



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

15 - 30 June 2026
Potsdam, Germany

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

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

Tuesday, June 16

Seismic Monitoring (SeisComp)

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

Wednesday, June 17

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

08:30 - 10:00	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))
10:30 - 12:00	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))
13:30 - 15:00	A. STROLLO, P. EVANS, J. QUINTEROS 2.7 Hands-on exercise: Event location, focal mechanisms and magnitudes with SeisComp
15:30 - 17:00	J. QUINTEROS, H. JOO, P. EVANS 2.8 FDSN, EIDA/ORFEUS and EMSC services: contributing and using them

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