

# SAMUEL KARL SCHINDLER

## *Curriculum Vitae*

*last updated: 06/11/2017*

Nationality: German

Year of birth: 1980

www.samuelschindler.org

**AoS:** Philosophy of science, in particular: theory-choice and criteria of theory assessment, rationality, theory-ladenness of observation and experiment, explanation, prediction, discovery, realism, natural kinds, thought experiments.

Meta-philosophy: the use of history in philosophy of science, the use of intuitions in philosophy.

**AoC:** history of science, epistemology, ethics, philosophy of cognitive science and the mind.

### CURRENT POSITIONS AND AFFILIATIONS

since 2011 Associate Professor of Philosophy of Science, Centre for Science Studies, Department of Mathematics, Aarhus University, **Denmark** (tenured since 2012)

- Member of the Research Unit for Epistemology, Metaphysics, and Philosophy of Cognition, Department of Philosophy, Aarhus University

2016-19 Principal Investigator of the DFF-Sapere Aude research group “Intuitions in Science and Philosophy” (4 years)

### PREVIOUS POSITIONS

2011 Emmy-Noether research group leader (5-year position; equivalent to ‘Junior Professor’), *Zukunftskolleg* and Department of Philosophy, University of Konstanz, **Germany**, May – Sept.

2009-2011 Research fellow at the interdisciplinary *Zukunftskolleg*, University of Konstanz, Germany (July 2009 – April 2011)

- Associated with the Department of Philosophy

2010 Visiting fellow, Center of Philosophy of Science, University of Pittsburgh, **USA**, Sept. – Dec.

2009 Lecturer (temporary), Department of Philosophy, University of Birmingham, **England**, Jan-June

2008 Research fellow, Department of Philosophy, University of Stockholm, **Sweden**, Sept – Dec.

### EDUCATION

2005-2008 Ph.D. in Philosophy, University of Leeds, **England**; Sept 2005-Sept 2008

- *The Imaginary Entities that make Science* [proposal and defense of a non-realist, mechanistic account of explanation]
- Supervisor: Prof. Steven French. External examiner: Prof. Hasok Chang.

2004-2005 M.A. in History and Philosophy of Science, University of Leeds, with distinction (Sept 2004 – Aug 2005)

2000-2004 B.Sc. in Cognitive Science, University of Osnabrück, **Germany** and McGill University, Montreal, **Canada** (2003-04); predicate ‘very good’ (Oct 2000 – July 2004)

### INSTITUTIONAL RESPONSIBILITIES

- Elected member of the Executive Committee of the *Zukunftskolleg*, University of Konstanz (for a period of 2 ½ years, starting in 2011)
  - Tasks involved the administration of an annual budget of 4.8 million EUR, selection of co-funding applications, and strategic planning
- Chair of the library committee, Department of Physics and Astronomy, AU (since 2013)
- Organizer of the AU *Centre for Science Studies* colloquium series (2012-2014)

## GRANTS

- DFF (Danish Council for Independent Research) *Sapere Aude Starting Grant* (~ 945,000 EUR)
  - Project title: “Intuitions in Science and Philosophy” (start in Jan 216)
  - Funding for 4 years, incl. salaries for two postdocs (2 ½ years) and one PhD student (3 years)
  - Selected as one of 20 from 233 applications from all academic disciplines
- DFG (German Research Foundation) *Emmy-Noether research grant* for “outstanding young researchers” (~ 1.2 mio EUR)
  - Project title: “Towards a New Epistemology of Science” (start in May 2011)
  - Funding for 5 years incl. salaries for PI and three PhD students
  - Grant received and started in May 2011, but aborted after four months due to acceptance of tenured professorship at Aarhus University
- Successful application for a *Zukunftskolleg* Senior Fellowship award for Prof. Giora Hon (paid salary for eight months)
- *Zukunftskolleg* co-funding grants for two workshops: “Theoretical Virtues in Theory Choice” (9,750 EUR) and “Philosophy of Scientific Experimentation” (8,100 EUR)
- Research network grant by the *Danish Research Council for Independent Research* for the ‘Research Network in Philosophy of Science’, with Hanne Andersen and Peter Sandøe (ca. 135,000 EUR)

## SCHOLARSHIPS AND FELLOWSHIPS

- Postdoctoral fellowship (1 year), funded by a project led by B. van Fraassen and I. Peschard; selected first among more than 50 candidates (2011; declined due to job offer from Aarhus University)
- First on waiting list for a postdoc, Center for Philosophy of Science, Univ. of Pittsburgh, 2010
- Guest researcher scholarship (6 months), *Swedish Institute*, 2008
- Doctoral stipend, *German Academic Exchange Service* (DAAD), 2007

