AdvanceAEC Press Release, Stuttgart 04 November 2020

Innovative research network "AdvanceAEC" established in the research areas architecture, engineering and construction

Five DFG-funded research centers join forces to harness international research synergies and to foster the development of early career researchers.

The "Research Network for Advancing Architecture, Engineering and Construction" (AdvanceAEC) brings together international researchers who strive to advance architecture, engineering and construction through digital technologies and an interdisciplinary approach. It aims to address the multifaceted ecological, economic and socio-cultural challenges the built environment is facing. The research network provides a platform to exchange expertise, foster and build an international research community in the fields of architecture, civil engineering, mechanical engineering, computer science, robotics and social sciences.

With particular emphasis on the topics:

- Architecture, Engineering and Construction
- Interdisciplinary Research
- Co-Design and seamless Digital Technologies
- Resource efficient and future-proof construction
- Productivity and automation

Foundation and research network partners are five independently evaluated, publicly funded research networks:

- **EXC 2120**: *Integrative Computational Design and Construction for Architecture (IntCDC)*, University of Stuttgart > Link
  Director: Prof. Dipl AA (Hons) Achim Menges
  Deputy Director: Prof. Dr.-Ing. Jan Knippers
- **SFB 1244**: *Adaptive skins and structures for the built environment of tomorrow*, University of Stuttgart > Link
  Director: o. Prof. Dr.-Ing. Dr.-Ing. E.h. Dr. h.c. Werner Sobek
  Deputy Director: Prof. Dr.-Ing. habil. Dr. h.c. Oliver Sawodny
- **SFB/TRR 277**: *Additive manufacturing in construction,* TU Braunschweig/TU Munich > Link
  Director: Prof. Dr.-Ing. Harald Kloft (TU Braunschweig)
  Deputy Director: Prof. Dr.-Ing. Prof. h.c. Christoph Gehlen (TU Munich)
- **SFB/TRR 280**: *Design strategies for material-minimized carbon structures. Foundations for a new way of building*, TU Dresden/RWTH Aachen University > Link
  Director: Prof. Dr.-Ing. Dr.-Ing. E.h. Manfred Curbach (TU Dresden)
  Deputy Director: Prof. Dr.-Ing. Josef Hegger (RWTH Aachen University)
- **SPP 2187**: *Adaptive Modular Construction with Flow Production Methods*, Ruhr University Bochum/KIT > Link
  Director: Prof. Dr.-Ing. habil. Peter Mark (Ruhr University Bochum)
  Co-Coordinator: Prof. Dr.-Ing. Gisela Lanza (KIT)

The main objective of the network is to foster an intensive exchange on the level of the participating research centers and the individual researchers. The common website www.advanceaec.net serves as collaborative platform.

Joint activities such as colloquia, symposia and other events nurture the collaboration of the research centers. A vital role for networking is taken by the members' data base which additionally facilitates direct exchange and scientific collaboration of the individual researchers.

We invite all researchers working in the field of AdvanceAEC to join the network. We would be excited to have you participate in building our emerging community and to benefit from our related activities. Free of charge registration is possible on the webpage: LINK to registration page.

The launch of the innovative research network AdvanceAEC will take place online on 16 November 2020 from 6:00 to 9:00 pm and is open to all registered members. Research associations will be presented by their respective Director. As special guest of honor Prof. Dr. Philippe Block of the Federal Institute of Technology Zurich, Director of the National Centre of Competence in Research (NCCR) Digital Fabrication, will lead the following discussion.

Information on future activities and events is available on the website advanceaec.net.

Summary of research networks partners and specialist contact:

- **EXC 2120**: *Integrative Computational Design and Construction for Architecture (IntCDC)*, University of Stuttgart > Link

  Prof. Achim Menges, Director EXC 2120 IntCDC, University of Stuttgart
  Tel.: +49 (0) 711 685-827 86, achim.menges@icd.uni-stuttgart.de

  The EXC 2120 aims to harness the full potential of digital technologies in order to rethink design, fabrication and construction through a novel interdisciplinary methodology. A systematic, fundamental and highly integrative computational approach lays the methodological foundations for a comprehensive modernization of the building sector, thus enabling game-changing innovations.

- **SFB 1244**: *Adaptive skins and structures for the built environment of tomorrow*, University of Stuttgart > Link

  o. Prof. Dr.-Ing. Dr.-Ing. E.h. Dr. h.c. Werner Sobek, Director SFB 1244, University of Stuttgart
  Tel.: +49 (0) 711 685-662 26, werner.sobek@ilek.uni-stuttgart.de

  The aim of the CRC 1244 is to find answers to the urgent ecological and social questions of our time for the construction industry. The integration of adaptive elements into load-bearing structures, building skins and interior design is considered as an important approach. The CRC 1244 explores the basics, potentials and implications of this approach.

- **SFB/TRR 277**: *Additive manufacturing in construction,* TU Braunschweig/TU Munich > Link

  Prof. Dr.-Ing. Harald Kloft, Director SFB/TRR 277, TU Braunschweig/ TU Munich
  Tel: +49 (0) 531 391-3571, h.kloft@tu-braunschweig.de

  The SFB/Transregio TRR 277 aims to examine Additive Manufacturing (AM) as a novel digital manufacturing technology for the construction industry in an interdisciplinary, cross-location research project. Automated additive material application enables the construction of buildings with a high degree of design freedom and a resource-efficient use of materials.

- **SFB/TRR 280**: *Design strategies for material-minimized carbon structures. Foundations for a new way of building*, TU Dresden/RWTH Aachen University > Link

  Prof. Dr.-Ing. Dr.-Ing. E.h. Manfred Curbach, Director SFB/TRR 280, TU Dresden
  Tel: +49 (0) 351 463-37660, manfred.curbach@tu-dresden.de

  The aim of the SFB/TRR 280 is to create the foundations for the building of the future: completely new concepts for the design, modelling, construction, manufacture and use of sustainable resource-efficient building elements made of mineral building materials and reinforced with carbon fibres.

- **SPP 2187**: *Adaptive Modular Construction with Flow Production Methods*, Ruhr University Bochum/KIT > Link

  Prof. Dr.-Ing. habil. Peter Mark, Director SPP 2187, Ruhr University Bochum
  Tel: +49 (0) 234 32 22700 / 25980, peter.mark@rub.de

  The priority programme 2187 develops methods for the production of adaptive modules from high-performance concrete in quality-assured, digitized flow production in order to build faster, more precisely and more resource-efficiently and to maintain the individuality of the building structures.

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