Conference Venue

The conference will be held at the Convention Centre of the Ruhr University Bochum. The Ruhr University Bochum is located in the midst of the Ruhr Area. The venue is easily accessible by public transport from the international airports Düsseldorf, Dortmund and Cologne Bonn.

Accommodation

A sufficient number of hotel rooms has been reserved in the vicinity of the conference venue (two-star to four-star category). Some detailed information on accommodation facilities can be found on the conference website.

Registration Fee*

		Early**	Late***
A	Delegates	540	590
B	Students/PhDs presenting a paper	490	540
C	Students/PhDs not presenting a paper	300	350

**applicable until 29.03.2022 ***applicable after 29.03.2022

Registration conditions depending on the groups:
A, B: Conference documentation, coffee breaks, reception & banquet.
C: Conference documentation, coffee breaks and reception.

*Registration fee for the Euro:Tun Conference. Special conditions apply for the SFB 837 workshop, see sfb837.sd.rub.de.

Call for Abstracts

Prospective authors are kindly invited to submit an extended two-page abstract related to the conference topics electronically through the conference website by October 15th, 2021: eurotun2021.rub.de/Call_for_abstracts.html.

Selected contributions will be invited to submit a journal paper to be included in two special issues of „Underground Space“ after the conference.

Important Dates

Two-page abstract, deadline	15.10.2021
Notification of acceptance	15.12.2021
Early registration, deadline	29.03.2022
Registration, deadline	21.05.2022

SFB 837 & EURO TUN

Computational Methods and Information Models in Tunneling
incorporating
Interaction Modeling in Mechanized Tunneling

Conference Office

Institute for Structural Mechanics
Department for Civil and Environmental Engineering
Ruhr University Bochum, Building IC 6/181
44801 Bochum, Germany

Tel: +49 234 32 29051
E-Mail: eurotun2021@rub.de
Web: eurotun2021.rub.de

Supporting Organizations

- Ruhr University Bochum, Germany
- International Tunnelling and Underground Space Association (ITA - AITES)
- Collaborative Research Center 837 – Interaction Modeling in Mechanized Tunneling (SFB 837) funded by German Research Foundation (DFG)

An event endorsed by

RUHR UNIVERSITÄT BOCHUM RUB

ITA AITES

DFG Deutsche Forschungsgemeinschaft

SFB 837 Interaction Modeling in Mechanized Tunneling

SFB 837 & EURO TUN 2022

International Conference on

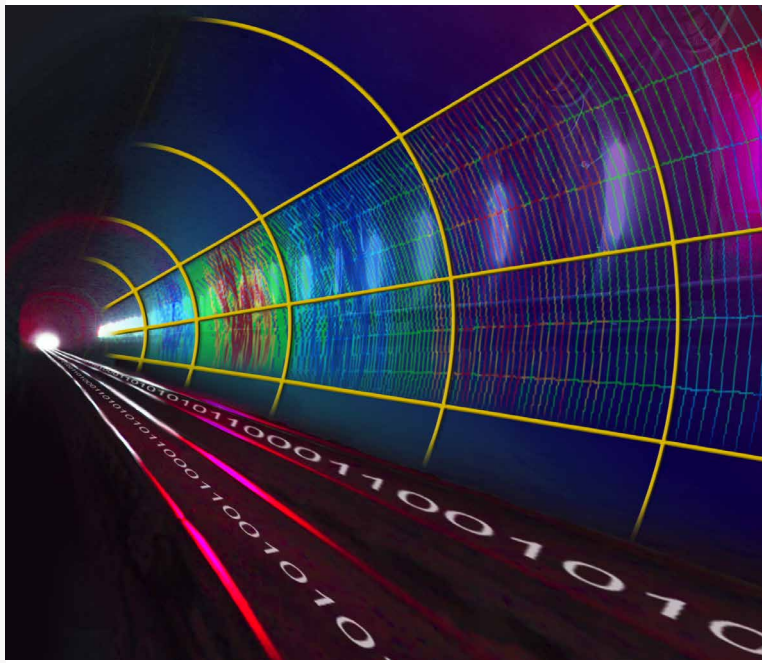
Computational Methods and Information Models in Tunneling (EURO:TUN)

2022, June 22nd - 24th, Bochum, Germany

incorporating

Interaction Modeling in Mechanized Tunneling (SFB 837)

2022, June 21st, Bochum, Germany



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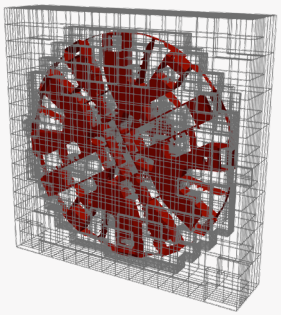
Conference Objectives

