



COMPLEXITY  
SCIENCE  
HUB  
VIENNA

# RE-INVENTING SOCIETY IN THE DIGITAL AGE

CSH WORKSHOP SERIES

MAY 9, 2017, 9 AM – 5 PM – TENTATIVE PROGRAMME

THIS WORKSHOP IS KINDLY SUPPORTED BY



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## **ABOUT THE WORKSHOP**

The digital revolution will leave no one untouched. Digital technologies will fundamentally change the area of services and product portfolios. Entire business models and economic sectors, institutions, and even our living together as a society will change – completely new ecosystems will emerge. Even if Industry 4.0 may initially come to mind when one considers the concept of “digital revolution”, this does not go far enough, and the end of the development is still far from being reached: what it will take is Education 4.0, Mobility 4.0, Health Systems 4.0, Science 4.0, Innovation 4.0, Finance 4.0, Sustainability 4.0, Governments 4.0.

In short, an overall, comprehensive Society 4.0.



How exactly the digital future of our society could and should look like and how we can make it - these are only a few of the questions that will be posed today. Thank you for joining the discussion!

Dirk Helbing, Stefan Thurner and the CSH-Team

## **ABOUT THE COMPLEXITY SCIENCE HUB VIENNA**

The Complexity Science Hub Vienna was founded with the vision to become the focal point of complexity science in Europe. The founding partners are AIT Austrian Institute of Technology, International Institute for Applied System Analysis, Graz University of Technology, Medical University of Vienna, TU Wien, and Vienna University of Business and Economics.

The aim is to provide a creative and scientifically thriving environment free of bureaucratic constraints. Public outreach activities are designed to share the excitement of complexity science with a wider audience. The Hub is a node in a network of international partner institutions, including the Santa Fe Institute, the Complexity Institute of Nanyang Technological University Singapore, Arizona State University, and the Institute for Advanced Study Amsterdam. Through this network a lively exchange of scientists, question posers, students, and postdocs is envisioned, enabling the most important change – that of ideas.

Please follow us on  and 

## TIMELINE

8:30 – 9:00 Registration & Coffee

9:00 – 9:30 **WELCOME**

Stefan Thurner, President - Complexity Science Hub Vienna

### **WELCOME ADDRESS**

Helga Nowotny, ETH Zurich and CSH – Chair of the Science Advisory Board

### **REINVENTING SOCIETY**

Dirk Helbing, ETH Zurich and CSH – External Faculty

9:40 – 11:00 **BIG DATA, BIG NONSENSE?**

Peter Sloot, NTU Singapore, Institute for Advanced Study, University of Amsterdam, The Netherlands and CSH – Science Advisory Board

### **COMPUTING SCIENCE LOSING ITS INNOCENCE**

Aberer Karl, EPFL Lausanne

### **SOCIAL TECHNOLOGIES**

Vittorio Loreto, Sapienza and CSH – Faculty

### **SOCIO-INSPIRED ICT**

Alois Ferscha, JKU Linz

### **SMART DIGITAL ASSISTANTS**

Paul Lukovicz, Technical University Kaiserslautern

### **COFFEE BREAK**

11:15 – 12:15 **RESILIENCE 4.0** - Could we achieve the Transformation to the Network Society without "Creative Destruction"?

Herbert Saurugg, Cyber Security Austria

**NERVOUSNET** - Empowering People - Participatory Sharing Economies via Decentralized Internet of Things

Evangelos Pournaras, ETH Zurich

**GOVERNANCE 4.0** - MOODs: Massive Open Online Deliberation Platforms

Jeroen van den Hoven, Delft University of Technology

**DEMOCRACY 4.0** - Massive Open Online Democracy: Can Ethics be Crowd-Sourced?

Virginia Dignum, Delft University of Technology

**LUNCH BREAK**

1:30 – 2:45 **ONLINE PRIVACY AS A COLLECTIVE PHENOMENON**

David Garcia, CSH - Group Leader (from September 2017 on) and ETH Zurich

**HEALTH 4.0**

Peter Klimek, CSH – Associate Faculty and Medical University of Vienna

**SIMULATING ENTIRE SOCIETIES AND ECONOMIES ON A COMPUTER**

Sebastian Poledna, IIASA

**COOPERATION 4.0** - A robust Mechanism for Social Dilemmas

Heinrich Nax, ETH Zurich

**SOCIAL BITCOINS** - Catastrophic Instabilities in Interacting Networks and Possible Remedies

Kaj Kolja Kleineberg, ETH Zurich

**COFFEE BREAK**

3:15 – 4:50 **THE WAY FORWARD** - Panel Discussion

Presentation Dirk Helbing

4:50 – 5:00 **CONCLUDING REMARKS**

Dirk Helbing