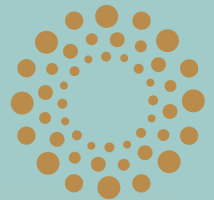
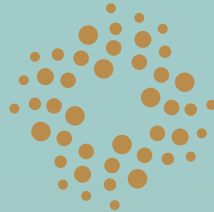
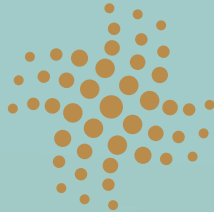
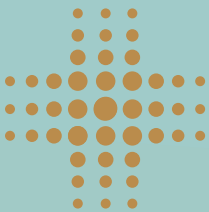


June 28<sup>th</sup> – July 1<sup>st</sup> 2010, Zurich, Switzerland  
7<sup>th</sup> International Conference on

# Physical Modelling in Geotechnics

Technical Committee 2  
International Society for Soil Mechanics  
and Geotechnical Engineering



# Editorial, Invitation

## Welcome to the Conference

The 7<sup>th</sup> International Conference on Physical Modelling in Geotechnics 2010 will take place in Zurich on the ETH Campus in Hönggerberg at the end of June 2010. There will be a stimulating mix of all aspects of physical modelling in geotechnics, linking across to other modelling techniques to consider the entire spectrum required in providing innovative geotechnical engineering solutions.

The forerunner to the International Conferences on Physical Modelling in Geotechnics began in the early eighties with the early conferences in Geotechnical Centrifuge Modelling, and were so named up to 1998, before embracing all forms of geotechnical physical modelling. Researchers using 1g small and large scale models, calibration chambers, shaking tables, as well as geotechnical centrifuges, are expressly encouraged to submit papers to this conference, and to come to Zurich at the end of June 2010 to create an inspirational environment in which ideas, innovation and technological development can be shared.

Plenty of opportunities will exist outside the main technical programme for further meetings and discussions and through an eclectic social programme, enriched with daily tours to local beauty spots and places of interest for any accompanying persons.

Founded by the Romans as a trading post, the city of Zurich has spread around the shores of a large post-glacial lake carved out by the Linth glacier, leaving behind an attractive periglacial landscape. It provides the stage for the modern city of 370'000 inhabitants with a wonderful integrated public transport system and easy access by plane, train and road.

We would be delighted to welcome you to our city and to the conference!

**Deadline for Abstracts: 10.5.2009**  
**Papers due: 10.9.2009**



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# Schedule Overview

## Conference Theme

### Research and Innovation using Geotechnical Physical Modelling

#### Broad Themes

- Soil – Structure – Interaction
- Natural Hazards
- Earthquake Engineering
- Soft Soil Engineering
- New Geotechnical Physical Modelling Facilities
- Advanced Experimental Techniques
- Comparisons between Physical and Numerical Modelling

#### Specific Topics

- Offshore Engineering
- Ground Improvement and Foundations
- Tunnelling, Excavations and Retaining Structures
- Dams and Slopes
- Process Modelling
- Geoenvironmental Modelling
- Education

#### Special Discussion

##### (Quo vadis?) Sessions

- TC2 Catalogue on Scaling Laws
- Impact on Industry Practice

#### Public Lecture

Role of Physical Modelling in Combating Climate Change

#### Technicians' Programme

A parallel programme will be offered for centrifuge technicians to exchange practical experience and ideas.

