



# EXTREME LOADING ANALYSIS OF PETROCHEMICAL PLANTS AND DESIGN OF METAMATERIAL-BASED SHIELDS FOR ENHANCED RESILIENCE



http://r.unitn.it/en/dicam/xp-resilience

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 721816"

# **COURSE ANNOUNCEMENT**

23<sup>th</sup> September 2019, VCE Vienna Consulting Engineers ZT GmbH Marxergasse 1b, 1030 Vienna, Austria

# Short Course on Hazard Identification and Quantification

# **Course Objective**

Hazard is one of the three elements of risk. The better the knowledge and the wider the view, the better ANY assessment can be performed. There is a wide range of approaches to determine hazard. Standard cases are usually covered by national standards such as EUROCODE for Europe. Extraordinary cases require, besides the code considerations, engineering expertise to define possible necessary adjustments. The workshop will demonstrate various approaches towards various cases.

Our codes provide us environmental loads based on long-term statistics collected by our national institutions. They are based on average values for a specific location. In Central European countries the differences between neighbouring regions can be considerable even if the geographical distance is short. It becomes advisable to adjust the values with locally available knowledge. A number of examples will be provided.

In industry we find a major number of different hazards. The processes involved vary considerably from sector to sector. The basics of hazard determination will be presented and the aggregation in a risk framework will be explained. A range from accidental loads, such as explosions or impact, is discussed as well as indicators relevant for durability are identified. A software tool for predicting the change of integrity over time will be handed out and examples elaborated.

## Who should attend

Graduate students, postdoctoral researchers and practitioners interested in the fields of natural and industrial hazard identification and quantification



**Speaker** 

# **Prof. Helmut Wenzel**

Prof. Helmut Wenzel, chair for asset management and condition assessment at the University of Life Sciences in Vienna is very well recognized as successful project manager and researcher whose main interests are related to the performance and management of structures/infrastructures subjected to earthquake loading as well as structural health monitoring and risk-based system identification. Prof. Wenzel was 40 years managing director and head of research and development at VCE Vienna Consulting Engineers a private owned consulting company. Currently he is managing director of Wenzel Consulting Engineers.

He is also political advisor to the Austrian Government on man-made and natural risks. He coordinated successfully European projects with focus on natural hazards (IRIS NMP2-LA-2009-213968) and with Earthquake risk (NERA FP7-INFRASTRUCTURES-2010-262330 and Syner-G FP7-ENV-2009-244061).

#### Schedule

Monday 23 <sup>rd</sup> September 2019		
09:00 - 12:00	Hazard and Risk	
	Lunch Break	
14:00 – 17:00	Industrial Hazards	



## Information about the venue and accommodation

#### Venue

The short course will be held at the head office of VCE located (<a href="www.vce.at/contact">www.vce.at/contact</a>) in the office building "Citypoint" located in Marxergasse 1b, 1030 Vienna Austria. The office is close to the city terminal of the city-airport train CAT, the underground station "Landstraße Wien Mitte" which is serviced by the underground lines U3 and U4 and the rail station "Wien Mitte" of Austrian Federal Railways.



#### Accommodation

There are plenty hotels downtown of Vienna, which is walking distance to the head office of VCE. However, it is advised that participants book the accommodation far in advance since Vienna is a very touristic spot and prices can increase highly on short term booking.



# Registration

Please fill following form and return it together with the bank receipt to Mrs. Jana Gulas gulas@vce.at

Name:				
Organization:				
Mailing address:				
City:	Zip:	Country:		
Phone:				
E-mail:				
Registration Fee 90 €				

Please make your payment of the registration fee to following bank account:

Account name: VCE Vienna Consulting Engineers ZT GmbH

IBAN: AT32 1200 0245 1094 8900

BIC/SWIFT: BKAUATWW

Bank Name: UniCredit Bank Austria AG

Please after the payment, e-mail a scanned copy of the bank receipt to gulas@vce.at

Registration Deadline: 10<sup>th</sup> Sep. 2019