



12th International Congress

of the Geological Society of Greece

**PLANET EARTH:
GEOLOGICAL PROCESSES
&
SUSTAINABLE DEVELOPMENT**



May
19-22 2010

Conference
and
Cultural
Centre
of the
University
of Patras

Patras
Greece



GEOLOGICAL SOCIETY OF GREECE



Geological Society of Greece
and the
Department of Geology, University of Patras

are happy to invite you in Greece and specially to the

12th International Congress
PATRAS, GREECE

19th-22nd, May 2010

SECOND CIRCULAR

Secretariat
tel. 030 2610 432200, Fax. 030 2610 430884, e-mail: synedra@synedra.gr
www.synedra.gr

Message from the Organizing Committee

Dear colleagues

Dear guests, GSG members, students, and educators,

We invite you to Patras, Greece, to attend the 2010 Geological Society of Greece – GSG International Congress on 19-22 May. The theme of the 12th Congress is "**Planet Earth: Geological Processes – Sustainable Development**". This topic reaches across all of GSG's professional sections and embraces the interdisciplinary nature of its membership - challenging each of us to look at the goals of our work somewhat differently. The sessions of the 12th GSG Congress cover a wide range of subdisciplines that address both pure and applied geologic research and educational issues and focuses on topics which are of utmost importance for our modern society.

First, we have developed field trips covering the active geological processes at short distances from Patras, an area where a series of new motorways are under construction. Second, presentation, discussion, and publication of pure geoscience research will remain GSG's strong and compelling focus for the 2010 Congress. At the same time, to ensure the viability of our science and its understandability to the public, policy makers, and those who provide funding opportunities, the 2010 Congress will also strongly address how the science can be applied directly to the needs of the public, governmental agencies and industry. Even with the best preparations, however, the success of the meeting depends on your participation. We have a vision of seeing most of you in Patras at the 12th International Congress of the GSG.

Patras is Greece's third largest urban centre and the capital of the prefecture of Achaia, located in northern Peloponnese, 215 kilometers west of Athens. The city is built at the foothills of mount Panachaikon, overlooking the Gulf of Patras. Mounts Klokova and Varasova define the skyline to the north. The lively city of Patras, with its beautiful surroundings and spectacular geology is expecting your presentation. The meeting will take place in the Conference and Cultural Center of the University of Patras, where more than 20 thousand students study in the 24 different Departments and which is located 8 km far from the center of the town.

We wish you all welcome to Patras in May 2010.

Prof. George Koukis
President

Ass. Prof. Ioannis Koukouvelas
General Secretary

Organization of the Congress

Geological Society of Greece Congress 2010
12th International Congress, Patras 2010
"Planet Earth: Geological Processes and Sustainable Development"

Overall Plan

Wednesday 19 May	Registration (17.00 -21.00 and on all subsequent days)
Thursday 20 May	Plenary Lectures, Sessions, Workshops. Congress Opening Ceremony
Friday 21 May	Plenary Lectures, Sessions, Workshops
Saturday 22 May	Sessions Congress Closing (13.30) Preparation for Post-Congress Excursions (14.00) Departure (15.00)
Sunday 23 May	Post-Congress Excursions (9.00)

Please note that exact times may change. Workshops and excursions may also be held on dates other than 23 May, if necessary.

The Congress program will be dominated by Sessions, but there will be room for short courses, workshops, one-day excursions and meetings throughout the Congress. A social program is being arranged. The Congress itself will run from 20-22 May. The Science program is outlined in this document.

The official languages of the Congress will be Greek and English. During the oral presentations, there will be no simultaneous translation.

