SUMMER SCHOOL:

**SFB 837 – GRK 2075**

**20. - 22. SEPTEMBER 2021**

RUB – Hörsaal H9 - Hochschule Bochum
Am Hochschulcampus 1 – 44801 Bochum

**SUMMER SCHOOL PROGRAM**

**20. SEPTEMBER 2021 – 12:00 - 20:00**

12:00 Lunch

13:00 Welcome
   Prof. Günther Meschke, (Ruhr University Bochum)
   Prof. Manfred Krafczyk, (TU Braunschweig)

13:30 Aging Effects on Interactions of Embedded and Externally Bonded Reinforcement in Strengthened Concrete Structures
   Zhuo Chen, (TU Braunschweig)

14:00 Swelling Behaviour of Clay Shales in Interaction with Deformable Tunnel Lining
   Florian Christ, (Ruhr University Bochum)

14:30 Impact of the Size of the Aggregates on the Service Life of Loaded Structures Exposed to Chlorides
   Stefan Ullmann, (TU Braunschweig)

15:00 Coffee Break

15:30 Lab Tour 1:
   Tribological and Mechanical Properties of Wear Resistant Materials
   Lukas Brackmann, (Ruhr University Bochum)
   Geotechnical Lab
   Dr. Wiebke Baille, (Ruhr University Bochum)

16:30 Combination of Eigenerosion with the Finite Cell Method for the Numerical Analysis of Surface Spalling in Metal Matrix Composites
   Dennis Wingender, (Ruhr University Bochum)

17:00 Time-Dependent Behaviour of Cracks in Reinforced Concrete Members
   Jonas Cramer, (TU Braunschweig)

18:00 Modeling of Damage in EDZ Caused by Mechanized Tunneling
   Maximilian Schoen, (Ruhr University Bochum)

19:00 Dinner Q-West
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21. SEPTEMBER 2021 – 09:00 - 20:30

09:00  Inverse Analysis and Monitoring-Based Structural Stress Prediction of a Beam Structure using Artificial Neural Networks
Nicola Gottardi  
(Ruhr University Bochum)

09:30  Bayesian Identification of Mechanical Parameters in a Reinforced Concrete Damage Model
Simona Dobrilla  
(TU Braunschweig)

10:00  Coffee Break

10:30  Lab Tour 2: Bentonite Lab  
Dr. Britta Schößer, Sebastian Kube  
(Ruhr University Bochum)

  Structural Engineering Lab  
Diego Petraroia  
(Ruhr University Bochum)

12:00  Lunch

13:00  Evaluation of Shear Capacity of Reinforced Concrete Bridges
Johannes Rathgen  
(TU Braunschweig)

13:30  Parallel Finite Cell Method with Adaptive Geometric Multigrid
Poria Saberi  
(Ruhr University Bochum)

14:00  Ageing of Wood as a Construction Material
Juan Li  
(TU Braunschweig)

14:30  An Approach for Cross-Data Querying and Spatial Reasoning of Tunnel Alignments
Marcel Stepien  
(Ruhr University Bochum)

15:00  Departure to Social Event

16:00  Museum Henrichshütte in Hattingen

18:00  Dinner Henrichshütte in Hattingen

20:30  Departure to IBIS Hotel, City Center Bochum and RUB
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SUMMER SCHOOL PROGRAM
22. SEPTEMBER 2021 – 09:00 - 12:30

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<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>09:00</td>
<td>Deformation Measurement and Crack Detection Using ESPI</td>
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<td>Marcel Grabowski</td>
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<td>09:30</td>
<td>Thermo-Hydro-Mechanical Isogeometric Analysis of Artificial Ground Freezing</td>
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<td>Rodolfo Williams</td>
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<td>10:00</td>
<td>Welding Under Service Conditions in Compliance with Standard Requirements for Weld Seam Quality and Fatigue Resistance &amp; Fatigue Behaviour of Threaded Tension Rods</td>
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<td>Florian Begemann, Hendrik Jahns</td>
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<td>10:30</td>
<td>Coffee Break</td>
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<td>11:00</td>
<td>Feature Extraction from Cutting Discs – Why there is no better Expression for this</td>
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<td>Sebastian Priebe</td>
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<td>11:30</td>
<td>Condition Monitoring of Vibrating Structures Using Data-Based Modeling</td>
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<td>Lukas Outzen</td>
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<td>Lunch</td>
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SOFT SKILL TRAINING
Start the Dialogue, Open Up Science!
Introduction to Science Communication and Public Engagement

- get to know national and international developments and best practice examples in science communication and public engagement
- learn how to plan strategic communication and engagement activities related to their research topic
- develop skills and discover practical tools for engaging multiple target audiences and stakeholders with research

13:30 | Communication 1                                                        |
|      | Annette Klinkert                                                       |
|      | (city2science)                                                         |
| 15:30 | Coffee Break                                                           |
| 16:30 | Communication 2                                                        |
|      | Annette Klinkert                                                       |
|      | (city2science)                                                         |
| 18:00 | End                                                                    |