## ORGANIZATION OF ACADEMIC MEETINGS

- Organizer of the workshop ‘Linguistic Intuitions, Evidence, and Expertise’, Oct 2017, Aarhus University
- Organizer of the workshop ‘Intuitions and the Expertise Defense’, Sept 2017, Aarhus University
- Member of the organizing committee of *Causality in the Sciences of the Mind and the Brain*, June 2016, Aarhus University
- Organizer of the workshop ‘Explanation and Understanding’, May 2016, Aarhus University
- Co-organizer of the Biennial Meeting of the *Society for Science in Practice* (SPSP), 2015, Aarhus
- Symposium organizer: „The Scientific Method Revisited”, PSA 2014 meeting in Chicago (other participants: N. Cartwright, E. Sober, C. Glymour, and I. Votsis)
- Steering committee member of the *Research Network in the Philosophy of Science* (2013-7), funded by the *Danish Research Council for Independent Research*
- Founding member (alongside A. Franklin, J. Norton, D. Mayo, M. Weber, W. Parker, S. Perovic) of the workshop series *Philosophy of Scientific Experiment* (PSX), 2010
- Organizer of *Philosophy of Scientific Experiment* (PSX), October 21-22, 2011, at the *Zukunftskolleg* and the Department of Philosophy, University of Konstanz
- Organizer of *Theoretical Virtues in Theory-Choice*, July 12-14, 2012, at the *Zukunftskolleg* and the Department of Philosophy, University of Konstanz

## PROGRAMME COMMITTEE MEMBER (INVITED)

- 2<sup>nd</sup> conference of the *East European Philosophy of Science Network*, Bratislava, June 20-22, 2018
- 9<sup>th</sup> meeting of the *European Society for Analytic Philosophy*, Munich, Aug 21-28, 2017
- 1<sup>st</sup> conference of the *East European Philosophy of Science Network*, Sophia, June 24-26, 2016
- 4<sup>th</sup> conference of the *European Philosophy of Science Association*, 2013, Helsinki, Finland

## MEMBERSHIP OF ACADEMIC SOCIETIES

European Philosophy of Science Association, British Society for the Philosophy of Science, Philosophy of Science Association, American Philosophical Association

## REFEREEING

- Journals: *The British Journal for the Philosophy of Science\**, *Philosophy of Science\**, *Synthese\**, *Studies in History and Philosophy of Science (A, B\*, and C)*, *Journal for General Philosophy of Science*, *Erkenntnis*, *European Journal for the Philosophy of Science*, *International Studies in Philosophy of Science*, *Theoria (Spain)*, *The Journal of Philosophical Research*, *The Journal of the International Society for the History of Philosophy of Science (HOPOS)*, *Philosophical Perspectives*, *Spontaneous Generations*, *Journal of the Philosophy of History*, *Foundations of Science*. [\*=at least 5 review tasks]
- Other: *Cambridge University Press*, *The Leverhulme Trust (UK)*, *Springer's Boston Studies in the Philosophy and History of Science*

## BOOKS

- (i) *Theoretical Virtues in Science: Uncovering Reality through Theory*, Cambridge University Press, to be published in May 2018

## ARTICLES (PEER-REVIEWED)

- (1) "A coherentist conception of ad hoc hypotheses", *Studies in the History and the Philosophy of Science*, forthcoming
- (2) "Kuhnian theory choice, virtue convergence, and base rates", *Studies in the History and the Philosophy of Science*, forthcoming
- (3) 'Theoretical Fertility McMullin-style', *European Journal for the Philosophy of Science*, January 2017, Volume 7, Issue 1, pp 151–173.
- (4) 'Scientific discovery: that-what's and what-that's', *Ergo*, 2015, Volume 2, No. 6, 123-148.
- (5) 'Explanatory fictions—for real?', *Synthese*, May 2014, Volume 191(8), pp 1741-55
- (6) 'A matter of Kuhnian theory-choice? The GSW model and the neutral current', *Perspectives on Science*, 2014, 22(4), pp. 491–522.
- (7) 'Novelty, Coherence, and Mendeleev's periodic table', *Studies in History and Philosophy of Science*, Vol. 45, March 2014, p. 62-69.
- (8) 'The Kuhnian mode of HPS', *Synthese*, Dec. 2013, Vol. 190 (18), pp 4137-4154
- (9) 'Mechanistic explanation: asymmetry lost', V. Karakostas and D. Dieks (eds.) (2013), *Recent Progress in Philosophy of Science: Perspectives and Foundational Problems*, *The Third European Philosophy of Science Association Proceedings*, Dordrecht: Springer.
- (10) 'Theory-laden experimentation', *Studies in History and Philosophy of Science*, vol. 44, issue 1, March 2013, pp. 89–101
- (11) 'Bogen and Woodward's data/phenomena distinction and forms of theory-ladenness', *Synthese*, Volume 182(1), 2011, pp. 39-55.
- (12) 'Model, Theory, and Evidence in the Discovery of the DNA Structure', *The British Journal for the Philosophy of Science*, Dec. 2008, vol. 59(4), pp. 619-658.
- (13) 'Use-Novel Predictions and Mendeleev's Periodic Table', *Studies in History and Philosophy of Science*, 2008, volume 39(2), pp. 265-269
- (14) 'Rehabilitating Theory: Refusal of the "bottom-up" Construction of Scientific Phenomena', *Studies in the History and the Philosophy of Science*, volume 38(1), March 2007, pp. 160-184

