Conference on
Geoscience Education (GeoSciEd)
– Geoscience for Everyone –**

**VIII Simpósio Nacional de Ensino e História de
Ciências da Terra / EnsinoGEO-2018**

– Geociências para Todos –

July, 22nd - 27th, 2018
Campinas – Sao Paulo – Brazil

1st CIRCULAR / Call for Papers
1^a CIRCULAR / Chamada de Trabalhos

The complex relationship of humanity with nature challenges the natural heritage and biodiversity, in a continuous and omnipresent way. We are witnessing the sixth major mass extinction of species as result of agriculture, urbanization, hunting, logging, mining and other activities, but humankind has not yet fully understood the magnitude of the threat. All over the world, population growth and the legitimate search for better living conditions stimulate habitat changes, continuous exploitation of natural resources and occupation of new territories. There is no natural surface space of the planet that has not been touched, examined or investigated by the powerful devices created by Science and Technology. This scenario creates situations of instability and future threats that require more scientific investigation, in order to develop new knowledge, as accurately as possible. The relevance of the Geosciences emerges from this picture, since geoscientists develop a systemic view of the natural processes, landscapes, and geological and biological heritage in which human actions are involved, encompassing all their consequences.

Brazil is lacking basic education teachers trained to deal with these and other issues that permeate the news media and increasingly invade curricula and teaching subjects. At the same time, there is a shortage of specialized human resources in the Geosciences, in many activities essential to contemporary society. In recent years, new undergraduate courses in Geology have been created in Brazil, and postgraduate programs have been expanded, helping to overcome the challenge of training and qualifying geologists and other professionals of the Earth Sciences. There is, however, a lot of uncertainty about the direction of training and the fields of work. Improving the quality of undergraduate courses is a permanent challenge.

Geoscience for everyone is the central theme of both conferences, given the understanding that Geosciences help to build the cultural panorama of each community.

We invite you to actively participate in the next edition of two simultaneous events, to be held in Campinas in 2018 – the 8th International Conference of the International Geoscience Education Organization (IGEO) / **VIII GeoSciEd 2018**, and the 8th National Symposium on Teaching and History of Earth Sciences / **EnsinoGEO-2018**. We must seek ways to make the knowledge of Geosciences effectively reach people in general as well as national government officials. This will help mitigate effects that some media vehicles

exploit sensationally and irresponsibly.

The ***EnsinoGEO-2018*** and the ***VIII GeoSciEd 2018*** will stimulate the participants to present, to debate and to build the current state-of-the-art picture of Earth Science education in the world, Brazil and Latin America. Original reports, experiments and contributions are expected to be discussed.

The organization of the two events was only possible thanks to the integrated effort of the Graduate Program on Teaching and History of Earth Sciences (PEHCT) of the Institute of Geosciences of Unicamp (IG-Unicamp, Brazil) in collaboration with the International Geoscience Education Organization (IGEO). Research and teaching teams from various Brazilian universities and cities across the continent decided to add their competence and expertise to promote, for the first time in Latin America, an event of the magnitude of the 8th Quadrennial Conference of the International Geoscience Education Organization (IGEO).

The organizing committee is composed of PEHCT teachers and students, together with experts and professionals directly involved in international organizations, such as IUGS – *International Union of Geological Sciences*, IGEO – *International Geoscience Education Organization*, INHIGEO – *International Commission on the History of Geological Sciences*, AEPECT – *Asociación Española para la Enseñanza de las Ciencias de la Tierra*, AGID – *Association of Geoscientists for International Development*, IAGETH – *International Association for Geoethics* and IAPG – *International Association for Promoting Geoethics*.

The decision of promoting a coincidence between the two events will contribute to address the above-mentioned problems in different levels: the world, Brazil and Latin America, by discussing trajectories and perspectives of research and teaching of Geosciences, and by establishing links with the History of Natural Sciences. We plan to bring together researchers, teachers, students and the local population in different types of activities, including workshops, courses, lectures, plays, educational activities, debates and field trips. Increasingly, the teaching of Geosciences makes and consolidates connections with computer science, mathematics, physics and chemistry, and applications in mineralogy, petrology, geophysics, geochemistry, mineral exploration, soil conservation, geology of energy resources, among other disciplines, so that future professionals of Geology and the Geosciences can meet the increasingly complex and sophisticated demands of the future.

