

Report on the Regional Conference on Geomorphology and post-conference 2nd IAG-EGU Intensive Course

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Participating in the **Regional Conference on Geomorphology (RCG) 2019** and the follow-up **2nd International Association of Geomorphologists (IAG) - European Geosciences Union (EGU) Intensive Course** was certainly a long awaited event in my calendar for this year.

The RCG, organized by the Greek Committee for Geomorphology & Environment of the Geological Association of Greece was held in Athens at National and Kapodistrian University of Athens Conference Center from 19 to 21 September, 2019 and the main theme of this conference was 'Geomorphology of Climatically and Tectonically Sensitive Areas'. The Conference emphasized on new challenges faced by geoscientists and especially geomorphologists for better understanding the response of the Earth systems and highlighted the new techniques and methods to make new assessments and predictions for the future, and to contribute to society's adaptation and preparedness. Among the delegates of different countries, more than 10 Indian contingent gathered in this conference for presenting their research findings as oral presentations in 4 scientific sessions. The opening ceremony took place in the ceremonial hall of historic building of the venue on Thursday, 19th September, 2019 at 09:00 hours during which 8 Young Geomorphologists "Grant Holders" were introduced to the geomorphological community (Fig. 1a). This was followed by two informative keynote lectures by Prof. (Dr.) Emmanuel Reynard (University of Lausanne, Switzerland) and Prof. (Dr.) Taylor Perron (Massachusetts Institute of Technology, USA). I really learned a lot from Perron's talk on 'The imprint of river capture on continental topography and



Figure 1. Pictures during the 2019 IAG Regional Conference (RCG) at National and Kapodistrian University of Athens Conference Center, Greece. (a) Young Geomorphologists from India, Brazil, and Indonesia selected to attend the RCG as well as to participate in the post-conference intensive course, along with the President of IAG. (b) I myself presented 15-minutes oral paper during the technical session. (c) Prof. (Dr.) Evelpidou Niki (Conference President) welcoming the participants during the opening session of the RCG.

biodiversity'. I have tried to listen to the presentations of scientific sessions as many as possible and found that they were all very insightful. Especially, the four keynote lectures were without exception outstanding in content and presentation and was a real highlight of the conference. The other keynote speakers were Prof. (Dr.) Andreas Vött (Johannes Gutenberg University Mainz, Germany) and Prof. Piotr Migon (University of Wrocław, Poland). Their talks were fruitful and led to better understanding of active tectonics and geomorphic response. I was deeply inspired by attending the oral presentations in two halls (Argyriades and Drakopoulos Hall) of different parallel

scientific sessions by renowned geomorphologists like Prof. Olav Slaymaker (Canada), Prof. Takashi Oguchi (Japan), Prof. Edgardo Latrubesse (Singapore), and Prof. Sunil Kumar De (India) in their fields. Having interacted face-to-face with them was truly an honour of lifetime. In addition, through presenting my own work I was able to obtain invaluable feedback from various researchers in this area. I had my oral presentation on 'Tectonic and Lithological controls on the variability of fluvial landscape in Chotanagpur Plateau, Eastern India' in the scientific session (S13) of 'Tectonic Geomorphology' (Fig. 1b). I found quite impressive numbers of renowned Geomorphologists as well as promising scholars attending that session. After my presentation I received two questions from the audience, (i) controls of slope on DEM-derived longitudinal stream power graph, and (ii) about the relationship between TRMM-derived precipitation pattern and stream power graph. In addition to the scientific goal, it is important during conferences to know each other personally in order to work in collaboration. I had great discussions and established academic contacts with several young researchers who are working in similar field in different parts of the globe. Poster presentations in the lobby of the Conference Hall were good. Finally, it was indeed a successful conference and was extremely well organized; thanks to Prof. (Dr.) Evelpidou Niki (National and Kapodistrian University of Athens) (Fig. 1c) for this well planned conference. I felt very proud and honored to be an IAG-Grant holder and a participant of the International Conference of paramount standard; it has opened altogether a new era in my academic life. For all of these, I would like to express my gratitude to the Selection Committee of the IAG for considering my candidature for the IAG - Grant Awardee which helped me to participate in this prestigious event. In this context, I also would like to extend my sincere thanks to Prof. Mauro Soldati, Prof. Marta Della Seta and Prof. Emmanuel Reynard for their enormous efforts. In spite of all, from my perspective, it would have been more advantageous if there were absence of parallel sessions which enable me to attend all the oral presentations.

