

DFG Funds Research Centre for Architecture and Biomimetics

The DFG (German Research Foundation) decided on May 15th to financially support the transregional Collaborative Research Centre TRR 141 'Biological Design and Integrative Structures' with a grant of 9.3 million Euro for four years. The initiative focuses on the analysis and abstraction of design and construction principles in nature and their implementation in architecture.

Recent developments in computational design, simulation and fabrication offer new options for analysing natural constructions for transferring their principles to the macro-scale of building construction and other fields of technology. The aim of the Centre is not only to increase performance, but also to transfer the inherent ecological properties of natural structures, i.e. mainly the effective usage of limited resources and closed material cycles, to architecture and building technologies.

Jan Knippers, Professor at the Institute of Building Structures and Structural design (ITKE) of the University of Stuttgart and spokesperson of the program, says: 'TRR 141 offers a new approach for design and construction in architecture and might direct us to multi-functional and adaptive structures far beyond existing typologies of building construction.'

The entire program of TRR 141 is conceptualized as a dialogue: An interdisciplinary team of architects and engineers from the University of Stuttgart, biologists and physicists of the University of Freiburg and geo- scientists and evolutionary biologists of the University of Tübingen will analyse and simulate multi-layered, hierarchically structured and finely tuned types of morphology taken from natural structures and develop strategies for implementing them in architecture. The results will provide the foundations for further investigations and a more detailed understanding of the studied biological systems.

At a higher level, the project aims to contribute to the conceptualization and foundation of biomimetics as a scientific methodology in the context of architecture and building technologies.

TRR 141 is the first Collaborative Research Centre funded by the DFG in the field of architecture for many years.

Media contact:

Prof. Dr.-Ing. Jan Knippers

Phone: +49 (0)711 685-83280

E-mail: info[at]itke.uni-stuttgart.de