







European Club Symposium





Bulletin



Welcome

The Greek Committee on Large Dams (GCOLD) would like to invite you to participate in the 11th ICOLD European Club Symposium to be held from the 2nd to 4th of October 2019 on the island of Crete, Greece. The theme of the Symposium is "The future of Dams (in Europe): Prospects and Challenges in a changing Environment". The Symposium is under the auspices of ICOLD and has the support, among others, of the Greek Ministry of Infrastructure, the Region of Crete and the Organization for the Development of Crete.

The Greek Committee on Large Dams (GCOLD) was formed in 1964 and immediately joined the International Commission on Large Dams (ICOLD). It became a member of the European Club of ICOLD in 2010 and is actively participating ever since.

Dam construction in Greece followed the country's development and large projects were constructed in the last 50 years for hydropower, water supply, irrigation and flood protection. A boom in dam construction occurred in the last 20 years. Many dam types were built to adjust to the complicated geological environment, the availability of construction materials and the high seismicity of the region. Dam design and construction is still strong in Greece.

Recently a National Dam Safety Regulation (DSR) was established together with a Dam Management Authority, responsible for overseeing the application of the DSR.

The Symposium will cover a wide range of topics including Advances in Dam Engineering, Dam Safety and Risk Management, Social impact and awareness, Successes and problems in implementing the European Water Framework Directive and relevant Guidelines and Dam and Reservoir Management in the changing European Environment.

The island of Crete, situated between the Aegean and the Libyan Sea, has been a cross road of ancient civilizations. This has left a rich inheritance of ancient monuments and artifacts of unparalleled beauty. Modern Crete, one of the wealthiest parts of Greece, has built a number of large dams for irrigation, water supply, flood protection and hydro power. Having a substantial infrastructure for conferences and a magnificent natural coastal and mountainous environment, it is an ideal place to combine a successful EuroCOLD Symposium with field trips and recreational activities. Crete in early October is warm enough for enjoying the outdoors and the beaches.

We would like to extend the invitation for participation to the members of EuroCOLD as well as to all ICOLD members. We are expecting you all to come to Crete for a fruitful, memorable and enjoyable 11th ICOLD European Club Symposium.



Dr. George Dounias GCOLD President







Welcome

The European Symposium, organised every 3 years by the **ICOLD European Club** since 1993, is an opportunity for professional and young engineers to exchange knowledge and gain specialized training. The 11th European Club Symposium, from 2 to 4 October 2019, will be held in Crete, Greece, an ideal location to combine lectures, technical sessions, technical visits and recreation.

With a low registration fee, our young engineers can come and listen to experienced engineers talk about solutions found to problems faced during dam design, construction or dam operation, in a geological, climatic, cultural and social environment that is theirs: that of Europe.

This year the symposium is preceded by a two days seminar dedicated to considerations for safe flood design and on site flood management. Knowing that floods are the cause of more than half of the accidents recorded on dams, you have a unique opportunity to improve the safety of your facilities and your projects by registering for this training.

This symposium is also an opportunity to meet the stakeholders of the Hydropower-Europe Forum. The Hydropower Europe Forum will meet just before the Symposium providing a focal point for reviewing and developing hydropower in Europe, and subsequently European hydropower in the wider world. Hydropower has all the characteristics to serve as an excellent catalyst for a successful energy transition for a low carbon world. A first feedback of this forum will be returned during the $11^{\rm th}$ Symposium.

I hope to welcome you in the cradle of our civilization, in the land of the Iliad and the Odyssey in the footsteps of Homer, to continue future technological conquests in the field of water, hydro -electricity and dams for a better, more democratic and more resilient to global warming world.

Welcome to Crete for a very fruitful and enjoyable 11th ICOLD European Club Symposium!



Dr. Jean-Jacques FryPresident of ICOLD
European Club



Welcome

For the Region of Crete the rational and effective management of the water resources presupposes that the policy that we are planning and the actions that we are implementing, treat water as a valuable resource for our citizens. We treat our water supplies as a regional and national property.

Through the management plans that we have conducted during the past years, we have proceeded with the implementation of water supply, irrigation and drainage projects, which we anticipate to benefit the environment of many areas of the island and give local communities development tools for employment, especially in terms of sustainability of the primary sector.

