



Annual Report for the IUGS

Chief Accomplishments 2019 and Plans 2020

December 2019

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INTERNATIONAL UNION OF GEOLOGICAL SCIENCES (IUGS)

Reporting Form for IUGS Affiliated Organizations 2019

1. Name of Affiliated Organization

IAPG – INTERNATIONAL ASSOCIATION FOR PROMOTING GEOETHICS

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

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The IAPG was legally recognized as a not-for-profit organization through a public notarial deed on 21st December 2012, repertoire no. 16255, collection no. 8340, Italian Republic.

Head Office c/o:

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The IAPG is an affiliated organization of the **International Union of Geological Sciences (IUGS)**, an International Associate Organization of the **American Geosciences Institute (AGI)**, an Associate Society of the **Geological Society of America (GSA)**, an Associate Society of the **Geological Society of London (GSL)**, a member organisation of the **International Council for Philosophy and Human Sciences (ICPHS)**, an Associate Organisation of the **Geoscience Information in Africa - Network (GIRAF)**, an Observer Organization of the **Canadian Federation of Earth Sciences (CFES)**.



The IAPG has agreements of collaboration with: **European Federation of Geologists (EFG), EuroGeoSurveys (EGS), American Geophysical Union (AGU), International Association of Hydrogeologists (IAH), International Association of Geomorphologists (IAG/AIG), Initiative on Forensic Geology (IUGS-IFG), African Association of Women in Geosciences (AAWG), International Association for Engineering Geology and the Environment (IAEG), Geoscientists Canada (GC), Berufsverband Deutscher Geowissenschaftler e.V. (BDG), The National and Kapodistrian University of Athens - Applied Philosophy Research Laboratory (NKUA-APRL), Geology for Global Development (GfGD), Association of Environmental & Engineering Geologists (AEG), International Network of Young and Early-Career Geoscientists (YES), International Geoscience Education Organisation (IGEO), Forum for Climate Engineering Assessment (FCEA), Sociedad Geológica del Perú (SGP), Instituto de Geociencias Y Medio Ambiente, Arequipa-Perú (I-GEMA), African Network for Geo-Education (ANGE), GEVAS Red Argentina.**





The IAPG is Global Partner of the **International Year of Global Understanding (IYGU)**, Technical Partner of the IUGS Conference **Resource for Future Generation - RFG2018**, Summit Partner of the **Geoscience & Society Summit 2019**.



Finally, the IAPG is partner of the **AGU Ethics & Equity Center**:

<https://ethicsandequitycenter.org/>.



2. Overall objectives

The IAPG is a multidisciplinary, scientific network for widening the discussion and creating consciousness about problems of ethics applied to the geosciences, in particular on the ethical, social and cultural implications of geoscience knowledge, research, practice, education and communication. Its overall objectives are:

- developing the discussion on ethical implications in research and practice of geosciences among geoscientists and into society, making geoethics an essential point of reference for any action on land, waters and atmosphere usage that all stake-holders and decision-makers must take into proper account;
- increasing the base research on geoethics and strengthening it from the scientific perspective;
- promoting geoethics values and principles through international cooperation, encouraging the involvement of geoscientists worldwide, with a special attention to those in low income countries;

- fostering the dissemination of geoethics through websites and social networks, the publication of scientific papers, the organization of meetings and sessions/symposia on geoethics within national and international scientific events;
- encouraging the establishment of both regional and specialty groups; and
- cooperating with national and international organizations whose aims are complementary to those of the IAPG.

The achievement of the IAPG objectives will lead to the:

- identification of methods for a more effective application of geoethical values and principles in geoscience practice and research;
- reflection on the role that geoscientists can have in society and the identification of suitable forms, positions, means and actions to be adopted by them;
- growth of awareness about individual, professional, social, and environmental responsibility, both as geoscientists and as members of civil society;
- involvement of the societal communities in the idea of a common and shared “geo-heritage”, to be considered as a cultural, educational and scientific value, as well as an economic resource;
- cultural renewal in the way humans perceive and relate to the planet; and
- the sensitization towards the defense of life and the richness of the Earth.

The IAPG works to developing theoretical and practical activities covering a wide range of contents comprising: philosophy of geosciences and history of geosciences thinking; research integrity and professionalism in geosciences; working climate issues and related aspects; geoethics in georisks and disaster risk reduction; responsible georesources management; ethical and social aspects in geoeducation and geosciences communication; geoethics applied to different geoscience fields including economic geology, paleontology, forensic geology and medical geology; ethical and societal relevance of geoheritage and geodiversity; sociological aspects in geosciences and geosciences-society-policy interface; geosciences for sustainable and responsible development; geoethical implications in global and local changes of socio-ecological systems; ethics in geoengineering; ethical issues in climate change and ocean science studies; ethical implications in geosciences data life cycle and big data; ethical and social matters in the international geoscience cooperation.

3. Relate goals to overall IUGS scientific objectives

The IAPG goals are strongly related to the IUGS's aims. This is evident by comparing the IUGS and IAPG Constitutions. IAPG activities aim to develop thoughts and to find best practice solutions regarding global issues (such as geohazards, Earth resources, climate change, geoscience communication and geo-education) with the goal to sustain Earth's natural environment, to use all natural resources wisely and to mitigate the impacts of geohazards for the benefit of society in the attainment of their economic, cultural and social goals. Moreover, the IAPG is involved in promoting geo-education in the widest sense, facilitating interactions among geoscientists from all parts of the world, encouraging international cooperation, and fostering the dissemination of geoethics themes in society.

4. How has the organization been actively involved with IUGS related activities

- The IAPG proposed Symposium: “1.7 Geoethics: Ethical, Social and Cultural Aspects in Geosciences” at the 36th IGC – International Geological Congress (Delhi, India, 2020). The call for abstracts was successful: 43 abstracts on different issues of interest for geoethics were received and accepted. For the same congress, the IAPG proposed a Short Course entitled: “Foundations and Perspectives of Geoethics” focused on the following themes: “From Ethics to Geoethics: Definition, Values, Tools”, “Responsible Conduct of Research and Professionalism”, “Foundations & Examples, how to tackle (Geo)ethical Dilemmas”, “Geoethics for Society: Sustainable Development and Responsible Mining”, “Geoethics in Natural Hazards and Risks”, “Geoethics in Geoscience Communication”.
- The IAPG is cooperating with the IUGS-Initiative on Forensic Geology (IFG), within a joint Task Group, to prepare a White Paper on Geoethics in Forensic Geology.
- The IAPG is collaborating with numerous geoscience organizations affiliated to the IUGS, as previously indicated in the list of agreements for cooperation (<http://www.geoethics.org/affiliations-agreements>).

5. Structure and organization

All the IAPG members, including officers, are volunteers.

The bodies of the Association are the:

- 1) Executive Council;
- 2) General Assembly.

The **Executive Council** (<http://www.geoethics.org/executive-council>) consists of:

- a) a President (Prof. Stefano Tinti);
- b) two Vice-Presidents (Prof. Susan Kieffer; Dr. Shrikant Limaye)
- c) a Secretary General (Prof. Silvia Peppoloni);
- d) a Treasurer (Dr. Giuseppe Di Capua);
- e) six Continental Coordinators (Dr. Peter Bobrowsky, Prof. Roberto Greco, Dr. Nic Bilham, Prof. Ezzoura Errami, Dr. Meng Wang, Dr. Margaret Brocx).

The **General Assembly** (<http://www.geoethics.org/ga>) is composed of all the IAPG members. The 1st General Assembly was held in Cape Town at the 35th IGC (31 August 2016). The 2nd General Assembly will take place in Delhi at the 36th IGC (March 2020).

The membership to the IAPG is free. Applicants need to complete the online form at <http://www.geoethics.org/membership>, or send their data via email to the IAPG Secretariat. Currently the **IAPG network** comprises **2321 members** from **128 countries** on **5 continents**.

The IAPG is also present in **31 countries with national sections** (<http://www.geoethics.org/sections>) (coordinators in brackets): **Argentina** (Elizabeth I. Rovere and Roberto A. Violante), **Bangladesh** (Ershadul Haque and Jahangir Alam), **Brazil** (Eduardo Marone), **Cameroon** (Ndzishepngong Kelvin Ngwang), **Canada** (Jan Boon and Shona van Zijll de Jong), **Cuba** (Yurisley Valdes Mariño), **Democratic Republic of Congo** (Jean-Robert Mweze), **Egypt** (Kholoud M. Abdelmaksoud), **France** (Michèle Barbier and David Crookall), **Greece** (Gerassimos A. Papadopoulos), **India** (Surya Gupta Parkash), **Iraq** (Nawrass N. Ameen and Ameer Hayder Khalid), **Iran** (Vahid Ahadnejad and Sedigheh Seifilaleh), **Italy** (Silvia Peppoloni), **Jordan** (Mamoon Allan), **Lebanon** (Soumaya Ayadi-Maasri), **Malawi** (Hilton Banda Eneya), **Mexico** (Miguel Rangel Medina), **Nepal** (Shree Prasad Vista and Ranjan Kumar Dahal), **Nigeria** (Arinze Harrison Ikwumelezech), **Pakistan** (Muhammad Yaseen and Emad Ullah Khan), **Paraguay** (Moisés Alejandro Gadea Villalba), **Peru** (Sandra Paula Villacorta Chambi), **Portugal** (Clara M. da Silva de Vasconcelos and Paulo Emanuel Talhadas Ferreira da Fonseca), **Romania** (Antoneta Seghedi and Ilies Dorina Camelia), **Spain** (Emilia H. Lopera Pareja and Domingo A. Martín Sánchez), **Turkey**

(Yüksel Örgün Tutay and Dündar Çağlan), **Ukraine** (Yuriy Kostyuchenko), **United Kingdom** (David Craig Ovadia), **USA** (Vincent S. Cronin and Cindy M. Palinkas), **Uruguay** (Leda Sánchez Bettucci). IAPG-France and IAPG-Lebanon have been established in 2018.

The IAPG relies on a **Board of Experts (BE)** (<http://www.geoethics.org/experts>) on specific issues related to geoethics. The BE has the important cultural function of suggesting to our community themes, articles, and initiatives. The BE is interested in Earth sciences and humanities and in promoting issues on Geoethics and the IAPG. Currently the board includes **14 experts**: Martin Bohle, Germany (topic: **Interdisciplinary explorations for main-streaming interest in Earth sciences topics**); Elizabeth Silva, Portugal (topic: **Geoethics and Geoparks**); Robert Frodeman, USA (topic: **Geoethics and Philosophy**); Madhumita Das, India (topic: **Geoethical aspects in low income countries**); Juan Carlos Gutierrez-Marco (topic: **Geoethics in Paleontology**), Christine McEntee, USA (topic: **Harassment and Discrimination in Geosciences**); Iain Stewart, United Kingdom (topic: **Geoscience Education and Communication**); Edmund Nickless, United Kingdom (topic: **Geoethics for Society**); David Mogk, USA (topic: **Geo-education and Teaching Geoethics**); Ruth Allington, United Kingdom (topic: **Geoscience Professionalism**), Luis González de Vallejo, Spain (topic: **Geoethics in Engineering Geology**); Manuel João Florentino Gomes Abrunhosa, Portugal (topic: **Geoethics in Groundwater Management**), Tony Mayer, Singapore (topic: **Research Integrity**); Ciro Manzo, Italy (topic: **Geoethics and young geoscientists**).

