

# **IUGS - International Union of Geological Sciences**

## **Activities' Report - Year 2020**

**Prof. Rodolfo Carosi**

### **1. Introduction**

Founded in 1961, the International Union of Geological Sciences (IUGS) is one of the largest and most active scientific NGOs in the world. The IUGS promotes and supports the study of geological problems of global interest and facilitates cooperation and interdisciplinarity in the Geological Sciences. One of the major bodies of the International Science Council, the IUGS has more than 110 member nations and represents more than fifty scientific associations.

### **2. Main activities carried on by (Union name) during 2020 relevant for Italy and for CNR**

The activities of the IUGS Commissions are the basis of the daily work of geologists, in Italy and around the world. Nomenclatures, classifications, normative parameters, analytical procedures, protocols - the so-called geostandards - are studied and conventionally established by the IUGS Commissions. If geologists all over the world speak a common language and can effectively compare the results of research and professional and industrial activity, it is because for over half a century the IUGS has mobilized a large number of geologists in the attempt to encourage discussion and consensus.

As part of the activities of the TecTask Commission (Tectonics and Structural Geology) in collaboration between the Universities of Turin, Catania and Aberdeen, a YORSGET international congress was planned to be held in Sicily in June 2020 but, with the evolution of the emergency Covid-19, has been postponed to June 2021.

In addition to representing an international consensus platform in geological practices, the IUGS is active in identifying and stimulating potentially emerging disciplines. For example, in recent years, the IUGS activities have attracted international attention to two new and important disciplines such as Medical Geology and Forensic Geology. Also in this case, it is difficult to identify the effects - although considerable - of the various IUGS activities at the level of individual nations. However, we can consider the institution of the Association of Medical Geology and the Association of Forensic Geologists as a national fallout of the IUGS activities. The intense activity aimed at the promotion and dissemination of Geoethics -both nationally and internationally with the active participation of Italian researchers (Silvia Peppoloni and Giuseppe Di Capua- should be noted.

### **3. Activities carried on by (Italian Delegate name) within the Union during 2020 and impact on the Italian scientific community**

As Italian delegate at the IUGS, I disseminated communications from the Executive Committee and the Secretariat. Of particular importance is the attention placed on Italian participation in the creation of geoparks and the contribution to the appointment of Italian scientists for IUGS commissions and awards.

The Commission has appointed the seven members of the official Italian delegation within the 36th ICG of Delhi 2020, which includes two members of this commission: S. Monechi and R. Carosi.

There was an intense Italian participation both in organizational and scientific terms (proposals for scientific sessions, chair of sessions, talks, poster key-notes etc.) at the 36th ICG in Delhi 2020. Unfortunately, in conjunction with the global emergence of the Covid-19, the 36th ICG in Delhi 2020 was postponed to November 2020 and then subsequently postponed to a date to be defined.

#### **4. Evaluation of the participation in terms of benefits and membership cost**

It is impossible to evaluate the direct benefits of participation in the IUGS. The activity of the Union is fundamental and irreplaceable for researchers of the various disciplines of the Earth Sciences, geological services, analysis laboratories, specialists and even for students of geological disciplines. From this point of view, the support of the CNR -as well as of the various Academies, Geological Services, Ministries, and research bodies of the over one hundred countries adhering to the IUGS- must be seen and interpreted as a support for a basic and widespread international activity, essential for the entire global system of research in the field of Earth Sciences. This support is even more important in a period of pandemic that has severely limited the activities and development of Earth Sciences (and beyond) for more than a year.

#### **5. Evaluation of Italians' attendance and how to improve interest and involvement**

The Italian community has always been significantly involved in the various activities of the IUGS, both at organizational and scientific level. As regards the Italian participation in the IGCP (IUGS-UNESCO) international scientific cooperation program, it is noted that Laura Peruzza, OGS (Trieste) has seen her request for IGCP funding approved \_IUGS-IGCP 669: Identification of seismogenic faults in populated areas of Latin America and its incorporation into seismic hazard assessment.

