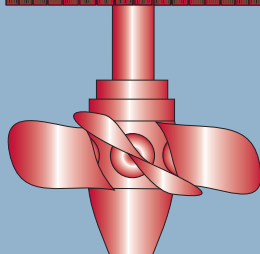




# Preliminary Bulletin



## HYDRO 2011



## Practical Solutions for a Sustainable Future

17 to 19 October 2011 ~ Prague, Czech Republic

Organized by:

THE INTERNATIONAL JOURNAL ON  
**HYDROPOWER  
& DAMS**

Co-hosted by:



CEZ GROUP

Policy-makers, developers, financiers, and hydro practitioners in all parts of the world are joining forces today to maximize the many inherent benefits of multipurpose hydropower projects. Pumped-storage schemes are playing an increasingly important role, particularly in countries where intermittent renewable energy systems are being developed. Power trading is accelerating socio-economic development in many hydro-rich countries, and innovative small hydro schemes are providing practical solutions for rural electrification.

Our HYDRO 2011 Conference and Exhibition will bring together high level delegations from all countries with active hydro development programmes underway, to discuss priorities, achievements and challenges.

Supporting organizations include:



**CREA**   
Hydro & Energy





# HYDRO 2011 Mission



With nearly 2 billion people in the world still lacking a reliable electricity supply, and about 70 per cent of the world's hydro potential remaining to be exploited, there is no doubt about the need for more carefully planned hydro schemes to be implemented, without delay. In many of the industrialized nations, the uprating of existing hydro plants can offer a clean and cost-effective solution for bringing new capacity on line to meet increasing demand.



- Aqua-Media International will continue to build on its extensive experience of bringing together international experts from all parts of the world to discuss practical, topical and challenging aspects of present and future hydro development.
- Great emphasis is placed each year on facilitating the active participation of those from the less developed countries, where the greatest hydro potential remains, and there is the greatest need to develop it.
- In Prague, financiers from the major IFIs, leading consultants, high level representatives of power and water authorities, decision makers from private and public developers, major contractors and suppliers will review progress, challenges, research needs, and above all how to help nations with hydro potential to meet their development goals.
- Project finance, environmental and social aspects, adaptation to climate change, increasing dam and powerplant safety and efficiency, and ways to maximize and quantify the multiple advantages of hydropower will all be high on the agenda.
- Technical sessions will be complemented by workshops, panel discussions, and a number of side events.

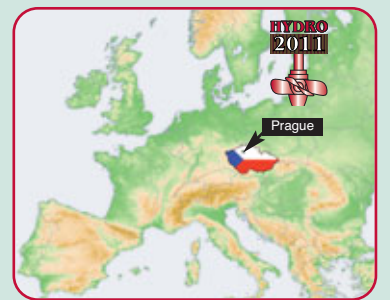


## The Venue

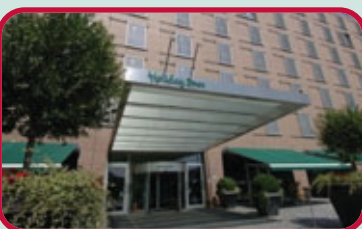


A stunning city in the heart of central Europe, located on the Vltava river, the Czech capital city of Prague will provide the perfect setting for HYDRO 2011. Bordered by Germany, Austria, Slovakia and Poland, The Czech Republic is easily accessible from all parts of the world.

The historical centre has been designated a UNESCO World Heritage Site. As well as offering a wealth of cultural attractions, it is renowned as a centre for international congresses, having hosted summits of NATO, the EU, and the World Bank.



## Accommodation



Accommodation is being arranged at special rates for HYDRO 2011 participants in Prague, in all categories. Two excellent 4\* hotels are adjacent to the Congress Centre, and others are a short distance away, either on foot or by an easy public transport route.