For updates visit www.synedra.gr

Organizing Committee

<i>President</i>	George Koukis	<i>University of Patras</i>
<i>Vice-President</i>	Avraam Zelilidis	<i>University of Patras</i>
<i>General Secretary</i>	Ioannis Koukouvelas	<i>University of Patras</i>
<i>Executive Secretary</i>	George Papatheodorou	<i>University of Patras</i>
<i>Treasurer</i>	Maria Geraga	<i>University of Patras</i>
<i>Members</i>	Nikolaos Kontopoulos	<i>University of Patras</i>
	Nikolaos Lambrakis	<i>University of Patras</i>
	Nikolaos Sabatakakis	<i>University of Patras</i>
	Dimitrios Papoulis	<i>University of Patras</i>
	Efthymios Sokos	<i>University of Patras</i>
	Michalis Stamatakis	<i>National and Capodistrian University of Athens</i>
	Kostas Papavasiliou	<i>I GME, Athens</i>
	Kostas Makropoulos	<i>Institute of Geodynamics, NOA</i>
	Manolis Manoutsoglou	<i>Technical University of Crete</i>
	Spyridon Pavlides	<i>Aristotelian University of Thessaloniki</i>
	Constantinos Papaconstantinou	<i>HCMR, Athens</i>

The Congress Science Program

12th GSG, daily schedule for the Congress/ Patras 19-22 May 2010

		19 th	20 th	21 th	22 th		
9.00	Early Morning Sessions		Posters up Symposia (Lectures and Posters)		Workshops, Excursions and Departure Congress Closing		
10.30	Coffee/Tea						
11.00	Late Morning Sessions		Posters up Symposia (Lectures and Posters)				
12.30			Posters only				
13.00	Lunch		Lunch/ Posters				
16.00	Early afternoon Sessions		Symposia (Lectures and Posters)				
17.30	Coffee/Tea						
18.00	Late afternoon Sessions		Symposia (Lectures and Posters)				
19.30	Evening Sessions		Posters only Posters down				
20.30							

For updates visit www.synedra.gr

Sessions

Two categories of Symposia are being arranged, referred to as general and special. They will run in parallel throughout the Congress. The time allocated to each Session will be dependent on the number of related contributions (full papers) received by 28th of February 2010. Division of these Sessions' contributions between oral and poster presentations will depend on the recommendations of the conveners and the capacity of the parallel sessions.

The paper submission through the Congress website is closed.

-Indicate which session is appropriate for your contribution. (Note that your preference will be given priority, but may not prove possible).

- After acceptance of the final paper (in March 2010), the Congress Registration fee has to be paid, not later than 15th of March 2010, for inclusion of the papers in the Congress Program and printed volumes.

- All papers will be available on the Congress web site by mid-June 2010. All members of the Congress that have paid the Congress Registration Fee will receive printed volumes on registration in Patras.

- All papers will be accessible on the Congress web site until the end of 2010.

The meeting will be held in several concurrent sessions, including a plenary hall with 250 seats, as well as one hall with 120 seats and three halls with 75 seats.

Presentation modes

Oral presentations. The oral presentations will be allocated 15 minutes (12, plus 3 for questions). Each lecture hall will be equipped with two screens, two 35 mm slide projectors, one overhead projector, and one data projector. Authors of computer-based presentations must carry their presentation on a CD/Removable Disk and give it to the personnel in the slide center. Individual laptops will not be allowed.

Posters

Posters are highly welcome and will be displayed in immediate proximity of the lecture halls in an independent 340m². Posters will be mounted on display boards for the whole duration of the meeting. They will be put up in the morning of their allocated day at 08.00 and taken down at 19.00 on the same day. The author(s) should be present at their posters during the time indicated in the programme.

Posters must fit within an area 100cm (width) by 120 cm (high). For first time we organize booths for special posters with three panels of 130cm (width) by 175cm (high) each. Pins and adhesive for mounting posters will be available at the registration desk.