In 2015, the IAPG established the **Young Scientists Club - YSC** (<http://www.geoethics.org/young-club>). The YSC is the interface between the IAPG and young geoscientists' organizations and groups, in order to promote geoethics and the IAPG among the youngest colleagues more effectively. Members of the YSC are early-career scientists or practitioners and have to be members of the IAPG. The current YSC board was nominated in December 2015 after a public call. At the end of 2019 the YSC membership will be renewed.

On 8 May 2017, the IAPG nominated the **Task Group on Responsible Mining – TGRM** (<http://www.geoethics.org/tgrm>), formed by Nikolaos Arvanitidis (Sweden), Jan Boon (Canada), Pekka Nurmi (Finland), and Giuseppe Di Capua (Italy). The goal of the Task Group has been to draft a document on “Responsible Mining”, on values and concepts that must be considered in mining, including their importance for future generations in the perspective of a sustainable development of our societies. On 1st December 2017, the IAPG Executive Council approved the

“White Paper on Responsible Mining” (<http://www.geoethics.org/wp-responsible-mining>), prepared by the Task Group following a review by an International Panel of Experts formed by Vitor Correia (Portugal), Roberto Lencina (Argentina), David Ovadia (United Kingdom), Mark Rachovides (Canada), Ian Thomson (Canada).

On 5 October 2018, the IAPG, jointly with the IFG – Initiative on Forensic Geology of the IUGS, created the **Task Group on Geoethics in Forensic Geology – TGGFG** (<http://www.geoethics.org/tggfg>), comprising Lorna Dawson (United Kingdom), Silvia Peppoloni (Italy), and Rosa Maria Di Maggio (Italy). The goal of the Task Group is to draft a White Paper on “Geoethics in Forensic Geology”, in order to define ethical values in the applications and best practices of Forensic Geology across the world.

On 20 July 2019, the **School on Geoethics and Natural Issues** (named “Schola”: <http://www.geoethics.org/geoethics-school>) was officially founded by Peter T. Bobrowsky (Canada), Giuseppe Di Capua (Italy), and Silvia Peppoloni (Director of the “Schola”, Italy), with the aim to provide excellent education in geoethics.

6. Interaction with other International organizations and projects

The IAPG collaborates with the following organizations:

- African Association of Women in Geosciences (AAWG);
- African Geoparks Network (AGN);
- African Network for Geo-Education (ANGE);
- American Geophysical Union (AGU);
- American Geosciences Institute (AGI);
- Association of Environmental & Engineering Geologists (AEG);
- Berufsverband Deutscher Geowissenschaftler e.V. (BDG);
- Canadian Federation of Earth Sciences (CFES);
- EuroGeoSurveys (EGS);
- European Association for the Conservation of Geological Heritage (ProGEO);
- European Federation of Geologists (EFG);
- European Geosciences Union (EGU);
- Forum for Climate Engineering Assessment (FCEA);

- Geological Society of America (GSA);
- Geological Society of London (GSL);
- Geological Society of Peru (SGP - Sociedad Geológica del Perú);
- Geology for Global Development (GfGD);
- Geology in the Public Interest (GPI);
- Geoscience Information in Africa - Network (GIRAF);
- Geoscientists Canada/Géoscientifiques Canada (GC);
- GEVAS Red Argentina;
- Global Geoscience Professionalism Task Group (IUGS-TGGGP);
- Initiative on Forensic Geology of the IUGS (IUGS-IFG).
- Instituto de Geociencias Y Medio Ambiente, Arequipa-Perù (I-GEMA);
- International Association for Engineering Geology and the Environment (IAEG);
- International Association for Geoscience Diversity (IAGD);
- International Association of Geomorphologists (IAG/AIG);
- International Association of Hydrogeologists (IAH);
- International Council for Philosophy and Human Sciences (ICPHS);
- International Geoscience Education Organisation (IGEO);
- International River Foundation (IRF);
- International Union of Geological Sciences (IUGS);
- International Year of Global Understanding (IYGU).
- Italian Geological Society (SGI-Società Geologica Italiana);
- Resources for Future Generations Conference (RFG 2018);
- Science Education Resource Center (SERC);
- The National and Kapodistrian University of Athens - Applied Philosophy Research Laboratory (NKUA-APRL);
- Young Earth-Scientists (YES) Network;
- World Conferences on Research Integrity (WCRI).

The IAPG collaborates with the following international projects:

- **GOAL** - Geoethics Outcomes and Awareness Learning: IAPG is partner of the project (website: <https://goal-erasmus.eu/>).

- **INTERMIN** - International Network of Raw Materials Training Centres: IAPG is member of the International Advisory Board of the project (website: <http://interminproject.org/>).

The IAPG doesn't receive funds from the project GOAL. The IAPG representative in the project INTERMIN receives only a reimbursement for participation in the project meetings.

7. Chief products

SCHOOL ON GEOETHICS AND NATURAL ISSUES

The School on Geoethics (the “Schola”) was founded on **20 July 2019**. The founding members are Peter T. Bobrowsky, Giuseppe Di Capua, and Silvia Peppoloni (Director of the “Schola”). The “Schola” is a place for teaching and learning of the principles and values of geoethics in the light of the philosophy and history of Earth sciences. The intent is to provide background knowledge and the evaluation skills necessary to understand the complex relationship between human action on ecosystems and the decisions geoscientists make in the discipline that impact society, including improving the awareness of professionals, students, decision-makers, media operators, and the public on an accountable and ecologically sustainable development. The “Schola” aims to provide excellent education in geoethics, thus promoting the development of a scientific and critical attitude to the knowledge of the Earth and its constituent systems, by fostering a growth of awareness and responsibility towards the planet, education in the values and actions underlying a respect for ecosystems, including responsible use of resources, management of natural risks, reduction of pollution and its repercussions on human health and climate, adaptation to environmental changes, in view of an accountable and ecologically sustainable development. More information and online educational resources are available at <http://www.geoethics.org/geoethics-school>.

SPRINGERBRIEFS SERIES IN GEOETHICS

SpringerBriefs in Geoethics (<http://www.geoethics.org/springerbriefs-geoethics>) was launched on **14 June 2019**. It envisions a series of publications that aim to discuss ethical, social, and cultural implications of geosciences knowledge, education, research, practice and communication. The intention is to present concise summaries of cutting-edge theoretical aspects, research, practical applications, case-studies across a wide spectrum. SpringerBriefs in Geoethics are seen as complementing monographs and journal articles, or developing innovative perspectives with compact volumes of 50 to 125 pages, covering a wide range of contents on geoethics. This Series in

Geoethics was initiated and supervised by Silvia Peppoloni (editor-in-chief, Italy) and an editorial board consisting of Nic Bilham (UK), Peter T. Bobrowsky (Canada), Vincent S. Cronin (USA), Giuseppe Di Capua (Italy), Rika Preiser (South Africa), Artur Agostinho de Abreu e Sá (Portugal), and Iain Stewart (UK).

BOOKS AND SPECIAL ISSUES

- Book: Bohle M. (Ed.). *Exploring Geoethics: Ethical Implications, Societal Contexts, and Professional Obligations of the Geosciences*. Authors: M. Bohle, S. Peppoloni, G. Di Capua, N. Bilham, E. Marone, R. Preiser. (2019) Palgrave Pivot, Cham, XIV + 214, ISBN 978-3-030-12009-2, <https://link.springer.com/book/10.1007/978-3-030-12010-8>.
- Special volume: Peppoloni S., Di Capua G., Bobrowsky P., Cronin V. (Eds.). *Geoethics at the heart of all geoscience*. Annals of Geophysics, Vol 60, Fast Track 7 (2017), <http://www.annalsofgeophysics.eu/index.php/annals/issue/view/537>.
- Book: Gundersen L.C. (Ed.). *Scientific Integrity and Ethics in the Geosciences*, (2017), p. 336, American Geophysical Union, Wiley, ISBN 978-1-119-06778-8, <http://eu.wiley.com/WileyCDA/WileyTitle/productCd-1119067782.html>.
- Book: Peppoloni S. and Di Capua G. (Eds.). *Geoethics: the Role and Responsibility of Geoscientists*, Geological Society, London, Special Publications, (2015), 419, ISBN 978-1-86239-726-2, <http://sp.lyellcollection.org/content/419/1>.
- Book: Wyss M. and Peppoloni S. (Eds.). *Geoethics: Ethical Challenges and Case Studies in Earth Sciences*, 450 p. Elsevier (2014), <http://store.elsevier.com/Geoethics/isbn-9780127999357/>.
- Book: Lollino G., Arattano M., Giardino M., Oliveira R., Peppoloni S. (Eds.). *Engineering Geology for Society and Territory - Volume 7: Education, Professional Ethics and Public Recognition of Engineering Geology*, XVII, 274 p. 103 illus., 86 illus. in color, Springer (2014), <http://www.springer.com/earth+sciences+and+geography/environmental+science+%26+engineering/book/978-3-319-09302-4>.
- Special volume: Peppoloni S. and Di Capua G. (Eds.). *Geoethics and geological culture. Reflections from the Geoitalia Conference 2011*, Annals of Geophysics, Vol. 55, No 3 (2012). <http://www.annalsofgeophysics.eu/index.php/annals/issue/view/482>.

REFERENCE DOCUMENTS

- **Cape Town Statement on Geoethics:** <http://www.geoethics.org/ctsg>.

Supported by 22 geoscience organizations (International Union of Geological Sciences - IUGS, European Federation of Geologists - EFG, International Association of Geomorphologists - IAG/AIG, African Association of Women in Geosciences - AAWG, Young Earth Scientists Network - YES Network, International Geoscience Education Organisation - IGEO, Geology in the Public Interest - GPI, International Association for Geoscience Diversity - IAGD, EuroGeoSurveys - EGS, American Geophysical Union - AGU, American Geosciences Institute - AGI, Geological Society of America - GSA, Società Geologica Italiana-Italian Geological Society - SGI, Berufsverband Deutscher Geowissenschaftler e.V. – BDG, Sociedad Geológica del Perú-Geological Society of Peru - SGP, Instituto Geológico, Minero y Metalúrgico, Peru - INGEMMET, International Association of Hydrogeologists - IAH, Geology for Global Development - GfGD, International Association for Engineering Geology and the Environment - IAEG, South Asian Association of Women Geoscientists - SAAWG, Instituto de Geociencias Y Medio Ambiente, Arequipa-Perù - I-GEMA, African Network for Geo-Education – ANGE.

Available in 35 languages: Afrikaans, Albanian, Arabic, Armenian, Belarusian, Bengali, Czech, Danish, Dutch, English, French, Georgian, German, Greek, Hindi, Hungarian, Italian, Japanese, Korean, Mandarin Chinese, Nepali, Norwegian, Persian, Portuguese, Romanian, Russian, Sepedi, Serbian, Slovenian, Spanish, Swahili, Tamil, Turkish, Ukrainian, and Urdu.