The curriculum of elementary and high school teaching faces several types of challenges, in trying to relate the Twenty-First Century knowledge of the Earth with the construction of an **environmental** responsibility or even an **ethics of the Earth**. What challenges are these? How to promote a liberating education, capable of strengthening a critical and constructive view of the dynamics of today's societies? How should the concepts of Earth Sciences in today's scientific-technological education be addressed? Does it make sense to include the growing geoconservation and preservation of geobiodiversity movements in schools in general? What are the most effective strategies in dealing with so many competing themes? How to combat the plague of modern times: consumerism, which causes a perverse correlation between the consumption-driven shopping basket of most countries and the devastating pressures on valuable natural spaces and previously untouched treasures? Are schools effective in building approaches that relate local, regional and planetary problems? Is the geological history of the planet in any way related to the controversy of anthropogenic global warming versus natural climate change? How strong are the connections between global dynamics and issues such as degradation of water resources, consumption of natural and energy resources, soil and

rock landslides, erosion and loss of fertile/cultivable land?

The **EnsinoGEO-2018** and the **VIII GeoSciEd 2018** invite those interested to reflect on **Education and Teaching in Geosciences and History**: what the Earth Sciences have to say about the fast human population growth, concentrated in giant, interconnected cities with huge demands on energy and resources from the mineral world?

This scenario requires firm and purposeful actions by geoscientists, in order to analyse and understand the reciprocal pressures exerted by human lifestyles and nature, and to build a culture that recognizes such effects. At a time when new initiatives are emerging on the horizon, such as the definition of themes to comprise the basic education curriculum, **EnsinoGEO-2018** will offer rich material for debate on curricula, research programs and the dissemination of Earth Sciences, as well as reports on the results of innovative actions.

At any level of education, training in Geosciences should lead students to understand the earth environment and the effects of human actions, to develop democracy, and to act on behalf of responsible citizenship. In order to enable a broad and comprehensive debate, **VIII GeoSciEd 2018** will provide a continuous examination of teaching materials (from elementary school to higher education), curriculum models, curricula, and contents of basic education in various regions of the globe. By putting into perspective topics that involve knowledge of nature, windows are opened to address central issues of history, teaching and learning.

Annals of the previous editions

| | |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| PEHCT 2007 | http://www.ige.unicamp.br/lrdg/pehcto7.html |
| PEHCT 2009 | http://www.ige.unicamp.br/lrdg/pehcto9.html |
| EnsinoGEO 2011 | http://www.ige.unicamp.br/lrdg/pehct11.html |
| EnsinoGEO 2015 | http://www.acquacon.com.br/geosudeste/anais.php (complete version or ST06) |
| EnsinoGEO 2016 | http://sbg.sitepessoal.com/anais48cbg/ (abstracts of ST24) |

A Brief History

GeoSciEd

The first international meeting of geoscientists concerned with education and training in Geosciences was promoted by the IUGS – International Union of Geological Sciences. The congress was held in Southampton, UK, in 1993. The second and most exciting event of the series was held in Hilo, Hawaii, USA, in 1997. In 2000, the third event was held in Sydney, Australia. At the time, the community decided to create the **International Geoscience Education Organization (IGEO)**.

The history of GeoSciEd quadrennial meetings is as follows:

1993

International Conference on Geoscience Education and Training, **GeoSciEd I**, Southampton, UK.

1997

Second International Conference on Geoscience Education. Learning about the Earth as a System. **GeoSciEd II** @ Hilo, Hawaii, USA.

2000

International Conference on Geoscience Education. GeoSciEd III dedicated to teaching and learning. **GeoSciEd III** @ Sydney, Australia.

