

BOKU joins the Complexity Science Hub

The University of Natural Resources and Life Sciences (BOKU) brings knowledge and experience amassed over its 150-year history to a new partnership with CSH. The pairing of BOKU's expertise in sustainability with CSH's leadership in the field of complex, networked phenomena is a logical progression for both partners.

In contemporary science, large quantities of data and knowledge must be shared, processed and interpreted across diverse fields, making collaborations like the new partnership between CSH and BOKU essential. To gain profound insights into the global distribution of resources, the development of sustainable cities, or the impacts of climate change, for example, research efforts demand a nuanced comprehension of intricate relationships across disciplines.

“BOKU's detailed knowledge and the associated data in areas such as value chains, biotechnology, and climate change, coupled with CSH's methodological expertise in the field of big data, create a bundling of complementary skills. This synergy empowers us to make greater leaps together than would be possible individually,” explains Stefan Thurner, President of the CSH. In order to work even more closely together in the future, BOKU officially joined CSH this November.

“BOKU is the only university in Austria that has oriented its entire research and teaching towards major global challenges such as the climate crisis, biodiversity crisis, energy crisis, resource scarcity, and food security. We place special emphasis on an interdisciplinary and systemic approach that encompasses a comprehensive quantitative and predictive understanding of complex systems, as well as their manageability. Membership in the CSH represents a significant step for us. Through collaborative research projects, we hope to gain valuable contributions and answers to these major challenges,” says Christian Obinger, Vice-Rector for Research and Innovation at BOKU.

Building on existing research collaborations, CSH and BOKU will work together on a number of joint projects. Scientists will scrutinize global resource flows, where disruptions with far-reaching consequences are currently unfolding due to geopolitical tensions and the effects of climate change. The goal? To develop a better understanding of the underlying connections and dependencies and thereby strengthen resilience.

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New research projects in 2024

Check out some of the exciting projects we'll be working on next year:

Understanding societal change

In the Food Socioscope project, Helga Nowotny, Mirta Galesic and Stefan Thurner will work with their partners from the Paris Institute for Advanced Study on developing a pioneering methodology to study societal transition. This project, funded by the NOMIS Foundation, aims to shed light on societal transitions in food production, distribution, and consumption, providing sufficient depth and scale to bridge the micro-to-macro divide in many social sciences.

Empowering Ukrainian refugees

How can Ukrainian refugees contribute to postwar recovery in their home country? In a joint pilot project with the Harvard Growth Lab, funded by the UBS Optimum Foundation, Ljubica Nedelkoska and Frank Neffke will map the geographic distribution of Ukrainian refugees in Germany and Austria, as well as their skills, qualifications, and interests, but also the hurdles they face in finding jobs. In turn, this can help identify possible post-war structural transformation pathways for Ukraine.

Untangling online disinformation

Fariba Karimi and Bernhard Haslhofer join forces to investigate ways to identify and contain disinformation campaigns. Among the objectives of the project, funded by FFG's KIRAS program, are to examine the spread characteristics of such complex disinformation campaigns, as well as to pinpoint their impact on individual groups.

Tools for coping with heat waves

This project, funded by the Digital Technologies program of BMK, will analyze and quantify the impact of heat waves on the Austrian health system. According to Daniela Meier, the results will make it possible to better determine the heat risk of individuals and challenges for the health care system, and form a solid data base for decision-making on how to cope with heat waves. Additionally, the team intends to collaborate with project partners and stakeholders from the health and care sector on developing early warning systems for acute heat waves.



NEWS
WINTER 2023

Complexity
Science Hub

A new home for the Complexity Science Hub

Editorial Stefan Thurner



I am thrilled to share some exciting news with you all. In 2024, the Complexity Science Hub will embark on a new chapter by relocating to its new home, the Palais Rothschild. This move signifies a strategic step in keeping CSH at the heart of Vienna, nestled in the 3rd district, just a few blocks from the Belvedere. Most importantly, this transition will enable us to welcome and accommodate our growing community of researchers within a more spacious environment.

Relocation takes place at just the right time. When we moved to the Palais Strozzi in 2016, there were just three of us. Now, fast forward to today. After experiencing robust growth, we now number 70. As we are surrounded by more people and talents, we are also exploring more topics, expanding our expertise, and encouraging more interaction and exchange. To get a peek at CSH's exciting journey, I invite you to check out the infographic “The Complexity Science Hub in 2023”.

With more space at the Palais Rothschild, we hope to encourage innovative thinking and the exploration of new ways to address societal challenges crucial to our future.

Our resident scientists will be stationed across the upper and mansard floors, while the ground floor's salons will serve as venues for meetings and events. Additionally, our inner garden and the library are poised to inspire our diverse and inclusive community of researchers, fostering engagement and collaboration.

Lastly, I'm thrilled to share another piece of wonderful news. BOKU joined CSH as a new member. BOKU's diverse expertise in areas such as the distribution of global resources, energy flows, value chains, sustainability, and climate change will make an important contribution to our efforts to find data-based solutions to the challenges of our times. Check out the newsletter to learn more about our new member.

With 2024 just around the corner, I am confident that we will witness remarkable achievements at the Complexity Science Hub in the upcoming year. At this moment, I extend my heartfelt gratitude to our institutional members, the Board and Scientific Advisory Board, the dedicated community of researchers, and our operational team at the CSH. Wishing you a happy holiday season and looking forward to seeing you at the Complexity Science Hub next year!

The Complexity Science Hub in 2023



70 Resident Scientists

+ 66 external & 32 associate

27% women
73% men

34% Austrian
32% EU
34% other



170+ Research Papers

Nature journals
Science
PNAS
Physics Review Letters
and more



30 Research Projects

supply chain
cities
green transition
inequality
and more



Funders

- Austrian Academy of Sciences
- Austrian Council for Research, Science, Innovation and Technology Development
- City of Vienna
- European Commission
- Federal Ministry Republic of Austria Agriculture, Regions and Tourism
- Federal Ministry Republic of Austria Climate Action, Environment, Energy, Mobility, Innovation and Technology
- Federal Ministry Republic of Austria Education, Science and Research
- Federal Ministry Republic of Austria Interior
- Federal Ministry Republic of Austria Labour and Economy
- Federal Ministry Republic of Austria Social Affairs, Health, Care and Consumer Protection
- Austrian Research Promotion Agency (FFG)
- Austrian Science Fund (FWF)
- James S. McDonnell Foundation
- OeBB
- Oesterreichische Nationalbank
- Sony CSL
- UBS Optimus Foundation
- Vienna Business Agency
- Wiener Gesundheitsfonds
- WWTF



Prizes & Books

- Peter Turchin: book End Times
- Fariba Karimi: Young Scientist Award of the German Physical Society
- Liuhuaying Yang: World Dataviz Prize
- Stefan Kitzler: SUERF/UniCredit Foundation Research Prize
- Ljubica Nedelkoska and Frank Neffke: best paper award at Druid23
- Jan Korbel: Dora Brücke-Teleky Award
- Jan Bachmann: DOC fellow of the Austrian Academy of Sciences



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99 Events

- NetSci with 850 scientists in Vienna
- Winter School on Social Complexity & Collapse
- 15 workshops
- 75 talks
- 4 public panel discussions
- 3 Art & Science events



Members

- AIT Austrian Institute of Technology
- BOKU
- Central European University
- Graz University of Technology
- Medical University of Vienna
- TU Wien
- University of Continuing Education Krems
- VetMedUni Vienna
- Vienna University of Economics and Business
- WKO Austrian Chamber of Commerce