#### Sunday June 27<sup>th</sup>

17.00 – 20.00  
Registration

18.00 – 20.00  
Ice-Breaker

	Monday June 28 <sup>th</sup>	Tuesday June 29 <sup>th</sup>	Wednesday June 30 <sup>st</sup>	Thursday July 1 <sup>st</sup>
08.00	Registration	Registration	Registration	Registration
09.00	09.30 Opening Ceremony	9.00 Keynote Lecture 2 Natural Hazards	9.00 Keynote Lecture 3 Earthquake Engineering	9.00 Keynote Lecture 4 Soft Soil Engineering
10.00	10.00 Keynote Lecture 1 Soil – Structure – Interaction	9.45 General Reporter Session 2	9.45 General Reporter Session 3	9.45 General Reporter Session 4
11.00	11.00 Coffee Break	10.45 Coffee Break	10.45 Coffee Break	10.45 Coffee Break
12.00	11.30 General Reporter Session 1	11.15 Paper Presentations	11.15 Discussion Session TC2 Catalogue on Scaling Laws	11.15 Paper Presentations
13.00	12.30 Lunch	12.45 Lunch	12.45 Lunch	12.45 Lunch
14.00	14.00 Paper Presentations	14.00 Paper Presentations	14.00 Paper Presentations	14.00 Discussion Session Impact on Industry Practice
15.00	15.30 Coffee/Tea	15.30 Coffee/Tea	15.30 Coffee/Tea	15.30 Special Lecture Closing Ceremony
16.00	16.00 Presentation of Posters	16.00 Presentation of Posters	16.00 Presentation of Posters	
17.00	17.00 TC2 Meeting			
18.00	18.00 Swasian Sunset	18.00 Public Lecture and Art		
19.00			19.15 Apero at Albisguetli	
20.00			20.15 Gala Dinner	
21.00				

# Information at a Glance

## Conference Location

### Dates

7<sup>th</sup> International Conference on  
Physical Modelling in Geotechnics 2010  
(ICPMG 2010)  
June 28<sup>th</sup> – July 1<sup>st</sup> 2010  
Zurich, Switzerland  
[www.icpmg2010.ch](http://www.icpmg2010.ch)

### Conference Location

ETH Zurich, Campus Hönggerberg,  
HPH Building, Zurich, Switzerland  
[www.ethz.ch](http://www.ethz.ch)

### Conference Office

ETH Zurich  
ICPMG 2010  
Institute for Geotechnical Engineering  
Wolfgang-Pauli-Strasse 15  
8093 Zurich  
Switzerland

### Contact

Conference Secretariat  
Mrs Gabriela Laios  
Phone +41 44 633 2525  
Fax +41 44 633 1079  
[info@icpmg2010.ch](mailto:info@icpmg2010.ch)

### Official Conference Language

English. Locally, Swiss German or  
German is spoken, most Swiss will learn  
French and English at school as well.

### Technical Exhibition

Location: Foyer HPH building  
A variety of exhibitors will present their  
wares during the conference within the  
main Foyer of the HPH building, and  
close to the conference auditoriums,  
poster presentations, coffee break areas  
and main restaurant.

For further information on exhibition  
and sponsor opportunities, please write  
to Dr. Jan Laue, [info@icpmg2010.ch](mailto:info@icpmg2010.ch).

### Campus Opening Hours

07.00 – 22.00

### Campus Internet Access

The campus is equipped with WLAN.

### Sport Facilities

The Hönggerberg Campus is set in  
beautiful woods with a great variety of  
walking and jogging trails.  
Sporting facilities are available on the  
nearby Campus Irchel, University of  
Zurich. Swimming opportunities may be  
found locally in Höngg and Oerlikon,  
as well as in lake Zurich.

### Sponsor



Kanton Zürich



Swiss International Air Lines is the  
Official Carrier for the ICPMG2010 and is  
offering special Congress fares.

## Transportation

### Arrival in Zurich

#### Airport to ICPMG2010:

Train to “Bahnhof Oerlikon”, Bus 80 to  
“ETH Hönggerberg” (c. 25 min).

#### Main Station to ICPMG2010:

Tram 11 from “Hauptbahnhof Zurich”  
to “Bucheggplatz”, Bus 69 to  
“ETH Hönggerberg” (c. 25 min).

### Public Transport in Zurich

ETH Zurich, Hönggerberg,  
is served by 2 main bus routes:

**Bus 80:** connects Oerlikon –  
1 stop on train from Zurich Airport –  
through to Triemli.

**Bus 69:** connects ETH Zurich, Höngger-  
berg, with two major public transport  
nodes, “Bucheggplatz” and “Milchbuck”

Zurich Transport System: [www.zvv.ch](http://www.zvv.ch)

Tickets for all forms of public transport  
within the city of Zurich are included in  
the conference package.