Dams are undoubtedly a major challenge in the coming decades and the debate on managing existing ones or launching new ones is an important issue for all the actors of the local government. With this in mind, the "11th loold European Club Symposium" which is to be held in Chania is a very important event for us.

Congratulations to the organizers and all the participants.



Stauros Arnaoutakis Regional Governor of Crete







Organizing Committee

George Dounias (CHAIRMAN)	Greece
Christos Dimou	Greece
Evangelos Rabias	Greece
Evangelos Mamagkakis	Greece
Georgia Kastranta	Greece
Giulia Bartolozzi	Greece
Lisa Bensasson	Greece
Serafeina Lazaridou	Greece
Chara - Rea Papachatzaki	Greece
Panagiotis Papanikolaou	Greece
Sofia Siachou	Greece
Vassilios Soulis	Greece



Advisory Committee

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Tuncer Dincergok	Turkey
Jean-Jacques Fry	France
Ignacio Escuder-Bueno	Spain
Alfredo Granados	Spain
Nina Humar	Slovenia
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Juha Laasonen	Finland
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Laurent Mouvet	Switzerland
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Ljupcho Petkovski	Republic of North Macedonia
Pawel Popielski	Poland
Wynfrith Riemer	Germany
Giovanni Ruggeri	Italy
Anne-Marit Ruud	Norway
Anton Schleiss	Switzerland
Hans-Ulrich Sieber	Germany
Gudlaugur Thorarinsson	Iceland
Tracey Williamson	United Kingdom
Gerald Zenz	Austria





Venue

Minoa Palace Resort & Spa

As one of the leading top luxury hotels in Chania and best resorts in Crete this beachside 5-star hotel welcomes you to experience the pleasures of indulgence in the most enchanting of settings overlooking the endless azure of the Aegean.

MINOA PALACE RESORT is situated in the cosmopolitan area of Platanias, 12km west of the picturesque town of Chania and only 30 minutes drive from Chania International Airport.





Symposium Registration Fees

Fees	Early bird (till 30 th of June 2019)	Late (from 1 st of July till 25 th of September 2019)	On site	
Registration Fee (Full)	550€	625€	650€	
Youth Registration Fee (Born after the 1st of October 1984)	300€	350€	365€	
Accompanying Persons	275€	315€	330€	
Seminar Fee	400€			

At the above quoted registration fees VAT of 24% is included

Full & Youth registration fee	Accompanying persons fee	Seminar fee
Symposium Proceedings	Half day city tour in Chania	Seminar proceedings
Attendance at all scientific sessions	Welcome reception	Coffee breaks
Technical visit	Light lunches	Light lunches
Welcome reception		
Coffee breaks		
Light lunches		
Cultural event - Farewell dinner		
Symposium material		



11th ICOLD European Club Symposium Topics

The following topics refer to all dams - large and small, reservoirs, levees and flood defenses.

Topic A: Dam Safety and Risk Management. Social impact and awareness

Topic B: Dams and reservoirs in a climate change perspective

Topic C: Successes and problems in implementing the European Water Framework Directive and relevant Guidelines

Topic D: Managing infrastructure

Topic E: Advances in dam engineering

Topic F: The future of dams in a changing EU Environment

Keynote lectures will be delivered by International Experts on all topics and relevant fields.

Michel de Vivo	Opening Address		
Jean Jacques Fry	Opening Address		
George Dounias	Opening Address		
Giovanni Ruggeri	Dam Safety and Risk Management. Social impact and awareness		
Grethe Holm Midttomme	Climate Change Challenges for Dams and Reservoirs in Northern Europe		
Alfredo Granados	"Relations between reservoir storage and yield under climate change scenarios. Analysis of the reservoirs performance in Southern Europe"		
Denis Aelbrecht	EDF industrial practice on managing dams and reservoirs, for a sustainable and safe future of Hydro assets		
Wynfrith Riemer	Geological Considerations in the Design of Pressure Tunnels		
Fernando Salazar Goonzalez	Combination of advanced numerical methods and machine learning in dam safety assessment		
Anton Schleiss	The importance of hydropower development for the energy transition in Europe		



