



Newsletter



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Former CGI Chair Honored

At the opening ceremony of the 37th International Geological Congress in August 2024 in Busan Korea, Dr. Kristine Asch received the International Union of Geological Sciences (IUGS) James M. Harrison Award for distinguished service to the Union. The medal was presented by IUGS President Professor John Ludden. Dr. Asch received the award for her service to the international geological community, the promotion of international cooperation especially in geoscience information, and coordination of international digital map projects. She played leadership

roles in the Geoscience Information in Africa (GIRAF) network and was IUGS Vice President from 2016 to 2020. “It is an extraordinarily great honour to receive this significant prize of the IUGS today and I am very happy!” said Dr. Asch. In her speech, Asch thanked the IUGS for the award, as well as the BGR, the many colleagues, friends, and family for their support. - BGR

CGI role

The CGI role is to foster the interoperability and exchange of geoscience information, by active community leadership, collaboration, education, and the development and promotion of geoscience information standards and best practice.

We strive to ensure that geoscience information can be exchanged, understood, and used without limitation, that geoscience information can be readily integrated with standards-based information from other knowledge domains, that geoscience information is semantically rich and structured to enable seamless interaction in all environments, and that global education about the management, modelling, exchange, and use of geoscience information enables its best possible application, for the benefit of all society.

CGI Four Year Report

Since 2020, CGI has been active in fulfilling its role in facilitating the discovery, exchange, and use of geoscience information.

New Chair Harvey Thorleifson is a University of Minnesota Professor, and was State Geologist of Minnesota, Director of the Minnesota Geological Survey, Association of American State Geologists Information Committee Chair, and Geological Survey of Canada Research Scientist.

The council met online - 3 times in 2020, 4 in 2021, 4 in 2022, and 4 in 2023 including our 1st

in-person since 2019. We have 531 members in 82 countries, a Chair, Past Chair, Secretary General, and Treasurer; Councilors are from Australia, Botswana, Brazil, China, France, Japan, NZ, Slovenia, UK, and USA.

CGI hosts or co-hosts the IUGS Deep-time Digital Earth (DDE) Standards Task Group (DDE-STG) plus five working groups, and we coordinate with partners such as the Open Geospatial Consortium (OGC) and Codata.

Each year, the website and flyers were updated, news submitted to IUGS, and a Newsletter produced. The secretariat is at China Geological Survey, and the bank account is in New Zealand.

In 2021, in addition to ongoing activity by the workgroups, supported by IUGS funds, two webinars were a highlight – with reports on workgroup activity in June, and a Technical Seminar in September on geoscience ontology and knowledge graph. Both are now on YouTube. CGI leaders then made major contributions to DDE Standards Training in October.

Similarly, in 2022, workgroup activity was sustained, supported by IUGS funds, and a highlight was a series of GeoInfo Summit meetings, co-hosted with CGMW, Codata, DDE, Loop, OGC, and OneGeology, whose consensus focused on a roadmap for a global solid earth digital twin.

For 2023, building on active workgroup progress, our magnificent highlight was the November 2023 DDE/CGI Suzhou Meeting in China on Future Geoscience Information Standards. The DDE geoscience information metadata standard (Edition 1.0–2023) was formally released, after three years of work on drafts and revisions among DDE working groups globally.

At the initial DDE-focused two-day workshop on Nov 7-8, ten DDE Science Working Groups presented their progress and plans. The DDE

platform and related major geoscience initiatives were then introduced, with presentations on OneGeology, GSEU, and the DDE Platform.

At the CGI-focused Nov 9-10 forum, there were presentations on mature data models, emerging data models, vocabularies, and governance, promoting standards, connecting geoscience domains, and connecting to other disciplines. At the ensuing session, new and refined geoscience standards were discussed on industry applications, ontologies, and the semantic web. Concluding discussion focused on next steps for global geoscience standards, and valuable suggestions to both CGI and DDE were provided by participating experts and scientists.

We closed the four-year period by launching a new Strategic Plan, active preparation for the IGC in Korea, and a celebration for François Robida, Past Chair of CGI, who won the 2024 EGU Ian McHarg Medal, established by the Earth and Space Science Informatics Division for distinguished research in information technology applied to Earth and space sciences.

CGI at IGC

CGI was active at the August 2024 International Geological Congress in Korea, including a prominent presence in many sessions, and a successful Council meeting.

CGI Strategic Plan

CGI Council has adopted a new strategic plan. Implementation is underway, and your thoughts are welcome, as always – please write to the Chair at thorleif@umn.edu.

For each theme, we identified short term actions for 2024-25, medium term for 2025-2026, and long-term for 2026-28.

Governance: This activity will look at the

structure of CGI Council and our governance in the short term, documentation of procedures for CGI and other standards in the medium term, and a revisit of the structure of CGI Council in the long term.

Vocabularies: This activity will look at the GTWG web content, vocabulary uptake, and reduced thresholds for vocab publication in the short term, increased assessment and hosting for third-parties in the medium term, and new ontologies in the long term.

Logical Data Models: This will look at ERML governance in the short term, journal papers in the medium term, and opportunities for new and improved data models in the long term.

AI: We will interact with users of existing standards for AI in the short term, provision of advice to IUGS, & assessment and engagement in the medium term, as well as communication of CGI standards and consideration of parallel activity in other fields in the long term.

3D Geology & Digital Twins: We will investigate standards requirements for process-focused geoscience digital twins in the short term, and investigate new information standards requirements of a global 3D geology model in the long term.

Cross-IUGS Collaboration: We will connect CGI with Data/Information activities across IUGS, and encourage DDE scientists, especially early career, to get involved in information standards development, including working with CGI working groups in the short term.

In the medium term, we will promote CGI standards at many more conferences, leverage IUGS connections with CODATA, ISC, and UNESCO, work with affiliated organizations in supporting geoscience mapping standardization, and support development of online platforms through which

standards and vocabularies can be hosted.

In the long term, we will subcontract with institutions who are willing to implement identified projects with CGI, and CGI will be involved with WorldFAIR as it takes approaches forward in the context of EU Funded projects.

CGI Working Groups: We will review the scope and relevance of working groups and consider refocusing or forming new working groups in emerging geoinfo areas in the short term, review methods of operation for working groups to improve responsiveness in the medium term, and review the scope and relevance of existing working groups in the long term.

Communication: In the short term, we will identify parties in research and industry, establish partnerships, and engage with them to increase the uptake of CGI standards.

In the medium term, we will lobby decision-makers in geological surveys and associated industry and research bodies to strengthen support for CGI standards.

In the long term, we will seek greater linking of CGI resources with other geoscience websites to broaden sharing of CGI information..

Africa Action Plan

The IUGS Executive Committee met in Nairobi in February 2024, and African geoscience leaders hosted a workshop on geoscience in Africa. An outcome is an action plan that includes a geoscience information initiative, starting with a February 2025 workshop in Belfast, leading to a paper on status of geoscience information in Africa.

Please visit the **CGI web site** at <https://cgi-iugs.org/>, and if you aren't a member, please click the **Join Now** button!

DDE and GeoGPT

CGI is active in partnership with DDE, along with increasingly active and appreciated roles with Codata. Much of the emphasis at the spectacularly successful 2023 workshop in Suzhou described in the 2023 CGI newsletter was on knowledge graph, and now a big focus is GeoGPT.

Thanks to Kazuhiro Miyazaki for 12 years on CGI Council!



Kazuhiro Miyazaki
Japan

New CGI Councilors 2024



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