Themes

The organizers propose the following themes and special sessions:

- **Neotectonics and Paleoseismology**
Keynote Speaker: Prof. Dimitrios Papanikolaou

- **Geology, Structural Geology, Tectonics and Remote Sensing**
- Keynote Speaker: Prof. Dimostenis Mountrakis

- **Geomorphology, Physical Geography and Geoarchaeology**
Keynote Speaker: Prof. Ilias Mariolakos
- **Seismology and Geophysics**
Keynote Speaker: Prof. Kostas Makropoulos
- **Paleontology, Stratigraphy and Sedimentology**
Keynote Speaker: Prof. Michalis Dermitzakis
- **Marine Geology and Oceanography**
Keynote Speaker: Prof. George Ferentinos
- **Mineralogy, Petrology, Industrial Minerals and Rocks and Mineral Exploration**
Keynote Speaker: Prof. Christos Katagas

Geotopes and Geoconservation

Keynote Speaker: Assoc. Prof. Nikolaos Zouros

Geochemistry and Geology of Ore Deposits

Keynote Speaker: Prof. Sotirios Varnavas

Energy Resources and Geothermy

Keynote Speaker: Prof. Kimon Christanis

Engineering Geology, Geotechnical Engineering, Natural Hazards and Urban Geology

Keynote Speaker: Assoc. Prof. George Tsiambaos

Environmental Geology, , Sustainable Development and the Environment

GIS in Geosciences and Geoscientific Education

Keynote Speaker: Prof. Spyridon Pavlides

Hydrogeology and Hydrology

Keynote Speaker: Prof. George Soulios

Other themes can be added depending on the papers submitted.

Special Lectures

Professor Christos Zerefos

Professor Paul Marinos

Emeritus Professor Vasilios Papazachos

Emeritus Professor Antonios Foskolos

Emeritus Professor John Makris

Ruth Allington, President, European Federation of Geologists

FIELD TRIPS

West Greece and particularly Peloponnese and the Gulf of Corinth are particularly important areas for testing modern hypotheses regarding worldwide important geological processes. Key outcrops are quite close to the meeting center, including a wide range of geotectonic environments from contraction to extension provinces and from uplifted basins to active basins. In addition the area is hosting part of a quite large construction program including tunnels and motorways locating in pre- and post-Miocene rocks. A series of post-meeting field trips are offered to participants.

Deadline for field trip registration and payment of fees is April 20, 2010. Field trips that do not receive enough expression of interest may be cancelled. Payment for such trips will be fully refunded or used for another trip.

A1 - Corinth extensional basin evolution from Pliocene to present

Leaders: Nikolaos Kontopoulos & Avraam Zelilidis (Department of Geology, University of Patras; e-mail: kontopou@upatras.gr; a.zelilidis@upatras.gr).

The Corinth–Patras basin is a late Pliocene to Quaternary WNW trending extensional basin that extends for 130km across the Greek mainland. During the Pliocene extension the WNW-directed Corinth–Patras basin was formed, which was relatively uniform in width and depth along its axis. During early Pleistocene, it was separated into two WNW-trending sub-basins (Corinth and Patras sub-basins, 90 km and 30 km long and up to 30 km and 20 km wide, respectively) due to a NE-trending rifted sub-basin (Rion sub-basin, 15 km long and up to 3 km wide).

Pliocene muddy deltaic, shelfal and marginal marine deposits are exposed on the uplifted southern margins of the basin. During the Quaternary the basin was deeper, forming at times a lake, at times a marine seaway, connected both at Akra Araxos and Corinthos. At present the basin is open only at the western end, in Akra Araxos, and is subdivided into two sub-basins (Corinth and Patras) connected by the Rion Strait.

Duration: 1 day

Depart: Patras, May 22nd at 14.00

Arrival: Patras, May 22nd at 18.00

Transportation: Bus

Physical grade: Low, with short walks

Number of participants: Minimum 6; Maximum 25

Cost: **50,00** Euro including transportation, one break during lunchtime with sandwich and fruit.

A2. Active Faults in the Corinth Gulf - Sedimentation in the Gulf of Corinth by boat.

