



The conference will be held at the conference center Veranstaltungszentrum of the Ruhr-Universität Bochum, Universitätsstraße 150, D-44801 Bochum. You can reach it via the Metro line U35 (exit „Ruhr-Universität“ metro station) or by car. Parking lots can be found at the G-Südstraße.

A map and further travel information are given on the website: www.rub.de/sfb837

CORONAVIRUS PROTECTION

Wearing an FFP2 mask is still an effective action of protecting yourself and others from coronavirus infection. Therefore, we urgently recommend to wear a FFP2 mask during the event and in public areas (like rooms, corridors, staircases, elevators, etc.). Safety distance to other persons and hygiene measures are also still advisable during your attendance.

SFB 837 & EURO:TUN 2022

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.



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

Further information about the EURO:TUN are given on the conference website: eurotun2021.rub.de.

If you would like to register for that event please contact the organizers by email: eurotun2021@rub.de.

www.rub.de/sfb837



Prof. Dr. Günther Meschke



Civil and Environmental Engineering, RUB

Dr.-Ing. W. Baille (*Soil Mech., Foundation Eng. & Environ. Geotechnics*)

Prof. Dr. D. Balzani (*Continuum Mechanics*)

Prof. Dr. R. Breitenbücher* (*Building Materials*)

Prof. Dr. K. Hackl (*Mechanics of Materials*)

Prof. Dr. M. König* (*Computing in Engineering*)

Dr. A. A. Lavasan (*Soil Mech., Foundation Eng. & Environ. Geotechnics*)

Dr.-Ing. E. Mahmoudi (*Computing in Engineering*)

Prof. Dr. P. Mark (*Concrete Structures*)

Prof. Dr. G. Meschke* (*Structural Mechanics*)

Prof. Dr. T. Nestorović (*Mechanics of Adaptive Systems*)

Dr.-Ing. B. Schöber (*Tunneling and Construction Management*)

Prof. Dr. M. Thewes* (*Tunneling and Construction Management*)

Dr.-Ing. J. J. Timothy (*Structural Mechanics*)

Prof. Dr. A. Vogel (*High Performance Computing*)

Geosciences, RUB

Prof. Dr. W. Friederich (*Geophysics*)

Prof. Dr. J. Renner (*Experimental Geophysics*)

Mechatronics & Mechanical Engineering,
Bochum University of Applied Sciences

Prof. Dr. I. Müller (*Structural Health Monitoring*)

Mechanical Engineering and Safety Technology,
University of Wuppertal

Prof. Dr. A. Röttger (*New Manufacturing Technologies & Materials*)

Civil Engineering, Geo and Environmental Sciences,
Karlsruhe Institute of Technology, KIT

Prof. Dr. S. Freitag (*Structural Analysis*)

RUHR UNIVERSITY BOCHUM

SFB 837 - Interaction Modeling in Mechanized Tunneling

CEO: Dipl.-Ing. Jörg Sahlmen

Building IC/6/89
Universitätsstraße 150
D-44801 Bochum

Fon: +49 (0)234 32-24759
Fax: +49 (0)234 32-14696
Mail: sfb837-gs@rub.de

www.rub.de/sfb837

SFB 837 & EURO:TUN 2022

RUB

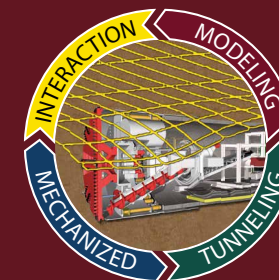
* Members of the Executive Board

RUHR UNIVERSITY BOCHUM

COLLABORATIVE RESEARCH CENTER 837

INVITATION FOR THE
CLOSING WORKSHOP

21ST JUNE 2022



INTERACTION MODELING IN
MECHANIZED TUNNELING

DFG Deutsche
Forschungsgemeinschaft

WWW.RUB.DE/SFB837



SFB 837

Mechanized tunneling is an established flexible and efficient technology for the construction of underground infrastructure, characterized by a dynamic advancement of tunnel boring technologies, increasing diameters and a broadening range of applicability. This rapid development in association with the inherent heterogeneity of the ground poses new challenges to prognosis models.

Considering this background, the subject of the Collaborative Research Center SFB 837 "Interaction Modeling in Mechanized Tunneling" is the development of models, methods and design concepts, which, when adequately interlinked, can deal with the manifold complex interactions of the components and processes involved in mechanized tunneling.

