

In the framework of the Berlin Science Week 2017, the AIT Austrian Institute of Technology and the Complexity Science Hub Vienna are inviting you to the workshop

# COMPLEXITY SCIENCE FOR FUNDAMENTAL URBAN CHALLENGES

**Time:** Tuesday, 7 November 2017, 1:30 pm – 6:30 pm  
**Place:** Representation of the European Commission in Germany,  
Unter den Linden 78, 10117 Berlin

The grand challenges of the 21st century are becoming increasingly 'systemic'. Regional developments can cause global effects. In the context of climate change, unstable financial markets, or massive urbanization rates, undesirable developments can lead to extreme costs for society. Such risks are scientifically not well understood and therefore cannot be managed strategically. The quantitative and predictive understanding of complexity is one of the grand challenges for science of the 21st century.

This workshop will introduce new concepts of complexity & big data science with a special focus on challenges arising in the area of urbanization. There is evidence that the size of cities significantly affects factors such as health, communication, or opinion formation of people. Hence, how should cities be planned, built, and governed in an intelligent way? How can the immense data streams cities are producing be transformed into useful knowledge that can be used to develop a city in a sustainable, resilient, and resource-friendly way?

## AGENDA

Moderation: Nikolas Neubert, AIT Austrian Institute of Technology

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| 1:30-2:00 | Coffee & Registration   |
| 2:00-2:15 | Welcome <ul style="list-style-type: none"><li>• Ambassador Richard Kühnel, Representative of the European Commission in Germany</li><li>• Wolfgang Knoll, Managing Director, AIT Austrian Institute of Technology</li></ul>   |
| 2:15-3:30 | Complexity and Planning <ul style="list-style-type: none"><li>• Stefan Thurner, President, Complexity Science Hub Vienna<br/><i>Complexity science &amp; big data</i></li><li>• Luis Bettencourt, University of Chicago<br/><i>Fundamental urban challenges</i></li><li>• Elke Pahl-Weber, Einstein Center Digital Future Berlin<br/><i>From challenges to solutions</i></li><li>• Dirk Helbing, ETH Zurich &amp; CSH Vienna<br/><i>Smarter, participatory cities</i></li></ul> |
| 3:30-4:00 | Coffee break  |
| 4:00-5:15 | Complexity and Management of Urban Challenges <ul style="list-style-type: none"><li>• Robert Clark, University of Rochester<br/><i>Digitalization: empowering cities</i></li><li>• Ross King, AIT Austrian Institute of Technology<br/><i>Block chains and how they work</i></li><li>• Heike Riel, IBM<br/><i>Data platforms for urban challenges</i></li><li>• Reinhard König, AIT Austrian Institute of Technology<br/><i>Smart special planning systems</i></li></ul>        |
| 5:15-5:30 | Closing remarks: Wolfgang Knoll   |
| 5:30-6:30 | Cocktail Reception  |

