

SOPHIE RITSON - CV

RESEARCH AND TEACHING AREAS

Areas of specialisation

Philosophy of science in practice, integrated history and philosophy of modern physics, and science and values

Areas of competence

History and philosophy of modern sciences, and science and technology studies

APPOINTMENTS

University of Melbourne – Casual Academic

Historical and Philosophical Studies

2021 -

University of Klagenfurt – Postdoctoral Research Fellow

Research unit: Epistemology of the Large Hadron Collider

2016 - 2020

University of Sydney – Lecturer

School of History and Philosophy of Science

2013 - 2016

HONORARY AND VISITING POSITIONS

University of Sydney – Honorary Associate

School of History and Philosophy of Science

2016 - 2021

University of Edinburgh – Eidy Academic Visitor

School of Philosophy, Psychology and Language Sciences

2019

EDUCATION

University of Sydney

Ph.D. (History and Philosophy of Science)

2012 - 2016

University of Cambridge

Visiting Student (History and Philosophy of Science)

2014 - 2015

University of Melbourne

B.Sc, First Class Honours

Majors: Physics and History and Philosophy of Science

2006 - 2011

PHD THESIS

Title: The Many Dimensions of the String Theory Wars

Advisors: Professor Dean Rickles and Dr. Daniela Helbig

Examiners: Professor Richard Dawid (University of Stockholm), Dr. Richard Staley (University of Cambridge), and Professor Alex Wellerstein (Stevens Institute of Technology)

PEER REVIEWED PUBLICATIONS

Ritson, S. (Forthcoming) “Constraints and Divergent Assessments of Fertility in Non-Empirical Physics in the History of the String Theory Controversy”, invited contribution to a special issue on “Non-Empirical Physics from a Historical Perspective” *Studies in History and Philosophy of Science*

Ritson, S. (2021) “Creativity and the Self-coupling of the Higgs: Comparing dual models of measurements at the LHC” *Synthese*

Ritson, S. & Staley, K. (2020) “How Uncertainty Can Save Measurement from Circularity and Holism” *Studies in History and Philosophy of Science*

Ritson, S. (2019) “Probing Novelty at the LHC: heuristic appraisal of disruptive experimentation” *Studies in History and Philosophy of Science Part B: Studies in History and Philosophy of Modern Physics*

Ritson, S. (2016) "'Crackpots' and 'Active Researchers': The String Wars, ArXiv, and the Blogosphere" *Social Studies of Science* 46:4 pp. 607-628

Ritson, S. & Camilleri, K. (2015) "Contested Boundaries: String Theory and Ideological Debates in Fundamental Physics" in *Perspectives on Science* 23:2 pp. 192-277

Camilleri, K. & Ritson, S. (2015) "The Role of Heuristic Appraisal in Conflicting Assessments of String Theory" in *Studies in History and Philosophy of Science Part B: Studies in History and Philosophy of Modern Physics* 51 pp. 44-56

MANUSCRIPTS IN PREPARATION

Book manuscripts

Ritson, S. *The String Wars*

Book chapters

Ritson, S. (In preparation, invited) "Something from Nothing: 'Non-discovery' and Transformations in High Energy Experimental Physics at the Large Hadron Collider" *Aesthetics of Experiments*, University of Pittsburg Press

PRESENTATIONS

Invited presentations

Ritson, S. (2021) "Something from Nothing: 'Non-discovery' and Transformations in High Energy Experimental Physics at the Large Hadron Collider" History and Philosophy of Science Seminar Series, The University of Melbourne, Melbourne, Australia

Ritson, S. (2021) "Aiming for Ugliness: 'Non-discovery' and Transformations in High Energy Experimental Physics at the Large Hadron Collider" Aesthetics of Experiments Conference, University of Cambridge, Cambridge UK

Ritson, S. (2021) "The String Wars", General Mathematics Colloquium, The University of Göttingen, Göttingen, Germany