2003

GeoSciEd IV Conference. Earth Science for the global community. **GeoSciEd IV @** Calgary, Canada.

2006

5th International Geoscience Education Conference. Earth Science for the global community. **GeoSciEd V @** Bayreuth, Germany.

2010

6th Quadriennial Conference of the International Geoscience Education Organization – GeoSciEdVI – Geoscience education – developing the world. **GeoSciEd VI @** Johannesburg, South Africa.

2014

The 7th Quadrennial Conference of the International Geoscience Education Organisation. **GeoSciEd VII @** University of Hyderabad, Hyderabad, India.

2018

The 8th International Geoscience Education Conference. Geoscience for Everyone. **VIII GeoSciEd 2018 @** Campinas, Sao Paulo, Brazil.



The articulation between History, Education and Teaching of Earth Sciences

The historical character of the knowledge regarding the Earth is especially suitable to build models of reasoning applicable to nature, as well as to many areas of science and technology. It is essential to understand the explanatory models adopted by the Natural Sciences from the 16th to the 21st centuries, and to evaluate how they have been treated in Brazil and Latin America. This argument justifies the importance of a deeper focus on Geoscience education, teaching and history. In the heart of this debate, the curricular traditions and the human context in which science is developed develop naturally.

The organizers of the event invite researchers, teachers and students to discuss the most relevant aspects of their recent production on related themes. Results of research, reflections and experiences regarding knowledge of the planet, geared towards a new attitude towards the world, are welcome. The intent is to bring specialists to examine and discuss what is being done, in terms of teaching and research in the areas of knowledge that comprise the Symposium. Among the expected results are indications of trends and perspectives for the development of Geosciences knowledge and research in Brazil. Suggestions for lecture themes and activities to be offered to teachers, students and the population of Campinas and cities in the region are welcome.

Thematic lines

The event covers research and experiences related to Education, Teaching and History of Earth Sciences in the following themes:

- Geosciences in Higher Education

- Environmental Education, Education for Sustainability and Geoethics
- Geosciences and Science, Technology, Society and the Environment
- Geosciences and Natural Sciences for Basic Education
- History of Natural Sciences
- Education, Teaching of Geosciences and Teacher Training
- Communication and Dissemination of Geosciences
- Technology and Educational Innovation
- Geoconservation, Geotourism and Geoheritage

Workshops on Geoscience Teaching for Brazilian teachers of basic education are already scheduled.

Inscription Fees

| Prices in US\$ dolar - GeoSciEd 2018 | Conference delegates | Undergraduate students | Graduate students | Teachers of public schools |
|-------------------------------------------------------|----------------------|------------------------|-------------------|----------------------------|
| Early Bird until July, 2017 – anticipated inscription | 150.00 | 75.00 | 75.00 | 50.00 |
| After July, 2017 until March, 2018 | 250.00 | 125.00 | 125.00 | 75.00 |
| After March, 2018 | 320.00 | 160.00 | 160.00 | 100.00 |

Accompanying person: 15% of the corresponding inscription fee at the payment date.

Sponsor

SBG – Brazilian Society of Geology

Realization

IGEO – *International Geoscience Education Organization*

IG-Unicamp – Geoscience Institute Unicamp

PEHCT – Graduate Program on Teaching and History of Earth Sciences / Unicamp

AEPECT – *Asociación Española para la Enseñanza de las Ciencias de la Tierra*

AGID – *Association of Geoscientists for International Development*

FNCG – National Forum of Geology Courses

IAGETH – *International Association for Geoethics*

INHIGEO – *International Commission on the History of Geological Sciences*

IUGS – *International Union of Geological Sciences*

EACH-USP – Arts, Sciences and Humanities School

Febrageo – Brazilian Federation of Geologists

IGc-USP – Geoscience Institute

UFRGS – Geoscience Institute

UNIFESP – Federal University of Sao Paulo

PUC-SP – Pontifical Catholic University of Sao Paulo

DeVry Group

CPRM – Geological Survey of Brazil

UNESCO – United Nations Educational, Scientific and Cultural Organization

UFRJ – Geoscience Institute

UFPEL – Engineering Center of the Federal University of Pelotas

Organizing Entities

MCI / Acqua Consultoria

Possible formats for submission

The **program** will include lectures, round tables, didactic workshops, coordinated sessions of oral panels or oral communications, as well as field activities in the region and cultural activities. Several workshops and lectures will be designed for teachers of the Campinas region.

