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univie: summer school 2018 Scientific World Conceptions USS-SWC

Call for Application

Application deadline: January 31, 2018

Thought Experiments

Vienna, July 2–13, 2018

organized by
the Institute Vienna Circle, Faculty of Philosophy and Education



in co-operation with the Vienna Circle Society

This summer school will examine thought experiments and their role in science and philosophy. It will consider general problems of principle concerning thought experiments as well as the place and function of exemplar thought experiments largely drawn from physical sciences, but from philosophy and mathematics, as well.

Main Lecturers:

Elke Brendel (*University of Bonn*)

James Robert Brown (*University of Toronto*)

John D. Norton (*University of Pittsburgh*)

International Program Committee

John Beatty (*University of British Columbia*), Maria Carla Galavotti (*University of Bologna*), Malachi Hacoen (*Duke University*), Michael Heidelberger (*University of Tübingen*), Martin Kusch (*University of Vienna*), Paolo Mancosu (*University of California, Berkeley*), Elisabeth Nemeth (*University of Vienna*), Miklós Rédei (*London School of Economics*), Michael Stöltzner (*University of South Carolina*), Roger Stuewer (*University of Minnesota*), Thomas Uebel (*University of Manchester*).

Friedrich Stadler (*Local Organizer, University of Vienna*),

Robert Kaller (*Secretary of USS-SWC, Institute Vienna Circle*).

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www.univie.ac.at/ivc/SWC

Thought Experiments

July 2–13, 2018 in Vienna

Main Lecturers:

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“There is no doubt that thought experiments of this type have led to the greatest transformations in our thinking, and have opened the most important paths of research.”

Ernst Mach, “On Thought Experiments”

Are thought experiments epistemic miracles that enable us to learn about the world merely by reflections from the comfort of our armchairs? Or are they merely picturesque devices for clarifying and revealing to us what we already knew? Or should we conceive of their role in some other way? This summer school will examine thought experiments and their role in science and philosophy. It will consider general problems of principle concerning thought experiments as well as the place and function of exemplar thought experiments largely drawn from physical sciences, but from philosophy and mathematics, as well.

Course topics:

- **Typology of thought experiments**

What are thought experiments? Why do some disciplines (philosophy, physics) have so many thought experiments, while others (chemistry, zoology) have none? Are there differences between thought experiments in philosophy and in science? Are some works of fiction (novels, plays, movies) a kind of thought experiment?

- **Function of thought experiments**

What are the functions of thought experiments in philosophy and the physical sciences?

Is their function illustrative/heuristic? Or evidential? Or “alethic refuters”?

- **Epistemology of thought experiments**

How can a thought experiment be a reliable source of knowledge if the premises of a thought experiment are established via judgments that are non-inferential and based on intuitions? How can we assess the success and failure of thought experiments?

- **The content and utility of particular thought experiments**

We shall examine in detail some thought experiments in the physical sciences and we shall also consider particular examples of thought experiments in ethics, epistemology, philosophy of mind and mathematics.

The Main Lecturers

Elke Brendel

is a Professor of Philosophy and Chair of Logic and Meta-physics at the University of Bonn, Germany. She has published numerous books and articles on topics in logic, epistemology, philosophy of language, metaphysics, and meta-philosophy. She has worked on logical and semantic paradoxes, theories of truth and knowledge, epistemic contextualism and relativism, and on semantic and epistemic aspects of disagreement. Her main research interests also include the study of philosophical and scientific thought experiments. In particular, she has worked on the logical structure of thought experiments and on the question of how to rationally assess the success and failure of thought experiments. <https://www.philosophie.uni-bonn.de/de/personen/professoren/prof.-dr.-elke-brendel>

James Robert Brown

is a Professor of Philosophy at the University of Toronto. His interests include a wide range of topics in the philosophy of science and mathematics: thought experiments, foundational issues in mathematics and physics, visual reasoning, and issues involving science and society, such as the role of commercialization in medical research. His books include: *The Laboratory of the Mind: Thought Experiments in the Natural Science* (Routledge 1991/ 2010), *Philosophy of Mathematics: An Introduction to the World of Proofs and Pictures* (Routledge 1999/2008), *Who Rules in Science: A Guide to the Wars* (Harvard 2001), *Platonism,*

Naturalism and Mathematical Knowledge (Routledge 2012), and most recently, he co-edited (with Stuart and Fehige) *The Routledge Companion to Thought Experiments*. He has been elected to the Royal Society of Canada, the German Academy of Sciences (Leopoldina), and L'Académie Internationale de Philosophie des Sciences. In the face of all evidence to the contrary, he advocates a Platonic account of thought experiments.

<http://homes.chass.utoronto.ca/~jrbrown/>

John D. Norton

is Distinguished Professor of History and Philosophy of Science at the University of Pittsburgh. He is a past Chair of his department and a past Director of the Center for Philosophy of Science at the University of Pittsburgh. He has worked extensively in the history of relativity theory and gave the first analysis of Einstein's “Zurich Notebook”. He has also worked on general topics in philosophy of space and time. He has mounted an extended historical and philosophical rebuttal of the present consensus that there are deep connections between the abstract notion of information and the physical quantity of thermodynamic entropy. In general philosophy of science, he defends a “material theory of induction”. In the face of all evidence to the contrary, he has elaborated and defended a view of thought experiments as merely picturesque argumentation.