#### **6. Italian experts with important roles within the Union or within related Commissions and Programs (if known)**

Italian representatives are part of the main management bodies of the IUGS -namely the Bureau and the Executive Committee- and chair or participate in the activities of various IUGS Committees and Commissions. Currently Italy has two representatives in the Executive Committee, made up of ten members. Together with Germany, it is the only country with two representatives. As regards the IGCP international scientific cooperation program (IUGS/UNESCO), currently a project is directed by an Italian researcher (see point 5).

William CAVAZZA IUGS Vice-President

Rosa Maria DI MAGGIO Officer for Europe, Initiative on Forensic Geology

Silvia PEPPOLONI IUGS Councillor

Maria Rosa PETRIZZO Chair, Cretaceous Subcommission of the IUGS International Commission on Stratigraphy

Isabella RAFFI Chair, Neogene Subcommission of the IUGS International Commission on Stratigraphy

Carlo Alberto RICCI Rappresentante IUGS presso SCAR (Scientific Committee on Antarctic Research)

Simonetta MONECHI Chair, Paleogene Subcommission of the IUGS International Commission on Stratigraphy

Ezio VACCARI Vice-President, IUGS Commission on the History of Geological Sciences

Igor M. VILLA Chair, IUGS Task Group on Isotope Geology and Geochronology

Rodolfo CAROSI Chair, IUGS commission on Structural Geology and Tectonics (TecTask)

Michele LUSTRINO, chair del nuovo Task Group to integrate and revise the classification and nomenclature of igneous rocks

During the EC held in Busan (Korea) in January 2020, Italy was one of the countries with the highest participation in the IUGS initiatives both in terms of researchers' number and with presence in the top roles of various bodies (45 people).

ADANEZ Paula, Scientific Secretary, Commission on Global Geochemical Baselines

AGNINI Claudia, Padova, Secretary/Voting Member, ICS Subcommission on Paleogene Stratigraphy

ANGIOLINI Lucia, Milano, Chair, ICS Subcommission on Permian Stratigraphy

BAGNOLI Gabriella, Pisa, Voting Member, ICS Subcommission on Cambrian Stratigraphy

BALINI Marco, Milano, Voting Member, ICS Subcommission on Triassic Stratigraphy

BARONE Pier Matteo, Rome, Crime Scene Advisor, Initiative on Forensic Geology

CAROSI Rodolfo , Torino, Member and Past Chair, Commission on Tectonics and Structural Geology

CAVAZZA William, Bologna, Chair, IUGS Finance Committee; Science Committee, Deep-time Digital Earth Big Science Program

COCCIONI Rodolfo, Chair, Rupelian/Chattian Boundary Stratotype Working Group, ICS Subcommission on Paleogene Stratigraphy; Member, the Campanian Working Group, ICS Subcommission on Cretaceous Stratigraphy; Member, the Aptian Working Group, ICS Subcommission on Cretaceous Stratigraphy

CORRADINI Carlo, Trieste, Webmaster/Voting Member and D-C Boundary Working Group Member, ICS Subcommission on Devonian Stratigraphy; Vice 17 President, ICS Subcommission on Silurian Stratigraphy

CRAIG Jonathan, Milan, IGCP council member - Earth Resources

DI CAPUA Giuseppe, Webmaster, IUGS Publications Committee

DI MAGGIO Rosa Maria, Rome, Officer Europe, Initiative on Forensic Geology

DINARÈS-TURELL Jaume, Rome, Voting Member, ICS Subcommission on Paleogene Stratigraphy

DOMINICI Stefano, Firenze, Webmaster, ICS Subcommission on Paleogene Stratigraphy

ERBA Elisabetta, Milano, Chair, the Aptian Working Group, ICS Subcommission on Cretaceous Stratigraphy; Member, the Barremian Working Group, ICS Subcommission on Cretaceous Stratigraphy

FALZONI Francesca, Napoli, Secretary General, ICS Subcommission on Cretaceous Stratigraphy

FORESI L. M., Member, Working Group on Langhian and Burdigalian GSSPs, ICS Subcommission on Neogene Stratigraphy

GIANOLLA Piero, Ferrara, Voting Member, ICS Subcommission on Stratigraphic Classification