## OTHER ARTICLES

- (1) 'Invariance, Mechanisms, and Epidemiology', commentary on R. Campaner: 'Causality and Explanation: Issues from Epidemiology', in: *Explanation, Prediction, and Confirmation. New Trends and Old Ones Reconsidered*, edited by S. Hartmann, M. Weber, W.J. Gonzalez, D. Dieks, T. Uebel, 2010, Berlin: Springer

## ENCYCLOPEDIA ENTRIES

- (1) 'Observation and theory-ladenness', in *B. Kaldis (ed.), (2013), Encyclopedia for Philosophy and the Social Sciences*, Los Angeles: SAGE publishing.

## BOOK REVIEWS

- (1) 'Philosophy of Science for the Uninitiated'. Review of '*Philosophy of Science: A Very Short Introduction, Metascience*, forthcoming
- (2) 'A theory of everything. Review of Richard Dawid: String Theory and the Scientific Method', *Philosophy of Science*, Volume 83, Number 3, July 2016, pp. 453–458
- (3) 'History and Philosophy of Science: coherent programme at last?' Review of Seymour Mauskopf and Tad Schmaltz (eds.): *Integrating history and philosophy of science: Problems and prospects. Boston Studies in the Philosophy of Science*, vol. 263", *Metascience*, July 2013, Vol. 22(2), pp 457-60
- (4) 'Conceptions of Causality' (book review of *Thinking about Causes: From Greek Philosophy to Modern Physics*, Peter K. Machamer, G. Wolters (eds.), University of Pittsburgh Press, 2007, *Metascience*, vol. 18( 2), p. 301

## PRESENTATIONS AT PEER-REVIEWED CONFERENCES

- 2018 ● 'The Expertise Defense and Armchair Physics', American Philosophical Association (Pacific Section), San Diego, March 2018
- 2017 ● 'The Expertise Defense and Armchair Physics', 2nd Biannual Workshop of the Experimental Philosophy Group Germany, Osnabrück, November 16-18
- 'Explanatory fictions and structural necessitation'
  - Biennial meeting of the *European Philosophy of Science Association*, Univ of Exeter, 6-9 Sept
  - Ninth European Congress of Analytic Philosophy (ECAP 9), LMU Munich, 21-26 August
  - 'The argument from choice: why we better be realists', *Quo Vadis Selective Scientific Realism?*, Durham University, 5-7 August
- 2016 ● 'Historical Case Studies as model organisms', *Biennial Meeting of the Philosophy of Science Association (PSA)*, Atlanta, Nov
- 'Why Novel Success?', *The History of Science and Contemporary Realism*, IUPUI, Indianapolis, Feb 19-20
- 2015 ● 'Theoretical fertility, McMullin-style', *Biennial meeting of the European Philosophy of Science Association (EPSA)*, University of Duesseldorf, Nov.
- 'Ad hoc: what does it mean? A historico-philosophical analysis', *Testing Philosophical Theories Against the History of Science*, *Oulu Centre for Theoretical and Philosophical Studies of History*, University of Oulu, Finland, Sept.
- 2014 ● 'On the necessity of a scientific method', contribution to a symposium on the Scientific Method Revisited incl. Nancy Cartwright, Elliott Sober, Clark Glymour, and Ioannis Votsis, organised at the *Biennial Meeting of the Philosophy of Science Association (PSA)*, Chicago, Nov.
- 'Base Rates and Realism', *The New Thinking about Scientific Realism*, Cape Town, 5-9 August
  - 'Scientific Discovery: that-what's and what-that's', *&HPS5: Fifth Conference in Integrated History and Philosophy of Science*, University of Vienna, 26-28 June 2014
- 2013 ● 'Kuhnian theory choice and the base rate fallacy', *Annual meeting of the British Society for the Philosophy of Science*, Exeter
- 2012 ● 'Facing Giere's challenges to the History and Philosophy of Science' *&HPS4: Fourth Conference in Integrated History and Philosophy of Science*, University of Athens, Greece, 15-18 March
- 'From Novelty to Coherence', *The British Society for the Philosophy of Science Annual Conference*, 7-8 July
  - 'Explanatory fictions: for real?', *Biennial Meeting of the Philosophy of Science Association (PSA)* in San Diego, Nov. (cancelled)
- 2011 ● 'Mechanistic Explanations: Asymmetry lost', *Biennial meeting of the European Philosophy of Science Association*, University of Athens, October
- 'On the relationship of History and Philosophy of Science', *Workshop on Interdisciplinarity*, University of Aarhus, August