<http://www.pitt.edu/~jdnorton/jdnorton.html>

Costs and Information

Cost of the program: € 880

Lodging in student dormitories is available at approximately € 450 for the whole duration of the course.

For further information, see: www.univie.ac.at/ivc/SWC

Application form

Please print or type / mark choice, also via email possible:

To apply for admission **please send** this application form together with

1. A short educational curriculum vitae
2. A list of most recent courses and grades or a copy of your diplomas
3. A one-page statement (in English), briefly outlining your previous work and your reason for attending USS-SWC
4. A (sealed) letter of recommendation from your professor, including some comment on your previous work. This letter may also be sent directly by your professor.
5. A passport photo

Please make sure that all documents arrive in time because we can process only complete applications.

Application form (also available on our Web site: www.univie.ac.at/ivc/swc) may be sent in advance.

Application deadline: January 31, 2018 (Later applications may be considered if space is still available.)

Email address: friedrich.stadler@univie.ac.at
Prof. Friedrich Stadler, Institut Wiener Kreis
Campus der Universität Wien, Spitalgasse 2-4, Eingang 1.13, A-1090 Wien, Austria

Last name First name f m

Date of birth Day Month Year

Home address

Telephone

e-mail

Postal address if other than home address.....

Telephone

Citizenship

Profession or program currently enrolled in

University

Last completed academic grade Bachelor of Master of

PhD in

Accommodation requested in students dormitories yes no

Date Signature

A letter of admission together with a detailed syllabus will reach successful applicants by mid-March, 2018. To participate mastering English on a high level is required. For non English native speakers with certificate. The administration of **USS-SWC** at the University of Vienna can assist the candidates admitted in applying for funds and in the accreditation of the course, but unfortunately, cannot offer financial assistance. However, for a few gifted applicants who can demonstrate that, despite serious documented efforts, they have not been able to obtain any financial support, in particular due to economic difficulties in their own country, a tuition waiver grant, awarded by the Vienna Circle Society and the University of Vienna, will be provided.

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USS · univie: summer school

SWC · Scientific World Conceptions

Since 2001 the University of Vienna and the **Institute Vienna Circle*** have been holding an annual two-week summer program dedicated to major current issues in the natural and social sciences, their history and philosophy. The title of the program reflects the heritage of the **Vienna Circle** which promoted interdisciplinary and philosophical investigations based on solid disciplinary knowledge.

As an international interdisciplinary program, **USS-SWC** will bring graduate students in close contact with world-renowned scholars. It will operate under the academic supervision of an International Program Committee of distinguished philosophers, historians, and scientists. The program is directed primarily to graduate students and junior researchers in fields related to the annual topic, but the organizers also

encourage applications from gifted undergraduates and from people in all stages of their career who wish to broaden their horizon through cross-disciplinary foundational issues in science.

The summer course consists of morning sessions, chaired by distinguished lecturers which focus on reading assigned to students in advance. Afternoon sessions are made up of smaller groups which offer senior students the opportunity to discuss their own papers with one of the main lecturers.

USS-SWC is part of the FWF Doctoral Program "The Sciences in Historical, Philosophical and Cultural Contexts".
<http://dkplus-sciences-contexts.univie.ac.at/>

**The Institute Vienna Circle was established in 2011 as a department at the Faculty of Philosophy and Education of the University of Vienna (<http://wienerkreis.univie.ac.at/>). The former nonprofit society continues its work under the new name "Vienna Circle Society" in co-operation with the department. (<http://www.univie.ac.at/ivc/>)*

VISU 2001–2014 und USS-SWC 2015 –2017

VISU 2001

Unity and Plurality in Science

Main Lecturers: **Don Howard** (*University of Notre Dame*)
Elliott Sober (*University of Wisconsin*)
Guest Lecturer: **Brigitte Falkenburg** (*University of Dortmund*)
Assis. Lecturer: **Christopher Hitchcock**
(*California Institute of Technology*)
David J. Stump (*University of San Francisco*)

VISU 2002

Mind and Computation

Main Lecturers: **Michael Hagner**
(*Max Planck Insti.for the History of Science, Berlin*)
Brian McLaughlin (*Rutgers University, New Brunswick*)

Guest Lecturer: **Anton Zeilinger** (*University of Vienna*)
Assis. Lecturer: **Güven Güzeldere** (*Duke University*)
Paul Ziche
(*Bayerische Akademie der Wissenschaften*)

VISU 2003

Biological and Cosmological Evolution

Main Lecturers: **Karl Sigmund** (*University of Vienna*)
Robert M. Wald (*University of Chicago*)
Eörs Szathmáry (*Eötvös Loránd University*)
Assis. Lecturer: **Daniel Holz** (*University of California, Santa Barbara*)