Research within the four project areas of the SFB includes the ground exploration and modeling of the ground, the tunnel boring machine, the lining and annular gap grouting, and the interactions between the tunneling process and existing structures. Furthermore, the cutting, the advancement and the logistics processes are represented using adequate models integrated by means of a consistent SFB-wide tunnel information model, resulting in novel digital design procedures and strategies for steering tunnel boring machines.

After 12 years of research, the SFB 837 will reach the end of its funding by the DFG – German Research Foundation in 2022. To mark this occasion, we are organizing this SFB Closing Workshop on Tuesday, June 21, 2022 at Ruhr University Bochum together with our long-time partners and friends. The date of the SFB Closing Workshop has been chosen so that the event will take place immediately before the EURO:TUN conference.



REGISTRATION

Participation in the SFB event is free of charge. To register, please use the online registration form at: sfb837.sd.rub.de/en/registration/Closing_Workshop.html



PROGRAM – CLOSING WORKSHOP

21st June 2022 – 9:30 h until 20:00 h

09:30 – 10:00	<i>Reception with Coffee & Cake</i>	14:00 – 14:30	From 2002 to 2022: 20 Years of Collaborative Researches on Strain Localization and Instabilities Induced by Tunneling in Saturated and Variably Saturated Soils Prof. Carlo Callari <i>Dep. of Biosciences and Territory, University of Molise, Italy</i>
10:00 – 12:10 10:00 – 10:10	Session 1 Opening Prof. Günther Meschke <i>Collaborative Research Center 837 – Interaction Modeling in Mechanized Tunneling, RUB, Germany</i>		
10:10 – 10:40	Design Trends for Trans-European-Tunnel-Projects Prof. Konrad Bergmeister <i>Institute of Structural Engineering (IKI), University of Natural Resources and Life Sciences, Austria</i>	14:30 – 15:00	Real-time Simulations in Mechanized Tunneling Prof. Steffen Freitag, M.Sc. Annika Jodehl <i>Collaborative Research Center 837 – Interaction Modeling in Mechanized Tunneling, RUB, Germany</i>
10:40 – 11.10	Advance Exploration and Face Support for Shield Machines Prof. Markus Thewes, Prof. Wolfgang Friederich <i>Collaborative Research Center 837 – Interaction Modeling in Mechanized Tunneling, RUB, Germany</i>	15:00 – 15:30	<i>Coffee Break</i>
11:10 – 11.40	ZaB - Full Scale Research and Development & Education and Training in Construction and Operation of Underground Facilities Prof. Robert Galler <i>Montanuniversität Leoben, Zentrum am Berg (ZaB), Underground Research-, Test- and Training Facility, Austria</i>	15:30 – 17:30 15:30 – 16:00	Session 3 RTG 2075 - Aging of Materials and Structures: Experiments, Modeling and Numerical Analysis Prof. Ralf Jänicke <i>Institute of Applied Mechanics, Technische Universität Braunschweig, Germany</i>
11:40 – 12:10	Digital Modelling and Intelligent Computing for Design & Assessment of Underground Structure Prof. Jelena Ninić <i>Centre for Structural Engineering and Informatics, University of Nottingham, UK</i>	16:00 – 16:30	Information Management and Risk Models Prof. Markus König <i>Collaborative Research Center 837 – Interaction Modeling in Mechanized Tunneling, RUB, Germany</i>
12:10 – 13:00	<i>Lunch Buffet</i>	16:30 – 17:00	Damage Mechanisms at the Microstructural Level & Methods for Improving Tool Properties Through an Adapted Material Design Prof. Arne Röttger <i>Collaborative Research Center 837 – Interaction Modeling in Mechanized Tunneling, RUB, Germany</i>
13:00 – 15:00 13:00 – 13:30	Session 2 The Impact of Hydrothermal Variation on Long-term Tunnel Performance: A Tale of Two Tunnels Dr. Zili Li <i>Dep. of Civil, Structural & Environmental Engineering, University College Cork, Ireland</i>	17:00 – 17:30	Quality is Assessed Quantity: Findings from the GRK1462 Prof. Lars Abrahamczyk, Dr. Dmitri Legatiuk, Prof. Frank Werner <i>Institute of Structural Engineering, Bauhaus-Universität Weimar, Germany</i>
13:30 – 14:00	Lining, Support and Swelling Dr. Arash Lavasan, M.Sc. Diego Petrarora, M.Sc. Gerrit Neu <i>Collaborative Research Center 837 – Interaction Modeling in Mechanized Tunneling, RUB, Germany</i>	18:00	<i>Dinner</i>