How you can participate:

- as a participant

- as an article presenter and / or the party responsible for a workshop

The works can be:

- unpublished results of research already completed;

- partial results of ongoing research;

- additional results of a research already published, indicating where it is available;
- reports of educational and popularization of science experiences.

Fieldwork

The **GeoSciEd** congress and the **EnsinoGEO** symposium will be full of fieldwork alternatives: pre-conference, during-conference and post-conference. The activities will be offered to both national and foreign specialists, as well as to students and Brazilian teachers of basic education. The accumulated experience of previous events indicates that this type of interaction is highly stimulating and promotes the creation and strengthening of long-lasting links of research, scientific exchange and friendship.

Proposals received to date include the following routes:

Pre-conference Fieldtrips

- Geology, landscape, culture and history: Geotourism and education on the coast of São Paulo. Period: 19 to 21/07/2018 (it requires a 2-night stay)
- Proterozoic deserts and mining in Diamantina (Serra do Espinhaço, Minas Gerais): connections between science, education and history
Period: 19 to 21/07/2018 (it requires a 2-night stay)

During-conference Fieldtrips

[Duration 1 day: 07/27/2018. The inscription fee is included in the registration fee].

- Urban Geotourism in São Paulo city
- Ancient roots of a mountain range resulting from the Brasiliano cycle: the São Roque Group
- Events of volcanism and glaciation in the region of Campinas-SP
- A look at the economic history of the State of São Paulo: from an imperial coffee farm to modern ceramic and agroindustrial production

Post-conference Fieldtrips

- "Darwin Trails", a scientific, educational and cultural touristic route in cities of the State of Rio de Janeiro
Period: 28 to 01/07/2018 (it requires a 4-night stay)

Educational workshops

During the **VIII GeoSciEd 2018** it is planned to offer a didactic workshop "GIFT-Geoscience Information For Teachers", aimed at Brazilian teachers of basic education.

Further workshop proposals shall have:

A clear and concise title in English. Full name of authors, institutional and electronic addresses and, if applicable, funding agencies. Abstract of 400 to 900 words. Keywords (3 to 6). The level of education for which the workshop is designed should be indicated, as well as the type of activity (game, experimental activity, audiovisual etc.), and the specific conditions under which it was tested. The existing infrastructure and facilities for fieldtrips, as well as the level of health challenges/difficulties must be clearly stated.

Papers for Oral Communications or Panels shall have:

A clear and concise title in English. Full name of authors, institutional and electronic addresses and, if applicable, funding agencies. Abstract with a maximum of 200 words (please download the *template* from the website). Keywords (3 to 6) accompanied by their English version. The thematic line to which the article belongs must be indicated. Full text with a minimum of 3 and a maximum of 10 A4 pages, 1.5 line spacing, Times New Roman size 12, all margins of 2.0 cm. Complete papers may be published in special editions of the journals *Terræ Didática*, *Terræ* and *Geologia-USP Didactic Series*.