VISU 2004

The Quest for Objectivity

Lecturers: **John Beatty** (*University of British Columbia*)
Michael Friedman (*Stanford University*)
Helen Longino (*University of Minnesota*)

VISU 2005

Chance and Necessity

Main Lecturers: **Theodore M. Porter** (*University of California, LA*)
Wolfgang Spohn (*University of Konstanz*)
Assis. Lecturer: **Deborah Coen** (*Harvard University*)
Franz Huber (*University of Konstanz*)

VISU 2006

Philosophy and Economics

Main Lecturers: **Geoffrey Brennan** (*Duke University*)
Hartmut Kliemt (*University of Duisburg*)
Guest Lecturer: **Rainer Hegselmann** (*University of Bayreuth*)
Assis. Lecturer: **Bernd Lahno** (*University of Duisburg*)

VISU 2007

Consensus in Science

Main Lecturers: **Naomi Oreskes** (*University of California, San Diego*)
Miriam Solomon (*Temple University, Philadelphia*)
Andrzej Wróblewski (*Warsaw University*)
Guest Lecturer: **Keith Lehrer** (*University of Arizona, Tucson*)

VISU 2008

History and Philosophy of the Biomedical Sciences

Main Lecturers: **Rachel A. Ankeny** (*University of Adelaide*)
Bernadino Fantini (*University of Geneva*)
David Wootton (*University of York*)
Guest Lecturer: **Keith Wailoo** (*Rutgers University*)

VISU 2009

The Culture of Science and Its Philosophy

Main Lecturers: **Ronald Giere** (*University of Minnesota*)
Mary Jo Nye (*Oregon State University*)
Alan Richardson (*University of British Columbia*)
Guest Lecturer: **Peter Galison** (*Harvard University*)

VISU 2010

The Science of the Conscious Mind

Main Lecturers: **Uljana Feest** (*Technische Universität Berlin*)
Owen Flanagan (*Duke University*)
Michael Pauen (*Humboldt-Universität zu Berlin*)
Guest Lecturer: **J. Allan Hobson** (*Harvard Medical School*)

VISU 2011

The Nature of Scientific Evidence

Main Lecturers: **Hasok Chang** (*University of Cambridge*)
Tal Golan (*University of California, San Diego*)
David Lagnado (*University College London*)
Guest Lecturer: **Philip Dawid** (*University of Cambridge*)

VISU 2012

Applied Science.

Historical, Epistemological, and Institutional Characteristics

Main Lecturers: **Martin Carrier** (*Bielefeld University*)
Rose-Mary Sargent (*Merrimack College*)
Peter Weingart (*Bielefeld University*)
Guest Lecturer: **William Butz** (*IIASA, Laxenburg*)

VISU 2013

Climate Studies

Main Lecturers: **Jim Fleming** (*Colby College*)
Roman Frigg (*London School of Economics*)
Wendy Parker (*Ohio University*)
Guest Lecturer: **Angela Kallhoff** (*University of Vienna*)

VISU 2014

Humans/Animals. A Contested Boundary

Main Lecturers: **Richard Burkhardt** (*University of Illinois*)
Susan Jones (*University of Minnesota*)
Georgina Montgomery (*Michigan State University*)
Guest Lecturers: **Mitchell Ash**, **Herwig Grimm** (*University of Vienna*)
Tom Tyler (*Oxford Brookes University*)

USS-SWC 2015

The Computational Turn. Simulation in Science

Main Lecturers: **Rainer Hegselmann** (*University of Bayreuth*)
Paul Humphreys (*University of Virginia*)
Margaret Morrison (*University of Toronto*)
Guest Lecturer: **Kevin Zollmann** (*Carnegie Mellon University*)

USS-SWC 2016

Science, Democracy, and Values?

Main Lecturers: **Mark Brown** (*California State University, Sacramento*)
Heather Douglas (*University of Waterloo*)
Andrew Jewett (*Harvard University*)
Guest lecturer: **Alexander Bogner** (*Österr. Akademie der Wissenschaften*)

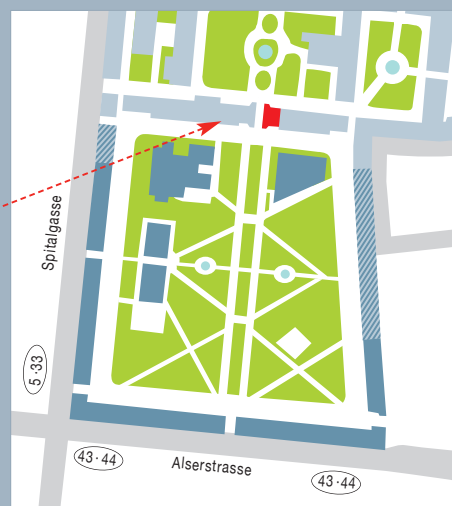
USS-SWC 2017

Genomics: Philosophy, Ethics and Policy

Main Lecturers: **Robert Cook-Deegan** (*Arizona State University*)
Paul E. Griffiths (*University of Sydney*)
Jenny Reardon (*University of California, Santa Cruz*)



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