

INQUA RECOGNITION APPLICATION

The deadline for receipt of applications by the Secretary-General and the President of the sponsoring Commission is **January 31st of the year in which recognition is requested**. We encourage you to consult the appropriate Commission President at an early stage in the development of your proposal or if you have any queries about eligibility. Please enter information in the allocated boxes, taking note of the length restrictions, and add rows to tables as required.

DETAILS

1. Year of application

2016-2019

2. Name of Commission supporting your proposal

TERPRO

3. Name of Activity

Earthquake Geology and Seismic Hazards - EGSHaz

4. Has the Activity previously been recognised as an INQUA IFG or Project? If so, please give the IFG/project number, and the period over which this IFG/project ran.

PALEOSEISMOLOGY AND ACTIVE TECTONICS: IFG 1228F (Approved in 2012)
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5. Leader(s) (All communications will take place by email unless specifically requested otherwise, in which case a fax number should be supplied.)

Name	Mailing address	Email address
Ioannis Papanikolaou	Laboratory Mineralogy- Geology, Department of Natural Resources Management and Agricultural Engineering, Agricultural University of Athens, Iera Odos 75, Athina 118 55, Greece	i.pap@aua.gr
Petra Štěpančíková	Institute of Rock Structure and Mechanics, Academy of	stepancikova@irsm.cas.cz

	Sciences of the Czech Republic, Dpt. Neotectonics and Thermochronology, V Holešovičkách 41, Prague 8, 182 09, Czech Republic	
Christoph Grützner	Bullard Labs; Department of Earth Sciences, University of Cambridge, Madingley Rise, Madingley Road, CB3 0EZ Cambridge, UK	chg39@cam.ac.uk

- 6. General description.** Please describe the background and long-term goals of the activity in terms accessible to a non-specialist. If the application is successful, this paragraph will be used by the sponsoring Commission to advertise your activity on the website.

The new IFG EGSHaz will continue and expand the work of the former IFG PALACTE (Paleoseismology and Active Tectonics) during the next inter-congress period until the upcoming INQUA congress 2019 in Dublin. As reflected by the new name, we aim to broaden the IFG focus on all fields of Earthquake Geology and Seismic Hazard.

The first part, Earthquake Geology, does include all disciplines that contribute to understanding Quaternary earthquake activity, such as paleoseismology, neotectonic studies, tectonic geomorphology, archaeoseismology, and seismology. This will allow us to apply a wide set of earth science techniques to the study of Earthquake Environmental Effects (EEE). The very successful work during the last inter-congress period made clear that interdisciplinary approaches and multi-proxy studies are needed to comprehensively understand the effects that seismic events have on society and on the environment.

The second part, Seismic Hazard, reflects the lessons learned from recent seismic events. On one hand, the past few years have seen surprisingly large, devastating earthquakes with unforeseen dramatic consequences often due to cascading effects. On the other hand, moderate seismic events also illustrated the vulnerability of even highly developed areas, again often caused by secondary and cascading effects. In both cases seismic hazard assessments did not successfully describe the earthquake effects. With this initiative we aim on using the methods of Earthquake Geology to improve seismic hazard assessments by incorporating observations from pre-instrumental earthquakes, with a special focus on surface rupture hazard. This initiative will address questions that have a large impact on society and disaster preparedness.

We plan to run two special projects within the IFG during the next intercongress period:

- Project 1: Minimum Magnitude Surface Rupture (MMR) and Maximum Potential Earthquake (MPE) from paleoseismic Quaternary records.
- Project 2: Geological Earthquake Mapping of recent, historical and paleoseismic events: Quaternary Geology for Seismic Hazard Analyses.

- 7. Confirmed international participation.** Please give name and affiliation, and indicate if the participant is a graduate student (PhD), early-career researcher (ECR), developing-country researcher (DCR) or senior scientist (SS), using the table below). Please add rows to this table as necessary!

