

HPS&ST NEWSLETTER

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HPS&ST NEWSLETTER

MAY 2020

The HPS&ST NEWSLETTER is emailed monthly to about 8,400 individuals who directly or indirectly have an interest in the contribution of history and philosophy of science to theoretical, curricular and pedagogical issues in science teaching, and/or interests in the promotion of innovative, engaging and effective teaching of the history and philosophy of science. The NEWSLETTER is sent on to different international and national HPS lists and international and national science teaching lists. In print or electronic form, it has been published for 25+ years.

The NEWSLETTER seeks to serve the diverse international community of HPS&ST scholars and teachers by disseminating information about events and publications that connect to concerns of the HPS&ST community.

Contributions to the NEWSLETTER (publications, conferences, opinion pieces, etc.) are welcome and

should be sent direct to the editor: Michael R. Matthews, UNSW (m.matthews@unsw.edu.au).

The NEWSLETTER, along with RESOURCES, OBITUARIES, OPINION PIECES and more, are available at the website: <http://www.hpsst.com/>

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The 16th Biennial International History and Philosophy of Science and Science Teaching Group (IHPST) Conference, Calgary, Canada, July 4-8, 2021

Conference Theme: *Energising Education with the History, Philosophy, and Sociology of Science*

The province of Alberta is the oil-sands energy centre of Canada. It has been the locale for debate about fossil fuel usage, environmental impacts, renewal energy production, First Nations relations and much else.



The concept of Energy has a long history in philosophy and science. It is a foundational understanding in all disciplines of science and technology. The conference is an occasion to develop the variety of historical, philosophical, and sociological dimensions of energy that can be brought to bear on its better and richer teaching.

Plenary Speaker: Carol Cleland

Carol Cleland is Professor of Philosophy at the University of Colorado Boulder. She arrived at CU Boulder in 1986, after having spent a year on a postdoctoral fellowship at Stanford University's Center for the Study of Language and Information

(CSLI). She received a Ph.D. in philosophy from Brown University and a B.A. in mathematics from the University of California (Santa Barbara). From 1998-2008 she was a member of the NASA Institute of Astrobiology (NAI). She is currently Director of CU Boulder's Center for the Study of Origins.



Cleland specialises in philosophy of science and logic. Her research focuses on issues about scientific methodology (historical science vs. experimental science, the role of anomalies in scientific discovery), biology (microbiology, origins of life, the nature of life, and astrobiology), and the theory of computation.

She has published articles in leading philosophy and science journals. She is the inventor of the term 'shadow biosphere,' a subject on which she has written and lectured extensively. Cleland is the author of *The Quest for a Universal Theory of Life: Searching for Life as We Don't Know It* (Cambridge University Press, 2019).

Submission, registration, accommodation details

coming [here](#).

Conference chair: Dr. Glenn Dolphin, Department of Geosciences (glenn.dolphin@ucalgary.ca).

COVID-19: An Integrated Response

Brazilian scholars Charbel El-Hani and Virgilio Machado have published in *Ethnobiology and Conservation* an Opinion Piece on the need of an integrated and critical view on COVID-19. They discuss contributions from different academic sciences and beyond the academic sciences on COVID-19, counterposing them with a focus strictly on the health sciences or in academic sciences only; they consider how COVID-19 became a wicked problem and how this hampers an integrated approach to the pandemic, with serious consequences to public health; they briefly discuss the integration between traditional Chinese medicine (TCM) and Western medicine for treating COVID in China; and finally they discuss relationships between scientific work and values in COVID-19.

They maintain that to build an integrated view, different scientists and social actors should engage in trust relationships and accept mutual epistemic dependencies, as requisites for a concerted way of understanding and acting on the problem. Finally, an integrated and critical view of COVID-19 demands that we cast aside the myth of value-free science, consider the relationships between values and scientific work, and conceive how knowledge can be objective without being neutral.

The paper is freely available [here](#).

AHA Prize Contest: Applying History to Clarify the COVID-19 Challenge

In early April, the American Historical Association issued a call for historians to apply their skills to help illuminate the challenge COVID-19 poses to our nation and the world. As the AHA Council wrote: 'Historians can... play an important role by providing context, in this case shedding light on the history of pandemics and the utility of that history to policy formation and public culture.'