- **Geoethical Promise:** <http://www.geoethics.org/geopromise>.

Supported by 22 geoscience organizations and available in 35 languages (see above).

- **White Paper on Responsible Mining:** <http://www.geoethics.org/wp-responsible-mining>.

Available in 3 languages: English, Greek, Swedish.

VIDEOS, INTERVIEWS AND ARTICLES FOR NEWSPAPERS AND MAGAZINES

- 21 videos uploaded on the YouTube channel of the IAPG:
<https://www.youtube.com/user/iapgeoethics/videos>
- Articles on geoethical issues for the Italian newspapers “Corriere della Sera” and “Il Sole24Ore”, and for the Italian Magazines “112 Emergencies” and “MicroMega, La Mela di Newton” (by Silvia Peppoloni, IAPG Secretary General);
- 6 radio and video interviews with the IAPG President, Secretary General and IAPG members for the:
 - Swiss Radio Network 2, subject: “Prevention and Geoethics”, by Matteo Martelli;

- Austrian Radio (ORF1) program on Geoethics: “Dimensionen - die Welt der Wissenschaft: Was soll ich tun - global gesehen? Die Ethik in den Geowissenschaften” (“Dimensions - the world of science: What should I do - a global perspective? The Ethics in the geosciences”), by Wolfgang Däuble: <http://oe1.orf.at/programm/404157>;
- German Radio (SWR2), title “Endgültig freigesprochen: Das Erdbeben von L’Aquila und die ethische Verantwortung der Geowissenschaftler. Gespräch mit Silvia Peppoloni, International Association for Promoting Geoethics, Rom. (Finally acquitted: The L’Aquila earthquake and the ethical responsibility of geoscientists. Interview with Silvia Peppoloni, International Association for Promoting Geoethics, Rome). Redaktion / Moderation: Gabor Paal;
- Italian Radio Television Network (RAI), subject: culture of prevention. The interview begins from 16m 30s: <http://www.raiscuola.rai.it/articoli/nautilus-seguendo-il-tempo/26025/default.aspx>;
- Italian Radio Television Network (RAI), Radio3 Scienza, subject: Natural risks;
- Science Festival in Genoa (Italy):
 Part 1 https://www.youtube.com/watch?v=Xt0_Z6mAGeI&list=UUP-Fngse1pu9sFvyBgN3AzQ
 Part 2 <https://www.youtube.com/watch?v=M2aYspo0p5Y&feature=youtu.be>.

Many scientific PAPERS/CHAPTERS on geoethics have been included in the books mentioned above. About 200 papers/chapters on geoethics (with a peer-review process) have been published since 2012.

ORAL AND POSTER PRESENTATIONS in scientific sessions, courses, meetings: EGU General Assembly (2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019), IGC – International Geological Congress (2016), Congress of the Italian Geological Society (2016, 2018), Geoitalia conference (2013), IAEG Congress (2014), GSA Annual Meeting (2014, 2015), AGU Fall Meeting (2014, 2015, 2016, 2017, 2018), Resources for Future Generations Conference – RFG (2018), WCRI (2013, 2015), AGU-GAC-MAC-CGU Joint Assembly (2015), AGU Geoscience and Society Summit (2019), International Congress of the Geological Society of Greece (2019), Argentine Geological Congress (2017), Geological Congress of Spain (2016), Peruvian Congress of Geology (2016), CAAWG - Conference of the African Association of Women in Geosciences (2016, 2018), Nigeria Geoethics Conference (2018), Simposio de Paleontologia del Perú (2018), Jornadas Científicas sobre Geología del Paraguay y Ciencias Afines (2018), EADI NORDIC Conference (2017), GeoSciEd (2018), EnsinoGEO (2018), General Assembly of the European Seismological

Commission – ESC (2018), GfGD Annual Conference (2018), Earth System Governance Conference (2018), AAAS meeting (2019), Geoconvention, Canada (2019), EFG Workshop (2014), EFG-UNECE Conference (2017), Foro Internacional sobre Gestión del Riesgo Geológico - International Forum on Geological Risks Management (2015), Future Earth international symposium in Japan (2017), International Conference of the Institute of African Research and Studies – IARS in Egypt (2016), Colloquium on Geoethics in Peru (2015), Conference of the African Association of Women in Geosciences Nigeria (2015), OTC Conference in Houston (2014), SERC workshop in Montana (2014), AEG course in Texas (2014), Geological Society of London, Regional Group – Lecture (2017), CNG course in Italy (2014), Science Festival in Genoa, Italy (2013, 2014), Bioethics Festival, Italy (2019), Mercator Research Institute on Global Commons and Climate Change – MCC meeting (2019), Meeting: nANO meets water VII meeting in Germany (2016), South Texas Geological Society meeting (2016), Ocean Sciences Meeting – OSM (2016, 2018), 45th IAH Congress (2018), CoV-9: Cities on Volcanoes in Chile (2016, 2018), Workshop on Geoethics in Nigeria (2016), XV Chilean Geological Congress (2018), Colombian Conference of Geology (2015), International Conference of Underground Construction (2015), Geological Conference of Central America (2015), Salzburg Global Seminar (2018), FORAM 18 pilot event on raw materials governance (2018), National Congress of the Italian Environment Fund – FAI (2017), GOAL workshop/meeting (2018, 2019), INTERMIN Meeting (2018, 2019), and WISE Multiplier Event (2017).

WEBSITE AND SOCIAL NETWORKS

- **Official Website:** <http://www.geoethics.org>
- **Blog:** <http://iapgeoethics.blogspot.com>
- **Linkedin Group** “Geoethics and Culture of Geosciences” (1876 members):
<https://www.linkedin.com/groups/4615518>
- **Facebook Page:** https://www.facebook.com/iapg_geoethics/ (7357 likes and 7487 followers)
- **Twitter Page** (@IAPGeoethics): <https://twitter.com/IAPGeoethics> (2505 followers)
- **YouTube channel:** <https://www.youtube.com/user/iapggeoethics/videos> (60 registrations)
- **Photo gallery on Flickr:** <https://www.flickr.com/photos/125283529@N05/sets/>
- **Global Ethics Network:** <http://www.globalethicsnetwork.org/group/iapggeoethics>
- Other IAPG national sections webpages at: <http://www.geoethics.org/sections.html>

From 2012, thousands of posts have been published on the IAPG website, blog, and social networks regarding articles, news, call for abstracts, meetings-conferences, seminars, events and other kind of information on geoethics.

WEBINAR AND VIDEO-LECTURES

- Video-Pills developed by the European project “GOAL – Geoethics Outcomes and Awareness Learning” in cooperation with the IAPG:
 - **“Introduction to geoethics: definition, concepts, and application”** (by Silvia Peppoloni, IAPG Secretary General): <https://youtu.be/NX7Gii5adKk> (March 2019);
 - **“Geoethics and responsible use of geo-resources”** (by Giuseppe Di Capua, IAPG Treasurer): <https://youtu.be/23nwwu79sSA> (July 2019);
 - **“Geoethical Issues and Geoethical Dilemmas”** (by Silvia Peppoloni, IAPG Secretary General): <https://youtu.be/gZ8Y56-yrDM> (August 2019);
 - **“Geoethics and Geological Risks”** (by Silvia Peppoloni, IAPG Secretary General): <https://youtu.be/rZSjzOxiGUk> (December 2019).
- Video-Lesson by Stefano Tinti (IAPG President) on **“Geoethical issues in prediction and prevention of potentially catastrophic natural events”** at the workshop organized by the AAAS - American Association for the Advancement of Science, entitled: “Acutely Ethical: Principles and Guidelines on the Use of Location-Based Data in Crisis Situations” (March 2019).
- Video-Lesson by Silvia Peppoloni (IAPG Secretary General) entitled **“Geoethics in Disaster Risk Reduction”** in the online course (MOOC): “A Resilient Future: Science and Technology for Disaster Risk Reduction” (Discover how science and technology help us reduce disaster risk and increase resilience): <https://www.youtube.com/watch?v=jCVkuaKAqK8&t=43s>. This online course has been organized by the École Polytechnique Fédérale de Lausanne (Switzerland). The video is included in the Chapter 7: Science and Technology for Resilience and Sustainable Development - Ethics in Disaster Risk Reduction.
- Webinar by David Mogk (IAPG Board of Experts) entitled **“Professionalism and Geoethics: Creating a Workplace Environment Where Everyone Can Succeed”** for the GOLI – Geoscience Online Learning Initiative by AGI – American Geosciences Institute: <https://goli.americangeosciences.org/courses/course-v1:AIPG+AIPG009+2018/about> (June 2018).

- Video-Lecture on “**Geoethics and Georisks Reduction**” at the conference organized by the Italian Embassy in Norway, in collaboration with the University of Oslo, in the framework of the initiative “Under the Sign of Excellence”.
- Video-Lecture “**Geoethics and the IAPG network**” at the First National Conference of the African Association of Women in Geosciences Nigeria - AAWGN, June 2015): <https://www.youtube.com/watch?v=f-ki8cwP8bk>.
- Organization of a webinar on Geoethics at the EGU General Assembly 2013: http://www.egu2013.eu/nh9_8_video.html. In collaboration with YES-Network and AGI – American Geological Institute.

NEWSLETTER

IAPG releases its Newsletter from May 2015. 24 numbers have been published and are available at: <http://www.geoethics.org/newsletter.html>.

INTERNATIONAL EVENTS

International Geoethics Day. Officially launched in 2017, is held every year during the Earth Science Week: <http://www.geoethics.org/geoethics-day>. On 17 October 2019, the IAPG community celebrated the 3rd edition, entitled “*Seed Today... for the future*”. The 1st edition was celebrated on 12 October 2017 (entitled: “*Take your photo*”) and the 2nd edition on 18 October 2018 (entitled: “*Geoethics is*”).

AWARDS

Geoethics Medal. It was conceived in April 2016 during the IAPG Council Meeting held during the EGU General Assembly in Vienna, and unanimously approved by the first IAPG General Assembly held during the 35th IGC – International Geological Congress in Cape Town, on 31 August 2016. The Geoethics Medal is assigned annually. The first edition of the Geoethics Medal (2018) has been launched on 18 October 2017, during the Global Ethics Day 2017 of the Carnegie Council for Ethics in International Affairs: <http://www.geoethics.org/geoethics-medal>. The Geoethics Medal 2019 was awarded to Linda C. Gundersen (U.S. Geological Survey, retired) in July 2019; the Geoethics Medal 2018 was given to Chris King (IUGS-COGE and EGU Committee on Education) in September 2018.