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Symposium Program

	Symposium		Exhibition	Social Events	International Seminar Program
Monday	EUCOLD WG LFD Meeting				Seminar Lectures
Monday 30/09/2019					Seminar Lectures
Tuesday 1/10/2019	EUCOLD WG LFDWorkshop				Seminar Lectures
	EUCOLD WG LFD Workshop	European Club General Assembly	Technical Exhibition Opening		Seminar Lectures
	Symposium Sessions Symposium Sessions		Technical Exhibition		
Wednesday 2/10/2019					
				Welcome Reception	
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	Symposium Sessions Symposium Sessions		Technical Exhibition		
Thursday 3/10/2019					
				Cretan Traditional Dinner and Cultural Event	
Friday 4/10/2019	Technical V	cal Visit			



International Seminar FLOOD MANAGEMENT, SPILLWAY DESIGN AND PUBLIC SAFETY

30/9 - 01/10/2019

Minoa Palace, Chania Crete - **Greece**



A two-days Seminar on FLOOD MANAGEMENT, SPILLWAY DESIGN AND PUBLIC SAFETY will be held just before the Symposium, on Monday 30/9/2019 and Tuesday 1/10/2019.

High level international experts will lecture on the following topics:

- Design of Spillways Selected topics of recent developments. Instructor: Prof. Dr. Anton J. Schleiss, Ecole polytechnique fédérale de Lausanne (EPFL), Switzerland
- 2. Flood forecasting, dam operation and public safety during floods. Instructor: Dr. Bernard Joos, Stucky SA, Switzerland
- Rehabilitation, upgrading and maintenance of spillways. Instructor: Dr Denis Aelbrecht,
 Electricitè de France (EDF) - Hydro Engineering Center
- Flood hydrology State of the art plus extreme events occurrence. Instructor: Professor Demetris Koutsoyiannis, National Technical University of Athens (NTUA)
- 5. Spillways and flood propagation.
 Instructor: Assoc. Professor Panos Papanicolaou,
 National Technical University of Athens (NTUA)

The Seminar will be of great value and should be attended by owners and managers of dams and reservoirs, members of Dam Safety Organizations, scientists that are interested in research on flood management and dam safety and scientists involved in the design, construction and operation of reservoirs.

A separate registration will be required for the Seminar.







EUCOLD Working Group on Levees and Flood Defences at the 11th ICOLD European Club Symposium

The Working Group on Levees and Flood Defences under the European Club of ICOLD (EUCOLD WG LFD) will have a 2-day program organized for you consisting of meetings, presentations and workshops.

Monday September 30th In the morning the Working Group meeting will be held. Besides informing and discussing about on-ongoing and planned activities, attendees can pitch state-of-the-art levee related projects taking place in their countries. In the afternoon a special session on the use of fibre optics for monitoring levee and dam behavior will take place. Up to five real-life cases from the levee and dam community will be presented focusing on the usability of outcomes and lessons learned to do this at home.

On **Tuesday October** 1st we invite you to join a whole day workshop considering similarities and differences between dams and levees. Through a series of steps, input will be provided to the dam/levee comparison report which will be published by the ICOLD Technical Committee on Levees.



Technical and cultural visit

Included in the Symposium registration fee there will be a full day Technical Visit on Friday, 4/10/2019. It will include visits to Valsamiotis and Potamon dams, to the Eleftherna archaeological site and lunch to a traditional Cretan taverna

Post-symposium tour in Crete

Post Symposium tour will be organised in order to give a chance to the Symposium participants to visit interesting dam sites and amazing natural and cultural sites.

A three day tour to Crete will develop around visits to the Faneromeni earth dam, Aposelemis and Bramianos. Impressive natural landscapes will catch your breath at Matala beach, Lasithi plateau, and the luxurious Elounda resort. A unique experience awaits you on Spinalonga Island, on its Way to UNESCO World Heritage List. Lovers of traditional architecture will take delight strolling in the picturesque town of Aghios Nikolaos and the village of Aghia Ghalini while the cultural side of the tour will include acquaintance with the Minoan Civilization through the Palaces of Phaistos and Knossos and the Heraklion museum. Last but not least the culinary Cretan treasures will spoil you at every stop.











Hosted and Organized by Greek Committee on Large Dams www.eeft.gr



& Global Events

Our website www.eurcold2019.com

