



SBE19 Graz

SUSTAINABLE BUILT ENVIRONMENT D-A-CH CONFERENCE 2019
Graz, 11–14 September 2019



Universität für Bodenkultur Wien



Karlsruher Institut für Technologie



SPECIAL SESSION

Management of Complexity in Sustainable Construction

Helmuth Kreiner, Graz University of Technology, Austria
12 Sept 2019, 11.30am-01.00pm | Rechbauerstraße 12, 8010 Graz

SUSTAINABLE BUILT ENVIRONMENT D-A-CH CONFERENCE 2019

The SUSTAINABLE BUILT ENVIRONMENT D-A-CH CONFERENCE 2019 is part of a major international series of conferences that focus on sustainable buildings and construction. This series, now on a three-year cycle, has become recognized as the world's preeminent conference series in this important field. Graz University of Technology will host the SBE19 in cooperation with University of Natural Resources and Life Sciences, Vienna, Karlsruhe Institute of Technology and ETH Zürich. Within this conference several Special Sessions are organized.

KEYWORDS AND OBJECTIVE OF THIS SPECIAL SESSION

Complexity management, System analysis, Systems engineering, Integrated approach, Building cybernetics, Multi criteria decision making, Systemic approach and Systemic optimization, Multi objective optimization, Risk management, Lean management, Trade off management, Decision support systems, Quality management and maturity assessment

The implementation of sustainable construction led to higher complexity of today's construction processes. On the one hand this is induced by multi criteria requirements (economic, environmental, social) for sustainable buildings and on the other by the current lack of appropriate methods, tools and data resources in order to understand and manage systemic behavior for sustainable construction. As a consequence, stakeholder awareness of systemic effects in decision making processes is strongly limited. Imprecise and/or wrong decisions – especially in early design stages – may result in lower building sustainability. However, the application of systems thinking in sustainable construction is gaining more and more interest in the last years. Therefore, this special session will present the state of research and practical implementation as well as the latest findings in this field, including but not limited to:

- Lessons to be learned from other disciplines
- Systemic approaches and methods for the management of complexity in sustainable construction
- Decision support systems | Tools (based on a systemic approach)
- Case studies (practical implementation examples for complexity management methods in sustainable construction)
- (Big-) data management within MCDM
- Approaches and methods for holistic quality and risk management

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