8. Chief accomplishments 2019 and plans for 2020

CHIEF ACCOMPLISHMENTS 2019

January 2019

- Carlos Toledo Gutierrez appointed as new coordinator of IAPG-Peru, taking over from Sandra Paula Villacorta Chambi (1 January).
- New article published in the IAPG Blog, “Blockchain and Geoethics” by David Ovadia (UK) (<http://www.geoethics.org/articles-from-iapg-blog>) (4 January).
- New article published in the IAPG Blog, “Circular economy is about resource efficiency, not ‘only’ recycling” by Nikolaos Arvaniditis (Sweden/Greece) (<http://www.geoethics.org/articles-from-iapg-blog>) (9 January).
- New article published in the IAPG Blog, “Failing at a triple-point, the ‘Anthropocene proposal’?” by Martin Bohle (Germany) (<http://www.geoethics.org/articles-from-iapg-blog>) (12 January).
- Silvia Peppoloni (IAPG Secretary General) and Giuseppe Di Capua (IAPG Treasurer) represented the IAPG at the 2nd workshop on “Geoethics’ Syllabus and Geoethics in Geo-resources and Geoparks” of the European project GOAL - Geoethics Outcomes and Awareness Learning, that is held in Porto (Portugal). The workshop was organized by the Portuguese team of the project (14-18 January).
- Launch of the call for abstracts for the IAPG Special Session: “Geoethics in Engineering Geology: doing the right thing while managing the geological environment” at the HEGC-1 - First Himalayan Engineering Geological Congress (Convener: Ranjan Kumar Dahal, IAPG-Nepal co-coordinator): <http://iapgeoethics.blogspot.com/2019/01/geoethics-at-hegc-1-katmandu-nepal-12.html> (17 January).
- 3rd Training Course on Ocean Governance, Marine Sciences, and Geoethics, organized by the IOI - International Ocean Institute, Training Centre for Latin America and the Caribbean Universidad del Atlántico Barranquilla (Colombia): <https://www.ioitclac.org/training-programs/colombia-iii/>. IAPG is partner of the Training Course. Eduardo Marone (IAPG-Brazil coordinator) is responsible for the module on geoethics (21 January-15 February).
- IAPG attended the meeting of the European project INTERMIN - International Network of Raw Materials Training Centres in Madrid (Spain) and was represented by Giuseppe Di Capua (IAPG

Treasurer) and David Ovadia (IAPG-UK Coordinator). The INTERMIN project aims to create a self-sustainable long-term lasting international network of training centres for professionals. The IAPG participation is intended to ensure that geoethics is included in the portfolio. IAPG is member of the International Advisory Board of the project (30-31 January).

February 2019

- 1st Conference and General Assembly of IAPG-Peru, held in Lima (Peru) at the Auditorium of the EAP of the Engineering Geology at the UNMSM - Universidad Nacional Mayor de San Marcos, organized by Carlos Toledo Gutierrez (IAPG-Peru coordinator) (12 February).
- New article published in the IAPG Blog, “Why do we need more geoethics in research?” by Francesc Bellaubi (Spain) (<http://www.geoethics.org/articles-from-iapg-blog>) (19 February).
- Publication of the web version of the IAPG Annual Report 2018 for the IUGS: <http://www.geoethics.org/annual-reports> (21 February).
- IAPG Ceremony in Beijing (China) for the delivery of the Geoethics Medal 2018 by Silvia Peppoloni (IAPG Secretary General) to Chris King (Chair of the Commission on Geoscience Education - COGE of the International Union of Geological Sciences - IUGS, Chair of the Committee on Education of the European Geosciences Union – EGU). Video: <https://youtu.be/ShKJzi9znZ4> (27 February).
- IAPG attended the 73rd Executive Committee Meeting of the IUGS - International Union of Geological Sciences in Beijing (China) and was represented by Giuseppe Di Capua (IAPG Treasurer) who presented the IAPG Annual Report 2018 (27-28 February).

March 2019

- Gerassimos Papadopoulos (IAPG-Greece coordinator) gave a Lecture entitled “Modern Geoethical Issues” at the Department of Geology of the University of Athens (Greece). The Lecture overviews the global IAPG activities (6 March).
- New article published in the IAPG Blog, “A recent public earthquake prediction in Greece: geoethical issues” by Gerassimos A. Papadopoulos (Greece) (<http://www.geoethics.org/articles-from-iapg-blog>) (12 March).
- Launch of the call for nominations for the Geoethics Medal 2019: <http://iapgeoethics.blogspot.com/2019/03/geoethics-medal-2019-call-for.html> (13 March 2019).
- Publication of a new book: “Bohle M. (Ed.). Exploring Geoethics: Ethical Implications, Societal

Contexts, and Professional Obligations of the Geosciences. Authors: M. Bohle, S. Peppoloni, G. Di Capua, N. Bilham, E. Marone, R. Preiser. (2019) Palgrave Pivot, Cham, XIV + 214, ISBN 978-3-030-12009-2, <https://link.springer.com/book/10.1007/978-3-030-12010-8> (15 March).

- Vincent S. Cronin (IAPG-USA co-coordinator) represented the IAPG at the AGU Geoscience and Society Summit, in Stockholm (Sweden) and presented a poster entitled “Can We Achieve a Shared Understanding of Some Primacy Principles (Protecting Human Safety and Environmental Health) and Foundational Ethical Concepts (Equal Dignity, Justice, and Truth Within the Limits of Uncertainty) in Both Science and Society?”: <https://agu.confex.com/agu/gss19/mediafile/Handout/Paper476969/Cronin-GSS2019-ePoster.pdf> and <http://croninprojects.org/Ethics-AGU-GSS2019/Cronin-panel4presentation-GSS2019.pdf>. IAPG is one of the ten sponsoring organization of this geoscience event (18-21 March).
- Stefano Tinti (IAPG President) was invited to deliver a talk on the ethical aspects in the prevention and forecasting of natural disasters at the International Meeting of the AAAS - American Association for the Advancement of Science, entitled “Acutely Ethical: Principles and Guidelines on the Use of Location-Based Data in Crisis Situations”, dedicated to addressing the responsible use of geospatial data in response to human rights and humanitarian needs in crises. The title of Tinti’s talk was “Geoethical issues in prediction and prevention of potentially catastrophic natural events”. Video of Tinti’s talk: <https://youtu.be/aHdZBp0cJbc> and slides: https://f420cbad-ec08-4c39-902f-b0e5afecb44a.filesusr.com/ugd/5195a5_7d21e51c995046b89556db662446805d.pdf. The workshop took place in Washington (USA) (20 March).
- New article published in the IAPG Blog, “Some words about the World Water Day 2019” by Manuel João Florentino Gomes Abrunhosa (Portugal) (<http://www.geoethics.org/articles-from-iapg-blog>) (22 March).
- Sandra Piacente (IAPG-Italy) gave a talk on ethical implications in the defense from geological risks and in the use of natural resources in the Debate on Bioethics and Geoethics at the Accademia Nazionale di Modena (Italy). This event was promoted by IAPG, Accademia Nazionale di Modena - Sezione di Scienze Matematiche, Fisiche e Naturali, Consulta di Bioetica Onlus. Piacente’s slides: https://f420cbad-ec08-4c39-902f-b0e5afecb44a.filesusr.com/ugd/5195a5_9b6d0f21af7946cf93ebe522578d1eca.pdf (27 March).
- Video-pill entitled “Introduction to Geoethics: definition, concepts, and application” (by Silvia Peppoloni, IAPG Secretary General) released by the European project GOAL – Geoethics

Outcomes and Awareness Learning, in cooperation with the IAPG:
<https://youtu.be/NX7Gii5adKk> (29 March).

April 2019

- New article published in the IAPG Blog, “IAPG at the Geoscience & Society Summit” by Vince Cronin (USA) (<http://www.geoethics.org/articles-from-iapg-blog>) (1 April).
- Publication of the IAPGeoethics Newsletter, issue #1–2019: <http://www.geoethics.org/newsletter> (2 April).
- Audio-interview to Silvia Peppoloni (IAPG Secretary General) by AGU - American Geophysical Union for Earth Day celebrated on 22 April 2019 and AGU’s Centennial. The interview was published in the section “Paths through Science” of the AGU website and “StoryCorps Archive”: <https://archive.storycorps.org/interviews/our-future-on-this-planet-needs-an-assumption-of-responsibility-by-all/> (4 April).
- Short Course SC1.30 “Foundations of Geoethics for Earth, Marine and Atmospheric Sciences” (Convenership: Eduardo Marone, Jan Boon, Giuseppe Di Capua, Silvia Peppoloni) at the EGU General Assembly 2019 in Vienna (Austria): <http://www.geoethics.org/egu2019> (9 April).
- IAPG and IAG - International Association of Geomorphologists sign a Memorandum of Understanding (MoU), in Vienna, during the EGU General Assembly 2019. The MoU expresses a mutual desire to cooperate on a range of themes in the field of Geoethics. In the same document, IAG officially supports the Cape Town Statement on Geoethics (10 April).
- IAPG Session EOS5.2 “Geoethics: ethical, social and cultural implications of geoscience knowledge, education, communication, research and practice” (Convenership: Silvia Peppoloni, Martin Bohle, Giuseppe Di Capua, Christopher M. Keane, Jonathan Rizzi) at the EGU General Assembly 2019 in Vienna (Austria): 12 orals + 24 posters: <http://www.geoethics.org/egu2019>. The session was co-sponsored by AGI - American Geosciences Institute and EFG - European Federation of Geologists (12 April).
- IAPG and BDG - Berufsverband Deutscher Geowissenschaftler e.V. (Germany) sign a Memorandum of Agreement (MoA). The aim of the MoA is to develop a coordinated approach, where appropriate, for promoting initiatives and events discussing the ethical, social, and cultural implications of geosciences, and favoring high ethical standards in the research and practice of geoscience in order to better serve society (12 April).
- IAPG-Peru organized the 3rd Round Table on Geoethics in Peru (“3^{ra} Mesa Redonda sobre

Geoética en el Perú”) at the Auditorium of the EAP of the Engineering Geology at the UNMSM - Universidad Nacional Mayor de San Marcos in Lima (Peru). Chairman: Juan Carlos Piscocoya. Guests: Jose Machare, Ciro Bedia, Emilio Lacho, Cesar Chacaltana (15 April).

- The joint congress IAPG - International Association for Promoting Geoethics and IAH - International Association of Hydrogeologists entitled “Geoethics & Groundwater Management” (<https://geoeth-gwm2019.wixsite.com/porto>), to be held in October 2019, postponed to new dates: 18-22 May 2020 (16 April 2019).
- Maria Triantaphyllou appointed as co-coordinator of IAPG-Greece. She leads the section together with Gerassimos Papadopoulos: <http://iapgeoethics.blogspot.com/2019/04/iapg-greece-has-new-co-coordinator.html> (19 April).
- IAPG video-interview to Nic Bilham (IAPG Continental Coordinator) on the IAPG session on geoethics at the EGU 2019, released in the IAPG YouTube channel: <https://youtu.be/z0TjjBnPz40> (30 April).