Leaders: (onshore geology) Ioannis Koukouvelas, Sotirios Kokkalas (Department of Geology, University of Patras; e-mail: iannis@upatras.gr; skokallas@upatras.gr).

(offshore geology) George Papatheodorou, Maria Geraga and Dimitris Christodoulou (Laboratory of Marine Geology and Physical Oceanography, Department of Geology, University of Patras; e-mail: George.Papatheodorou@upatras.gr).

The tectonic framework of the Aegean region is dominated by the collision of the Arabian and African plates with Eurasia. During this geotectonic evolution extension is the dominant

deformation style in Central Greece and the Gulf of Corinth which is accommodated by WNW-trending faults. GPS-data shows that the Gulf of Corinth is currently extending with rates ranging between 15 mm/yr in the west and 6 mm/yr in the east. The Helike and Egion Faults are divided into prominent segments spaced from hundred of meters to about 2 km. This field excursion will include three stops, overlooking the hanging wall block of the two faults and detailed features across the fault scarps as well.

The Gulf of Corinth is a deep embayment (800m) which is also an actively subsiding Pliocene-Quaternary graben controlled by WSW-ESE faulting. Quaternary evolution of the gulf is a consequence of interaction between active tectonic subsidence, supply of river sediment and global sea level changes. The field trip will provide an overview of the marine geology of the Gulf of Corinth using remote sensing techniques, focusing on: (i) the recent sedimentary processes, and (ii) the active faults. The above will be demonstrated by using subbottom profiler system (3,5 kHz) and side scan sonar. A visual inspection of the active faults and the offshore geology by a MK II Remote Operated Vehicle (R.O.V) will be also carried out.

Duration: 1 day

Depart: Patras, May 23rd at 8.00

Arrival: Patras, May 23rd at 18.00

Transportation: Bus - Vessel

Physical grade: Low, with short walks

Number of participants: Minimum 10; Maximum 20

Cost: **100,00** Euro including transportation, one break during lunchtime with sandwich and fruit.

A3 – Geomythological sites and prehistoric geotechnical and hydraulic works in Arcadia

Leaders: Ilias Mariolakos & Apostolos Alexopoulos (Faculty of Geology and Geoenvironment, National & Kapodistrian University of Athens; e-mail: mariolakos@geol.uoa.gr; aalexopoulos@geol.uoa.gr).

The autochthonous civilizations, especially the most ancient ones, are closely related to the geological and physical-geographical setting of the area in which they have been developed and mainly to the evolution of the environment during the last 18,000 years.

The ancient Greek civilization, one of the oldest civilizations created by Homo sapiens, is linked to the physical and geological characteristics of the wider Hellenic area.

Unfortunately, the connection between ancient Gods and heroes and the physical-geographical characteristics an area, as well as the geoenvironment, is ignored for various reasons. This aim can be achieved by the promotion of certain mythical geotopes, i.e. places closely related to our mythology and the geotechnical works of the prehistoric Greeks, which are “forgotten” in our days for various reasons. Arcadia is unique for this promotion.

Duration: 1 day

Depart: Patras, May 23rd at 14.00

Arrival: Patras, May 23rd at 18.00

Transportation: Bus

Physical grade: Low, with short walks

Number of participants: Minimum 6; Maximum 25

Cost: **60,00** Euro including transportation, one break during lunchtime with sandwich and fruit.

A4. Sea-level changes in the Corinth Gulf

Leader: George Ferentinos, (Department of Geology, University of Patras; e-mail: gferen@upatras.gr),

The Gulf of Corinth is a graben structure that occupies the northern most part of the Plio-Quaternary Corinth rift. The present day Corinth graben is an elongated fjord - like fault - controlled basin oriented WNW-ESE and occupies about 2400 km² out of a total of approximately 4100 km², which corresponds to the areal extend of Corinth rift.

The Corinth rift is one of the most seismically active and most rapidly extended graben in the world. The maximum magnitude earthquake expected in the Corinth Gulf is 6.7 R and the average rate of extension is between 6 and 15 mm/year.