Name	Institute	Country	Status (PhD, ECR, DCR, SS)
Alarcón Eduardo	FUNVISIS	VENEZUELA	PhD
Alvarado Alexandra	IGEPN	ECUADOR	DCR
Audemard Franck	FUNVISIS	VENEZUELA	SS
Azuma Takashi	Tokyo University	JAPAN	SS
Baize Stéphane	IRSN	FRANCE	SS
Benavente Escobar Carlos	IGMM	PERU	DCR
Braun Anika	Chinese Academy of Science	CHINA	ECR
Braun Yael	Hebrew University Jerusalem	ISRAEL	PhD
Bautista Maria Leonila	PHIVOLCS	PHILIPPINES	DCR
Blumetti Anna Maria	ISPRA	ITALY	SS
Chatzipetros Alex	Thessaloniki University	GREECE	SS
Cita Akbar	Center for Geological Survey, Jl,	INDONESIA	DCR
Cinti Francesca	INGV	ITALY	SS
Civico Riccardo	INGV	ITALY	ECR
Comerci Valerio	Italian Geol. Survey (ISPRA)	ITALY	SS
Costa Carlos	San Luis University	ARGENTINA	SS
Dawson Tim	California Geological Survey	USA	SS
Deligiannakis Georgios	Agricultural University of Athens	GREECE	PhD
Elliott Austin	Oxford University	UK	ECR
Faure Walker Joanna	IRDR - Institute for Risk & Disaster Reduction	UK	ECR
Fernández-Steeger Tomas	RWTH Aachen University	GERMANY	SS

Ferrater Marta	U. Barcelona	SPAIN	PhD
Ferranti Luigi	Univ. Naples	ITA	SS
Fukushima Yoshi	IAEA-ISSC	JAPAN	SS
Gath Eldon	ECI	USA	SS
Garduño Monroy Victor Hugo	Universidad Michoacana	MEXICO	DCR
Giner -Robles Jorge Luis	Univ. Autonoma Madrid	SPAIN	SS
Goodman Beverly	Haifa University	ISRAEL	SS
Grützner Christoph	University of Cambridge	UK	ECR
Guerrieri Luca	Italian Geol. Survey (ISPRA)	ITALY	SS
Hangibayna Kussita Aspiron	Arba Minch University	ETHIOPIA	DCR
Havaš Michal	U. Ostrava	CZECH REPUBLIC	PhD
Havenith Hans Balder	University of Liege	BELGUIM	SS
Heddar Aicha	CRAAG	ALGERIA	DCR
Hintersberger Esther	University of Vienna,	AUSTRIA	ECR
Hinzen Klaus	Cologne University	GERMANY	SS
Huerta Pedro	Universidad de Salamanca	SPAIN	ECR
Huertgen Jochen	RWTH Aachen	GERMANY	PhD
Iezzi Francesco	Birkbeck College, University of London	UK	PhD
Kim Young Seong	Pukyong National University	KOREA	SS
Koehler Richard	University of Nevada, Reno	USA	SS
Landgraf Angela	Potsdam University	GERMANY	ECR
Langridge Robert	GNS	NEW ZEALAND	SS
Lekkas Efthymios	National Kapodistrian Univ. Athens	GREECE	SS
Livio Franz	U. Insubria	ITALY	PhD/ECR
Malik Javed	Indian Institute of Technology Kanpur	INDIA	SS

Marjiono Pak	Geological Agency of Indonesia	INDONESIA	SS
Matos Bojan	U. Zagreb	CROATIA	ECR
McCalpin James	GEO-HAZ Consulting	USA	SS
Mechernich Silke	U. Cologne	GERMANY	ECR
Mechis Marco	Birkbeck College, University of London	UK	PhD
Michetti Alessandro	Insurbia University	ITALY	SS
Mohanty Asmita	Indian Institute of Technology Kanpur	INDIA	PhD
Nguyen Dai Trung	Vietnam institute of Geoscience	VIETNAM	DCR
Noely Tambaria Theodora	Universitas Gadjah Mada	INDONESIA	PhD
Pallikarakis Aggelos	Agricultural University of Athens	GREECE	PhD
Papaloizou Loizos	University of Cyprus,	CYPRUS	SS
Papanikolaou Ioannis	Agricultural Univ. Athens	GREECE	SS
Papathanassiou Georgios	Thessaloniki University	GREECE	SS
Pavlidis Spyros	Thessaloniki University	GREECE	SS
Pérez -Lopez Raúl	Spanish Geol. Survey (IGME)	SPAIN	SS
Porfido Sabina	CNR -IAMC	ITALY	SS
Okumura Koji	Hiroshima University	JAPAN	SS
Reicherter Klaus	RWTH Aachen University	GERMANY	SS
Roberts Gerald	University College London	UK	SS
Robertson Jennifer	Birkbeck College, University of London	UK	PhD
Rockwell Thomas	San Diego University	USA	SS
Rodriguez - Pascua Miguel Angel	Spanish Geol. Survey (IGME)	SPAIN	SS
Rudersdorf Andreas	RWTH Aachen University	GERMANY	PhD
Sahoo Santiswarup	Utkal University, Oodisa,	INDIA	DCR

