

COMMISSION ON GEOSCIENCE EDUCATION (COGE) OF THE INTERNATIONAL UNION OF GEOLOGICAL SCIENCES (IUGS)

TERMS OF REFERENCE

1. BACKGROUND

- 1.1 The IUGS Commission on Geoscience Education (COGE) is an international scientific Committee established by and acting under the auspices of the International Union of Geological Sciences (IUGS).
- 1.2 COGE is bound by the IUGS Statutes and the IUGS By-Laws for commissions.
- 1.3 The COGE was established in 2004 by the IUGS to examine and develop programs to assist developed and developing countries in maintaining, expanding, or providing better Earth Science education within their country.
- 1.4 Global surveys of geoscience education have shown variability and great scope for improvement worldwide. They show that around a third of countries worldwide do not have geoscience in their school curriculum; for those countries that do, it is common for schools not to follow curriculum guidelines related to geoscience, teachers of geoscience are not well supported, and the textbooks and teaching materials they rely on are of only moderate or inferior quality. In this regard, the most effective way to improve geoscience education is to target teachers and other educators, providing them with suitable teaching materials and especially training them on how to use these documents most effectively.
- 1.5 Experience indicates that geoscience educators can be sub-divided into five main groups:
 - 1.5.1 Teachers of geoscience in schools and colleges with solid geoscience backgrounds.
 - 1.5.2 Science or geography teachers who teach geoscience and have weak geoscience backgrounds.
 - 1.5.3 Teachers of geoscience in Higher Education.
 - 1.5.4 Providers of informal geoscience education.
 - 1.5.5 Researchers into geoscience education.

2. GOAL AND OBJECTIVES

2.1 The COGE's primary goal is to actively collaborate with other Commissions, organizations, and networks at all scales to develop activities and resources to support geoscience education across the globe.

2.2 Specific Objectives

2.2.1 Promote and coordinate Geosciences Education activities at the international, national, and regional levels: including research, workshops, conferences, and publications.

2.2.2 Establish a global geoscience education network that represents at least 2 representatives per country, as well as gender equality and a diverse age range among its members.

2.2.3 Develop and disseminate information and guidelines for good practice in Geosciences Education.

2.2.4 To support The Geoscience Education Field Officer Program

2.2.5 Under the sponsorship of the IUGS, establish and manage the "Chris King Prize" for outstanding geoscience educators worldwide.

2.2.6 Report the work performed and the plans and budget for the following year annually to the IUGS

3. STRUCTURE

3.1 The COGE Board will be formed by ordinary members and will be responsible for achieving the COGE objectives. It has the following structure:

3.1.1 A Chair,

3.1.2 A Vice-Chair,

3.1.3 A Secretary General-Treasurer

3.1.4 A webmaster

3.1.5 An editor and Social Media coordinator

3.2 COGE Ordinary Members:

- 3.2.1 The term for ordinary members is 4 years, and there will be one representative per country.
- 3.2.2 Have a record of demonstrated experience in Earth Sciences education or science communication.
- 3.2.3 Can nominate and sponsor an ordinary and associate member every year.
- 3.2.4 Will represent a Country in the Commission and have the right to vote on any proposals submitted to COGE.
- 3.2.5 Can elect the Board of COGE.
- 3.2.6 Can be eligible to be appointed for one of the positions on the Board.

3.3 COGE Associate Members

- 3.3.1 The term for associate members is 4 years, and there will be one representative per country.
- 3.3.2 Are representatives who show interest in contributing to and participating in the Commission's goals/projects.
- 3.3.3 Despite not voting, making nominations or being appointed in the Board, Associate Members benefit from COGE membership.
- 3.3.4 After 4 years being associate members, those with increased activities and publications on Geosciences' education and/or communication of Earth Sciences could apply to become Ordinary Members.

3.4 All members must adhere to the commission's terms of reference, ethos and goals, as well as practicing interpersonal geoethical values (Peppoloni & Di Capua, 2021) such as: honesty, integrity, conviction, transparency and respect for others.