To reinforce and support this call to action, the Stanton Foundation has launched a weekly contest to identify and reward what we judge the best new Applied History article or op-ed that illuminates the current coronavirus crisis. An advisory panel from the Applied History Project at Harvard Kennedy School's Belfer Center will assist in the screening process. These articles should illuminate current challenges and policy choices by analysing the historical record, especially precedents and analogues.

5/5/2020: Week Two Prize Winner Selected

For the second week of the Stanton Foundation's Applied History coronavirus contest, the Applied History Project reviewed 55 articles in 35 outlets—an 83% increase and 59% increase from last week, respectively. Nineteen articles were submitted to the Foundation and 36 were selected for consideration. Entrants covered the full political spectrum and a wide range of subject matter, including international relations, social policy, and economics. The Stanton Foundation has selected '[Disease and Diplomacy in the 19th Century](#)' (*War on the Rocks*, 30/4/20) as its Week Two prize winner, and will award author Andrew Ehrhardt the \$1,000

prize.

The Selection Committee was particularly impressed with the clear-eyed, ambitious international history of public health and diplomacy that illuminates possibilities for global cooperation in managing coronavirus.

Andrew Ehrhardt is a postdoctoral fellow with the Engelsberg Applied History Programme at King's College London.

Eligibility: entries must be:

- New, published articles or op-eds that analyse history to (a) clarify the medical, political, economic and/or international impact of coronavirus, and (b) identify lessons or clues for policymakers.
- Articles must have been published in a reasonably accessible general publication, either print or digital. Winners will be selected from new articles published each week.
- Thus for example, an article published in a regularly published newspaper, or made available through the website of a local television station, is eligible. An article in an investment advisory newsletter to the clients of a financial firm is not eligible, nor is an article appearing only on a university website.

The contest will run for 10 weeks: Monday, April 20 through Friday, June 26, 2020.

Each week's winner will receive a \$1,000 prize. An additional \$2,500 prize will be awarded for the best overall from the contest period.

A \$5,000 Grand Prize will be awarded for the best article/op-ed published between January 1 and June 30, 2020.

History and Philosophy of the Life Sciences Topical Collection 1

[Seeing Clearly Through COVID-19: Current and future questions for the history and philosophy of the life sciences.](#)

Editors: G. Boniolo – L. Onaga

Rationale: This epidemic of global proportions has seemingly surprised everyone, from laymen, laywomen and children, to politicians, economists, clinicians and biomedical researchers. The worldwide pandemic has drastically changed our ways of living and will likely continue to change our ways of living in the future. At the same time, historical reflections have indicated that there have been precedents for the conditions leading up to and representing the disastrous effects taking place. It is the right moment to humanistically reflect simultaneously upon what has been happening and what is going to happen to our lives, planet, socio-economical relationships, and interpretations of our own meanings of life. The time is critical to think seriously through these historical and philosophical issues in terms of global health and global justice.

HPLS wishes to invite a diverse group of scholars representing different regions of the world, disciplines, and intersectional concerns to produce short papers that each grapple with a historical-sociological-political-epistemological-ethical question. These papers would not only engage with current aspects raised or stimulated by the COVID-19 pandemic but also with views concerning questions about our future. Together, we hope these collected papers could design a foundation for ongoing conversations that highlight the expertise and contributions of scholars in the history and philosophy of the life sciences.

In particular, we appreciate that the following themes could be tackled: scientific experts and laypeople; national science policies and international scientific organisations; governance and governmentality; uncertainty; policy requirements and political interference; big data; privacy and social control; herd immunity; eugenics; assessment of epidemiological positions; clinical and biomedical research; vulnerable and fragile groups; death and suffering; legal and illegal businesses; zoonotic diseases; environmental links; scientific globalisation; re-globalisation; vaccine research, animal models and experimentation on humans; structural and latent racism; agriculture; food security; etc.

Format: Short pieces of about 1000 words, excluding references (max 10), abstract consisting of no more than two or three sentences, and a maximum of three keywords. Each question has to be well-posed and effectively contextualised both in the literature and in real health and field frameworks.

Note: Titles, abstracts, and keywords, must include searchable terms like virus, SARS, coronavirus, COVID-19, SARS-COV-2, etc.