- ‘Conceptual lacunae in Bokulich’s account of explanatory fictions’,
  - *The British Society for the Philosophy of Science Annual Conference*, University of Brighton, 7-8 July
  - *CaEitS2011: Causality and Explanation in the Sciences*, University of Gent, 19-21 September.
- ‘Against novel predictions, for virtuous theories’, *Novel Predictions Conference*, Department of Philosophy, Heinrich-Heine University of Düsseldorf, February 25-26.
- 2010 • ‘The conundrum of data reliability’ *Philosophy of Scientific Experimentation: A Challenge to Philosophy of Science*, Center for Philosophy of Science, University of Pittsburgh, USA, 15-16 October
- ‘Philosophy meets history in the discovery of weak neutral currents’, *&HPS3: Third Conference in Integrated History and Philosophy of Science*, Indiana University, Bloomington, USA, September 23-26
- ‘How good a guide is the replicability of data to their reliability’, *British Society for Philosophy of Science Annual Conference*, Dublin, Ireland, 8th- 9th July
- 2009 • ‘The epistemic value of Dalton’s Atomic Theory’
  - *2009 Summer Workshop of the International Society for Philosophy of Chemistry*, Chemical Heritage Foundation, Philadelphia, USA, 13-15 August
  - *&HPS2: Second Conference in Integrated History and Philosophy of Science*, University of Notre Dame, USA, 12-15 March
- 2008 • ‘Photo#51, the CCV theory, and the Discovery of the DNA Structure’, *History of Science Society meeting*, Pittsburgh, USA, 6-9 November
- ‘Refusing the bottom-up construction of scientific phenomena’, *Data-Phenomena-Theories conference*, University of Heidelberg, Germany, 11-13 September
- ‘What is an experimental error?’, Hertz’s cathode ray experiments reconsidered, *Annual Conference of the British Society of Philosophy of Science*, University of St. Andrews, 9-11 July
- ‘Some methodological reflections on the History and Philosophy of Science’, *Leeds/UCL/Durham Joint HPS Workshop*, UCL London, 20 June
- 2007 • Invited panelist at *&HPS1: First Conference in Integrated History and Philosophy of Science*, Center for Philosophy of Science, University of Pittsburgh, USA, 11-13 October
- ‘The ignorance of Evidence as a facilitator of theory-change’ & roundtable discussion with Steven French and Hasok Chang on ‘Should we stop teaching Thomas S. Kuhn?’, *Changing Conceptions of Scientific Change, Leeds/UCL Joint HPS Workshop*, Leeds, 22 June
- 2006 • ‘Bottom-up Corrections and the Phenomenologically-driven View’, *10th Annual Oxford Philosophy Graduate Conference*, University of Oxford, 11-12 November
- ‘Imaginary-Constitutives. The Ontology of Scientific Models’, *Biennial Meeting of the Philosophy of Science Association (PSA)*, Vancouver, Canada, 2-5 November
- ‘Rehabilitating Theory: Refusal of the “bottom-up” Construction of Scientific Phenomena’, *Annual meeting of the British Society for the Philosophy of Science*, Southampton, 6-7 July

#### PRESENTATIONS AT WORKSHOPS (INVITED)

- 2017 • ‘Explanation and understanding in models via structural necessitation’, Workshop on Understanding from Models, IHPST, Paris, November
- 2016 • ‘Testability and Prediction’, Bergen Philosophy of Science Workshop, June 13
- ‘Testability and Prediction’, Methodologies in Science, University of Copenhagen, June 10
- 2013 • ‘Theoretical virtues and truth’, Department of Philosophy, University of Belgrade, March

#### INVITED LECTURES

- 2017 • Scientific Discovery, Interdisciplinary Centre for Science and Technology Studies (IZWT), Bergische Universität Wuppertal, Germany
- 2015 • Ad hoc-ness: a historico-philosophical analysis, Stevin Centre for the History of Science and Humanities & Department of Philosophy, Faculty of Humanities, VU Amsterdam, 15<sup>th</sup> May 2015. Commentaries by Kelvin McQueen and Henk de Regt (VU Amsterdam)
- 2014 • Scientific Discovery: that-what’s and what-that’s, Department of Philosophy, University of Durham, UK, 20<sup>th</sup> March.

