



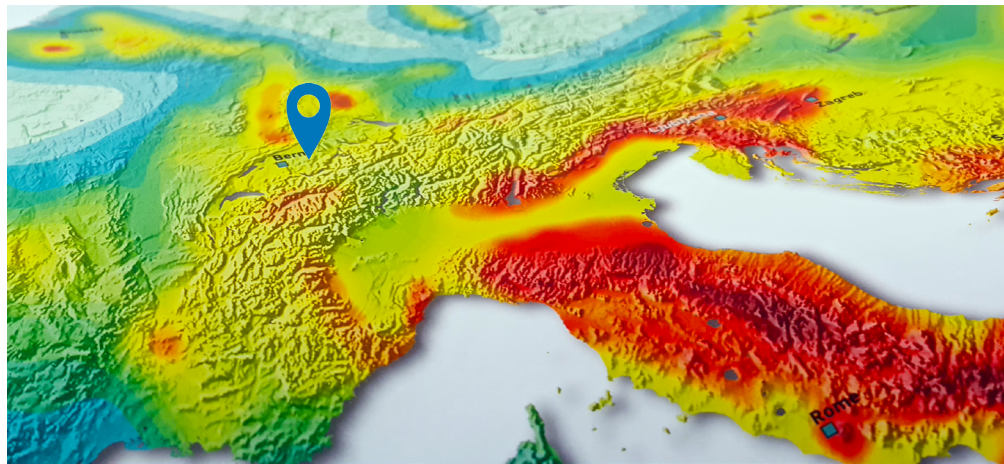
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Service Sismologique Suisse
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ETH

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

PSHA Workshop

Future directions for probabilistic seismic hazard assessment at a local, national and transnational scale



5 to 7 September 2017

Lenzburg, Switzerland



Objectives

This scientific workshop brings together about 100 to 150 leading experts on Probabilistic Seismic Hazard Assessment (PSHA) from around the globe to discuss the current state of practice as well as future directions. The workshop will adopt a holistic point of view (i.e. interdisciplinary, multiple spatial- and temporal scales), critically reflecting all elements of modern PSHA. Distinguished keynote speakers will introduce a range of topics, but we also call for solicited contributions (oral and poster). We will allocate sufficient time for discussions and networking, and the beautiful castle in Lenzburg offers a unique setting.

Revisiting past and ongoing site-specific projects on local, national or transnational scales, we strive to draw conclusions for future PSHA projects. We will also reflect on emerging challenges, such as time-dependence, earthquake interactions, anthropogenic seismicity, model validation, simulation based PSHA, communication of hazard results and procedural requirements for ensuring robustness, especially in the context of PSHA for critical facilities. On day three, we will focus specifically on the needs of community and harmonization projects, such as the next-generation European PSHA.

Local Organising Committee

Prof. Stefan Wiemer, Prof. Domenico Giardini, Dr. Florian Haslinger and Dr. Laurentiu Danciu from ETH Zurich.

Contact

psha_workshop@sed.ethz.ch

[Workshop website](#)

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Confirmed Keynote Speakers (Preliminary List)

Prof. Norm Abrahamson, [PG&E](#)
Prof. John Adams, [Geological Survey of Canada](#)
Prof. Fabrice Cotton, [GFZ Potsdam](#)
Dr. Helen Crowley, [Eurocentre](#)
Dr. Luis Dalguer, [swissnuclear](#)
Prof. Donat Fäh, [ETH Zurich](#)
Dr. Ned Field, [USGS](#)

Dr. Matt Gerstenberger, [GNS Science](#)
Prof. Domenico Giardini, [ETH Zurich](#)
Prof. David Jackson, [UCLA](#)
Prof. Martin Mai, [KAUST](#)
Dr. Warner Marzocchi, [INGV](#)
Prof. Francesco Mulargia, [University of Bologna](#)
Dr. Marco Pagani, [GEM](#)

Prof. Kyriazis Pitilakis, [Aristotle University](#)
Prof. Erdal Safak, [Bogazici University](#)
Dr. Danijel Schorlemmer, [GFZ Potsdam](#)
Prof. Seth Stein, [Northwestern University](#)
Dr. Gianluca Valensise, [INGV](#)
Prof. Stefan Wiemer, [ETH Zurich](#)

Programme

The workshop will be structured in six sessions. It will start on Tuesday with a coffee at 08:45 and the first session at 09:30. Workshop closing will be on Thursday at 17:00. A more detailed programme will follow soon.