SFB 837 & EURO:TUN is a special event, merging the traditional EURO:TUN conference originally scheduled for 2021 and the SFB 837 workshop, where results from 12 years of experimental and numerical research of the Collaborative Research Center on Interaction Modeling in Mechanized Tunneling are presented. While the SFB 837 workshop takes a holistic view on mechanized tunneling, combining experimental and computational approaches, the EURO:TUN conference has a strong focus on computational methods and information models in tunneling. Previous successful EURO:TUN conferences have been organized as ECCOMAS Thematic Conferences (2007, 2009, 2013 & 2017). SFB 837 & EURO:TUN aims to provide a forum for scientists, developers and engineers to review and discuss novel research findings and to assess the suitability and robustness of advanced computational methods and information models for the design, construction and maintenance of tunnels.

Computational methods and information models have experienced increasing application in the design and construction of underground infrastructure. Tunneling is characterized by a high degree of uncertainty and complex interactions between the tunneling process and its environment. In addition, new tunneling technologies and changing requirements for the construction of tunnels (e.g. larger diameters, tunneling in difficult ground conditions, safety concerns, life time prognoses) are constituting new challenges for adequate computational methods to be used for prognoses and decisions to be made in the design, construction, service and maintenance of tunnels. Information models and BIM concepts are increasingly used and combined with computational models for a seamless workflow in digital design and construction. These challenges need continuous research and new solutions in the field of information and computational modeling in tunneling.

Beyond advances in computational methods for the simulation of the advancement process and soil-structure interactions, logistics and construction processes of tunnels, and model-based lining designs also advances in applications of information modeling, advanced sensing technologies, machine learning methods, and big data analytics in tunneling and underground infrastructure will be topics of SFB 837 & EURO:TUN.



Conference Topics

SFB 837 & EURO:TUN will be concerned with innovative computational concepts and strategies for optimized design and construction of tunnels. Topics to be addressed are:

- integration of computational and information models for tunnel planning and design,
- machine-ground and soil-structure interaction,
- numerical models and experimental investigations of excavation, ground-tool interaction and face stability,
- process and logistics simulation,
- data driven modeling, machine learning, data mining, and expert systems in subsurface engineering,
- design of lining systems,
- multi-phase and multi-scale models for soils and rocks and the temporary and permanent support in tunneling,
- procedures for parameter identification, and methods of inverse analysis,
- sensitivity analysis, uncertainty modeling and risk analysis,
- other related topics.

A list of keynote lectures and minisymposia can be viewed on the conference website: eurotun2021.rub.de/Minisymposia.html.

Exhibition

Companies and publishers are kindly invited to exhibit their products and services. Interested exhibitors can find all necessary information on the conference website: eurotun2021.rub.de.

Conference Chairman

G. Meschke	*Ruhr University Bochum, Germany*
G. Hofstetter	*University Innsbruck, Austria*
B. Pichler	*TU Wien, Austria*
M. Thewes	*Ruhr University Bochum, Germany*
H. Zhu	*Tongji University, China*

Local Organization Committee

S. Freitag	*Ruhr University Bochum, Germany*
B.T. Cao	*Ruhr University Bochum, Germany*
B. Schößer	*Ruhr University Bochum, Germany*

Scientific Advisory Committee

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M. Barla	*Politecnico di Torino, Italy*
A. Bezuijen	*Ghent University, Belgium*
R. Borja	*Stanford University, USA*
C. Callari	*University of Molise, Italy*
D. Dias	*Grenoble Alpes University, France*
G. Exadaktylos	*Technical University of Crete, Greece*
R. Galler	*Montanuniversität Leoben, Austria*
A. Gens	*Universitat Politècnica de Catalunya, Spain*
C. Hellmich	*TU Wien, Austria*
H. Huang	*Tongji University, China*
H. Konietzky	*TU Bergakademie Freiberg, Germany*
M. König	*Ruhr University Bochum, Germany*
H. A. Mang	*TU Wien, Austria*
T. Marcher	*Graz University of Technology, Austria*
P. Mark	*Ruhr University Bochum, Germany*
M. Mooney	*Colorado School of Mines, USA*
E. Oñate	*Universitat Politècnica de Catalunya, Spain*
D. Peila	*Politecnico di Torino, Italy*
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J. Rostami	*Colorado School of Mines, USA*
J. Rots	*Delft University of Technology, The Netherlands*
K. Soga	*UC Berkeley, USA*
A. Whittle	*Massachusetts Institute of Technology, USA*
T. Wichtmann	*Ruhr University Bochum, Germany*
J. Yan	*Int. Tunnelling & Underground Space Ass. (ITA)*
Y. Yuan	*Tongji University, China*
Q. Zhang	*Monash University, Australia*
J. Zhao	*Monash University, Australia*