### Taxi in Zurich

+41 (0)44 444 44 44  
+41 (0)44 777 77 77 and others

### Public Transport System Switzerland

Swiss Railway Company: [www.sbb.ch](http://www.sbb.ch)

A Half-Fare Travelcard soon pays its  
way, since you can enjoy half-price travel  
throughout Switzerland. Information at  
[www.sbb.ch](http://www.sbb.ch), under Railpasses.

## General Info

### Information about Zurich

[www.zuerich.com](http://www.zuerich.com)  
[www.zuerich.info](http://www.zuerich.info)  
[www.stadt-zuerich.ch](http://www.stadt-zuerich.ch) (German)

### Information about Switzerland

[www.myswitzerland.com](http://www.myswitzerland.com)

### Accommodation

A range of hotel accommodation is  
available, however should be booked  
well in advance to ensure there will  
be vacancies.

### Zürich Tourismus

[www.zuerich.com](http://www.zuerich.com)  
[hotel@zuerich.com](mailto:hotel@zuerich.com)  
Phone +41 44 215 40 40  
Fax +41 44 215 40 44

### Climate in Summer

Average daily temperature 22°C/71.6 °F

### Swiss-German – Good to Know

Grüezi: Hello  
En Guete: Enjoy your meal!  
Danke: Thank you  
Zum Wohl: Enjoy your drink!

### Currency

Swiss Francs: CHF  
ATMs abound in Zurich,  
where Swiss Francs can be obtained.  
Euros may be used in most tourist areas.

# Call for Papers and Registration

## Key Dates

March 2009 – Call for Abstracts  
10<sup>th</sup> May 2009 – Abstracts due  
10<sup>th</sup> September 2009 – Papers due  
10<sup>th</sup> January 2010 – Submission of Print-Ready Copy

Financial Arrangements	Early Birds Before 14.02.2010	After 14.02.2010
Full Participant Fee	CHF 950.00	CHF 1150.00
Student Fee	CHF 500.00	CHF 650.00
Technicians' Progr.	CHF 475.00	CHF 500.00
Accompanying Progr.	CHF 475.00	CHF 500.00
One-Day Conference Registration		CHF 200.00

Except for the Accompanying Programme, a fee of CHF 50.00 will be added for on-site registrations.

## Prices include

**Full Participant Fee** Printed proceedings, CD, Ice-Breaker, Swasian Sunset, Gala Dinner, Lunch and coffee service, Delegate bag, Bus/Tram tickets.

**Student Fee** CD, Ice-Breaker, Swasian Sunset, Lunch and coffee service, Delegate bag, Bus/Tram tickets.

**Technicians' Programme** CD, Local trips, Ice-Breaker, Swasian Sunset, Lunch and coffee service, Delegate bag, Bus/Tram tickets.

**Accompanying Programme** Ice-Breaker, Swasian Sunset, Gala Dinner, Bus/Tram tickets, Delegate bag.

**One-day Conference Registration** CD, Conference Programme, Lunch and coffee service (fee for formale programme available on demand).

## Registrations payable

Online by Credit Card

Or payment made to:  
Swiss National Bank  
Börsenstrasse 15  
8022 Zurich, Switzerland  
Account-no: 15500.00036  
SWIFT/BIC: SNBZCHZZ80A  
SIC: 100  
IBAN: CH6100100001550000036  
Reference 1-67582-08, LZ 3474

Or payment made to:  
Swiss Post, Post Finance  
3030 Bern, Switzerland  
Account-no: 30-1171-7  
SWIFT/BIC: POFICHBE  
SIC: 9000  
IBAN: CH55 0900 0000 3000 1171 7  
Reference 1-67582-08, LZ 3474

## Cancellation Policy

By cancellation of the registration, a fee of CHF 150.00 (full fee), or CHF 100.00 (for students/technicians/accompanying programme) will be retained. Cancellation is possible until two weeks before the start of the conference.