4. BENEFITS OF COGE MEMBERSHIP

4.1 COGE members participate actively in:

- 4.1.1 The commission projects/activities

- 4.1.2 Promotion and diffusion of local/regional/national research initiatives on Geoscience education.
- 4.1.3 Publication of individual and collective works on Geosciences education.
- 4.1.4 Participating in international events aimed at improving the quality of geoscience education worldwide.
- 4.1.5 Creating a supportive space to exchange ideas and discuss collaborative projects related to geoscience education.

5. MEETING ARRANGEMENTS

- 5.1 The COGE Board will aim to hold virtual meetings every two months but may call for extraordinary sessions at any time.
- 5.2 A virtual meeting of ordinary members is desirable at least quarterly.
- 5.3 It is expected that COGE will organize and lead a general assembly / thematic meeting at the IGC.
- 5.4 Sessions and meetings related to COGE's objectives may be organized in collaboration with partner organizations.

6. DELIVERABLES

- 6.1 The annual work plan and budgetary proposal are the key deliverables of the COGE. The Commission will respond to and support the delivery of such materials, proposals, and designations through the approval processes detailed in these terms of reference (ToR).

7. RESOURCES AND BUDGET

- 7.1 COGE Treasurer will prepare an annual budgetary proposal to be submitted to IUGS based on the proposed annual work plan of the Commission.
- 7.2 Budget will focus on consolidating the position and role of COGE programmes in the context of other global and international programs
- 7.3 Under approval of IUGS COGE could provide financial support to activities involving direct communications/discussions with key global stakeholders if those are included in the annual budget allocation.

7.4 COGE will seek sponsorship for specific projects and activities when relevant.

8. ELECTIONS, BOARD AND MEMBERSHIP DURATION

8.1 The ordinary members will elect the first Board of COGE.

8.2 The following Board will be elected after three years of the approval of this ToR.

8.3 A quorum of at least 51% of the ordinary members' votes must be reached to determine the election of the COGE Board.

8.4 Each Board member could apply to the next election for only one consecutive term.

8.5 Ordinary Members should spend no more than two consecutive terms on the Commission representing their country. However, the Board reserves the right to extend this term when no suitable alternative candidates are available to produce the next election.

8.6 Former Board' members may continue supporting the new Board as advisors only If most of the Board members agreed. However, they do not have right to vote.

8.7 Elections will be organized every three years by the secretary general, who will call a task group to set up the elections.

8.8 All Ordinary Members must have returned a vote (including abstentions) on any Commission proposals.

8.9 Failure to respond to COGE consultations (e.g., voting on time and responding to communications) may result in membership cancellation.

8.10 When a voting process does not yield a quorum, the Board reserves the right to make a casting vote.

8.11 Any mid-term vacancies which may arise within the established Board period will be discussed and resolved at an extraordinary meeting of ordinary members.

8.12 Every four years (during the term of an elected Board), members (ordinary and associated) are asked to reaffirm their membership in COGE.

8.13 Activities considered inappropriate or in opposition to the Commission's ethos, aims, and values (item 3.4) may also result in termination or veto of the COGE membership.

9. CONTROVERSY SOLUTIONS

- 9.1 Any controversy arising from the application of this ToR, its interpretation, disagreements between members that may become subject to compromise and the resolution of complaints and ethical issues will be referred to the IUGS geoethics commission.
- 9.2 To regulate what is not specified in this ToR, all the rules laid and contained in the IUGS By Laws will be considered, recalled and transcribed.

10. SOCIAL MEDIA TOOLS

- 10.1 The COGE website is managed and updated, when necessary, by the commission editor and Social Media coordinator.
- 10.2 The website includes sections in which relevant documents (Annual Reports, meeting minutes, and others) and COGE activities will be posted and documented for transparency.
- 10.3 The commission activities will be disseminated through the COGE social media channels.

11. REVIEW OF TOR

- 11.1 The whole or part of this ToR can be modified every four years (on the appointment of a new Board) to ensure they remain relevant and effective in the context of the aim and objectives of the Commission.
- 11.2 Any proposed amendments will be subject to endorsement and approval by the IUGS Council.

12. REFERENCES

Peppoloni & Di Capua (2021). Geoethics to start up a pedagogical and political path towards future sustainable societies. *Sustainability*, 13(18), 10024.