- 2013 • Scientific Discovery: that-what's and what-that's, Department of Philosophy, University of Leiden, Nov.
- A matter of Kuhnian theory-choice? The GWS model and the neutral current, Department for the History and Philosophy of Science, University of Utrecht, Nov.
- 2011 • 'Theory and evidence in the discovery of weak neutral currents', Wissenschaftstheorie-und Wissenschaftsgeschichte, University of Berne, Switzerland, March
- 2009 • 'The epistemic role of theories in data reliability judgements', Department of Philosophy, University of Konstanz, Germany, October
- 'Discerning a physical signal from background noise', Department of Philosophy, University of Bielefeld, Germany, March
- 'Discerning a physical signal from background noise', Interdisciplinary Centre for Science and Technology Studies (IZWT), Bergische Universität Wuppertal, Germany, February
- 2008 • 'Model, theory, and evidence in the discovery of the DNA structure', Department of Philosophy, University of Birmingham, UK

#### INVITED COMMENTARIES

- R. Dawid: 'Understanding, String Dualities Empirical Equivalence', Explanation and Understanding workshop, Aarhus University, 2016
- U. Krohs: "Convenience Experimentation", Systems Biology Workshop, Aarhus University, 2011
- M. Massimi, "Carving nature at its joints: Boyd on Kantian Kinds. Between realism and constructivism", Monday Monthly Meetings, Department of Philosophy, University of Konstanz, 2010
- R. Campaner's "On causal explanation in the health sciences", European Science Foundation Research Networking Program, Workshop: Explanation, Confirmation, and Prediction in Biology and Medicine, University of Konstanz, 2009

#### PUBLIC LECTURES

- "Star light bending and the eclipse measurements: re-assessed", Astronomical Observatory, 2013
- "Why Philosophy of Science?", Physics Colloquium, Department of Physics and Astronomy, Aarhus University, 2010
- "Scientific Knowledge through the lens of History and Philosophy of Science", Open Day, *Zukunftskolleg*, University of Konstanz, 2012

#### TEACHING

- Extensive experience with teaching both philosophy and science students (physics, chemistry, biology, geology, engineering, computer science)
- Undergraduate and graduate courses in Philosophy of Science since 2004 (all self-designed and taught in full charge, if not otherwise specified)
  - Graduate courses: Epistemology of experiment (2010); Natural Kinds (2011); Advanced Topics in Philosophy of Science (2012); HPS seminar (jointly w/ M. Weber, 2011), Methodology in HPS (2014; jointly w/ H. Kragh, 2013)
  - Undergraduate courses (50 - 200 students per class): Philosophy of Science, Philosophy of Psychology, Philosophy of Science for Physicists (annually since 2011), Philosophy of Biology (annually since 2012), Minds and Computers (since 2014)
- Other graduate courses: 2 hour lecture on Scientific Misconduct to engineering PhD students (2014&15)
- Other undergraduate courses: Introduction to Philosophy, Ethics, History of Philosophy, Philosophy of Mind

#### GRADUATE ADVISING

Chair of dissertation committee for Sara Kier Praëm "The Role of Intuitions in Philosophical Methodology", 2015 (Committee consisting of Asbjørn Steglich-Peterson, Otavio Bueno, and Nikolaj Nottelmann)

## STUDENT SUPERVISION

- Karen Kiil Brøcker: Intuitions in Linguistics (PhD project, 2016-2019)
- George G. Economou: Trust as means for group belief justification (MSc thesis, 2015-16)
- Jacob Mønsted Nielsen: On the reduction of classical genetics to molecular genetics and the concept of the gene (BSc thesis, 2016)
- Mathias Jørgensen: the Einstein-Podolsky-Rosen paradox (MSc project, 2015)
- Jeppe D. Christiansen: The measurement problem and quantum mechanics (MSc physics student colloquium presentation, 2015)
- Sarah W. Krog: Underdetermination and patterns in data (MSc physics student colloquium presentation, 2013)

## LANGUAGES

German (native), English (fluent), Danish (proficient), Latin (basic), French (rudimentary)

## REFEREES

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