# Committees

## Conference organised by

Chair of Geotechnical Engineering  
Institute for Geotechnical Engineering  
ETH Zurich (ETHZ), Zurich, Switzerland

## Local Organising Committee (LOC)

Prof. Sarah Springman (Chair, ETHZ, TC2)  
Dr. Jan Laue (Vice Chair, ETHZ, TC2)  
Mengia Amberg (ETHZ)  
Dr. Fraser Bransby (UK)  
Dr. Edward Ellis (UK)  
Dr. Stuart Haigh (UK)  
Dipl. Ing. Ralf Herzog (ETHZ)  
Dr. Diethard König (Germany)  
Gabriela Laios (ETHZ)  
Dipl. Ing. Pierre Mayor (ETHZ)  
Dr. Andrew McNamara (UK)  
Dr. Berrak Teymur (Turkey)  
Dr. Luc Thorel (France)  
Prof. Dave White (Australia, TC2)  
Sonja Zwahlen (ETHZ)

## International Advisory Board (IAB)

Prof. Tarek Abdoun (USA)  
Prof. Márcio Almeida (Brazil)  
Prof. Georg Anagnostou (Switzerland)  
Dr. Adam Bezuijen (Netherlands, TC2)  
Prof. Malcolm Bolton (UK)  
Dr. Elisabeth Bowman (New Zealand, TC2)  
Prof. Bernardo Caicedo (Colombia, TC2)  
Prof. Patricia Culligan (USA, TC2)  
Prof. Ahmed El Nimr (Egypt)  
Prof. Ahmed Elgamal (USA)  
Prof. Vincenzo Fioravante (Italy, TC2)

Prof. Pierre Foray (France, TC2)  
Dr. Jacques Garnier (France, TC2)  
Dr. Christophe Gaudin (Australia, TC2)  
Prof. Jürgen Grabe (Germany)  
Prof. Ole Hededal (Denmark)  
Dr. Charles Hird (UK, TC2)  
Prof. An Bin Huang (Taiwan, TC2)  
Prof. Susumu Iai (Japan)  
Prof. Rolf Katzenbach (Germany)  
Prof. Dong-Soo Kim (Korea)  
Prof. Osamu Kusakabe (Japan, TC2)  
Prof. Chung-Jung Lee (Taiwan, TC2)  
Prof. Fouk Hou Lee (Singapore)  
Prof. Colin Leung (Singapore, TC2)  
Dr. Gopal Madabhushi (UK)  
Prof. Robert Mair (UK)  
Prof. David Muir Wood (UK)  
Prof. Charles Ng (Hong Kong, TC2)  
Dr. Conleth O'Loughlin (Ireland, TC2)  
Dr. Ryan Phillips (Canada, TC2)  
Dr. João Candeias Portugal (Portugal, TC2)  
Prof. Mark Randolph (Australia)  
Prof. Tom Schanz (Germany)  
Prof. Kenichi Soga (UK)  
Dr. Andy Take (Canada, TC2)  
Prof. Neil Taylor (UK)  
Prof. Valentin Vinogradov (Russia, TC2)  
Prof. B.V.S. Viswanadham (India, TC2)  
Prof. Hou Yujing (China, TC2)  
Prof. Andrei Zaitsev (Russia)

The LOC of ICPMG2010 is grateful that so many distinguished geotechnical engineers have agreed to contribute to this ISSMGE sponsored conference.

**ETH**

Eidgenössische Technische Hochschule Zürich  
Swiss Federal Institute of Technology Zurich

**IGT**

Institut für Geotechnik  
Institute for Geotechnical Engineering



# 6 Special Tours

## Social Programme

Welcome to the holiday destination that can still offer its guests authentic experiences, from the sight of a spectacular mountain panorama and the fragrance of an Alpine meadow to a refreshing boat ride on the Lake of Zurich or in the middle of a waterfall. Discover the most beautiful trips in Switzerland!

### Pre Conference Tour Cambridge – across Europe to Zurich

A Pre Conference tour will be offered from the heart of modern centrifuge modelling in Great Britain, at Cambridge University, across Europe, calling in at the various centrifuges in Delft and visiting the Universities in Bochum and Darmstadt along the way. Experiencing real “ng” yourselves at Europa Park in Rust, south Germany, for the final night and the following half day before travelling onto Zurich for the opening of the Conference on Sunday evening, June 27<sup>th</sup> 2010.