MUTTONI Giovanni, Milano, Member, the Campanian Working Group, ICS Subcommission on Cretaceous Stratigraphy

IACCARINO Silvia. M., Member, Working Group on Langhian and Burdigalian GSSPs, ICS Subcommission on Neogene Stratigraphy

IACCARINO Salvatore, Treasurer, Commission on Tectonics and Structural Geology

PRIMOLI SILVA Isabella, Milano, Member, the Campanian Working Group; Member, the Barremian Working Group; Member, the Valanginian Working Group, ICS Subcommission on Cretaceous Stratigraphy

LIRER Fabrizio, Napoli, Voting Member, ICS Subcommission on Quaternary Stratigraphy; Voting Member, ICS Subcommission on Neogene Stratigraphy

LUSTRINO Michele, Rome, Chair, Task Group on Igneous Rocks

MARIANO Parente, Napoli, Member, the Aptian Working Group, ICS Subcommission on Cretaceous Stratigraphy

MARINI Paola, Turin, Leader IGCP 637 - Heritage Stone Designation

MARIO Sprovieri, Member, the Campanian Working Group, ICS Subcommission on Cretaceous Stratigraphy

MATTEO Maron, Milano, Member, the Campanian Working Group, ICS Subcommission on Cretaceous Stratigraphy

MIETTO Paolo, Padova, Voting Member, ICS Subcommission on Triassic Stratigraphy

MONETTI Simonetta, Chair, Paleogene Calcareous Nannofossils Working Group, ICS Subcommission on Paleogene Stratigraphy

NICORA Alda, Milano, Voting Member, ICS Subcommission on Triassic Stratigraphy

PAPAZZONI Cesare, Chair, Paleogene Larger Foraminifera Working Group, ICS Subcommission on Paleogene Stratigraphy

PEPPOLONI Silvia, Rome, Councilor (2018-2022), International Union of Geological Sciences

PETRIZZO Maria Rose, Milano, Chair, ICS Subcommission on Cretaceous Stratigraphy; Member, the Campanian Working Group of SCS/Voting Member, 18 ICS Subcommission on Stratigraphic Classification

RAFFI Isabella, Chieti Scalo, Voting Member, ICS Subcommission on Stratigraphic Classification; Voting Member, ICS Subcommission on Neogene Stratigraphy

RONCHI Ausonio, Pavia, Voting Member, ICS Subcommission on Permian Stratigraphy

ROOK Lorenzo, Pavia, Officer, ICS Subcommission on Neogene Stratigraphy

SABRINA Amodio, Napoli, Member, the Aptian Working Group, ICS Subcommission on Cretaceous Stratigraphy

SOLDATI Mauro, Governing Council, Deep-time Digital Earth Big Science Program

SPALLETTA Claudia, Bologna, Member D-C Boundary Working Group Member; Voting Member, ICS Subcommission on Devonian Stratigraphy

STEFANO A. Di, Member, Working Group on Langhian and Burdigalian GSSPs, ICS Subcommission on Neogene Stratigraphy

TIBALDI A., Chairperson – Committee of National Representatives, International Lithosphere program

TURCO Elena, Parma, Vice Chair, ICS Subcommission on Neogene Stratigraphy

VACCARI Ezio, Varese, President, International Commission on History of Geological Sciences

## **7. If Union with CNR Commission, short summary about the 2020 CNR Commission activities**

The CNR-IUGS Committee was reconstituted with Provision of the CNR President n. 37 of 01.04.2019 and will remain in office until 31 December 2022. The members of the new Commission are: Dr. Daniela Di Bucci, Prof. Carlo Doglioni, Dr. Massimo Frezzotti, Dr. Biagio Giaccio, Prof. Simonetta Monechi, Prof. Isabella Raffi, Dr. Guido Ventura, Dr. Marco Amanti, Prof. Carlo Baroni, Dr. Giacomo Corti, Dr. Antonello Provenzale. Prof. William Cavazza and Prof. Silvia Peppoloni IUGS Liaison.