May 2019

- Silvia Peppoloni (IAPG Secretary General) and Giuseppe Di Capua (IAPG Treasurer) represented the IAPG at the 2nd transnational meeting of the European project GOAL - Geoethics Outcomes and Awareness Learning, that is held in Kaunas (Lithuania). The meeting was organized by the Lithuanian team of the project and is focused on geoethics syllabus, e-book on geoethics, and educational resources for geoethics (2-3 May).
- Martin Bohle (IAPG Board of Experts) held a conference in Munich (Germany) entitled (in German) “Geoethics Verantwortung übernehmen als Geowissenschaftler*in?”, organized by the Working Group on Environmental Geosciences of the Münchner GeoZentrum. The conference takes place at Hörsaal C 006, Luisenstr. 37, Munich: https://f420cbad-ec08-4c39-902f-b0e5afecb44a.filesusr.com/ugd/5195a5_7ab096def92f4aef8e30031e9cc5fe40.pdf (9 May).
- Ranjan Kumar Dahal (IAPG-Nepal co-coordinator) represented IAPG at the HEGC-1 - First Himalayan Engineering Geological Congress, held in Kathmandu (Nepal) (12-13 May).
- IAPG video-interview to Vitor Correia (EFG President) on the poster “Social skills: the cornerstone of the 21st Century mining sector. The International Network of Raw Materials Training Centers project (INTERMIN)” presented in the IAPG session on geoethics at the EGU 2019, released in the IAPG YouTube channel: <https://youtu.be/2L3A5Smq9c8> (14 May).
- Publication of a new article: “Bohle M. and Bilham N. (2019). The ‘Anthropocene Proposal’: A

Possible Quandary and A Work-Around. *Quaternary*, 2, 19; doi:10.3390/quat2020019” (16 May).

- IAPG video-interview to Susanne Schneider-voss (BOKU University) on the poster “Values: discuss, reflect upon, live” presented in the IAPG session on geoethics at the EGU 2019, released in the IAPG YouTube channel: <https://youtu.be/hI-KnIjqK00> (21 May).
- Gerassimos A. Papadopoulos (IAPG-Greece co-coordinator) gave a keynote speech entitled “Modern Issues of Geoethics” in the session T1.S1 (co-convened by Maria Triantafyllou - IAPG-Greece co-coordinator), at the 15th International Congress of the Geological Society of Greece, held in Athens (Greece) (22 May).
- Silvia Peppoloni (IAPG Secretary General) held the seminar entitled “Geoethics and Geological Culture” at the University “Roma Tre” (Rome, Italy). This event is included in the list of seminars “Geology for the Working Environment” for University students in Geological Sciences. The seminars are organized by the University “Roma Tre” in cooperation with the Professional Association of Geologists of Lazio (24 May).
- Launch of the call for abstracts for the IAPG Symposium 1.7 “Geoethics: Ethical, Social and Cultural Aspects in Geosciences” at the 36th IGC: <http://www.geoethics.org/36thigc> (27 May).

June 2019

- Launch of the editorial project “SpringerBriefs Series in Geoethics” by Springer Nature: <http://www.geoethics.org/springerbriefs-geoethics>. This Series is initiated and supervised by Silvia Peppoloni (editor-in-chief) and an editorial board formed by Nic Bilham, Peter T. Bobrowsky, Vincent S. Cronin, Giuseppe Di Capua, Rika Preiser, Artur Agostinho de Abreu e Sá, Iain Stewart. The SpringerBriefs in Geoethics is sponsored by the IAPG (14 June).

July 2019

- IAPG Italy carried out a “Code of Conduct for geoscience events”, to be adopted by all the participants in meetings, seminars, congresses, and other kinds of national and international initiatives organized by the Geological Society of Italy (1st July).
- Nima Nezafati appointed as new coordinator of IAPG-Iran, taking over from Vahid Ahadnejad and Sedigheh Seifilaleh (5 July).
- Giuseppe Di Capua (IAPG Treasurer) represented the IAPG at the 3rd workshop on “Geoethics and Water” of the European project GOAL - Geoethics Outcomes and Awareness Learning, held in Vienna (Austria). The workshop was organized by the Austrian team of the project (8-13 July).

- Video-pill entitled “Geoethics and responsible use of geo-resources” (by Giuseppe Di Capua, IAPG Treasurer) released by the European project GOAL - Geoethics Outcomes and Awareness Learning, in cooperation with the IAPG: <https://youtu.be/23nwwu79sSA> (16 July).
- Martin Bohle (IAPG Board of Experts) gave a Lunchtime Talk entitled “Exploring Societal Frameworks of the Geosciences” at the Directorate-General for Research and Innovation of the European Union in Brussels (Belgium) (18 July).
- Launch of the “School on Geoethics and Natural Issues (Schola de Geoethica et Naturae Quaestionibus)”. Founding members: Peter T. Bobrowsky (IAPG Continental Coordinator for North America), Giuseppe Di Capua (IAPG Treasurer), and Silvia Peppoloni (IAPG Secretary General and Director of the “Schola”): <http://www.geoethics.org/geoethics-school> (20 July).
- Linda C. Gundersen (U.S. Geological Survey, retired) awarded with the Geoethics Medal 2019 with the following motivation: *“for her unselfish work and scholarly contributions in leading the advancement in scientific integrity and professional ethics in the geosciences. Gundersen’s transformative work across governmental, academic, non-profit, and private institutions has made her one of the world’s leading authorities in “geoethical” scholarship, policy and practice. Linda Gundersen was one of the early leaders in proactively promoting what is now called geoethics. She created and was first Director of the USGS Office of Science Quality and Integrity, implementing bureau-wide programs in scientific integrity, ethics, publication, research excellence, post-doctoral fellows, youth internships, education, and Tribal relations. Since retiring in 2012 she has dedicated her time to promoting scientific integrity, ethics, and diversity in the geosciences, including leading and/or influencing major ethics policy revisions at the American Geophysical Union, the American Geosciences Institute, The Geological Society of America, and the U.S. National Academies of Sciences. Linda sets the example for highest standard of geoethics service, practice, and scholarly excellence.”*: <http://www.geoethics.org/geoethics-medal> (30 July).

August 2019

- Publication of the IAPGeoethics Newsletter, issue #2–2019: <http://www.geoethics.org/newsletter> (6 August).
- Publication of a new article: “Careddu N., Di Capua G., and Siotto G. (2019). Dimension stone industry should meet the fundamental values of geoethics. Resources Policy, 63, 101468; doi: 10.1016/j.resourpol.2019.101468” (14 August).

- Publication of the interview (in Italian) to Silvia Peppoloni (IAPG Secretary General), entitled “La geoetica e il valore del territorio” (Geoethics and the value of territory”), in the online magazine “Noi Donne”: <http://www.noidonne.org/articoli/silvia-peppoloni-la-geoetica-e-il-valore-del-territorio.php> (19 August).
- New article published in the IAPG Blog, “Geoethics, an Antidote in a Wicked 'Human Niche'?” by Martin Bohle (Germany) (<http://www.geoethics.org/articles-from-iapg-blog>) (22 August).
- Video-pill entitled “Geoethical Issues and Geoethical Dilemmas” (by Silvia Peppoloni, IAPG Secretary General) released by the European project GOAL - Geoethics Outcomes and Awareness Learning, in cooperation with the IAPG: <https://youtu.be/gZ8Y56-yrDM> (23 August).
- Publication of the IAPGeoethics Newsletter, issue #3–2019: <http://www.geoethics.org/newsletter> (26 August).
- Silvia Peppoloni (IAPG Secretary General and Coordinator of IAPG-Italy) is invited as a panelist at the 3rd edition of the Italian Bioethics Festival, held in Santa Margherita Ligure, Genova (Italy). Title of her contribution: “L’uomo è una ‘forza geologica’” (“Man is a ‘geological force’”): <http://iapgeoethics.blogspot.com/2019/08/iapg-at-italian-bioethics-festival-2019.html> (29-30 August).

September 2019

- IAPG is the sponsor of the Session 3.6 “Geoparks and geotourism for achieving the Sustainable Development Goals (SDGs)” at the 5th YES Network Congress in Berlin (Germany): <http://iapgeoethics.blogspot.com/2019/08/session-sponsored-by-iapg-at-5th-yes.html>. The session is co-chaired by Jean-Robert Nshokano Mweze (IAPG-DR Congo coordinator) (12 September).
- Martin Bohle (IAPG Board of Expert) represents the IAPG at the MCC - Mercator Research Institute on Global Commons and Climate Change Conference in Berlin (Germany) with a contribution entitled “Geoethics in/for Human Niche”: <http://iapgeoethics.blogspot.com/2019/08/geoethics-at-mcc-conference-berlin.html> (16-18 September).
- IAPG and NKUA-APRL - The National and Kapodistrian University of Athens - Applied Philosophy Research Laboratory (Greece) sign a Memorandum of Understanding (MoU). The aim of the MoU is to cooperate on developing empirical and/or theoretical research in the areas of geoethics and bioethics, and to coordinate activities aimed at promoting the discussion on the

ethical, social and cultural implications of geosciences and biosciences. The MoU expresses a mutual desire to cooperate on a range of themes in the field of Geoethics, Bioethics, Environmental Ethics, Philosophy of Geosciences, and Sustainable Development (30 September).

October 2019

- Conference by Francesc Bellaubí (IAPG member) entitled “La geoètica i la pedagogia dels valors” (Geoethics and pedagogy of values) at the Campus Terres de l'Ebre de la URV, in Tortosa (Spain) (9 October).
- Publication of the IAPGeoethics Newsletter, issue #4–2019: <http://www.geoethics.org/newsletter> (11 October).
- Conference by Francesc Bellaubí (IAPG member) entitled “La importància de la geoètica en la gestió dels recursos naturals” (The importance of Geoethics and the management of natural resources) at the Escola Politècnica Superior d'Enginyeria de Manresa – EPSEM, in Manresa (Spain) (15 October).
- IAPG celebrates the 3rd edition of the International Geoethics Day “Seed Today... for the future!”: <http://www.geoethics.org/geoethics-day>. Hashtag of this event: #geoethicsday2019: <http://iapgeoethics.blogspot.com/2019/10/happy-international-geoethics-day-2019.html> (17 October).
- IAPG-Bangladesh organized a Round Table discussion on “Geoethics for Geoscientist” at the Geological Survey of Bangladesh (GSB), on the occasion of the International Geoethics Day 2019. The round table was chaired by Abdul Baquee Khan Majlis (Director, Geology of GSB) (17 October).
- Giuseppe Di Capua (IAPG Treasurer) gave a Skype seminar to Geology Masters students of the course by Iain Stewart (IAPG Board of Experts) at the University of Plymouth (United Kingdom). Title of the contribution “From Ethics to Geoethics” (18 October).
- IAPG-Peru organized the 5th edition of MinerLima, International Exhibition of Minerals (Feria Internacional de Minerales), to promote geosciences and geoethics in Peru (Lima, Peru), in cooperation with Universidad Nacional Mayor de San Marcos (UNMSM). Exhibition coordinator: Ciro Bedia; support: Emilio Lacho, Carlos Toledo Gutierrez (IAPG-Peru coordinator), Mario Romero. Activities: symposium and conferences on mineralogy, courses, exhibition of mineral samples, geoscience education events, guided tours at the UNMSM

mineralogical museum: <https://feriamineraleslima.wixsite.com/minerlima> (23-26 October).