Ritson, S. (2020) "The String Theory Controversies", invited as a contribution to a workshop on "Theory and evidence in light of the dynamics of the scientific community", Philosophy Department, The University of Durham, Durham, UK (Cancelled due to COVID-19)

Ritson, S. (2020) "Probing Novelty at the LHC: heuristic appraisal of disruptive experimentation", The Sigma Club at The Centre for Philosophy of Natural and Social Science, London School of Economics, London, UK

Ritson, S. (2019) "Creativity and measurement at the LHC", Physics Department, The University of Edinburgh, Edinburgh, UK

Ritson, S. (2019) "Creativity and measurement at the LHC", School of Philosophy, Psychology and Language Sciences, The University of Edinburgh, Edinburgh, UK

Ritson, S. (2019) "Controversial constraints on non-empirical physics" invited as a contribution to a workshop on "Non-Empirical Physics from a Historical Perspective" at the Max Planck Institute for the History of Science, Berlin, Germany

Ritson, S. (2018) "Controversy in High Energy Physics: 'Post-empirical' science and determining future directions", The Center for Particle Physics of Marseilles, Marseilles, France

Ritson, S. (2017) "Blogs as a Source: Examining Boundaries, Values and Crackpots in High Energy Physics", The University of Applied Arts Vienna, Vienna, Austria

Merz, M. & Ritson, S. (2017) "The '750 GeV Bump' in the Light of the Tri-Relation between Media, Theory, and Experiment", Philosophy Department, University of Vienna, Vienna, Austria

Ritson, S. & Camilleri, K. (2013) "The String Debates: Rhetoric and Ideology in Fundamental Physics", History and Philosophy of Science Seminar Series, The University of Melbourne, Melbourne, Australia

Conference presentations (Refereed)

Ritson, S. (2021, forthcoming) "Aiming for Ugliness: 'Non-discovery' and Transformations in High Energy Experimental Physics at the Large Hadron Collider", *European Philosophy of Science Association*, Turin, Italy

Ritson, S. (2021) "Aiming for Ugliness: 'Non-discovery' and Transformations in High Energy Experimental Physics at the Large Hadron Collider", *British Society for Philosophy of Science*, Kent, UK

Ritson, S. (2021) "Something from Nothing: 'Non-discovery' and Transformations in High Energy Experimental Physics at the Large Hadron Collider", *Philosophy of Science Association Conference*, Baltimore, USA (Postponed from 2020 due to COVID-19)

Ritson, S. & Staley, K. (2021) "The Problem of Circular Theory Dependence in Measurement: Uncertainty to the Rescue" *Philosophy of Science Association Conference*, Baltimore, USA (Postponed from 2020 due to COVID-19)

Ritson, S. (2019) "Probing Novelty at the LHC: heuristic appraisal of disruptive experimentation", *The British Society for Philosophy of Science Conference*, Durham, UK

Ritson, S. (2018) "Measurement and machine learning at the Large Hadron Collider (LHC): The Higgs self-coupling as a case study", *Measurement at the Crossroads Conference*, Paris, France

Ritson, S. (2018) "The Case of the '750 GeV': Exploring 'non-discovery' and transformations in high energy experimental physics at the Large Hadron Collider", *Society for the Social Studies of Science Conference*, Sydney, Australia

Sorgner, H. & Ritson, S. (2018) "Non-knowledge and future high-energy physics technologies", *Ignorance and non-knowledge: what consequences for democratic governance, politics and policy?*, Vienna, Austria

Ritson, S. (2017) "Large (Virtual) Research Infrastructures: The high-energy physics blogosphere and 'non-discovery'", *Society for the Social Studies of Science Conference*, Boston, USA

Ritson, S. (2017) "Controversial appraisals of "promise" in high energy physics", *The British Society for Philosophy of Science Conference*, Edinburgh, UK