The Italian National Committee of the IUGS publishes in electronic format an annual report on the International Geoscience Program (IGCP which is distributed to the entire scientific community of Earth Sciences through the Italian Geological Society. The report reaches more than 2,000 geoscientists.

The Committee also has the task of providing guidelines and proposals for greater Italian participation in the Union's activities and of providing the necessary support to CNR on issues concerning international initiatives and activities promoted by the IUGS. The activities carried out by the Commission in 2020 include:

- the formalization of the Italian delegation to the IUGS General Assembly in India, later canceled due to a pandemic;
- the sending of the IUGS 2019 Annual Report for dissemination within the Commission, the CNR and the Italian community to adequately raise awareness of the various IUGS activities;
- the disclosure of news of interest to the IUGS national community published in the IUGS Newsletter in 2020;
- the sending of the Italian CNR-IUGS-IGCP 2020 Report also published on the CNR website on the IUGS page;
- the endorsement of the CNR-IUGS Commission to an Italian project proposal submitted to the IGCP project 2020 to receive funding;
- Dr. Daniela Di Bucci and Dr. Guido Ventura (delegated by Prof. Carlo Doglioni) as members of the CNR-IUGS Committee participated in the Workshop "State of the art and perspectives in the predictability of natural events" held in Rome at the CNR on 26-27 November 2020 and organized by the National Commission CNR-IUGG (International Union of Geodesy and Geophysics);
- short report written by prof. Carosi regarding the extraordinary session of IUGS of 28-30 October 2020 (published on the CNR website relating to IUGS and also sent to the Italian Geological Society for inclusion on its website and its newsletters). The IUGS online meeting aimed to elect the new President, Vice-President, Secretary, Treasurer and Councilors of IUGS (delayed due to postponement of the Delhi congress). Italy was able to express itself electronically with a vote through prof. Carosi chair of the CNR-IUGS commission;
- the forwarding of the letter from the new IUGS President Prof. John Ludden elected for the period 2020-2024.

The Committee does not directly organize activities for the dissemination of scientific culture. However, some members of the Committee participated in the organization of the 2020 edition of the "Week of Planet Earth" (month of October), a series of events aimed at promoting awareness of geological issues among the general public developed simultaneously throughout the National territory. The last edition of the Week, which acquired an annual frequency, included more than 100 events and the participation of thousands of people.

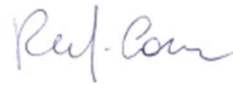
Michele Lustrino (University of Rome La Sapienza) is chair of the new TASK GROUP on igneous rocks approved at the end of 2020 by IUGS. The group aims to update the IUGS classification of igneous rocks almost 20 years after the release of the second edition of the international reference text. The group -made up of petrographers and geochemists from various nations- intends to intervene on the existing classification and nomenclature by proposing new areas of intervention.

## **8. Conclusions**

The widespread perception in the Italian Earth Sciences community is that IUGS plays a fundamental role in defining the geostandards used by the global geological community (stratigraphic, structural and petrographic

nomenclature, definition of stratotypes, laboratory's constants, etc.) and in promoting of global and multidisciplinary activities. Not so widespread is the knowledge of other important IUGS activities in the field of knowledge transfer, geoeducation, promotion of geological knowledge in developing countries, as well as in some specific international research projects. As regards the dissemination of knowledge, some Italian researchers belonging to TecTask (Rodolfo Carosi and Salvatore Iaccarino) have initiated and are responsible for the monthly publication of seminars on Tectonics and Structural Geology on a special You Tube channel and the revision and updating of the Outcropedia platform, dedicated to the knowledge of the best outcrops of rocks of considerable interest through the geolocation of images on a digital topographic basis. Also within the TecTask, an updated glossary/vocabulary of Tectonics and Structural Geology (wikiterminology) was edited. The Italian guide of the new TASK GROUP-IUGS on the revision of the nomenclature of igneous rocks (M. Lustrino) is also noted. Last but not least, the relationship with the Italian Geological Society is important in disseminating information to the geological community in Italy.

Prof. Rodolfo Carosi

A handwritten signature in blue ink, appearing to read 'Rod. Carosi', is positioned below the printed name.

Torino, 30<sup>th</sup> April 2021