



International Training Course on  
**Seismology, Seismic Data Analysis,  
Hazard Assessment and Risk  
Mitigation**

15 - 30 June 2026  
Potsdam, Germany

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**Scientific Programme**

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Organised and sponsored by

**GFZ Helmholtz Centre for Geosciences, Potsdam, Germany**

and

**Geo-INQUIRE\* (Geosphere INfrastructures for QUestions into  
Integrated REsearch)**

**List of institutions, lecturers and assistants contributing to the International  
Training Course on "Seismology, Hazard Assessment and Risk Mitigation",  
June 15 to 30, 2026 in Potsdam, Germany**

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**Scientific Programme**  
**International Training Course on**  
**Seismology, Seismic Data Analysis,**  
**Hazard Assessment and Risk Mitigation**  
Potsdam, Germany, June 15 to 30, 2026

**1. Opening Day**

**Monday, June 15**

Opening

09:00 - 10:00	<p><i>Dr. Simone Cesca</i> Presentation of the ITC</p> <p><i>Prof. Dr. Torsten Dahm</i> Presentation of GFZ</p> <p>Welcoming speeches by authorities and official opening of the ITC 2026</p>
10:00 - 10:30	<p><i>Break for a welcome drink - Group Photo</i></p>
10:30 - 11:15	<p>S. CESCA Studying seismicity to track magma: recent case studies from Europe to Africa</p>
11.15 - 12:00	<p>C. NIEVAS From hazards to consequences to people and the built environment: challenges of multi-hazard risk modelling</p>
12:00 - 13:30	<p><i>Lunch Break</i></p>
13:30 - 15:00	<p>T. DAHM 1.1 Aims and fundamentals of seismology</p>
15:00 - 15:30	<p><i>Coffee break</i></p>
15:30 - 17:00	<p>T. DAHM 1.2 Seismic sources and source parameters</p>
<b>Evening:</b>	<p>18:00 - 20:00 Dinner and get-together of participants and lecturers (tbc)</p>

**2. Seismology, Instrumentation, Seismogram Analysis, Earthquake Source Parameter, and Wave Propagation**

**Tuesday, June 16**

Seismic Monitoring (SeisComP)

08:30 - 10:00	<p>T. DAHM 2.1 Theory of wave propagation: Basics of numerical methods</p>
10:30 - 12:00	<p>T. DAHM 2.2 Seismic waves in the real Earth, required seismic records and derived Earth models</p>
13:30 - 15:00	<p>P. EVANS, A. STROLLO 2.3 Introduction to SeisComP</p>
15:30 - 17:00	<p>A. STROLLO, P. EVANS 2.4 Event location and Magnitudes in SeisComP</p>
Evening:	<p>joint Geo-INQUIRE-ITC ice breaker and barbecue (tbc)</p>

**Wednesday, June 17**

Seismic Monitoring and ORFEUS/EMSC EPOS-S services (SeisComP)

08:30 - 10:00	<p>Geo-INQUIRE Annual Meeting 2.5 Participation to Geo-INQUIRE market place with presentations and live demos of services, software, products. (option to present results in flash talks (5 min))</p>
10:30 - 12:00	<p>Geo-INQUIRE Annual Meeting 2.6 Participation to Geo-INQUIRE market place with presentations and live demos of services, software, products. (option to present results in flash talks (5 min))</p>
13:30 - 15:00	<p>A. STROLLO, P. EVANS, J. QUINTEROS 2.7 Hands-on exercise: Event location, focal mechanisms and magnitudes with SeisComP</p>
15:30 - 17:00	<p>J. QUINTEROS, H. JOO, P. EVANS 2.8 FDSN, EIDA/ORFEUS and EMSC services: contributing and using them</p>

**Evening:**  
19:00 - 20:30

*Cultural Presentations of Participants (1-7)*

**Thursday, June 18** Earthquake Source, Moment tensor inversion, EMSC/EFHER  
EPOS-S services

- 08:30 - 10:00 S. HEIMANN  
2.9 Introduction to Pyrocko
- 10:30 - 12:00 S. HEIMANN, P. BÜYÜKAKPINAR  
2.10 Services for earthquake data access and data formats
- 13:30 - 15:00 R. BOSSU  
2.11 EMSC services and earthquake information in the digital age
- 15:30 - 17:00 N. ROMANO, L. DANCIU (tbc)  
2.12 EFEHR services and participation