November 2019

- Talk by Martin Bohle (IAPG Board of Experts) entitled “Geoethics” at the University of Osnabrück - “Institut für Umweltsystemforschung” (5 November).
 - Martin Bohle (IAPG Board of Experts) represented the IAPG in the panel discussion “Sustainability & decarbonization in the petroleum industry”, held in Aachen (Germany) at the STC - Student Technical Congress 2019 of the GSSPE - German Section of the Society of Petroleum Engineers (14 November).
 - Giuseppe Di Capua (IAPG Treasurer) represented the IAPG at the 3rd transnational meeting of the European project GOAL - Geoethics Outcomes and Awareness Learning, that was held in Zaragoza (Spain). The meeting was organized by the Spanish team of the project and focused on geoethical aspects in Paleontology and geoheritage management (14-15 November).
 - The call for abstracts for the IAPG symposium 1.7 “Geoethics: Ethical, Social and Cultural Aspects in Geosciences” at the 36th IGC – International Geological Congress (Delhi, India) expired: 43 abstracts received and accepted (15 November 2019).
 - Launch of the call for abstracts for two IAPG sessions on geoethics at the EGU General Assembly 2020 (Vienna, Austria, 3-8 May 2020): <http://www.geoethics.org/egu2020>. Both sessions are included in the EOS – Education and Outreach Sessions group:
 - Session EOS5.1 - Geoethics: how and why should geosciences serve society? (Convenership: Silvia Peppoloni, Nic Bilham, Daniel De Miguel, Eduardo Marone, Susanne Schneider-Voss).
 - Session EOS5.2 - Geoethics for facing global challenges: societal and ethical features of practising geosciences (Convenership: Giuseppe Di Capua, Martin Bohle, Victor Correia, Silvia Peppoloni).
- (18 November)
- Jan Boon (IAPG-Canada co-coordinator) submitted the final manuscript of the first book that will be published in the SpringerBriefs in Geoethics, entitled “Relationships and the Course of Social Events during Mineral Exploration An applied sociology approach” (18 November).
 - Njilah Isaac Konfor appointed as co-coordinator of IAPG-Cameroon. He leads the section together with Ndzishepngong Kelvin Ngwang: <http://iapgeoethics.blogspot.com/2019/11/iapg-cameroon-has-new-co-coordinator.html> (19 November).
 - Yurisley Valdés Mariño (IAPG-Cuba coordinator) included geoethics among the topics of

CINAREM'20 - X International Conference of Mineral Resources Exploitation, held on 7-9 April 2020 in Guardalavaca, province of Holguín (Cuba): <http://iapgeoethics.blogspot.com/2019/11/geoethics-among-topics-of-cinare20.html> (20 November).

- Opening of the section IAPG-Turkey. Yüksel Örgün Tutay (Istanbul Technical University - ITU) and Dündar Çağlan (Chamber of Geological Engineers) appointed as co-coordinators (27 November).
- IAPG is among the Knowledge Partners of the International Conference on Landslides Risk Reduction and Resilience, held in New Delhi (India). The conference is organized by the NIDM - National Institute of Disaster Management, Ministry of Home Affairs, Government of India. Surya Parkash (IAPG-India coordinator and Head of the Geo-Meteorological Risks Management Division of the NIDM), is the Conference Coordinator: <http://iapgeoethics.blogspot.com/2019/11/international-conference-on-landslides.html> (28 November 2019).
- IAPG-Italy is invited to attend the seminar “Taking care – Collective Values: new challenges for Ethics” at the Institute of the Italian Encyclopedia Treccani in Rome (Italy) (29 November).

December 2019

- Launch of the IAPG online survey “Geoethics in Geosciences” addressed to the international geoscience community (<https://form.jotform.com/93223788145362>). The questionnaire was partially funded with funds of the last IUGS grant received by the IAPG (15 December 2019).
- IAPG-Cameroon organized an IAPG booth at 2nd Colloquium of the Cameroon Association for Geosciences “Geosciences - Yaounde 2019”. IAPG is represented by (4-7 December 2019).
- IAPG is invited to attend the conference to celebrate the World Soil Day 2019 in Rome, at the Government House (Palazzo Chigi), in the presence of the Italian Prime Minister, Prof. Giuseppe Conte. IAPG is represented by Silvia Peppoloni (IAPG Secretary General) and Giuseppe Di Capua (IAPG Treasurer) (5 December).
- Registration of IAPG-Peru to the SUNARP (National Superintendence of Public Registries) (6 December).
- Video-pill entitled “Geoethics and Geological Risks” (by Silvia Peppoloni, IAPG Secretary General) released by the European project GOAL – Geoethics Outcomes and Awareness Learning, in cooperation with the IAPG: <https://youtu.be/rZSjzOxiGUk> (9 December).

- IAPG-Peru organized a meeting at FIGMMG-UNMSM in Lima (Peru) to present 2019 activities and 2020 plans (11 December).
- Vincent S. Cronin (IAPG-USA co-coordinator) represented IAPG in a follow-on session of the AGU Geoscience and Society Summit (held in Stockholm, Sweden, in March 2019), entitled “Geoscience and sustainability at the grassroots level: Building on the 2019 Geoscience and Society Summit”, that is organized at the AGU Fall Meeting 2019. He presented the work entitled “Thoughts on Geoethical Considerations in Geoscience-Society Interactions”: <https://agu.confex.com/agu/fm19/meetingapp.cgi/Paper/553020> (11 December).

In addition to previous list, other activities have been reported to the IAPG Secretary General by the coordinators of IAPG national sections:

- IAPG-BANGLADESH
 - Regular IAPG-Bangladesh section meetings in January, February, March, April, June, August and November (2019).
 - Promotion of IAPG activities within the geoscience community of Bangladesh through IAPG-Bangladesh social network and contacts with the Department of Geological Sciences - Jahangirnagar University in Dhaka, the Department of Geology - University of Dhaka, the Department of Geology and Mining - Rajshahi University, and other departments of Geology for establishing official relationships with IAPG-Bangladesh in order to promote geoethics more effectively in the country (2019).
- IAPG-CAMEROON
 - Submission of a project proposal to the New England Biolabs Foundation (NEBF), entitled “Climate change workshop for young people”. The outcome of the proposal is expected in early December 2019 (October 2019).
 - Carrying out field studies in Ngouache, Bafoussam (West Region of Cameroon) on the landslides that occurred on 28 October 2019, killing 43 people and causing the collapse of a section of the national highway (October 2019).
 - Delivering an interview on a National Radio on environmental disasters, mitigation methods and resilience (October 2019).
 - Completion of the project proposal “Environmental Monitoring workshop with focus on the application of the drone technology”, submitted to the Japanese Fund for Global Environment

(JFGE). The application is still under review by the Japanese Agent (November 2019).

- Isaac Konfor (IAPG-Cameroon co-coordinator) gives a presentation entitled “Geoethics: a New Paradigm in the Practice of Geosciences” at the 2nd Colloquium of the Cameroon Association for Geosciences (December 2019).

- IAPG-CANADA

- IAPG-Canada has continued in building its online presence with social media initiatives (LinkedIn Group “Geoethics Canada Chapter”: <https://www.linkedin.com/groups/8645410>, with 35 members, and Facebook Page “Geoethics Canada Chapter”: <https://www.facebook.com/canadiangeoethics/> with 85 followers).
- A Standing Committee on Pedagogy was established and a three year work plan is been developing.
- IAPG-Canada has been invited to build content entitled “Canadian Geoethics” which will be housed on CFES - Canadian Federation of Earth Sciences website, since IAPG has become an observer of the CFES in 2018 with the option of becoming a member at a later stage.
- In cooperation with the Environment and Social Responsibility Society (ESRS) of the Canadian Institute of Mining (CIM), IAPG-Canada has established contact with the Canadian Mining Schools Committee to continue exploring opportunities for cooperation.
- IAPG-Canada has explored new partnerships with the Environment and Social Responsibility Society (ESRS) of the Canadian Institute of Mining (CIM), initially developed through the June 2018 session at the Resources for Future Generations conference in Vancouver.
- Shona van Zijll de Jong (IAPG-Canada co-coordinator) is managing a Call for Volunteers to a variety of IAPG-Canada Standing Committees: “Geoethics Pedagogy” and “Communication Strategy”.
- Jan Boon (IAPG-Canada co-coordinator) is contributing to the implementation of the Science Integrity Policy in Natural Resources Canada, a federal government department.

- IAPG-CUBA

- Participation in the 2nd International Congress “Geociencias 2019 - VIII Earth Science Convention - Geosciences at service of Society and Development” (1-5 April 2019)
- Participation in “CUBAMBIENTE 2019 - XII International Convention on Environment and Development” (1-5 July 2019).

- IAPG-EGYPT

- Establishing an IAPG-Egypt undergraduate student chapter in the Department of Geology of

the Fayoum University (2019).

- IAPG-FRANCE

- Both co-coordinators (Michèle Barbier and David Crookall) of the French national section have promoted IAPG and geoethics in several seminars, workshops, conferences, meetings (2019).
- Michèle Barbier presented the work entitled “Underwater noise, which additional recommendations can be provided?” at the CSA OCEANS 2 scoping workshop on “Noise in the marine environment” in Brussels (Belgium) (21-22 January 2019).
- Michèle Barbier attended the “PEGASUS - Phycomorph European Guidelines for a sustainable development of seaweed aquaculture” meeting at the European Parliament, Searica Intergroup, in Brussels (Belgium) (26 February 2019).
- Michèle Barbier attended the Cocktail-Conférence “Le Biomimétisme” at the Monaco Ocean Week 2019, organized by the Institut de Science et Ethique et le Centre Scientifique de Monaco” (27 March 2019).
- Michèle Barbier attended the European Commission - DG-Mare Workshop on Marine genetic resources in areas beyond national jurisdiction, Brussels (Belgium) and gives a presentation entitled “Access and use of Marine Genetic resources beyond Europe” (21-22 May 2019).
- David Crookall was Chair of the Workshop Session 18 “The Sustainable Values Game (SVG)” (topics: sustainability, the Sustainable Development Goals - SDGs, sustainable agriculture, ethical issues in managing natural resources and related areas) at the 50th international conference of the International Simulation & Gaming Association - ISAGA 2019 (26-30 August 2019).
- Michèle Barbier was co-author of the poster entitled “Ethical recommendations for ocean observation” presented at the OceanObs19 Conference, Hawaii (16-20 September 2019).
- Michèle Barbier introduced IAPG top officers to the European Commission Ethics reviewing Team (Marie Curie Fellowships).
- Michèle Barbier is Working Group leader on legislation and ethics of the COST Action “Ocean4Biotech”, launched in 2019.
- Michèle Barbier is Chair of the Gender and Diversity Board in the H2020 project EuroSea - Improving and Integrating European Ocean Observing and Forecasting Systems for Sustainable use of the Oceans, launched in 2019.
- Michèle Barbier published several documents related to ethics and marine sciences:

- Development and objectives of the PHYCOMORPH European Guidelines for the Sustainable Aquaculture of Seaweeds (PEGASUS), by M. Barbier, R. Araujo, C. Rebours, B. Jacquemin, S.L. Holdt and B. Charrier, *Botanica Marina* (accepted).
- PEGASUS - PHYCOMORPH European Guidelines for a Sustainable Aquaculture of Seaweeds (2019). Edited by Michèle Barbier, Bénédicte Charrier, COST Action FA1406, Roscoff, France. doi.org/10.21411/2c3w-yc73.
- Evolving and Sustaining Ocean Best Practices and Standards for the Next Decade (2019), by Pearlman J.S., Bushnell M., Coppola L., Buttigieg P.L., Pearlman F., Simpson P., Barbier M., et al., *Front. Mar. Sci.* | DOI: 10.3389/fmars.2019.00277.
- IAPG-GREECE
 - PhD thesis at the Faculty of Geology & Geoenvironment, National and Kapodistrian University of Athens, entitled: “Man and Geoenvironment: An Interdisciplinary Approach to Environmental Ethics and Geoethics” (PhD candidate: Efthymios Georgousis, supervisor: Prof. Hara Drinia) (On-going).
- IAPG-INDIA
 - Organizations of several lectures and discussions on issues related to ethical dimensions of disaster management during various national level training courses organized by National Institute of Disaster Management (New Delhi). Among the addressed themes: Community Based Disaster Risk Management, Landslides Management, Resilience, Early Warning and Risk Communication, Climate Change, Coastal Disaster Risk Reduction.
- IAPG-IRAN
 - It is worth mentioning that heavy economic sanctions imposed on Iran and consequent traveling difficulties for Iranian students and professors caused a considerable decrease in the contribution of Iranian geoscientists in international ventures including IAPG-related activities. Despite those problems, Nima Nezafati (IAPG-Iran coordinator) has introduced IAPG mission, vision, and activities to Iranian geoscientists (professors, students, and practitioners) via social networks (including Telegram and Instagram which are popular in Iran), encouraging new memberships to the IAPG (October 2019).
 - Launching of the IAPG-Iran blog (in Farsi and English): <http://iapg-iran.blogfa.com/> (November 2019).
- IAPG-ITALY
 - Drafting of the “*Code of Conduct for geoscience events*” to be adopted by the Geological

Society of Italy.

- The following chapters for multidisciplinary books (in Italian):
 - Peppoloni S. *Geoscienze, Geoetica e Diritto* (transl. Geosciences, Geoethics and Law). In: Zanichelli M. (Ed): "Diritto e Legge nelle parole dei non giuristi". FrancoAngeli Editore (accepted).
 - Peppoloni S e Di Capua G. *Geoscienze, Geoetica e impatti globali antropogenici* (transl. Geosciences, Geoethics and anthropogenic global impact). In: Mantione G. e Romanelli E. (Eds): "Il corpo della Terra. La relazione negata". Editore Castelvechi (accepted).
- IAPG-NIGERIA
 - Celebration of the 3rd edition of the International Geoethics Day by organizing colleagues for tree planting (October 2019).
 - Promotion of IAPG activities within the Nigerian geoscience community and society through IAPG-Nigeria social networks (2019).
- IAPG-PERU
 - Coordination meeting with INGEMMET for the support to MinerLima 2019 (13 March 2019).
 - Appointment of the new coordinator for MinerLima 2020: Rosa Medina Sandoval (Universidad Nacional Mayor de San Marcos - UNMSM).
- IAPG-PAKISTAN
 - Monthly Meeting on progress report of IAPG-Pakistan are going every month at the Geology Department of the Abdul Wali Khan University Mardan (2019).
 - Both coordinators presented a report about a field work organized recently to nearby quarry/mines named Nowshera Reef Complex, one of the best exposed reef limestone with abundant fossils. Aims of the geological field work were to collect data about this important geo-heritage site in Pakistan that suffers destructions day by day.
 - Muhammad Yaseen (IAPG-Pakistan co-coordinator) publishes a research paper on "Geoheritage".
 - Celebration of the of the 3rd edition of the International Geoethics Day at the Geology Department of the Abdul Wali Khan University Mardan: planted a tree on behalf of IAPG-Pakistan. Many students of geology showed their interest and celebrated the International Geoethics Day 2019 (October 2019).
 - Muhammad Yaseen (IAPG-Pakistan co-coordinator) gives a seminar on IAPG to students

from several Universities on IAPG international, the role and responsibility of IAPG-Pakistan, the role of students in promoting IAPG-Pakistan. Those students will have the duty to organize seminars in their departments and IAPG-Pakistan co-ordinators will deliver there one day lectures on geoethics (2019).

- IAPG-PORTUGAL

- Cooperation with Clara Vasconcelos (IAPG-Portugal co-coordinator) in the coordination activities of the European project “GOAL – Geoethics Outcome and Awareness Learning” (2019).
- Cooperation in the preparation of the following scientific reports and abstract book:
 - Vasconcelos C. & Ribeiro T. (2019). Geoethics’ Syllabus and Geoethics in Georesources and Geopark – 2nd GOAL Workshop Report.
 - Vasconcelos C., Lima A., Brilha. J., Calheiros C., Ribeiro T. and Cardoso A. (Eds.). (2019). Abstract Book: Geoethics’ Syllabus and Geoethics in Georesources and Geoparks. Porto: Universidade do Porto, ISBN: 978-989-746-195-8.
- Clara Vasconcelos (IAPG-Portugal co-coordinator) is supervisor of the PhD thesis by Alexandra Cardoso, entitled “Geoética no Desenvolvimento Sustentável: implementação e avaliação de um programa curricular no ensino superior” (Geoethics in Sustainable Development: implementation and evaluation of a curricular programme in higher education), supported by the Foundation of Science and Technology of Portugal (2018-2019).
- Clara Vasconcelos (IAPG-Portugal co-coordinator) is co-supervisor of the master report by Marta Paz, entitled “Viva la Geoethics: o ensino da Geoética e da Sustentabilidade de Águas Subterrâneas através de um projeto” (Viva la Geoethics: teaching Geoethics and the Sustainability of Groundwater through a project-based methodology) (2019).

- IAPG-ROMANIA

- Some issues focused on geoethics were introduced in the course on the investigation of natural heritage and valorization for tourism addressed to Master students and Ph.D. candidate students of the University of Oradea, Faculty of Geography, Tourism and Sport, and Ph.D. School in Geography (2019).

- IAPG-SPAIN

- Cooperation in the organization of ExpoMinerales Madrid 2019, hosted at the E.T.S.I. de Minas y Energía (ETSIME) (8-10 March).
- On the occasion of the International Women's Day, cooperation in the organization of the

exhibition on women pioneers in the scientific and technological community, including the screening of a short film on women in the Almadén mining area (8 March).

- Cooperation in the Geology Camp 2019, Summer Course “Campamento de Geología en el Pirineo José María y Luis María Ríos”, an activity to transmit geological knowledge in the field (10-20 July 2019).
- IAPG-Spain representatives attends the following congresses:
 - II Congreso Iberoamericano de Ciudades Inteligentes (ICSC-CITIES 2019) with a presentation entitled “Monitoring of urban spaces, as an educational tool to support the achievement of Sustainable Development Objectives for a Smart University” (7-9 October 2019).
 - Congreso Internacional sobre Innovación, Aprendizaje y Cooperación (CINAIC 2019) with a presentation entitled “Service-Learning (S-L) as a methodology to achieve the
 - Sustainable Development Goals (SDGs)” (9-11 October).
- IAPG-Spain cooperates to the book entitled “100 good practices of Service-Learning. Inventory of educational experiences with a social purpose”, publisher: Santillana (2019).
- IAPG-UKRAINE
 - 2019 activities were focused on education, mainly among school students, as well as on the supervision of scientific project in the field of natural resources management and community’s resilience assessment.
 - Yuriy Kostyuchenko (IAPG-Ukraine coordinator) gave a Series of on-line lectures on responsible management of water resources for an audience in Iraq, Yemen, and Afghanistan (January, February, September 2019).
 - Yuriy Kostyuchenko (IAPG-Ukraine coordinator) gave a Series of lectures for school students on household waste management (February-March, 2019).
 - Supervising of ecological actions by young people:
 - Collecting garbage in the mountain areas (June 2019).
 - Garbage collection on the sea and river coasts (July 2019).
 - Garbage collection in the suburbs and preventing of it burning (September, 2019).
 - Preparation of scientific papers and supervision of young scientists (IAPG was acknowledged in the following publications prepared by Ukrainian scientists with participation or under the supervision of the IAPG-Ukraine section):
 - Ievsiukov, T. O., Martyn, A., Elistratova, L., Apostolov, A., Kostyuchenko, Y. V., &

Yuschenko, M. (2019). An Investigation of the Impact of the Military Crisis in Ukraine on Agricultural Production and Land Resources in Crisis Territories: Approaches, Algorithms, and Methods. *Current Politics and Economics of Russia, Eastern and Central Europe*, 34(1), 1-62.

- Kozlova A., Elistratova L., Kostyuchenko Yu., Apostolov A., Artemenko I. (2019). Multiparametric Modeling of Carbon Cycle in Temperate Wetlands for Regional Climate Change Analysis Using Satellite Data. *Advances in Applied Mathematical Analysis and Applications*, River Publishers, Denmark, pp. 51-94.
- Kostyuchenko Yu., Yuschenko M., Kravchuk I. (2019). On the application of communication models in approaches to socio-environmental risks minimization. *Geophysical Research Abstracts*, EGU General Assembly 2019, 21, EGU2019-174.
- Popov, M. A., Stankevich, S. A., Kostyuchenko, Y. V., & Kozlova, A. A. Analysis of Local Climate Variations Using Correlation between Satellite Measurements of Methane Emission and Temperature Trends within Physiographic Regions of Ukraine. *International Journal of Mathematical, Engineering and Management Sciences (IJMEMS)*, 4(2), pp. 276–288.

- IAPG-UNITED KINGDOM

- Several follow up discussions after the attendance at the EU H2020 INTERMIN project meeting in Madrid in January 2019, as a speaker and contributor, were held by video conferencing.
- Contribution of text to a chapter on International Cooperation in the IAPG book “Geoethics: Status and Future Perspectives” that will be published by the GSL - Geological Society of London (November-December 2019).

- IAPG-USA

- Much of the work of promoting geoethics in the USA involved efforts supporting the creation or enhancement of ethics codes and related implementation/enforcement procedures for the Geological Society of America (GSA) and other major geoscience organizations. David Mogk (IAPG Board of Experts) has continued to be an essential resource in these activities, and GSA’s progress in revising its ethics codes is now ably managed by Ethics and Compliance Officer Nan Stout. Nan keeps the GSA community informed and engaged through web resources and town-hall fora at GSA meetings. Ethics efforts at AGU are managed by Billy Williams (e.g., <https://ethicsandequitycenter.org> - IAPG is partner of this center - and <https://www.agu.org/Learn-About-AGU/About-AGU/Ethics>), and IAPG has joined with AGU “to develop initiatives and events” related to geoscience ethics.

- IAPG-USA has begun a conversation with the US-based “Societies Consortium on Sexual Harassment in STEMM” to include IAPG in their efforts (<https://educationcounsel.com/societiesconsortium/>). This consortium was begun in December 2018 and includes approximately 120 STEM societies in the US. Membership as of the end of 2019 was confined to US organizations, but the sizable membership of the US section of IAPG plainly has an interest in participating in this organization for the benefit of the geoscience community.
- IAPG-USA members serve as contributors, reviewers, and editors for a forthcoming volume on geoethics to be published with the GSL.
- IAPG-USA members have continued to integrate geoethics into their work with undergraduate and graduate students at their institutions and beyond, actively participating in efforts to broaden participation in the geosciences.
- IAPG-USA is participating in discussions about future AGU Geoscience and Society summits to be held in a variety of international settings to facilitate broad participation (December 2019).