The tour will be offered if there is sufficient interest. If you are interested, please send an email to [info@icpmg2010.ch](mailto:info@icpmg2010.ch) by 1<sup>st</sup> of June 2009.

Copyright/Images with grateful thanks to: Schweiz Tourism (Swiss-Image), Appenzeller Tourism, Schaffhauserland Tourism, Zürich Tourism.

### Tour 1 Monday, 28<sup>th</sup> June Central Switzerland Tour (Lucerne)

Zurich – Lucerne – Pilatus – Lucerne – Zurich

The city of Lucerne and the beautiful Lake Lucerne Region (Vierwaldstättersee) provide an ideal setting for a vast number of sightseeing trips. Lucerne is a city of bridges, palaces, churches and squares and is most famous for the Chapel Bridge with the Water Tower. Enjoy the Pilatus experience, one of the highlights of Central Switzerland at 2132 m above sea level, and travel on the steepest cogwheel train in the world to see for yourself the breathtaking panorama of mountain peaks.

CHF 165.00  
Included: fares and guide  
Not included: food and drinks



Boat Trip on Lake Lucerne (left)

The Chapel Bridge and Water Tower in Lucerne (below)



### Tour 2 Tuesday, 29<sup>th</sup> June Eastern Switzerland Tour (St. Gallen/Appenzell)

Zurich – St. Gallen – Stiftsbibliothek (Benedictiner Abbey library) – Appenzell – Demonstration Dairy – Zurich

This tour leads us to the city of St. Gallen whose famous Abbey District has belonged to the UNESCO World Heritage Sites since 1983 and includes the oldest library in Switzerland. St. Gallen has also achieved fame in the fields of textiles (embroideries) and architecture. The small town of Appenzell lies in a picturesque, hilly landscape. Highlights of the canton Appenzell are the region's long-held rural customs and the dozens of farmhouses lying scattered across the valley. We will introduce you to the secrets of the Appenzell cheese culture in a demonstration dairy.

CHF 69.00  
Included: fares, entrances and guide  
Not included: food and drinks.

Swiss Cheese in Appenzell



### Tour 3 Wednesday, 30<sup>th</sup> June Rhine Falls Tour

Zurich – Rhine Falls – Schaffhausen (Munot) – Zurich

Schaffhausen is situated in the very north of Switzerland. You will discover the Rhine Falls, the largest Falls in Europe, which offer the visitor a spectacular sight. Enjoy a boat ride to the rock promontory in the middle of the Falls and to the other side of the Rhine. The impressive Munot fortress, the landmark of Schaffhausen, is definitely worthwhile visiting – it was responsible for guarding the border city of Schaffhausen in the 16<sup>th</sup> century.

CHF 65.00  
Included: fares, entrances and guide  
Not included: food and drinks

Rhine Falls



#### Tour 4 Thursday, 1<sup>st</sup> July

##### Zurich Region Tour

Zurich – Rapperswil – Zurich

Enjoy a 2-hour cruise on Lake of Zurich with the splendid mountain panorama on the skyline and a stroll through Rapperswil, the “City of Roses” with its unique attractions for visitors: the rose gardens, the medieval castle and the picturesque Old Town. For those who wish to do so: visit the Knie’s Children’s Zoo, an experience to remember, with more than 300 animals. Return to Zurich by train along the “Gold Coast”.

CHF 36.00

Included: fares and guide

Not included: ticket for the zoo, food and drinks

#### Post Conference Tour Friday, 2<sup>nd</sup> July

##### Top of Europe Tour

Zurich – Interlaken – Grindelwald or Wengen – Kleine Scheidegg – Jungfrauoch – Interlaken – Zurich

The unforgettable trip to the Jungfrauoch, a walk on the eternal snows of the Jungfrau plateau, is the true highlight of every stay in Switzerland. A rack and pinion railway takes you from Grindelwald or Wengen via Kleine Scheidegg to the Jungfrauoch “Top of Europe”, at 3454 metres (c. 10000 ft), the highest railway station in Europe. Here ice and snow are guaranteed all year round. Two different routes will be followed up and down the mountain – a unique round trip. Enjoy spectacular sightseeing and stunning views!