# Themes for HYDRO 2011



## Global needs and challenges

Policy and planning  
Regional issues  
Potential and development opportunities  
Capacity building needs  
Climate change and floods



## Environmental and social aspects

Local consultations: case studies  
E&S management to reduce costs  
Wildlife conservation and fish protection  
Lessons from resettlement programmes  
Research on carbon emissions from reservoirs

## Security/safety around dams

Public safety close to dams  
Communication aspects  
Warning systems and physical barriers  
Learning from experience



## Multipurpose schemes

Economic aspects  
Valuing market and non-market benefits  
Payment for environmental and social requirements  
Multi-criteria decision-making for stakeholders

## Hydro in synergy with other renewables

Wind and hydro; Hydro and solar  
Back-up systems for intermittent sources  
Grid optimization and management  
Storage systems



## Project financing

The role of the IFIs and other financiers  
New approaches: bi-lateral agreements, BRIC co-financing  
Public-private partnerships  
Risk management  
Legal and institutional aspects

## Commercial aspects of hydro development

Regulatory aspects  
Power trading  
Contractual frameworks  
Carbon trading  
Concessions



## Pumped storage

Role in the grid  
Ancillary benefits  
Technical developments in machinery  
Unusual case studies

## Hydraulic machinery

Research and development  
Modelling and testing  
Equipment design and manufacture  
Environment-friendly design  
Enhancing efficiency  
Innovation  
Refurbishment



## Civil engineering

Dams and flood discharge works  
Tunnels and penstocks  
Construction materials  
Dam safety  
Methods of repairing dams



## System management

Optimizing operation  
Software developments  
Operation and maintenance  
Electrical/electronic systems  
Grid stability

## Project management

Coordination and communication  
Site supervision  
Challenging/remote sites  
Extreme climatic conditions



## Small hydro

Assessing potential  
Incentives for development  
Innovative approaches  
Rural electrification  
Low-cost technology



## Sedimentation management

Project layout  
Sediment measurement  
Machinery abrasion protection  
Removal systems

## Developments in marine energy

Tidal power potential  
Wave power research  
In-stream systems



## Plant life extension

Economic modelling  
Modernizing equipment  
Upgrading civil works  
Upgrading with pumped storage

## INTERNATIONAL STEERING COMMITTEE INCLUDES:

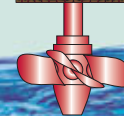
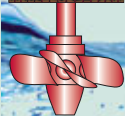
S. Alam, France  
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F. Louis, France  
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A. Palmieri, World Bank  
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# Exhibition and Sponsorship

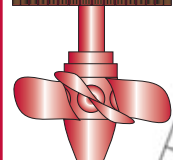
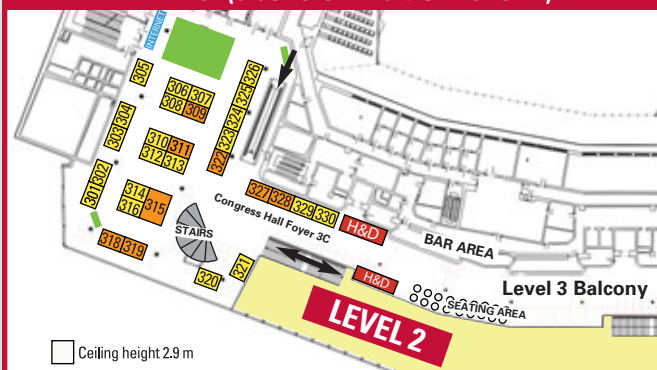
An important element of HYDRO 2011 will be the major international Technical Exhibition which will extend throughout the Congress Centre, alongside the conference rooms. About 200 companies active in the hydro and dams profession will demonstrate their expertise and scope of supplies or services.

- International delegates from more than 85 countries, including heads of national utilities, and regional power and water boards, powerplant owners and operators, leading consultants and contractors will have the opportunity to visit exhibitors during all coffee and lunch breaks, as well as at the social events, where all exhibitors are welcome. This represents a unique opportunity, over three days, to make valuable new contacts from countries where major hydro development programmes are under way and planned. A cocktail reception will take place in the Exhibition Halls after the conference sessions on Tuesday afternoon.
- Exhibitors are entitled to one free conference registration, and additional discounted rates.
- Exhibition space is sold in units of 6m<sup>2</sup>. The price per unit is €2800, which includes the fabricated stand, a table and two chairs, panels suitable for mounting posters, a name sign, and an electricity supply. Additional furniture can be ordered from our recommended sub-contractor. See plan below for available places.
- Opportunities are available to co-sponsor meals, coffee breaks, apéritifs, receptions, water coolers, bags or other items. This is a memorable way to bring your company to the attention of the international participants. For details of the exhibition or sponsorship opportunities, contact:

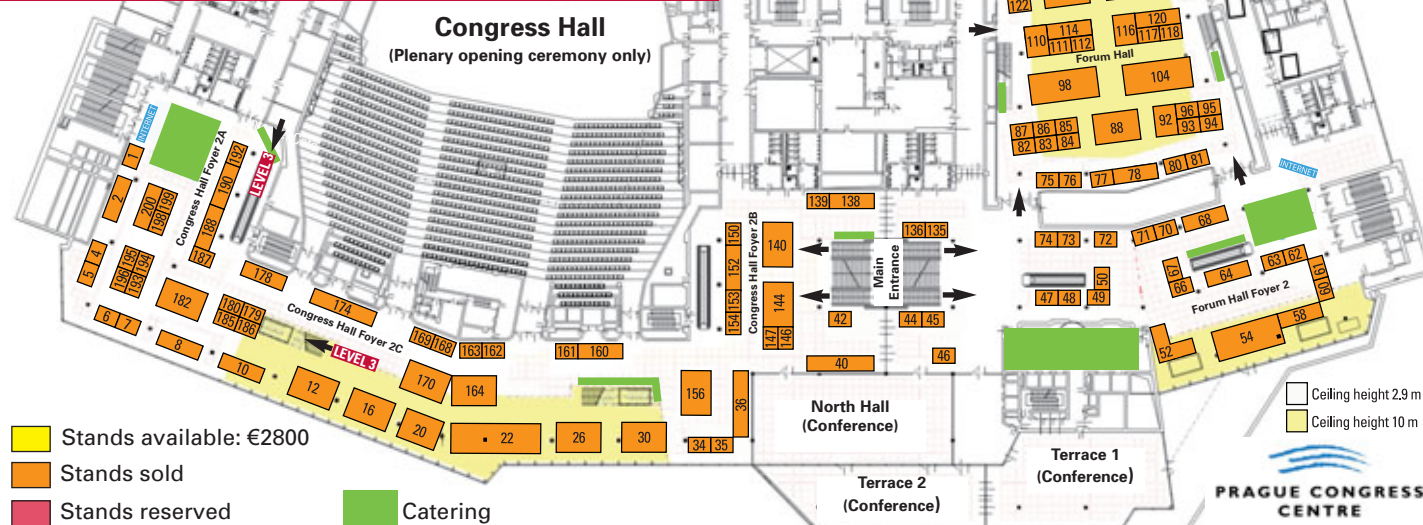
Mr Gaël Bozec, Mrs Maria Loreda or Mr Lukas Port: [sales@hydropower-dams.com](mailto:sales@hydropower-dams.com) Tel: +44 20 8773 7250 or +44 20 8773 7251

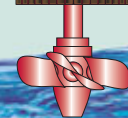
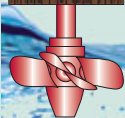
## New area available! Level 3

### LEVEL 3 (above exhibition level 2)



### LEVEL 2



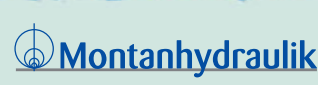


# Exhibiting Companies

STANDS BOOKED BY BEGINNING March 2011 (Bold type denotes a Conference Co-Sponsor)