Samari Hamid	Islamic Azad University-Mahallat Branch	IRAN	SS
Scotti Oona	IRSN	FRANCE	SS
Silva Pablo G.	Salamanca University	SPAIN	SS
Sintubin Manuel	Leuven University	BELGIUM	SS
Špaček Petr	Masaryk University Brno	CZECH REPUBLIK	SS
Stemberk Jakub	Academy of Sciences of the Czech Republic	CZECH REPUBLIK	PhD
Stancikaite Migle	INSTITUTE OF GEOLOGY AND GEOGRAPHY, SEVCENKOS	LITHUANIA	SS
Štěpančíková Petra	Academy of Sciences of the Czech Republic	CZECH REPUBLIC	SS
Strom Alexander	Geodynamics Res Center Moscow	RUSSIA	SS
Szczucinski Witold	Adam Mickiewicz University Poznań	POLAND	SS
Tatevossian Ruben	INGR	RUSSIA	SS
Vassilakis Emmanuel	NKUA	GREECE	SS
Velazquez Bucio Maria Magdalena	CIGA UNAM	MEXICO	PhD
Villamor Pilar	GNS	NEW ZEALAND	SS
Vittori Eutizio	Italian Geol. Survey (ISPRA)	ITALY	SS
Walker Richard	Oxford University	UK	SS
Watson Zoe	University College London	UK	PhD
Wedmore Luke	University College London	UK	PhD
Whitney Beau	The University of Western Australia	AUSTRALIA	ECR

Overall we have compiled a list with 440 members from 54 countries (Algeria, Andorra, Argentina, Austria, Australia, Belgium, Bulgaria, Canada, Chile, China, Croatia, Cyprus, Colombia, Czech Republic, Denmark, Ecuador, Egypt, France, Great Britain, Germany, Greece, Hungary, Indonesia, India, Iran, Israel, Italy, Japan, Korea, Kyrgistan, Lithuania, Mexico, Morocco, The Netherlands, New Zealand, Oman, Pakistan, Peru, Philippines, Poland, Portugal, Romania, Russia, Singapore, Slovenia, Spain, Switzerland, Sweden, Thailand, Taiwan, Turkey, USA, Venezuela, Vietnam). These

members have either attended one of the past 6 workshops of the focus group since 2009 or have joined recently the group and participate in one of the two project proposals for 2016-2019. The full list is attached following this file as an appendix.

8. **Description of activity.** Please give details of the proposed activity (or activities) including type of activity, where/when it will be carried out and who will be involved.

(maximum 1 page)

The IFG EGSHaz will act as an umbrella for two projects that are designed to run until the next INQUA congress 2019. We will coordinate these projects, support the project meetings, and help with networking and organization because these two projects are the scientific core of the IFG.

- Project 1: Minimum Magnitude Surface Rupture (MMR) and Maximum Potential Earthquake (MPE) from paleoseismic Quaternary records. Leaders: Stéphane Baize, Francesca Cinti, Jim McCalpin
- Project 2: Geological Earthquake Mapping of recent, historical and paleoseismic events: Quaternary Geology for Seismic Hazard Analyses. Leader: Ioannis Papanikolaou, Pablo Silva, Gerald Roberts

We plan the following meetings and workshops during the intercongress period:

- 31 May – 1 June, 2016: 7th International Workshop on Paleoseismology, Active Tectonics, and Archeoseismology (PATA Days), Crestone, CO, USA. Main organizer: Jim McCalpin. Includes: Scientific sessions, 3 field trips, student training course, IFG business meeting, project business meetings.
- Autumn 2016: Project 1 business meeting, California. Main organizer: Stéphane Baize. We will focus on ECR participation.
- Autumn 2016: Project 2 business meeting, Aachen, Main organizer: Klaus Reicherter
- April 2017: Paleoseismology meeting in Christchurch, New Zealand. Main organizer: Robert Langridge. We plan two IFG sessions, organized by two projects. It includes excursions, student training.
- Winter 2017: Project 2 business meeting, Athens, Greece. Main organizer: Ioannis Papanikolaou. It will include one excursion and public lectures.
- June 2018: 8th International Workshop on Paleoseismology, Active Tectonics, and Archeoseismology (PATA Days), Thessaloniki, Greece. Main organizer: Spyros Pavlides and Alex Chatzipetros. Includes: Scientific sessions, 2 field trips, 3 days student training course, IFG business meeting, project business meetings.
- Late 2018: Project 1 Meeting in Central Andes

