GETTING HERE:

MUSEUM AM LÖWENTOR

The conference on 12th / 13th November 2015 will be held at Museum am Löwentor, which is located in Nordbahnhofstraße, 70191 Stuttgart.

Getting here by public transport:
S-Bahn 4, 5, 6 to Nordbahnhof
U-Bahn 12 to Nordbahnhof
U-Bahn 13 to Löwentor

Getting here by car:
There is a car park at the corner of Ehmannstraße and Nordbahnhofstraße, 70191 Stuttgart.

SCHLOSS ROSENSTEIN

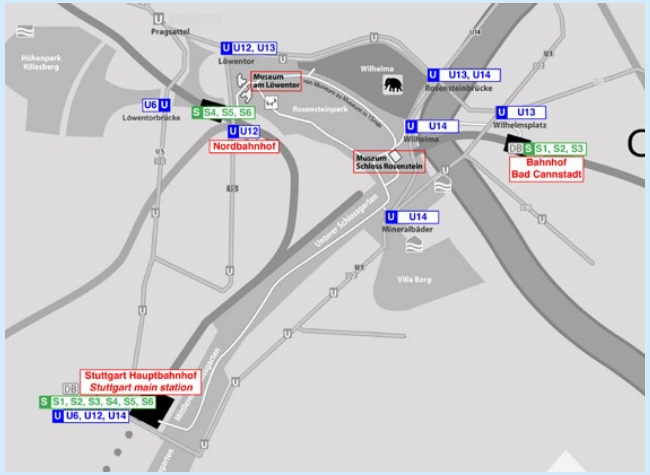
The Get-together in the evening of 12th November 2015 will take place at Schloss Rosenstein. This palace is located in Rosenstein Park, near the zoological botanical garden Wilhelma.

Getting here by foot:
It is a 15 minute walk through Rosenstein Park from Museum am Löwentor to Schloss Rosenstein.

Getting here by public transport:
U-Bahn U1, U2, U14 to Mineralbäder
U-Bahn U14 to Wilhelma

LINKS

Museum am Löwentor / Schloss Rosenstein:
www.naturkundemuseum-bw.de
Public transport: www.vvs.de



SONDERFORSCHUNGSBEREICH/ TRANSREGIO 141:

Natural structures are multi-layered, hierarchically structured and finely tuned combinations of a few basic molecular components. Recent developments in computational design, simulation and fabrication offer new options for the transfer of these principles to the macro-scale of architecture and building construction. The target is not only to increase performance, but also to transfer the inherent ecological properties of natural systems, i.e. to achieve the efficient usage of limited resources and closed material cycles, and thereby, to contribute to sustainability in architecture and technology.

CONFERENCE CHAIR:

JAN KNIPPERS | Universität Stuttgart

THOMAS SPECK | Universität Freiburg

KLAUS NICKEL | Universität Tübingen

REGISTRATION

THE CONFERENCE REQUIRES REGISTRATION.
TO REGISTER AND FOR MORE INFORMATION
PLEASE VISIT:

WWW.TRR141.DE

PARTNERS

Universität Stuttgart
Eberhard Karls Universität Tübingen
Uni Freiburg
Staatliches Museum für Naturkunde Stuttgart
Fraunhofer IBP

BIOLOGICAL DESIGN AND INTEGRATIVE STRUCTURES

1ST CONFERENCE OF SONDERFORSCHUNGSBEREICH TRANSREGIO 141

12. + 13. NOVEMBER 2015

MUSEUM AM LÖWENTOR | STUTTGART, GERMANY

SUPPORTED BY
DFG Deutsche Forschungsgemeinschaft

HOSTED BY
Staatliches Museum für Naturkunde Stuttgart

ORGANIZED BY
SFB-TRR 141

PROGRAM:

THURSDAY, 12.11.2015

10:00 - 10:20	Prof. Dr.-Ing. Jan Knippers Prof. Dr. Johanna Eder	Universität Stuttgart, Speaker TRR 141 Director of the Staatliches Museum für Naturkunde Stuttgart	Welcome
10:20 - 10:40	Prof. Dr.-Ing. Jan Knippers	Universität Stuttgart, ITKE Institute of Building Structures and Structural Design	Beyond Typologies: Biology as a Driver for an Integrative Design Culture
10:40 - 11:20	Prof. Dr. George Jeronimidis	University of Reading, Composite Materials Engineering	Lessons from Nature – Materials-Structures-Performance
11:20 - 12:00	Dr. Bill Addis	University of Cambridge, Department of Architecture	Biomimetics and the Structural Engineer
12:00 - 13:20	Lunch		
13:20 - 14:00	Prof. Dr. Wilhelm Barthlott	Universität Bonn, Nees Institute for Biodiversity of Plants	Biological Diversity and Bionics
14:00 - 14:20	Prof. Klaus G. Nickel, PhD	Universität Tübingen, Applied Mineralogy	Biomimetics and the Matter of Size
14:20 - 14:40	Prof. Dr. Siegfried Schmauder	Universität Stuttgart, Institute for Materials Testing, Materials Science and Strength of Materials	Challenges in Simulating Natural Microstructures
14:40 - 15:00	Prof. Dr.-Ing. Wolfgang Ehlers	Universität Stuttgart, Institute of Applied Mechanics	Continuum Mechanics and Biomaterials: An Application of Simulation Technology to Biomechanics of Animals and Plants
15:00 - 15:40	Coffee break		
15:40 - 16:00	Prof. Dr. Oliver Betz	Universität Tübingen, Evolutionary Biology of Invertebrates	Joint-Free Movement Principles with Adaptive Stiffness in Invertebrate Animals
16:00 - 16:20	Dr. Tom Masselter	Universität Freiburg, Plant Biomechanics Group & Botanic Garden	Branchings in Nature and Technics
16:20 - 16:40	Prof. Dr.-Ing. Götz Gresser	Universität Stuttgart, Institute for Textile Technology, Fiber Based Materials and Textile Machinery	Bio-Inspired Fiber Composite Structures
16:40 - 17:00	Prof. AA Dipl. (Hons.) Achim Menges	Universität Stuttgart, ICD Institute for Computational Design	Biomimetics in Architecture: Computational Design and Fabrication
17:20 - 18:20	Guided tour, Museum am Löwentor		
19:00 - 22:00	Get-together, Schloss Rosenstein		

FRIDAY, 13.11.2015

10:00 - 10:40	Dr. Patrik Schumacher	Zaha Hadid Architects, London	Perceptual Orientation and Spatial navigation in Dense Urban Environments as a Biomimetic Research Problem
10:40 - 11:20	Prof. Mario Carpo	The Bartlett, University College London	Search, Don't Sort. The Second Digital Turn.
11:20 - 12:00	Prof. Dr. Stanislav Gorb	Universität Kiel, Functional Morphology and Biomimetics	Functional Surfaces in Biology: From the Fish Adhesion to the Snake Camouflage
12:00 - 13:20	Lunch		
13:20 - 13:40	Prof. Dr. Thomas Speck	Universität Freiburg, Plant Biomechanics Group & Botanic Garden	Elastic Deformation in Plants and Architecture
13:40 - 14:00	Prof. Dr. Ralf Reski	Universität Freiburg, Plant Biotechnology	Moss Molecular Bionics
14:00 - 14:20	Dr. Olga Speck	Universität Freiburg, Plant Biomechanics Group & Botanic Garden	Nature-Based Solutions – a Path Towards Sustainable Construction
14:20 - 14:40	Prof. Dr. Gerd de Bruyn	Universität Stuttgart, IGMA Institute of Theory of Architecture and Design	Form und Organismus in (Bau)Kunst und Wissenschaft
14:40 - 15:20	Coffee break		
15:20 - 15:40	Prof. Dr. Oliver Röhrle	Universität Stuttgart, Institute of Applied Mechanics	Using Image Processing Techniques and the Finite Element Method to Analyse Small-Scale Biological Structures
15:40 - 16:00	Prof. Dr. James H. Nebelsick	Universität Tübingen, Invertebrate Palaeontology	Form and Function of the Periostracum in Land Snails: a Model for Continuous Fused Deposition of Architectural Envelopes
16:00 - 16:20	Prof. Dr.-Ing. Manfred Bischoff	Universität Stuttgart, Institute for Structural Mechanics	Optimality, Robustness and Redundancy – Categories for Biological Design from an Engineering Point of View
16:20 - 16:40	Prof. Dr.-Ing. Dr.-Ing. E.h. Dr. h.c. Werner Sobek	Universität Stuttgart, ILEK Institute of Lightweight Structures and Conceptual Design	Design and Manufacturing of Biologically Inspired Optimal Structures Made of Functionally Graded Concrete
16:40 - 16:50	Prof. Dr. Thomas Speck	Universität Freiburg, Co-Speaker TRR 141	Closing Remarks and Discussion