



Wiener Kreis
Gesellschaft



universität
wien

Institut Wiener Kreis

Lydia Patton

is Professor of Philosophy at Virginia Tech. Patton's research focuses on the development of scientific theories, methods, and practices, and has appeared in venues including *The Monist*, *Synthese*, *Kant-Studien*, *Historia Mathematica*, and *Studies in History and Philosophy of Modern Physics*. Patton has served as Editor in Chief of *HOPOS* and currently edits two book series. In 2022 she was John N. Findlay Visiting Professor at Boston University.

Abstract

What scientists call 'post-data analysis' is often considered to be a purely statistical process separate from theory. Data gathered from experiment is analyzed to determine whether the experiment yields a genuine result. Scientific theories are more often associated with earlier phases of scientific testing, as in Popper's account based on framing bold conjectures before setting up experiments and gathering data. This talk will motivate an account of scientific theory testing that incorporates not just hypothesis generation and experiment, but also post-data analysis. Theories provide essential frameworks for post-data analysis, by setting standards for measurement and inference, for instance. Theories are truly tested in the post-data phase as well. I draw on insights from Hermann Cohen, Ernst Cassirer, and Rudolf Carnap regarding the clarification and interpretation of scientific theories in the context of the 'fact of science'. Moving beyond these accounts, I argue that evaluating theories in the context of existing results is crucial not just to interpreting theories, but to testing them as well. Drawing on Adam Koberinski's account of generalized frameworks in physics, I develop an account of theory testing that incorporates post-data analysis. The perhaps surprising consequence is that, under the right conditions, one can test a theory even with old results.

33rd Vienna Circle Lecture

Lydia Patton
(Virginia Tech)

Testing Scientific Theories

Thursday, December 11, 2025
5 pm

Aula at Campus,
University of Vienna
Court 1, Door 1.11
Spitalgasse 2-4
1090 Vienna

No registration fee
Registration required: vcs@univie.ac.at

As part of the conference

The Form of Science – Philosophy of Science in neo- Kantianism

December 10-12, 2025
University of Vienna – Main
Building

Organized by:
Georg Schiemer and Moritz
Bodner (University of Vienna,
ERC Project: "The Formal Turn –
The Emergence of Formalism in
Twentieth-Century Thought")

<https://formalism.phl.univie.ac.at/events/international-conference-the-form-of-science/>

Wiener Kreis
Gesellschaft
Spitalgasse 2-4, Hof 1,
Eingang 1.2
1090 Wien
<https://vcs.univie.ac.at/>
Gefördert durch



Eigentümer und Herausgeber:
Institut Wiener Kreis
Alser Straße 23/32
1080 Wien
<https://wienerkreis.univie.ac.at/>