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Agudio SpA, Italy	<b>www.agudio.com</b>	<b>95</b>	JSC Institute Hydroproject	<b>www.hydroproject.ru</b>	<b>5</b>
Alstom	<b>www.hydro.power.alstom.com</b>	<b>30</b>	Kinematics Inc, USA	<b>www.kinematics.com</b>	<b>111</b>
Amitech, Switzerland	<b>www.amiantit.com</b>	<b>68</b>	Kolo Veidekke, Norway	<b>www.asphaltcoredams.no</b>	<b>49</b>
<b>Andritz Hydro, Austria</b>	<b>www.andritz.com</b>	<b>22</b>	Koncar, Croatia	<b>www.koncar.hr</b>	<b>140</b>
AQFlow, Canada	<b>www.aqflow.com</b>	<b>84</b>	Korto Cavitation Services, Luxembourg	<b>www.korto.com</b>	<b>199</b>
AquaVision Engineering, Switzerland	<b>www.aquavision-eng.ch</b>	<b>62</b>	<b>Kuenz, Austria</b>	<b>www.kuenz.com</b>	<b>46</b>
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ATB Riva Calzoni, SpA, Italy	<b>www.atbrivacalzoni.com</b>	<b>146</b>	LDW Lloyd Dynamowerke, Germany	<b>www.ldw.de</b>	<b>80</b>
Basler Electric, France	<b>www.basler.com</b>	<b>315</b>	LHG, Gleitlagerkomponent GmbH & Co. KG	<b>www.lhg-gleitkomp.de</b>	<b>63</b>
Bernard Bonnefond, France	<b>www.bernardbonnefond.com</b>	<b>71</b>	Litostroj Power, Slovenia	<b>www.litostrojpower.eu</b>	<b>164</b>
British Hydropower Association, UK	<b>www.british-hydro.org</b>	<b>156</b>	Lufkin, France	<b>www.lufkin.com</b>	<b>52</b>
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Brüel & Kjær Vibro, Austria	<b>www.bkvibro.com</b>	<b>129</b>	Manitowoc Cranes, France	<b>www.manitowoc.com</b>	<b>117</b>
Camuna Idroelettrica, SpA, Italy	<b>www.camunainstallazioni.it</b>	<b>179</b>	Marelli Motori, Italy	<b>www.marellimotori.com</b>	<b>311</b>
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Carpi Tech, Switzerland	<b>www.carpitech.com</b>	<b>45</b>	<b>Meggitt, Switzerland</b>	<b>www.meggittsensingsystems.com</b>	<b>169</b>
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CEZ, Czech Republic	<b>www.cez.cz</b>	<b>318</b>	MJ2 Technologies S.A.R.L.	<b>www.vlh-turbine.com</b>	<b>6</b>
Chesterton, UK	<b>www.chesterton.com</b>	<b>50</b>	<b>Montanhydraulik GmbH, Germany</b>	<b>www.montanhydraulik.com</b>	<b>78</b>
CNC Tvar s.r.o., Czech Republic	<b>www.cncivar.cz</b>	<b>161</b>	Muhr, Germany	<b>www.muhr.com</b>	<b>64</b>
Costronic, Switzerland	<b>www.costronic.ch</b>	<b>182</b>	National Electric Coil, USA	<b>www.national-electric-coil.com</b>	<b>67</b>
CREA Hydro & Energy o.s. Czech Republic	<b>www.creac.com</b>	<b>54</b>	National Gummi AB, Sweden	<b>www.gummi.se</b>	<b>192</b>
d2fc Energy Valves, France	<b>www.d2fc.com</b>	<b>163</b>	Numeca International, Belgium	<b>www.numeca.com</b>	<b>73</b>
Damen Dredging Equipment, Netherlands	<b>www.damendredging.com</b>	<b>83</b>	Obermeyer Hydro, USA	<b>www.obermeyerhydro.com</b>	<b>127</b>
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DSD Noell, Germany	<b>www.dsd-noell.com</b>	<b>8</b>	P & S, Switzerland	<b>www.p-s.ch</b>	<b>187</b>
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Farab, Iran	<b>www.farab.com</b>	<b>170</b>	Schaeffler Technologies GmbH GmbH	<b>www.schaeffler.de</b>	<b>4</b>
Federal Mogul Deva, Germany	<b>www.deva.de</b>	<b>34</b>	Schmiedewerke Gröditz GmbH, Germany	<b>www.stahl-groeditz.de</b>	<b>120</b>
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Heinzmann Hydrotech Pvt Ltd, India	<b>www.heinzmann.co.in</b>	<b>139</b>	Thordon Bearings, Canada	<b>www.thordonbearings.com</b>	<b>186</b>
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Hydrohrom, s.r.o.,	<b>www.hydrohrom.cz</b>	<b>196</b>	Verkis, Iceland	<b>www.verkis.is</b>	<b>86</b>
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Hydroworks, New Zealand	<b>www.hydroworks.co.nz</b>	<b>322</b>	Walo Bertschinger AG, Switzerland	<b>www.walo.ch</b>	<b>76</b>
IDG, France	<b>www.idg-gmbh.com</b>	<b>126</b>	Water Power and Dams	<b>www.waterpowermagazine.com</b>	<b>309</b>
IMHP, Spain	<b>www.imhp.es</b>	<b>88</b>	Wikov MGI a.s., Czech Republic	<b>www.wikov.com</b>	<b>66</b>
Indar Electric, Spain	<b>www.indar.net</b>	<b>10</b>	Worthington Products, USA	<b>www.tuffboom.com</b>	<b>147</b>
Intpow, Norway	<b>www.intpow.com</b>	<b>104</b>	Yapi-tek steel, Turkey	<b>www.celiksanyay.com</b>	<b>123</b>
<b>James Walker, UK</b>	<b>www.jameswalker.biz</b>	<b>132</b>	Zeco, Italy	<b>www.zeco.it</b>	<b>60</b>