Apart from the conference, the 2nd IAG - EGU Intensive Course at the Harokopio University of Athens and the Hellenic Centre for Marine Research (HCMR) (Anavyssos, Attica) from 22 to 27 September, 2019 was very exciting. 'How the geomorphology is increasingly engaged with the linkages among coast, climate and tectonics?' This question kept us busy during the entire week of this intensive course. Encountering the Mediterranean Sea, visiting Central Greece (Attica) and North Peloponnese was undeniably a mind-opening experience for most of the young geomorphologists. The program consisted of one-day lecture session, three day laboratory activities and two days field trips. The first day at Department of Geography, Harokopio University was about the self introduction and the participants were provided with well-prepared field guidebook. The guidebook was very useful as it included the short description of each stop along with a colored map, photographs and other major features. At the beginning of the day, the comprehensive introductory keynote lectures were very insightful to me. The lectures were brainstorming that provoked discussion about the geomorphic response to active tectonic deformations and climate at different space and time scales. Lectures, especially delivered by Prof. Mauro Soldati (Italy), Dr. Dimitris Papanastassiou (National Observatory of Athens, Greece) and Dr. David Fernández-Blanco (Institut de Physique du Globe de Paris, France) were enlightening. I especially like meetings beginning in the morning around a table, because in my opinion this is the best way to meet and get in touch with new people blended in a friendly atmosphere over whole duration of the program. The second day was devoted to laboratory exercises where we learned coastline displacement rates trend through GPS and remote sensing techniques using Digital Shoreline

Analysis System (DSAS) software (Fig. 2d). This was demonstrated by Dr. Emmanuel Vassilakis (National and Kapodistrian University of Athens). After some comprehensive introductory lectures, marine terrace mapping and modeling was demonstrated by Dr. Julius Jara-Muñoz (University of Potsdam, Germany). An extremely high-resolution digital elevation model created using the latest equipment unmanned aerial vehicle (UAV) was demonstrated by Dr. Dimitris Vandarakis (HCMR).



Figure 2. Pictures of discussion session and field trips during intensive course. (a) Photo-session of the Young Geomorphologists in front of the Vouliagmeni Lake. (b) Interactions among experts and some participants during field near Kakia Skala site. (c) Overview of the Heraion harbour (an archaeological site) where uplifted marine notches can be seen along the coastline. (d) Practical demonstration of the softwares along with exercises in the Digital Geography laboratory of Harokopio University (e) Hands-on training in the visual inspection of borehole logs and its qualitative description. (f) Lecture session on the creation of bathymetric maps in the Hellenic Centre for Marine Research (HCMR).

The field sessions (September 24-25) were undertaken in and around northern part of Peloponnese Peninsula in southern Greece to understand the geomorphic response of coasts to tectonics and climate. The first day field traverses from Kakia Skala (Skironian Rocks) to Katharoneri valley in the North Peloponnese was interesting. The day provided a precious overview of calcareous rocks (limestones and dolomites) of Mesozoic age near vicinity of Saronic Gulf which has been affected by fault zone *viz.* Kakia Skalathat (Fig. 2b); Corinth Canal and New Corinth uplifted marine terraces along the coastline road. The late Quaternary rates of stream incision in the Katharoneri valley of Northeast Peloponnese were also explained to us. On the same day, we were also enriched by the knowledge and experience shared by Dr. Papanastassiou and Dr. Fernández-Blanco on reversed river drainages. The next day field trip consisted a traverse towards Perachora Peninsula after crossing the northern coastline of the Saronic Gulf (Skironian Rocks) with multiple stops and systematic description of sites. At Vouliagmeni Lake (Fig. 2a) and Heraion archaeological site (Fig. 2c), the description about morphotectonic sea level indicator: uplifted beachrocks and tidal notches were given by Prof. Niki. There were also Pleistocene marine platforms observed by us which are the combined product of eustatic and tectonic processes. We subsequently visited Psatha beach along the Alkyonides Gulf for high resolution UAV photogrammetric data collection and coastline tracing with the help of RTK-GNSS. On the same day, we were also enriched by the vibecore drilling activities near Psatha swamp. The coastal bathymetry and seismic profiling activities also explained by Dr. Vasilis Kapsimalis (HCMR). Over subsequent days (September 26-27), laboratory activities on various topics came to the fore. This was an excellent chance to learn about the various methods available for us, and examine the limitations of the various methods of data acquisition. The whole sessions during these days were devoted for practicals. In the practical session, participants were exposed to granulometric analysis and micropalaeontological analysis. Dr. Konstantinos Tsanakas (Harokopio University, Athens) gave us an overview of the qualitative description of the sedimentary stratigraphy by visual inspection of borehole log and eventually the laboratory visit was useful (Fig. 2e). During the final day, there was also a tour to HCMR on 27th September where the lecture on creation of bathymetric maps based on single beam and/or swath bathymetry data by Dr. Kapsimalis was interesting (Fig. 2f).

With all the mesmerizing memories, I have to admit that the conference and intensive course participation in many respects was a fruitful experience, both scientifically and socially. Particularly, I have been benefited greatly from the intensive exchange of views and ideas with other young geomorphologists being in their early stages of research career and struggling with similar problems in their academic life alike me. I enjoyed, learnt and liked every moment of the visit. I was thrilled to learn about my selection for this honour and I deeply appreciate the generous support. Special thanks are due to Prof. (Dr.) Efthimios Karymbalis (Harokopio University, Athens) for efficiently managing these events. Lastly, based on my experience, I would like to encourage all the early career researchers (ECR) to apply for such grants of IAG for attending future IAG programme.