Publishing process: Authors have to send their pieces to HPLS through the Editorial Manager, choosing Notes & Comments and, then, our Topical Collection 'Seeing Clearly Through COVID-19'. Manuscripts will be handled by Boniolo and Onaga, and they will undergo a light reviewing process involving at least one external reviewer. Manuscripts will be sent to production and published online immediately following acceptance, so as to facilitate the swift publication of research pieces of high societal and scholarly relevance.

Time window: Beginning of papers acceptance: August 15, 2020; Closure of papers acceptance: December 31, 2020.

History and Philosophy of the Life Sciences Topical Collection 2

[Biomedical Knowledge in a Time of Crisis: Historical and Philosophical Perspectives on COVID-19](#)

Editors: D. Teira – S. Leonelli

Rationale: This Topical Collection brings together scholarly reflections on the COVID-19 pandemic from scholars in the history, philosophy and social studies of biology and biomedicine. Themes may include, but are not limited to, the role of modelling, data practices and uncertainty in pandemic science and policy responses; the genealogies and reconfigurations of life science expertise in the face of the pandemic; the biopolitics and governance of biological knowledge, particularly in related fields such as epidemiology and immunology; the implications for research organisations and management worldwide, including experimental practices and work with non-human organisms; the intersection between private and public research activities and services, including with regard to population monitoring and public health services, across countries; the history and implications of the specific discourse and metaphors (e.g. military) used to depict human relationships with disease; relevant conceptual underpinnings and methodological questions in epidemiology, such as how to compare different populations; historical links to eugenics and racism, particularly in relation to the focus (or lack thereof) on vulnerable populations; and methodological reflections on how the pandemic may affect scholarly work in the history, philosophy and social studies of biology.

HPLS invites a diverse group of contributors representing different regions of the world, discip-

lines, and intersectional concerns. We hope that this collection will highlight the relevance and significance of contributions from the history and philosophy of the life sciences towards understanding the roots, unfolding and implications and of the pandemic.

Note: Titles, abstracts, and keywords, must include searchable terms like virus, SARS, coronavirus, COVID-19, SARS-COV-2, etc.

Publishing process: All papers will be peer-reviewed as soon as possible and will be published online immediately following acceptance, so as to facilitate the swift publication of research pieces of high societal and scholarly relevance.

Time window: Submissions are welcome from August 15, 2020 until May 31, 2021. This long window for submission constitutes an exception to normal HPLS practice: it is meant to account for the widely diverging effects of the pandemic on prospective authors around the world (some of whom may have had ample time to research and write due to lock-downs, while others have had to take a break from work due to illness, caring duties or abrupt shifts in their working patterns and focus).

History and Philosophy of the Life Sciences is an interdisciplinary journal committed to providing an integrative approach to understanding the life sciences. It welcomes submissions from historians, philosophers, biologists, physicians, ethicists and scholars in the social studies of science.

Teaching philosophy of science to students from other disciplines, *European Journal of Philosophy of Science*, Thematic Issue

Guest editors: Joeri Witteveen & Sara Green (University of Copenhagen)

Description: Philosophy of science courses are increasingly taught not only to philosophy students, but also to students from other disciplines. While this offers a unique opportunity to engage with other fields and make philosophy of science relevant for other target groups, it also calls for reflection on *what* and *how* to teach. Whereas philosophy of science critically examines the methodological approaches in other fields, much less attention has been given to the didactical strategies used within philosophy of science, and to discussions of how we, through teaching, can make philosophy of science relevant to other target groups. The aim of this topical collection is for scholars to reflect on the challenges associated with teaching philosophy of science to non-philosophers and to discuss ways to overcome these. We especially welcome contributions that draw connections between philosophy of science and science education, and that consider how to improve learning strategies for philosophy of science. We encourage authors to reflect on their own experience with teaching philosophy of science to non-philosophers in a scholarly way. Questions that could be addressed by contributions in the topical collection are not restricted to, but could include the following:

- What makes teaching non-philosophy students different from teaching philosophy students and how should we (historians and philosoph-

ers) adapt to an audience of practitioners of a field of study that we are reflecting on?

- To what extent do the learning objectives differ when targeting other student groups, and to what extent do different goals of teaching influence the selection of topics, teaching formats, and modes of examination?
- How can the teaching of philosophy of science to students in the natural and life sciences benefit from recent developments in integrated HPS, practice-oriented philosophy of science, and socially relevant philosophy of science?
- How can research in science education inform teaching of philosophy of science – and vice versa?
- What pedagogical approaches (such as inquiry- or case-based teaching) are proved useful or useless for a successful learning and teaching experience?