1 Lessons Learned

[Tuesday morning, 5 September](#)

Recent PSHA studies at local, national and transnational level e.g. SHARE, EMME, China, US, Canada, Italy, France, Switzerland, Latin America, New Zealand, GEM global effort

2 Seismogenic Source Modelling

[Tuesday afternoon, 5 September](#)

- Earthquake catalogue challenges
- Geodetic/strain data and their use in PSHA
- Geological input (seismogenic sources, active faults, tectonic regimes and regionalization)
- Integrating geodetic, geological and seismological data
- Time-dependent processes and anthropogenic effects
- Uncertainty quantification and potential biases
- Challenges related to determining the maximum possible earthquake

3 Ground Motion Predictions

[Wednesday morning, 6 September](#)

- GMPEs (global, regional, local)
- Replacing GMPEs with waveform modelling (California, Europe, etc.)
- Extreme ground motions
- Directivity, near-source effects

4 Site Characterisation

[Wednesday afternoon, 6 September](#)

- Site classification and reference rock conditions
- Site effect including non-linear effects
- Micro-zonation: examples, concepts and techniques
- Standardisation and databased data-exchange
- Interface to building codes

5 Hazard Integration

[Thursday morning, 7 September](#)

- Challenges and good practise in hazard calculations
- Sensitivity analysis in seismic hazard assessment
- Correlations (spatial, period-to-period)
- Logic-trees, ensemble modelling and alternative models
- Low-probability hazard (10^{-4} to 10^{-7})
- Characterizing epistemic uncertainties
- Validation of PSHA and model components
- Communicating PSHA
- Challenging the PSHA concept
- From hazard to risk

6 Coordinating European Efforts

[Thursday afternoon, 7 September](#)

- Recent or ongoing revisions of national hazards
- Plans to integrate national efforts in transnational efforts
- Hazard and risk services in Europe as part of EPOS
- Community needs and governance

Registration

Deadline: 11 August 2017

Workshop attendance is limited to 150 people, including keynote speakers and fellowship holders. 115 registrations are now available on a first-come, first-served basis.

The registration fee is 300 Swiss francs and includes attendance to the six sessions, all coffee and lunch breaks, and the conference dinner on Wednesday.

In case of cancellation until 18 August 2017, a fee of 50 Swiss francs will be charged. After 18 August 2017, the registration fee cannot be refunded anymore.

[Click here to register](#)

Abstract Submission

Deadline: 7 July 2017

To be considered for an oral or poster presentation you have to first register for the workshop and then submit an abstract of up to one page length.

Please use this [Word template](#) and send it as a PDF file to psha_workshop@sed.ethz.ch.

We will review all abstracts and inform you about the acceptance before the end of July 2017.

Fellowship Application

Deadline: 7 July 2017

Master and doctoral students are invited to apply for one of five fellowships that cover the registration fee, accommodation for up to 4 nights, and travel support.

Please do not register, but send your CV, a cover letter outlining your motivation to apply (up to 500 words), and an abstract for a poster or oral presentation (using this [Word template](#)) as PDF files to psha_workshop@sed.ethz.ch.

We will review all applications before the end of July 2017, and if yours is ranked within the top 5, you will receive a voucher to register for free.

Venue

[Lenzburg](#) is a small town with nearly 10'000 inhabitants. It is located 20 minutes by train from Zurich main station and about 40 minutes from Zurich airport. At the foot of its medieval centre lies a rounded hill with the [Lenzburg Castle](#) on top at 504 meters above sea level.

Not only counts and dukes used to call Lenzburg Castle their home, also a German poet and an American adventurer once lived at this historically significant site. The castle has always been of great relevance to the region and lived through many political uprisings dated as far back as to the 12th century. In 1986, the castle was carefully renovated and finally opened to the public. Now, the Knight's Hall, an impressive courtyard and enticing gardens are awaiting us for the first PSHA Workshop.

Hotel Booking

There are three medium-sized hotels directly in Lenzburg and several more in the vicinity, especially in the city of Aarau and the town of Wildegg (both not even 10 minutes by train from Lenzburg).

We recommend booking in the following hotels by sending them an e-mail and pointing out that you are a participant of the PSHA Workshop (rates per night and person, including breakfast):

- [Hotel Lenzburg](#) in Lenzburg
13 reserved rooms for 132 to 150 Swiss francs
- [Hotel Ochsen](#) in Lenzburg
12 reserved rooms for 160 to 170 Swiss francs
- [Hotel Krone](#) in Lenzburg
10 reserved rooms for 190 Swiss francs
- [Hotel Aarauerhof](#) in Aarau
50 reserved rooms for 165 to 185 Swiss francs
- [Hotel Aarehof](#) in Wildegg
15 reserved rooms for 110 Swiss francs