Lisboa Talk

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Atlas of Forecasts

Predicting and Broadcasting Science, Technology, and Innovation

Envisioning and implementing desirable futures requires a deep understanding of developments in science and technology as well as the ability to both simulate and communicate the likely impact of alternative actions. At a time when our relationship to a vulnerable planet Earth is especially important, such a profound awareness of complex, interlinked systems is needed more than ever. *Atlas of Forecasts*, from the creator of *Atlas of Science* and *Atlas of Knowledge* shows how we can use data to map possible futures.

Atlas of Forecasts uses advanced data visualizations to introduce different types of computational models, and demonstrates how model results can be used to inform effective decision-making. The models aim to capture the structure and dynamics of developments in education and the job market, progress in science and technology, and the impact of government policies—all from the micro to the macro levels. Model results can help us decide which human skills are needed in an artificial intelligence–empowered economy; which courses and degrees are most effective in upskilling and reskilling the current and future workforce; what progress in science and technology is likely to happen; and how policymakers can future-proof regions or nations.

This *Atlas* offers a driver's seat-perspective for a test-drive of the future.

Bio

KATY BÖRNER is the Victor H. Yngve Distinguished Professor of Engineering and Information Science in the Departments of Intelligent Systems Engineering and Information Science, Luddy School of Informatics, Computing, and Engineering; core faculty of the Cognitive Science Program; and founding director of the Cyberinfrastructure for Network Science Center (http://cns.iu.edu)—all at Indiana University in Bloomington, Indiana.

Börner became a Fellow of the American Association for the Advancement of Science (AAAS) in 2012, a Humboldt Research Fellow in 2017, and an Association for Computing Machinery (ACM) Fellow in 2018. Since 2005, she serves as a curator of the international *Places & Spaces: Mapping Science* exhibit (http://scimaps.org).

Börner's research focuses on the development of data analysis and visualization techniques for information access, understanding, and management. She is particularly interested in the formalization, measurement, and systematic improvement of people's data visualization literacy; the study of the

structure and evolution of scientific disciplines; the analysis and visualization of online activity; and the development of cyberinfrastructures for large-scale scientific collaboration and computation.

She holds an MS in electrical engineering from the University of Technology in Leipzig, and a PhD in computer science from the University of Kaiserslautern.

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