Papers submitted to the topical collection should not exceed **5000 words** in total (excluding references).

Timeline

Deadline for submitted contributions: **Dec 1, 2020**

First round of reviews completed: **Feb 1, 2021**

Deadline for revisions: **April 1, 2021**

Submitted papers will be peer reviewed following the journal's standard, and accepted papers will be published online on a rolling basis. Please blind submissions for peer review prior to submission and chose [Teaching philosophy of science] in the drop-down menu on the [EJPS submission page](#).

Questions about the topical collection can be addressed to:

Guest editors: Sara Green (sara.green@ind.ku.dk) and Joeri Witteveen (jw@ind.ku.dk)

Lakatos Award, 2021

Applications are invited for the 2021 Lakatos Award, with a strict deadline of **Tuesday 1 September 2020**. The 2021 award will be for a monograph in the philosophy of science broadly construed, either single authored or co-authored, published in English with an imprint from 2015 to 2020, inclusive. Anthologies and edited collections are not eligible. Any person of recognised standing within the philosophy of science or an allied field may nominate a book. Nominations must include a statement explaining the nominator's reasons for regarding the book prizeworthy. Self-nominations are not allowed.

Please address nominations, or any requests for further information, to the Award Administrator, Tom Hinrichsen, at t.a.hinrichsen@lse.ac.uk.

Sabine Hossenfelder: HPS & Foundations of Physics on YouTube

To be a good scientist, it takes not only scientific expertise. It also takes a solid understanding of the philosophy, sociology, and history of science. I have seen in my own field – the foundations of physics – how disregard of interdisciplinary context can lead into a dead end. By and large, my colleagues in physics think that philosophy is useless, history is irrelevant, and sociology is about other people. The result? There has not been progress in the foundations of physics for 40 years.

One of the purposes of my YouTube channel is to

shed light on the connection between these disciplines and explain why they matter. When it comes to long-standing problems in the foundations of physics – the missing quantisation of gravity, dark matter, the measurement problem in quantum mechanics – philosophy, history, and sociology are vital to understand what is happening. This understanding also holds the key to moving forward.

I do not think that I will change the minds of senior researchers, but I hope that I can reach newcomers to the field. I also want the public to know what is going on. After all, most of the researchers in the foundation of physics are paid by tax money. I think that my subscribers appreciate that I tell them straight if a supposedly exciting new result is really just wishful thinking.

Most of the videos in the YouTube channel are currently brief ‘explainers’ of topics in the foundations of physics or updates on recent developments in the discipline. There are also have a few interviews, and there will be more in the future; recently historical excursions have been added.

[Science Without the Gobbledygook](#)

[Sabine Hossenfelder’s Music Videos.](#)

Opinion Page: *The Impact of Philosophy – And the Philosophy of Impact*

Robert Frodeman & Evelyn Brister



Robert Frodeman has been a Professor of Philosophy at the University of Tennessee, Chattanooga, the Colorado School of Mines, and the University of North Texas. He currently resides in Hoback, WY, where he writes on environmental philosophy and development issues in the American West.

He is the author of *Transhumanism, Nature, and the Ends of Science* (Routledge, 2019), the editor of *The Oxford Handbook of Interdisciplinarity* (Oxford 2017) and author or editor of a number of other books.

robert.frodeman@gmail.com.



Evelyn Brister is Associate Professor of Philosophy at Rochester Institute of Technology. She is a philosopher of science who writes about environmental values and land management and is incoming president of the Public Philosophy Network.

Brister and Frodeman are co-editors of *A Guide to Field Philosophy* (Routledge), forthcoming in February 2020, a collection of narrative accounts by philosophers who have engaged in fieldwork with scientists, engineers, and policymakers.

elbgsl@rit.edu.

Introduction

Where is philosophy in public life? Can we point to how the world in 2020 is different than it was in 2010 or 1990 because of philosophical research?

On the first day of class, philosophy professors tell their students that philosophy promises to make us better citizens and to increase our understanding of science, politics, and art. Or in the words of the American Philosophical Association's [guide for undergraduates](#), philosophy develops the capacity to see the world from the perspective of other individuals and other cultures; it enhances one's ability to perceive the relationships among the various fields of study; and it deepens one's sense of the meaning and variety of human experience.

