

# SOPHIE RITSON - CV

## RESEARCH AND TEACHING AREAS

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### Areas of specialisation

Philosophy of science in practice, science and technology studies, and science and values

### Areas of competence

History and philosophy of modern sciences and technologies, and ethics of sciences and technologies

## APPOINTMENTS

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<b>University of Melbourne, Australia – Research Strategy Project Officer</b> Chancellery Research and Enterprise Research Collaboration Strategy	2022 -
<b>University of Melbourne, Australia – Research Quality Officer</b> Secondment in Computing and Information Systems Project on research quality, impact, and benefit	2022
<b>University of Melbourne, Australia – Research Grants Officer</b> Research Grant and Contract Services, Research Innovation and Commercialisation Administration of Researcher Development Schemes	2021 - 2022
<b>University of Melbourne, Australia – Tutor</b> Historical and Philosophical Studies (HPS)	2021
<b>University of Klagenfurt, Austria – Postdoctoral Research Fellow</b> Department of Science Communication and Higher Education Research	2016 - 2020
<b>University of Sydney, Australia – Lecturer</b> School of History and Philosophy of Science	2013 - 2016

## HONORARY AND VISITING POSITIONS

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<b>University of Melbourne – Honorary Fellow</b> Historical and Philosophical Studies	2022 -
<b>University of Sydney – Honorary Associate</b> School of History and Philosophy of Science	2016 - 2021
<b>University of Edinburgh – Eidyn Academic Visitor</b> School of Philosophy, Psychology and Language Sciences	2019

## COLLABORATIONS

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<b>Next Generation Event Horizon Telescope Collaboration (ngEHT)</b> Global collaboration (over 500 participants from over 30 countries) History, Philosophy, and Culture Working Group (Collaborations and Siting)	2022 -
<b>Epistemology of the Large Hadron Collider</b> Collaboration of universities from Austria, Germany, Switzerland, and the USA Producing Novelty and Securing Credibility: LHC Experiments in an STS perspective	2016 - 2020

## EDUCATION

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<b>University of Sydney</b> Ph.D. (History and Philosophy of Science)	2012 - 2016
<b>University of Cambridge</b> Visiting Student (History and Philosophy of Science)	2014 - 2015
<b>University of Melbourne</b> B.Sc, First Class Honours Majors: Physics and History and Philosophy of Science	2006 - 2011

## PEER REVIEWED PUBLICATIONS

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- Ritson, S. (2023) "Something from Nothing: 'Non-discovery' and Transformations in High Energy Experimental Physics at the Large Hadron Collider" in Ivanona, M. & Murphy, A (Eds) *Aesthetics of Experiments*, Routledge
- Galison, P.; Doboszewski, J.; Elder, J.; Martens, N.C.M.; Ashtekar, A.; Enander, J.; Gueguen, M.; Kessler, E.A.; Lalli, R.; Lesourd, M.; et al. (2023) "The Next Generation Event Horizon Telescope Collaboration: History, Philosophy, and Culture" *Galaxies* 1, 0.
- Ritson, S. (2021) "Creativity and the Self-coupling of the Higgs: Comparing dual models of measurements at the LHC" *Synthese* 199, pp. 11887–11911
- Ritson, S. (2021) "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* 90 pp. 39-49
- Ritson, S. & Staley, K. (2020) "How Uncertainty Can Save Measurement from Circularity and Holism" *Studies in History and Philosophy of Science* 85 pp. 155-165
- 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* 69 pp. 1-11
- 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

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### Book manuscripts

Ritson, S. *The String Wars*

### Papers

Ritson, S. (In preparation) "Non-discovery, Null Results, and Scientific Progress"

## TEACHING

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### University of Melbourne

"Thinking About Science Past and Present" 2021  
Tutor  
Advanced undergraduate history and 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  
Masters level subject (Masters in Science and Technology Studies)  
Responsible for designing the seminar syllabus, delivered all lectures

### University of Sydney

"Science Ethics and Society" 2016  
Course Coordinator and Lecturer  
Advanced undergraduate Science and Technology Studies subject

"What is this thing called Science?" 2016, 2015, 2014  
Course Coordinator and Lecturer  
Introductory undergraduate history and philosophy of science subject

“What is this thing called Science?” Tutor Introductory undergraduate philosophy of science subject	2013, 2012
“Bioethics” Tutor Undergraduate ethics subject	2016, 2013

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## INTERNATIONAL GRANT SUCCESS

‘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). Part of the ‘Epistemology of the Large Hadron Collider’ grant proposal to the DFG and FWF, awarded approximately AUD 3.3 million

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## PUBLIC ENGAGEMENT

Ritson, S. & Martens, N.C.M A unique collaboration using a virtual Earth-sized telescope shows how science is changing in the 21st century (2023) *The Conversation*  
<https://theconversation.com/a-unique-collaboration-using-a-virtual-earth-sized-telescope-shows-how-science-is-changing-in-the-21st-century-201556>

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/>

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## PROFESSIONAL SERVICE

National Grant review: Swiss National Science Foundation (Switzerland) and National Science Foundation (USA)

Peer Review: British Journal for Philosophy of Science, Centaurus, Philosophia, Philosophy Compass, Synthese, Studies in History and Philosophy of Science, Studies in History and Philosophy of Science Part B: Studies in History and Philosophy of Modern Physics, Social Studies of Science

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## PRESENTATIONS

### Select invited presentations

Ritson, S. (2022) “Something from Nothing: ‘Non-discovery’ and Transformations in High Energy Experimental Physics at the Large Hadron Collider” Centre for Science Studies Colloquium, Aarhus University, Denmark

Ritson, S. (2022) “Collaborations and Creativity” *History Philosophy and Culture Next Generation Event Horizon Telescope Workshop* Black Hole Institute, Harvard University, Cambridge, USA

Leonelli, S., Macleod, M., & Ritson, S. (2021) Round Table Discussion: The Future of Interdisciplinary Philosophy, *International Workshop on Interdisciplinarity and Philosophy of Science* National Yang Ming Chiao Tung University, Taiwan

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 Workshop*, University of Cambridge, Cambridge, UK

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", *Non-Empirical Physics from a Historical Perspective Workshop*, 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

### **Select conference presentations (refereed)**

Ritson, S. (2022) "Something from Nothing: 'Non-discovery' and Transformations in High Energy Experimental Physics at the Large Hadron Collider", *History of Science Association Conference*, Chicago, USA

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 due to COVID-19)

Ritson, S. (2021) "Something from Nothing: 'Non-discovery' and Transformations in High Energy Experimental Physics at the Large Hadron Collider", *Australasian Association for the History, Philosophy and Social Studies of Science Conference*, Wollongong, Australia

Ritson, S. (2021) "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. (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", *Australasian Association for the History, Philosophy and Social Studies of Science Conference*, Katoomba, Australia

Ritson, S. (2013) "Dualities in Superstring Theory: From 'oddity' 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 Association for the History, Philosophy and Social Studies of Science Conference*, Sydney, Australia

## REFEREES

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Professor Kent Staley, University of St. Louis, USA  
[Kent.staley@slu.edu](mailto:Kent.staley@slu.edu)

Professor Michela Massimi, University of Edinburgh, UK  
[Michela.massimi@ed.ac.uk](mailto:Michela.massimi@ed.ac.uk)

Professor Martina Merz, University of Klagenfurt, Austria  
[Martina.merz@aau.at](mailto:Martina.merz@aau.at)