- Further Project 2 meetings for 2018 and 2019 will be performed in two of the following 4 sites, to be selected according to depending on the funding availability from Senior Scientists and the outcome of several submitted research proposals:

(1) London, UK, hosted by the University of London (Birkbeck and University College London) (Gerald Roberts/ Joanna Faure Walker),

(2) Prague, Czech Republic, hosted by the Academy of Sciences (Petra Štěpančíková)

(3) Madrid, Spain, hosted by the Universidad de Salamanca and IGME (Pablo G. Silva/ Raúl Pérez –Lopez/ Miguel A. Rodriguez - Pascua Miguel)

(4) Rome, Italy, hosted by ISPRA, (Luca Guerrieri)

9. How would the INQUA community benefit from this activity?

(maximum half page)

The INQUA community will benefit from the participation of 440 members of the focus group from 54 countries, expanding the reach of INQUA to the wider scientific audience. During the last intercongress period it became clear that interdisciplinary approaches and multi-proxy studies are needed to comprehensively understand the effects that seismic events have on society and on the environment. We aim on intensifying the cooperation with other INQUA IFGs, especially those that work on Quaternary dating methods and soil science, and we open our IFG to the participation of a broader spectrum of researchers. This is also reflected in the new name of the focus group. We plan to organize joint meetings and sessions with other IFGs and we will invite researchers from the relevant fields to our conferences and vice versa.

Our projects related to improving seismic hazard assessments by incorporating geological data have a direct societal and economic impact. This illustrates that research done under the umbrella of INQUA is of high relevance not only for scientific questions, but also for practical applications that concern the society such as civil protection, resilience strategies, insurance industry. The outcome of our projects will be used to create science outreach and INQUA will be visible at all stages of our projects. Since we focus on incorporating young scientists and those from developing countries in our already broad network, we will build the foundations for future Quaternary earthquake science.

10. Why would INQUA recognition of this activity be useful?

(maximum half page)

We request INQUA to recognize our activity for two main reasons. First, INQUA funding will allow us to organize meetings and workshops. These events are necessary to coordinate the IFG activities and the two projects, to evaluate the project progress, to involve young scientists, and to plan future work. The former IFG PALACTE established a conference series in 2009, which is now generally seen as the world's most important

meeting on paleoseismology. The high success of these meetings, the enormous scientific output, and the public outreach encourage us to continue this work and expand further this impressive network.

11. Second, the INQUA label is now widely recognized in the earthquake geology community, as illustrated by the various co-operations, for example with the IAEA, the IRSN, and other national research agencies. We have built a strong network in the past years, and we will continue to use it in the future. The ongoing support of INQUA is essential to establish long-lasting projects and scientific initiatives and not only maintain but enlarge the existing focus group, particularly since this topic is further advancing worldwide. **What other organizations have agreed to recognize and/or fund this activity?**

(maximum half page)

We closely work together with several national and international agencies. For example, the last project business meeting was completely financed by the French IRSN, thus acknowledging the important role the INQUA IFG plays in the scientific community. The IFG works closely with the International Atomic Energy Agency (IAEA; Vienna, Austria), which led to the publication of a TecDoc on paleoseismology in 2015.

Support for our meetings will, among others, come from: Crestone Science Center (USA); GEO-HAZ Consulting, Inc. (USA); Adams State University (USA); Colorado College (USA); University of Colorado-Boulder (USA); GNS (New Zealand); RWTH Aachen University (Germany); University of Cambridge (UK); Agricultural University of Athens (Greece); Thessaloniki University (Greece); IRSN (France); Academy of Sciences of the Czech Republic (Czech Republic).

These organizations provide travel support for their respective national scientists, provide man power, provide help with the logistics of the meetings, and contribute to secure scientific quality.

Signature: Date: 26 January 2016

Dr. Christoph Grützner

Dr. Ioannis Papanikolaou

Dr. Petra Štěpančíková