We agree. But more needs to be said about the relevance of philosophy to shaping society than that. People want to know that philosophy and the humanities are valuable not only to college students while taking a class or two, but also how the massive bodies of professional research that are being produced are relevant to society at large.

This is where philosophy (and the humanities generally) has failed: philosophers don't investigate the specificities of philosophy's relevance. Granted, there's a pile of works (e.g., Martha Nussbaum's *Not for Profit*, Fareed Zakaria's *In Defense of a Liberal Education*, Michael Roth's *Beyond the University*) that provide a general defence of the humanities. But when the question is put: 'How specifically is humanities research relevant to society?' any answer is seen as either a political challenge aligned with a defence of ignorance or else as being self-evident.

We think that asking—and answering—this question is neither a disrespectful nor a trivial task.

As it stands, professors teach their classes and write their books and articles, trusting that their insights will eventually seep out into the culture at large. In a nod toward Reagan, call it the trickle-down model. The whole process is radically accidental. Humanities research is rarely given an active push to get it in front of wider audiences.

Of course, humanists do work that's directly relevant to society: they spot inconsistencies in scientific practice and uncover missed opportunities for social justice. What's missing is the follow-through—practical efforts to see that one's research makes it into the hands of those who could field test the ideas. This is not a matter of individual incompetence. The problem is institutional: tenure committees, publishing houses, and philosophy journals do not require an action plan as part of the work humanists produce. Demonstrating relevance is not part of the everyday workflow.

As it turns out, the science community has been debating the nature of relevance concerning their research for more than 20 years. As we might expect, their language is somewhat different: the term of art has been 'impact'. But the issues at

stake are similar. They have made some headway, too, in understanding how to better connect research to the ongoing needs of the public.

How could it be that the sciences elaborated a philosophy of impact before philosophers did? In 1997, in response to GPRA, the 1993 Government Performance and Results Act, the US National Science Foundation changed its criteria for the review of grant proposals. It required that applications be judged in terms of their ‘broader impact’ as well as for their ‘intellectual merit’. (And this wasn’t only a US phenomenon. Science agencies in the UK, the EU, and Brazil (among others) all enacted requirements where scientists had to describe the expected societal impact of their research.) This has led to a twenty-year effort to understand what broader impact means, how attempts to achieve them can be evaluated, and how such impact can be increased.

Making scientists explain how their research would improve society marked a decisive break with the past. Previously the sciences behaved in the same way that philosophy still behaves: the sciences had their own version of the trickle-down model. The canonical statement of this view was provided by Vannevar Bush, head of the U.S. Office of Scientific Research and Development during the Second World War. In *Science, The Endless Frontier* (1945), Bush described a world where science functions best, and indeed ends up being most relevant, when scientists are left alone to pursue their own curiosity. In an ironic twist, societal relevance was best served by not thinking about relevance at all.

Changing this attitude wasn’t easy. In the case of the NSF, in the first years the scientific community simply ignored the new criterion. When NSF forced the issue in 2001 by refusing to review

proposals that did not address broader impacts, scientists protested its implementation, claiming the idea was incoherent, and that in any case social impact wasn’t their responsibility. Gradually, however, the idea of broader impacts took hold. Today, some twenty years on, broader impacts mark a decisive (indeed, philosophic) change in scientific culture: the scientific community now accepts that social responsibility is an intrinsic part of their work.

Not that the conceptual work has been completed. The debate over the ‘impact agenda’ continues; in fact, it has been in the news recently. As part of initiatives launched by the new Boris Johnson government, in late January, United Kingdom Research and Innovation announced that they will be removing the ‘Pathways to Impact’ section from grant applications. This change was described in terms of the cutting of red tape. Some have read this as a retreat from giving attention to impacts. But rather than marking the failure of the impact agenda, it’s a sign that impact or social relevance has been so integrated in the knowledge production system that a separate section has become unnecessary. In other words, the conversation has advanced.

All of these issues stand as an open invitation for philosophers and humanists to jump into the debate. When they do (and a small number have been doing so for some time) they will find that they have two tasks to take up – helping the science and science policy communities reckon with the intricacies of understanding impact, and developing a philosophy of impact for research across the humanities.