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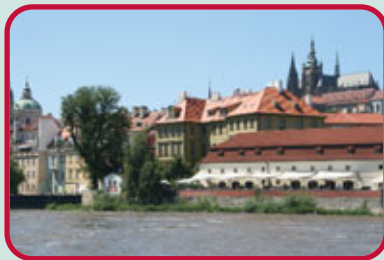


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for a better world™





## Optional Excursion



On Sunday 16 October, a half-day optional excursion will be offered to all participants. This will include a visit to the castle, overlooking the scenic old city of Prague, as well as a river cruise, which provides a spectacular view of many of the main places of interest, including the famous Charles Bridge. Lunch will be included. There will be time to register for the Conference before or after this excursion, which will depart from, and return to, the Congress Centre.



## Technical Tours



At least two technical tours are planned to follow HYDRO 2011. The national power company ČEZ has a portfolio of 37 hydroelectric plants, ranging from mini hydro schemes of less than 1 MW, to the largest pumped-storage schemes such as Dalešice (450 MW) and Dlouhé Stráně (650 MW). The technical tours will give the opportunity for delegates to learn about recently constructed schemes, refurbishment projects, the role played by renewable energy in the Czech grid and also Czech expertise in flood management and environmental protection.



## Social Programme



Prague is renowned as a European centre of culture, particularly music and art, and is also famous for its cuisine and excellent wines. Our social programme will reflect all of these delights. A Welcome Reception will be held on the first evening at an elegant location in the centre of town, with a buffet supper featuring Czech specialities. There will also be a Networking Cocktail in the exhibition, after the sessions on the second day. A Gala Dinner will provide a memorable end to the conference.



## Accompanying Persons' Programme



A package of three tours is being planned for accompanying persons, all including lunch.

The first will provide an opportunity to get to know the city of Prague better, with visits to some of the most important historical and cultural places, and with time to explore the interior of the castle. Other trips will take participants outside the city, to see some spectacular landscapes, learn more about the history and traditions of the country, and of course to enjoy some of the best Czech gastronomy.



# Study Tours

## Tour A: Lovosice Pistany and Střekov small hydro plants

### Day 1

Leaving Prague in the morning by coach, delegates will travel towards Usti nad Labem, and on to the nearby Lovosice Pistany project for the first technical visit. Located on the Elbe river, the 3 MW Lovosice scheme has a net head of 1.9 m and a total discharge of 160 m<sup>3</sup>/s. It was commissioned in September 2010 and is owned by RenoEnergie. It is equipped with four horizontal double-regulated Kaplan pit turbines, each with three 3000 mm-diameter runner blades.