Note: Please be sure that you are able to sustain exposure to this altitude.

CHF 320.00

Included: fares and guide

Not included: food and drinks

#### General Information

##### Half-Fare Travelcard (1/2-Tax)

In Switzerland, a special monthly rail card (Half-Fare Travelcard) is available, which allows unlimited purchase of 1<sup>st</sup> and 2<sup>nd</sup> class train, bus, boat and some cable car tickets at half price, within one month/one or two years’ validity. It can be purchased at most train stations (or on the internet). It is worthwhile buying the card, if you join several of our trips, or if you want to attach holidays around your stay at ICPMG2010. For the Post Conference Tour, this card will be included automatically and will be provided by us, if you do not already have one (key passport data are required). The costs of the Tours 1 – 4 can be slightly discounted, if you are an owner of the Half-Fare Travelcard.

Furthermore, journeys to Germany and Austria are reduced by 25% from beyond the Swiss border.

Bernese Oberland Mountains  
Eiger, Mönch, Jungfrau

##### Half-Fare Travelcard prices, if bought at the Swiss Railways counter

Valid for one month (31 days): CHF 99.00

Valid for one year: CHF 150.00

(Products and prices are subject to change.)

<http://travel.sbb.ch/>

[www.sbb.ch](http://www.sbb.ch)

(see “Swiss Travel System” or “Train”)

##### Please note

Prices of the Tours are indicative and will be confirmed in 2010.

All train travel will be 2<sup>nd</sup> class, which is very comfortable in any case.

All tours will be accompanied by an English speaking guide from the ICPMG2010 organisation.

##### Further Information

[www.myswitzerland.com](http://www.myswitzerland.com)

[www.luzern.org](http://www.luzern.org)

[www.st.gallen-bodensee.ch](http://www.st.gallen-bodensee.ch)

[www.appenzell.ch](http://www.appenzell.ch)

[www.schaffhauserland.ch](http://www.schaffhauserland.ch)

[www.zuerichsee.ch](http://www.zuerichsee.ch)

[www.jungfraubahn.ch](http://www.jungfraubahn.ch)

[www.sbb.ch](http://www.sbb.ch)

[www.europapark.de](http://www.europapark.de)



Lake Zurich Shoreline



Jungfrauoch and Aletsch Glacier



# About Zurich

## Downtown Switzerland

Lake breezes, panoramic views of the Alps and the added bonus of the world's best quality of life characterise Zurich, Switzerland's centre of culture and business.

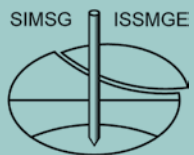
Thanks to its international airport in the heart of Europe, Zurich is linked directly with more than 150 destinations all over the world. The European rail hub right in the city centre is a mere ten minutes train ride from Zurich Airport. As a host region for the Conference, Zurich is exceptional for its security, cleanliness and the unique concentration of cultural, shopping and nightlife facilities.

Zurich offers a mix of modern lifestyle and testimonials of the past. Bahnhofstrasse, Zurich's most important shopping street, is a paradise for shoppers with a wide range of boutiques and department stores – the best address for jewellery, watches, international fashion labels and souvenirs. Visitors especially appreciate the city's gastronomic variety and its many opportunities for pleasure and relaxation: shop until you drop and then swim by day, in clean river and lake water in the middle of the city, with a view of the snow covered Alps on the horizon; party at night, in the numerous bars and clubs.

Zurich's well preserved Old Town offers many historic attractions such as the mediaeval Grossmünster Church with its Charlemagne Tower and the Fraumünster Church, with world-famous stained-glass windows by Marc Chagall. Over 100 galleries and 50 museums invite visitors to enjoy art. Zurich is the venue for numerous cultural events. The Zurich Opera House and the Tonhalle Zurich (concert hall) thrill their audiences with frequent opera premières and outstanding concerts with superb acoustics.

For guests who seek quiet and recreation, the city's many oases of greenery, and idyllic spots invite relaxation, and on the Uetliberg, Zurich's local mountain, visitors can enjoy a panoramic view of the city and Zurich region, right up to the Alps on the horizon.





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