Ritson, S. (2014) "'Crackpots' and 'Active Researchers': The String Wars, ArXiv, and the Blogosphere", *The Australasian History, Philosophy and Social Studies of Science Conference*, Katoomba, Australia

Ritson, S. (2013) "Dualities in Superstring Theory: From 'oddy' to Epistemic Strategy". Presented as part of the panel "Epistemic Strategies in 20th Century Physics and Cosmology: Reshaping Spaces, Structures and Styles" at the *History of Science Society Annual Meeting*, Boston, USA

Carter, M. & Ritson, S. (2013) "Blogs as a Domain of Scientific Discourse: The Construction of New Knowledge in the Blogosphere". Published in *Proc. Computing and Information Systems Doctoral Colloquium*, Melbourne, Australia p.7

Ritson, S. (2012) "The String Debates: Rhetoric and Ideology in Fundamental Physics" at the *Australasian History, Philosophy and Social Studies of Science Conference*, Sydney, Australia

SUCCESSFUL GRANT APPLICATIONS

'Producing Novelty and Securing Credibility: LHC Experiments in an STS perspective' Austrian Science Fund, €408,450 (co-authored with Professor Martina Merz, Professor Peter Mättig, and Helene Sorgner)

TEACHING

University of Melbourne

"Thinking About Science Past and Present" 2021
Tutor
Advanced undergraduate philosophy of science subject

Epistemology of the Large Hadron Collider Research Unit

"The practice approach in history and philosophy of science" 2018
Responsible for designing and leading the Postdoc and PhD workshop
International Summer School "Particle Physics at the Crossroads"

University of Klagenfurt, Austria

"Ethical Regimes of Knowledge Production and Indigenous Tissue Samples" 2017

Responsible for designing the master level seminar syllabus, delivered all lectures

University of Sydney

“Science Ethics and Society?” Course Coordinator and Lecturer (responsible for design and delivery) Advanced undergraduate history and philosophy of science subject	2016
“What is this thing called Science?” Course Coordinator and Lecturer (responsible for design and delivery) Introductory undergraduate philosophy of science subject	2016, 2015, 2014
“What is this thing called Science?” Tutor Introductory undergraduate philosophy of science subject	2013, 2012
“Bioethics” Tutor Undergraduate ethics subject	2016, 2013

PROFESSIONAL SERVICE

Publication review

Centaurus, Science Communication, Social Studies of Science, Studies in History and Philosophy of Science, Studies in History and Philosophy of Science Part B: Studies in History and Philosophy of Modern Physics, Synthese

Grant review

The National Science Foundation (USA)

Conference panels organised

‘Computation and measurement at the LHC: managing complexity in high energy physics experiments’ (2018) *Measurement at the Crossroads: History Philosophy and Sociology of Measurement* Paris, France

‘Something from Nothing: Exploring Non-discovery and Negative Claims’ (2018) *Society for the Social Studies of Science Conference* Sydney, Australia

‘Exploring Large-Scale Research through the Lens of Infrastructure’ (2017) *Society for the Social Studies of Science Conference* Boston, USA

‘Epistemic Strategies in 20th Century Physics and Cosmology: Reshaping Spaces, Structures and Styles’ (2013) *History of Science Society Annual Meeting* Boston, USA

PUBLIC ENGAGEMENT

Philosophy at the Large Hadron Collider: An Interview with Sophie Ritson (2019) *Forum*
<https://blogs.unimelb.edu.au/shaps-research/2019/11/29/philosophy-at-the-large-hadron-collider-an-interview-with-sophie-ritson/>

REFEREES

Professor Kent Staley, University of St. Louis
Kent.staley@slu.edu

Professor Michela Massimi, University of Edinburgh
Michela.massimi@ed.ac.uk

Professor Dominic Murphy, University of Sydney
Dominic.murphy@sydney.edu.au

Professor Dean Rickles (PhD supervisor), University of Sydney
Dean.rickles@sydney.edu.au

Professor Martina Merz, University of Klagenfurt
Martina.merz@aau.at