From here, coaches will continue towards the Střekov project. This multipurpose scheme provides hydropower and a 19.5 km-long navigable reservoir which links Labe in the Czech Republic with Magdeburg in Germany. Construction of the project began in 1921, and a complete reconstruction was completed in 2001, including the upgrading of the three 5 MW Kaplan turbines.

Lunch is planned in the town of Usti nad Labem, after which there will be a short transfer to Karlovy Vary where participants will have a chance for sightseeing and shopping in the afternoon, followed by dinner and an overnight stay. The 14th Century City of Karlovy Vary has rich history and is well known for its international film festival and local specialities such as Becherovka liquor and glass products.

### Day 2

The day will start with a visit to the 12th Century town of Locket, and its imposing 800 year old gothic castle. Locket translates as 'elbow', and the picturesque town is thus named as it is surrounded on three sides by the Ohre river, the shape the river being similar to that of an elbow.

The return trip to Prague will include a stop in Pilsen, with lunch at the famous Na Spilce restaurant within the grounds of the Pilsner brewery.

## Tour B: Hradec Králové, Dlouhé Stráně, Mohelno, Dalešice and Orlik hydro plants

### Day 1

Coaches will depart on the first morning from Prague and head to the Hradec Králové project for a site inspection. The Hradec Králové hydro plant is protected as a national cultural heritage site and is listed in the Central Registry of Cultural Monuments. Construction of the plant began in 1909 with operation starting in 1911. The dam impounds a 340 000 m<sup>3</sup> reservoir, and the powerhouse is equipped with three Francis turbines with a unit output of 0.25 MW. There are three high voltage switch buildings of 35 kV, 5 kV and 10/5 kV.

After a lunch-stop taken close to the dam, the trip will continue to the Dlouhé Stráně pumped-storage station, which has been named as one of the seven Czech Wonders. This important project has the largest (325 MW) reversible hydraulic unit in Europe. This plant also has the largest installed capacity in the Czech Republic, totalling 650 MW from the two units. The underground power cavern measures 87.5 × 25.5 × 50 m. After the technical visit, a trip to the 16th Century paper mill at Velke Losiny is planned. This mill was declared a National Cultural Monument by the Czech Government in 2002.

### Day 2

The tour will continue to Brno, the second largest city in the Czech Republic. A short tour of the city will be followed by lunch, after which the group will continue to the Mohelno plant.

The run-of-river Mohelno scheme provides a cooling water reservoir for the Dukovany thermal plant and it also serves to dilute waste water as part of the Dalešice water treatment works. The project has two small hydro units installed: a 1.2 MW Kaplan and a 0.6 MW Francis turbine are in operation.

From Brno, coaches will continue to the nearby Dalešice pumped-storage scheme. Dalešice has an output of 450 MW from four reversible Francis units. Completed in 1978, the 100 m-high main dam is a rockfill structure with a clay core. After this full day of dam visits, a relaxing dinner with a beer tasting is planned at a famous Czech restaurant not far from Hrotovice, where the group will stay overnight.

### Day 3

The final day of the tour will begin with a visit to the UNESCO World Heritage Site of Telc. A walk through the city will offer views of decorated patrician houses, inspired by Italy and dating from the middle ages. As lunchtime approaches, coaches will set off to the town of Zvikov. After lunch there will be a site inspection of the 364 MW Orlik project, with its 720 × 10<sup>6</sup> m<sup>3</sup> reservoir which is the largest-capacity storage reservoir in the Czech Republic. This large scheme, constructed between 1954 and 1961, has a 91.5 m-high concrete gravity dam, with a crest length of 450 m. The powerplant is equipped with four Kaplan turbines. After this visit, the tour will return to Prague.

*Tour itineraries are being finalized, and could be subject to minor changes. Full details will be available in May, and will also be published in the Final Bulletin in June.*





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Abstracts of up to 800 words, in English, are now invited on the themes listed or related topics. Please mail, fax or email abstracts to the address below. A short CV of each author should be included.

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**A hard copy, PDF and word document of each final paper will be required.**

Full details of the technical and social programmes, more information about the excursions, accommodation and registration fees, will be published in the Final Bulletin, which will be distributed in June 2011.

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