*Evening:*  
19:00 – 20:30 *Cultural Presentations of Participants (8-13)*

**Friday, June 19** Moment tensor inversion, Scientific presentations

- 08:30 - 10:00 S. CESCA  
2.13 Source inversion in seismology
- 10:30 - 12:00 S. HEIMANN, G. PETERSEN  
2.14 Source inversion with Grond
- 13:30 - 15:00 G. PETERSEN, P. BÜYÜKAKPINAR  
2.15 Source inversion exercise
- 15:30 - 17:00 G. PETERSEN, P. BÜYÜKAKPINAR  
2.16 Source inversion exercise

**Saturday, June 20** Leisure time

**Sunday, June 21** Leisure time

### **3. Engineering Seismology, seismic hazard and risk assessment, Seismic Hazard Assessment and Seismic Risk**

**Monday, June 22** Introduction to seismic hazard assessment

- 08:30 - 10:00 F. COTTON  
3.1 Introduction into Seismic Hazard and Risk Assessment
- 10:30 - 12:00 F. COTTON  
3.2 Factors controlling strong ground-shaking characteristics

- 13:30 - 15:00 G. WEATHERILL  
3.3 EFEHR services: earthquake catalogues and seismic sources

- 15:30 - 17:00 M. PILZ  
3.4 How to take site effects into account?/ Ground shaking site effects. Introduction

**Tuesday, June 23** Strong motions. Observation and prediction

- 08:30 - 10:00 F. COTTON  
3.5 Ground-Motion prediction
- 10:30 - 12:00 F. COTTON  
3.6 Principles of probabilistic seismic hazard analysis
- 13:30 - 15:00 G. WEATHERILL  
3.7 EFEHR services: ground-motion models testing and seismic hazard assessment
- 15:30 - 17:00 M. PILZ  
3.8 Methods to assess site-specific ground motion without measurements

*Evening:*  
19:00 – 20:30 *Cultural Presentations of Participants (14-20)*

**Wednesday, June 24** Site effects evaluation and microzonation

- 08:30 - 10:00 F. COTTON  
3.9 Uncertainty analysis
- 10:30 - 12:00 E. TUERKER  
3.10 Seismic building codes
- 13:30 - 15:00 I. LIOU  
3.11 Aleatory Variability and Epistemic Uncertainty in Probabilistic Seismic Hazard Analysis
- 15:30 - 17:00  
3.12 Scientific Presentations of Participants

**Thursday, June 25** Probabilistic seismic Hazard assessment and uncertainty analysis

- 08:30 - 10:00 I. LIOU  
3.13 Introduction to Probabilistic Fault Displacement Hazard Analysis

- 10:30 - 12:00 F. COTTON  
3.14 Lessons learned from recent earthquakes
- 13:30 - 15:00  
3.15 Seismic hazard: questions/answers session
- 15:30 - 17:00  
3.16 Scientific Presentations of Participants

**Friday, June 26** From hazard to risk, InSAR

- 08:30 - 10:00 C. NIEVAS (tbc), F. COTTON  
3.15 From Hazard to risk
- 10:00 - 12:00  
3.16 Geo-INQUIRE/EFEHR services related to risk
- 13:30 - 15:00 S. METZGER, R. ZINKE  
3.17 Introduction to and interpretation of satellite-radar interferometric (InSAR) data
- 15:30 - 17:00 S. METZGER, R. ZINKE  
3.18 Practical's: From a single interferogram to InSAR time-series analysis

*Evening:*  
18:00 *Closing Dinner*

**Saturday, June 27** Leisure time / Departure of participants

**Sunday, June 28** Leisure time

**Monday, June 29**  
**and**  
**Tuesday, June 30** EXPERT DAYS

- Topics:
- Moment Tensor inversion
  - Statistical seismology
  - InSAR data analysis and modeling
  - Seismic Hazard, Site effects
  - SeisComP, instrumental seismology seismic stations deployment and operation ....