The amount of money at stake in the humanities is trivial compared with the sciences. And traditional defences of the humanities – that they in-

volve noble thinking far above the merely pecuniary interests of other fields – will remain important. But society is increasingly focused on understanding the practical results of its funding. Call it an accountability moment. Humanists should get out in front of these demands before reductive versions of impact are forced upon them.

Invitation to Submit Opinion Piece

In order to make better educational use of the wide geographical and disciplinary reach of this HPS&ST NEWSLETTER, invitations are extended for readers to contribute opinion or position pieces or suggestions about any aspect of the past, present or future of HPS&ST studies.

Contributions can be sent direct to [Michael Matthews](#) or [Nathan Oseroff-Spicer](#).

Ideally, they might be pieces that are already on the web, in which case a few paragraphs introduction, with link to web site can be sent, or else the pieces will be put on the web with a link given in the NEWSLETTER.

They will be archived in the OPINION folder at the HPS&ST web site: <http://www.hpsst.com/>.

PhD Theses in HPS&ST Domain

The HPS&ST NEWSLETTER is the ideal medium for publicising and making known submitted and awarded doctoral theses in the HPS&ST domain.

The following details should be submitted to the editor at m.matthews@unsw.edu.au:

- Candidate's name and email
- Institution
- Supervisor
- Thesis title
- Abstract of 100-300 words
- Web link when theses are required to be submitted for open search on web.

'History, Philosophy and Science Teaching: A Personal Story' Michael R. Matthews

Michael Matthews has contributed to HPS&ST research, and associated institutional initiatives such as the International History Philosophy and Science Teaching Group (IHPST) and the Inter Divisional Teaching Commission of the DLMPs and DHST over the past 30+ years. He has written articles and books, editing anthologies, handbooks, and journal special issues, given lectures in scores of international universities, and has presented papers and lectures at numerous academic conferences. He founded, and for 25 years edited, the Springer journal *Science & Education: Contributions from HPS*.

He has now written an intellectual autobiography that details something of his own Irish-Catholic childhood and schooling, his science studies and teacher education at Sydney University in the mid-1960s, his science teaching years, his early studies, research and teaching in philosophy of education, his University of Sydney honours degrees in philosophy, psychology and HPS, his connection with Sydney theological studies, his period lecturing at

Sydney Teachers College, appointment to University of New South Wales, and his time as Foundation Professor Science Education at University of Auckland. Also discussed is his five-year sojourn as an alderman on Sydney City Council, the first independent alderman to be elected to the council.

The personal story elaborates a little on a number of the issues and debates in philosophy of education, philosophy, HPS, and science education to which Matthews has contributed. It is not a general account of HPS&ST but rather a personal story of how he became involved with HPS&ST questions, research, and institutions and how he sees that past and future.

The essay can be read, and downloaded as a pdf file [here](#).

Recent HPS&ST Research Articles

Andersson-Bakken, E., Jegstad, K. R., & Bakken, J. (2020). Textbook tasks in the Norwegian school subject natural sciences: what views of science do they mediate? *International Journal of Science Education*. doi:[10.1080/09500693.2020.1756516](https://doi.org/10.1080/09500693.2020.1756516) online first

Bächtold, M. (2020). Introducing Joule's Paddle Wheel Experiment in the Teaching of Energy: Why and How? *Foundations of Science*. doi:[10.1007/s10699-020-09664-2](https://doi.org/10.1007/s10699-020-09664-2) online first

Burke, L.E.C., & Wallace, J. (2020). Re-examining Postcolonial Science Education Within a Power-Knowledge Framework. *Science & Education*. doi:[10.1007/s11191-020-00116-8](https://doi.org/10.1007/s11191-020-00116-8) online first

di Giacomo, F. (2020). Early theoretical chemistry: Plato's chemistry in Timaeus. *Foundations of Chemistry*. doi:[10.1007/s10698-020-09364-6](https://doi.org/10.1007/s10698-020-09364-6) online first

Halawa, S., Hsu, Y.-S., Zhang, W.-X., Kuo, Y.-R. & Wu, J.-Y. (2020). Features and trends of teaching strategies for scientific practices from a review of 2008–2017 articles. *International Journal of Science Education*. doi:[10.1080/09500693.2020.1752415](https://doi.org/10.1080/09500693.2020.1752415) online first

Ludwig, D. & El-Hani, C. N. (2020). Philosophy of Ethnobiology: Understanding knowledge integration and its limitations. *Journal of Ethnobiology* 40(1): 3-20. doi:[10.2993/0278-0771-40.1.3](https://doi.org/10.2993/0278-0771-40.1.3)