PLANS FOR 2020

- Editorial projects with peer-review process
 - Book: Di Capua G., Bobrowsky P.T., Kieffer S.W., Palinkas C. (Eds.). ***Geoethics: Status and Future Perspectives***, Geological Society, London, Special Publications (in preparation).
 - Book: Boon J. ***Relationships and the Course of Social Events during Mineral Exploration An applied sociology approach***, SpringerBriefs in Geoethics (accepted).
 - Book: Peppoloni S. e Di Capua G. ***Geoetica***. Donzelli Editore (in Italian) (in preparation).
 - IAPG members will submit book proposals for SpringerBriefs in Geoethics and other editorial projects.
- International/National conferences/meetings
 - IAPG will attend the 4th Workshop of the European Project Erasmus+ “GOAL – Geoethics Outcomes and Awareness Learning”, to be held at the Weizmann Institute of Science (Israel). Title of the Workshop: “Geoethics in education: from theory to practice”. IAPG is official partner of the project (January 2020).
 - IAPG will attend the 74th Executive Committee meeting of the IUGS - International Union of Geological Sciences in Busan (Korea) and will present its annual report on 2019 activities and

2020 plans (January 2020).

- IAPG will manage the Symposium: “1.7 Geoethics: Ethical, Social and Cultural Aspects in Geosciences” at the 36th IGC – International Geological Congress in Delhi (India) (2-8 March 2020).
- IAPG has proposed 2 sessions on geoethics at the EGU General Assembly 2020 in Vienna (Austria, May 2020): <http://www.geoethics.org/egu2020>. Both sessions are included in the EOS – Education and Outreach Sessions group:
 - Session EOS5.1 - Geoethics: how and why should geosciences serve society? (Convenership: Silvia Peppoloni, Nic Bilham, Daniel De Miguel, Eduardo Marone, Susanne Schneider-Voss).
 - Session EOS5.2 - Geoethics for facing global challenges: societal and ethical features of practicing geosciences (Convenership: Giuseppe Di Capua, Martin Bohle, Victor Correia, Silvia Peppoloni).
- IAPG is co-organizing with IAH - International Association of Hydrogeologists the International Congress “Geoethics & Groundwater Management: Theory and Practice for a Sustainable Development”, that will be held in Porto (Portugal): <https://geoeth-gwm2019.wixsite.com/porto> (May 2020).
- IAPG-Italy and IAPG-Portugal will cooperate to organize Multiplier Events in Italy and Portugal of the European Project Erasmus+ “GOAL – Geoethics Outcomes and Awareness Learning”, to disseminate the Intellectual Outputs of the project to a wider public (June 2020).
- IAPG will attend the 4th Transnational Meeting of the European Project Erasmus+ “GOAL – Geoethics Outcomes and Awareness Learning”, to be held at the University of Porto (Portugal). IAPG is official partner of the project (July 2020).
- IAPG will continue activities for the organization of the 1st International Meeting on Geoethics, as occasion of reflection, sharing of knowledge and advancing of the geoethical thinking.
- IAPG Lebanon will organize a Workshop entirely dedicated to Geoethics during the 4th International Conference of Geoparks in Africa and middle East (7-11 September 2020, Beirut).
- IAPG-Nigeria will organize the second Nigeria Geoethics Conference (NGC2). Details of this event will be published early in 2020.

- Activities of the School on Geoethics (“Schola”)

- Short Course “Foundations and Perspectives of Geoethics” (Convenership: Silvia Peppoloni and

Giuseppe Di Capua) at the 36th IGC – International Geological Congress in Delhi (India). Short Course content: 1. From Ethics to Geoethics: Definition, Values, Tools (Silvia Peppoloni); 2. Responsible Conduct of Research and Professionalism (David Mogk); 3. Foundations & Examples, how to tackle (Geo)ethical Dilemmas (Martin Bohle); 4. Geoethics for Society: Sustainable Development and Responsible Mining (Nic Bilham); 5. Geoethics in Natural Hazards and Risks (Giuseppe Di Capua); 6. Geoethics in Geoscience Communication (Iain Stewart); Discussion. The short course is co-sponsored by IAPG and IOI-TC-LAC (2-8 March 2020).

- Short Course SC2.1 “Foundations and Perspectives of Geoethics for Earth, Marine and Atmospheric Sciences” (Convenership: Eduardo Marone, Jan Boon, Giuseppe Di Capua, Silvia Peppoloni) at the EGU General Assembly 2020 in Vienna (Austria): <http://www.geoethics.org/egu2020>. The short course is co-sponsored by IAPG and IOI-TC-LAC (3-8 May 2020).

- Other activities (main initiatives by IAPG and its national sections)

- IAPG is partner of the 4th Training Course on “Ocean Governance, Ocean Sciences, and Geoethics” (Cananéia, São Paulo, Brazil), organized by the International Ocean Institute (IOI) - Training Centre for Latin America and the Caribbean. IAPG-Brazil (coordinator: Eduardo Marone) is in charge to prepare the module on geoethics in the training course (20 January-14 February 2020) (January-February 2020).
- IAPG will continue to cooperate in the European Project Erasmus+ GOAL “Geoethics Outcomes and Awareness Learning”. IAPG is official partner of the project (January-August 2020).
- IAPG will continue to develop activities in the International Advisory Board of the European Project INTERMIN “International Network of Raw Materials Training Centres” (January-December 2020).
- IAPG-Greece will work to organize a workshop entitled “Geoethics in Greece: Status and Future perspectives”, under the auspices of the Geological Society of Greece (Convenership: Gerassimos Papadopoulos and Maria Triantaphyllou, IAPG-Greece co-coordinators) (February 2020).
- IAPG will hold its 2nd General Assembly at the 36th IGC – International Geological Congress in Delhi (India) (2-8 March 2020).
- IAPG-Peru will organize the 4th Round Table on Geoethics in Peru (March, 2020).
- IAPG-Cuba will be attending CINAREM’20 - X International Conference of Mineral Resources Exploitation, held in Guardalavaca (Vuba), where geoethics has been included

among the topics of the conference thanks to Yurisley Valdés Mariño (IAPG-Cuba coordinator) (7-9 April 2020).

- IAPG-Peru will organize thematic conferences on Geoethics in Geosciences (June 2020).
- IAPG Lebanon will organize some events and courses to promote geoethics during the 2020. Among them: a training course for Shouf Biosphère Reserve team (January 2020); a conference at the Minister of Environment in Beirut (March 2020); a course at the Saint Joseph University in Beirut (Civil Engineer Department) (April 2020); a conference at the Order of Engineers for members of the largest associations in Lebanon (June 2020).
- IAPG will assign the Geoethics Medal 2020 (September 2020).
- IAPG will celebrate the 4th edition of the International Geoethics Day. Hashtag of this event: #geoethicsday2020: <http://www.geoethics.org/geoethics-day> (15 October 2020).
- IAPG-Peru will organize the 6th Edition of MinerLima “Feria Internacional de Minerales y Fósiles en el Perú” (International Exhibition of Minerals and Fossils in Peru) (November 2020).
- IAPG-Bangladesh will organize seminars and meetings to promote geoethics addressed to geologists working in Bangladesh Water Development Board (BWDB), Bangladesh Oil, Gas & Mineral Corporation (Petrobangla), Bangladesh Petroleum Exploration & Production Company Ltd (BAPEX) and other public companies. Moreover the section will develop activities in October to celebrate the International Geoethics Day 2020.
- IAPG-Cameroon will cooperate in and develop the following activities:
 - Drafting a strategic development plan for IAPG-Cameroon.
 - Encouraging membership to IAPG through a sensitization and media campaign.
 - Signing a Memorandum of Understanding between IAPG and the Green Building Council Cameroon (GBC-Cam).
 - Drafting project proposals and seeking for funding, with endorsement from IAPG international.
 - Promoting collaboration with Universities and Research Institutions.
 - Training on the use of drones in disaster management.
 - Giving assistance in the supervision of the work by six Master Degree students on “physicochemical and bacteriological characterization of pollution levels in well waters in semi-urban areas”, and of other two PhD students on similar but extended topics.
- IAPG-Egypt will work to an official agreement between IAPG and the Geological Society of Africa (GSAf).

- IAPG-France will continue efforts in developing an Open article collections in Sustainable Earth of Springer Nature, entitled “Learning Sustainability”: Lead Guest Editor is David Crookall (IAPG-France co-coordinator) and Guest Editor is Margaret Brocx (IAPG Continental Coordinator for Oceania). Moreover a paper on ethical recommendations for developing clean energy operations by Michèle Barbier (IAPG-France co-coordinator) et al. will be published. IAPG-France will contribute to the IAPG sessions at the EGU 2020 with several abstracts.
- IAPG-Iran will develop the following activities:
 - Promoting official cooperation between IAPG and Iranian geoscience organizations, including the Geological Society of Iran and the Geological Survey of Iran.
 - Encouraging IAPG memberships among Iranian geoscientists and students, and their involvement in the activities of the section.
 - Promoting activities by IAPG-Iran through social media and the blog.
- IAPG-Pakistan will organize seminars on IAPG and geoethics in different Universities, organizations, and companies: University of Peshawar, University of Malakand (Chakdara), University of Sawabi, Qaid E Azam University Islamabad, National center of excellence in Geology (NCEG), Khyber pakhtoon khwa oil and gas company (KPOGCL).
- IAPG-Ukraine has planned to expand educational and to continue scientific activities.
- IAPG-United Kingdom will work mainly on responsible mining: the intention for 2020 will be to ensure that geoethics is fully integrated into these developments. This will be achieved through greater interaction with academia, government and specialist consultancies to raise awareness. Where possible, interaction with the media will be sought to further distribute the messages.
- IAPG-USA will continue most of 2019 efforts. In particular, IAPG-USA members will actively participate in the IAPG symposium at the 36th IGC - International Geological Congress in March 2020. In addition, IAPG-USA will continue discussions to coordinate sessions on geoethics at annual/national meetings of the Association of Environmental and Engineering Geoscientists (AEG), American Institute of Professional Geologists (AIPG), and the Environmental and Engineering Geology Division of the Geological Society of America (GSA), to be held in the 2020-2021 time frame, with an anticipated special issue of the GSA-AEG journal “Environmental and Engineering Geoscience” as an outlet for longer-form papers on geoethics. Coordination is facilitated by the significant overlap in membership of these organizations and their history of involvement in professional ethics within the engineering geosciences.

- IAPG, in cooperation with IFG-Initiative on Forensic Geology, will release the White Paper on Geoethics in Forensic Geology.
- IAPG will continue to enlarge its network by opening new national sections.
- IAPG will continue to spread news, and information about contents, activities and initiatives on geoethics through its website, blog, social networks and newsletter.

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