Calendar

SAVE THE DATES!

| Activity | Scheduled Date | Year |
|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|------|
| Circular 1: Call for papers [Download here] | March 15 th | 2017 |
| Circular 2: Second Circular and Call for Papers and Workshop proposals [Earlier deadline!] | July 20 th , 2017 | |
| Submission of papers and workshop proposals | July 20 th – Nov. 30 th | |
| Earlybird Registration with discount | September – November | |
| Deadline for paper submissions | November 30 th | |
| Circular 3: Conference Fieldwork and Cultural Activities | February 28 th | 2018 |
| Deadline for the evaluation process of papers | February 28 th | |
| Deadline for definition between oral and poster presentations of papers | March 20 th | |
| Circular 4: Results of Evaluation of Papers and Workshops | March 30 th | |
| Deadline for registration of authors / paper cancellation | April 30 th | |
| Advanced registration in workshops and fieldtrips | June 1 st | |
| Circular 5: Definitive Program and Abstracts | June 1 st | |
| Deadline for on-line Registration | July 12 nd | |
| Pre-congress fieldtrips | July 19 th – 21 st | |
| Congress meetings | July 22 nd – 26 th | |
| During-congress fieldtrips | July 27 th | |
| Post-congress fieldtrips | July 28 th to August 1 st | |

<http://www.acquacon.com.br/intranet/login.asp?idioma=EN&idevento=240&menu=0&ultimoid=0&controle=0>

With the exception of the rules for manuscripts in Portuguese, exclusive to **EnsinoGEO-2018**, the event will comply with the PAPER SUBMISSION

GUIDELINES of the site of the **VIII GeoSciEd 2018**:

- On the site, you can download a **template** for publishing a paper. The publication of any manuscript should follow the standards described in this **template**.
- Each paper can have up to 7 (seven) authors.
- Authors may submit as many papers as they wish, but for the purpose of presentation at the congress and publication in the Annals, only 2 (two) papers per inscription will be allowed to be linked and validated.
- The page settings for an Extended Abstract (3-4 paper sheets) or a Full

Paper (5-10 paper sheets) correspond to: A4 sheet; Margins (top, bottom, right and left) of 2.0 cm; single spacing.

- Papers that do not respect the guidelines will be automatically discarded, without going through the evaluation of the Session Coordinators and Scientific Committee.
- During submission, a single Word® file formatted in accordance with the Paper Submission Guidelines must be attached.
- The evaluation of the Extended abstracts will be carried out by the Session Coordinators and the Scientific Committee, taking into account: (i) the connection of the extended abstract to the theme of the Symposium or Technical-Scientific Session; (ii) level of presentation of an original technical-scientific contribution; (iii) lack of conceptual errors; and (iv) that the extended abstract does not represent a

proposal or intention to perform a particular study without presenting results.

- The approved extended abstracts may be subject to possible corrections. After the end of the evaluation period, no type of correction or replacement of the file will be allowed. Any mistake, whether typing, spelling etc., will be the sole responsibility

of the author(s).

- The presentation format chosen by the author (panel or oral) will not be the final format of the presentation. The presentation format will be defined later by the Session Coordinators and the Scientific Committee

Useful Links

Map of the campus:

<http://www.internationaloffice.unicamp.br/english/unicamp-campus-map/>

Submissions:

<http://www.ige.unicamp.br/geoscied2018/en/submissions/>

<http://www.acquacon.com.br/intranet/login.asp?idioma=EN&idevento=240&menu=0&ultimoid=0&control=0>

Website: <http://www.ige.unicamp.br/geoscied2018/en/>

Site to download the first circular:

http://www.ige.unicamp.br/geoscied2018/wp-content/uploads/sites/38/2017/03/GeoSciEd_2018_1_FIRST_circular_UPDATED.pdf

Secretary

Pedro Wagner Gonçalves (Unicamp) / Rosely Aparecida Liguori Imbernon

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Organizing Committee

Honour President

Guilherme de Oliveira Estrella

Chairman

Pedro Wagner Gonçalves

General-Coordinator

Rosely Aparecida Liguori Imbernon

Members/coordinators of subcommittees

Scientific Committee

Pedro Wagner Gonçalves

Technical-Scientific Committee

Chris King

Communication Committee

Celso Dal Re Carneiro

Cultural and Social Committee

Edson Roberto Souza

Fieldwork Committee

Denise de La Corte Bacci

Financial Planning Committee

Rosely Aparecida Liguori Imbernon

Infrastructure Committee

Antonio Carlos Vitte

International Exchange Committee

Roberto Greco