Machery, E. (2020). What is a Replication? *Philosophy of Science*. doi:[10.1086/709701](https://doi.org/10.1086/709701) online first

Mangiante, E.S., Gabriele-Black, K.A. (2020). Supporting Elementary Teachers' Collective Inquiry into the "E" in STEM. *Science & Education*. doi:[10.1007/s11191-020-00123-9](https://doi.org/10.1007/s11191-020-00123-9) online first

Mesci, G. (2020). The Influence of PCK-Based NOS Teaching on Pre-service Science Teachers' NOS Views. *Science & Education*. doi:[10.1007/s11191-020-00117-7](https://doi.org/10.1007/s11191-020-00117-7) online first

Potvin, P. et al. (2020). Models of conceptual change in science learning: establishing an exhaustive inventory based on support given by articles published in major journals. *Studies in Science Education*. doi:[10.1080/03057267.2020.1744796](https://doi.org/10.1080/03057267.2020.1744796) online first

Reynante, B.M., Selbach-Allen, M.E. & Pimentel,

D.R. (2020). Exploring the Promises and Perils of Integrated STEM Through Disciplinary Practices and Epistemologies. *Science & Education*. doi:10.1007/s11191-020-00121-x online first

Robinson, A. E. (2020) Chemical pedagogy and the periodic system. *Centaurus*, 1– 19. doi:10.1111/1600-0498.12229 online first

Rocha, P. L. B., Pardini, R., Viana, B. F. & El-Hani, C. N. (2020). Fostering inter- and transdisciplinarity in discipline-oriented universities to improve sustainability science and practice. *Sustainability Science* 15: 717-728. doi:10.1007/s11625-019-00761-1

Sengul, O, Enderle, P.J, & Schwartz, R. S. (2020). Science teachers' use of argumentation instructional model: linking PCK of argumentation, epistemological beliefs, and practice. *International Journal of Science Education*. doi:10.1080/09500693.2020.1748250 online first

van Gorkom, J. (2020). Skin color and phlogiston Immanuel Kant's racism in context. *History and Philosophy of the Life Sciences* 42(16). doi:10.1007/s40656-020-00311-4 online first

Zerecero, G. G. (2020). Molecular models and scientific realism. *Foundations of Chemistry*. doi:10.1007/s10698-020-09363-7 online first

Recent HPS&ST Related Books

Baldin, Gregorio (2020). *Hobbes and Galileo: Method, Matter and the Science of Motion*. Springer: Cham. ISBN: 978-3-030-41413-9

“This book, translated from Italian, discusses the influence of Galileo on Hobbes' natural philosophy.

In his *De motu, loco et tempore* or *Anti-White* (approx. 1643), Thomas Hobbes describes Galileo as ‘the greatest philosopher of all times’, and in *De Corpore* (1655), the Italian scientist is presented as the one who ‘opened the door of all physics, that is, the nature of motion.’ The book gives a detailed analysis of Galileo’s legacy in Hobbes’s philosophy, exploring four main issues: a comparison between Hobbes’ and Mersenne’s natural philosophies, the Galilean Principles of Hobbes’ philosophical system, a comparison between Galileo’s *momentum* and Hobbes’s *conatus*, and Hobbes’ and Galileo’s theories of matter.

The book also analyses the role played by Marin Mersenne, in spreading Galileo’s ideas in France, and as a discussant of Hobbes. It highlights the many aspects of Hobbes’ relationship with Galileo: the methodological and epistemological elements, but also the conceptual and the lexical analogies in the field of physics, to arrive, finally, at a close comparison on the subject of the matter. From this analysis emerges a shared mechanical conception of the universe open and infinite, that replaces the Aristotelian cosmos, and which is populated by two elements only: matter and motion.”

More information available [here](#).

Benson, Etienne S. (2020). *Surroundings: A History of Environments and Environmentalisms*. Chicago, IL: The University of Chicago Press. ISBN: 978-0-226-70615-3

“Given the ubiquity of environmental rhetoric in the modern world, it’s easy to think that the meaning of the terms environment and environmentalism are and always have been self-evident. But in *Surroundings*, we learn that the environmental past is much more complex than it seems at first glance. In this wide-ranging history of the concept, Etienne S. Benson uncovers the diversity of forms that en-

vironmentalism has taken over the last two centuries and opens our eyes to the promising new varieties of environmentalism that are emerging today.