The aim of the field trip is to give an overview of the distribution of the deformation within the Corinth Gulf graben and to demonstrate that the uplifted fossil shorelines are due to the cumulative effect of the deformation caused by more that one fault. The above will be demonstrated by visiting characteristic field cases of coastal changes caused by vertical movement along the southern shoreline.

The following sites will be visited:

- (i) The Helike fault and the associated 373 BC and 1861 AD earthquakes.
- (ii) The Helike lost town 373 BC.
- (iii) The Holocene uplift at Platanos site.
- (iv) The uplifted ancient harbor of Aegira at Maura Litharia.
- (v) The ancient Corinth harbors at Lechaeon and Kechreae.
- (vi) The uplifted Tyrrhenian terraces in Corinth.

Duration: one day

Depart: Patras, May 23rd at 8.00

Arrival: Patras, May 23rd at 18.00

Transportation: Bus

Physical grade: Low, with short walks

Number of participants: Minimum 10; Maximum 25

Cost: **80,00** Euro including transportation, one break during lunchtime with sandwich and fruit

A5: Modern lagoons in western Peloponessus (Papas and Kotichi lagoons)

Leaders: Nikolaos Kontopoulos and Pavlos Avramidis (Department of Geology, University of Patras; e-mail: kontopou@upatras.gr) .

Kotihi and Pappas lagoons are located at the wave dominated and micro tidal western coast of Peloponessus. They have small size and depth, they are separated from the sea by a low relief sandy barrier island and they have limited communication with the open sea, with stable, short and narrow inlets. The lagoon sediments have mostly sandy mud character. Each lagoon shows seasonality in the salinity and temperature but these factors are different among the lagoons. Also, the influx of fresh water and the amounts of nutrients are different for each lagoon. However, the concentration of nutrients shows that in the lagoons prevail eutrophic conditions. The aim of this excursion is to present the environmental problems of the lagoons in relationship with the human impact.

Duration: 1 day
Depart: Patras, May 23rd at 8.00
Arrival: Patras, May 23rd at 18.00
Transportation: Bus
Physical grade: Low, with short walks
Number of participants: Minimum 12; Maximum 25
Cost: **60,00** Euro including transportation, one breaks during lunchtime with sandwich and fruit.

REGISTRATION

REGISTRATION FEES (in Euros)	before 15-03-2010	after 15-03-2010
GSG members	170	200
Non-members	190	220
Student members and young scientists*	110	110
Students**	60	60
Accompanying person	70	100
Social Diner	50	

Registration will begin at the hall of the conference center on Wednesday, May 19th from 17.00 to 21.00 and on Thursday morning, May 20th.

(*)Scientists who have received their University Degree within the last three years

(**) Without receipt of congress volumes

Payment of fees

All colleagues should proceed with a timely registration at the reduced price of 170 euro. **It is especially noted that every paper submitted by one or more writers should be covered by one (1) subscription.**

For that purpose the Organizing Committee has opened the following account at the Agricultural Bank of Greece:

1. For colleagues from Greece: Account Number: 31904003824 92 (ATE BANK - Agricultural Bank of Greece)
2. For colleagues from abroad: IBAN GR07 0430 8340 0031904003824 92
BIC ABGRGAA (ATE BANK - Agricultural Bank of Greece)

The colleagues that submit the registration fee are kindly requested to state their name and Paper Code and to send the voucher either by fax at 2610 990637 or by email in either *jpg* or *pdf* format at mgeraga@upatras.gr.

INSURANCE

There is no insurance included in the registration fee. All participants are advised to make their own arrangements for the duration of the meeting and the field trips.

ACCOMMODATION

Hotels in Patras will provide accommodation. Hotel bookings could be made through the www.synedra.gr, replying the enclosed folder.

SOCIAL PROGRAMME

An Icebreaking party (included in the registration fee) will be held at 21:00, May 20th, in the entrance and in the hall of the Conference center.

TOURIST AND TRAVEL INFORMATION

Patras is the capital city of Peloponnese, situated at the South western of Greece's mainland

Distance (by car)

From Athens: 220km

From Thessaloniki: 530km

From Athens' airport "Eleftherios Venizelos" : 250km

Weather

Info at: www.hnms.gr

ACCESS:

By Air

Athens International Airport "Eleftherios Venizelos"

For further information please visit the Airport's website: www.aia.gr

By Sea

Ferries from Italy.

For more information please visit the Info Center Patras website: www.infocenterpatras.gr

By Train

"Eleftherios Venizelos" Airport is not connected with Intercity Railway lines directly to Patras.
In order to reach Patras you need to reach the Suburban Railway Station in Kiato.

From "Eleftherios Venizelos" Airport to "Kiato" Suburban Railway Station (duration: 1h 8min) and vice versa

Ticket cost:

8.00 euro (one way)

14.00 euro (with return)

Purchase Ticket: available at all stations

Information: Fixed phone (calling from Greece): (+30) 1110, or ask at the Information Point desk at the Airport

Mobile phone or calling from abroad: (+30) 211 120 1110, or ask at the Information Point desk at the Airport

From "Kiato" Suburban Railway Station to Patras (duration: 2h aprox) and vice versa

Note: for passengers who have reservations in a Hotel in Rio area, it is suggested that they use the Rio Railway Station for both arrival and departure

Ticket cost: it depends on line and class

For further information please visit the Hellenic Railways Organization's website: www.ose.gr

or call: (+30) 1110

Purchase Ticket: available at all stations

By Bus

"Eleftherios Venizelos" Airport is not connected with Intercity Bus lines to Patras.

In order to reach Patras you need to reach the Intercity Bus Station "Kifisos" in Athens.

From "Eleftherios Venizelos" Airport to Intercity Bus Station "Kifisos" (KTEL), and vice versa

- **By coach bus** (duration 1h 05min)

Ticket cost: 3.20 euro

Purchase Ticket: available at all stations

Information: At Athens airport – Information Point desk

By taxi (duration up to 1h)

Cost: 35-40 euro

From Intercity Bus Station "Kifisos" (KTEL) to Patras Intercity Bus Station (KTEL), (duration 2h 30min) and vice versa

Ticket cost:

17 euro (one way)

32.00 euro (with return)

Purchase Ticket: available at all stations

Information: (+30) 2105136185 (for Athens), or ask at the Information Point desk at the Airport

(+30) 2610-623881 (for Patras), or ask at the Information Point desk at the Airport

For transportation from "Eleftherios Venizelos" Airport to the Center of Athens, Please ask at the Information Point desk at the Airport or visit the Athens Urban Transport Organization's website: www.oasa.gr and the Athens Metro Organization's website: www.ametro.gr.

For more tourist and access information for Patras please visit the Info Center Patra's website:

www.infocenterpatras.gr

Useful telephones:

Taxi - Athens: (+30)

2109217942, 2106459000, 2106711200, 2108014114 - 2108086109, 2109885210, 2109961420-23, 2106480965, 2104115200 - 2104115666 - 2104116882, 2109934812, 2105132316 - 2105132319, 2104200042, 2108088000 - 2108019000 - 2106127700, 2109642900, 2108018820 - 2108012270, 2105814711, 2104182333-5 - 2108260890-3, 2106432240 - 2106433400 - 2106437198, 2102221623 - 2102921910 - 2102919016, 2105020357 - 2105023583 - 2105023783, 2108946858 - 2108944531, 2103451200

Taxi - Patras: (+30) 18300

Useful links:

www.ose.gr

www.ktel.org

www.proastiakos.gr

www.ametro.gr

www.athens-taxi.gr/eng/index.htm

www.taxipatras.gr

www.infocenterpatras.gr