“Through a series of richly contextualised case studies, Benson shows us how and why particular groups of people—from naturalists in Napoleonic France in the 1790s to global climate change activists today—adopted the concept of environment and adapted it to their specific needs and challenges. Bold and deeply researched, *Surroundings* challenges much of what we think we know about what an environment is, why we should care about it, and how we can protect it.” (From the Publisher)

More information available [here](#).

Boccaletti, Dino (2020) *The Waters Above the Firmament: An Exemplary Case of Faith-Reason Conflict*. Springer: Cham.

ISBN: 978-3-030-44167-8

“This book addresses an emblematic case of a potential faith-reason, or faith-science, conflict that never arose, even though the biblical passage in question runs counter to simple common sense. Within the context of Western culture, when one speaks of a faith-science conflict one is referring to cases in which a ‘new’ scientific theory or the results of empirical research call into question what the Bible states on the same subject. Well-known examples include the Copernican theory of planetary motion and the Darwinian theory of evolution.

“The passage considered in this book, concerning the ‘waters above the firmament’ in the description of the creation in the first book of Genesis, represents a uniquely enlightening case. The author traces the interpretations of this passage from the early centuries of the Christian era to the late Renaissance, and discusses them within their historical context. In the process, he also clarifies the underlying cosmogonic model. Throughout this period,

only exegetes belonging to various religious orders discussed the passage’s meaning. The fact that it was never debated within the lay culture explains its non-emergence as a faith-reason conflict. A fascinating and highly accessible work, this book will appeal to a broad readership.” (From the Publisher)

More information available [here](#).

Collodel, Matteo, & Oberheimm Eric (Eds.) (2020) *Feyerabend’s Formative Years. Volume 1. Feyerabend and Popper: Correspondence and Unpublished Papers*. Springer: Cham.

ISBN: 978-3-030-00961-8

“This book offers an inside look into the notoriously tumultuous, professional relationship of two great minds: Karl Popper and Paul Feyerabend. It collects their complete surviving correspondence (1948-1967) and contains previously unpublished papers by both. An introduction situates the correspondence in its historical context by recounting how they first came to meet and an extensive editorial apparatus provides a wealth of background information along with systematic mini-biographies of persons named.

“Taken together, the collection presents Popper and Feyerabend’s controversial ideas against the background of the postwar academic environment. It exposes key aspects of an evolving student-mentor relationship that eventually ended amidst increasing accusations of plagiarism. Throughout, readers will find in-depth discussions on a wide range of intriguing topics, including an ongoing debate over the foundations of quantum theory and Popper’s repeated attempts to design an experiment that would test different interpretations of quantum mechanics. The captivating exchange between Feyerabend and Popper offers a valuable resource that will appeal to scientists, laymen, and a wide range of scholars: especially philosophers, historians of science

and philosophy and, more generally, intellectual historians.” (From the Publisher)

More information available [here](#).

de Chadarevian, Soraya (2020). *Heredity Under the Microscope: Chromosomes and The Study of The Human Genome*. Chicago, IL: Chicago University Press. ISBN: 978-0-226-68508-3

“By focusing on chromosomes, *Heredity Under the Microscope* offers a new history of postwar human genetics. Today chromosomes are understood as macromolecular assemblies and are analysed with a variety of molecular techniques. Yet for much of the twentieth century, researchers studied chromosomes by looking through a microscope. Unlike any other technique, chromosome analysis offered a direct glimpse of the complete human genome, opening up seemingly endless possibilities for observation and intervention. Critics, however, countered that visual evidence was not enough and pointed to the need to understand the molecular mechanisms.

“Telling this history in full for the first time, Soraya de Chadarevian argues that the often bewildering variety of observations made under the microscope were central to the study of human genetics. Making space for microscope-based practices alongside molecular approaches, de Chadarevian analyses the close connections between genetics and an array of scientific, medical, ethical, legal, and policy concerns in the atomic age. By exploring the visual evidence provided by chromosome research in the context of postwar biology and medicine, *Heredity Under the Microscope* sheds new light on the cultural history of the human genome.” (From the Publisher)

More information available [here](#).

El-Hani, C. N., Pietrocola, M., Mortimer, E. F. & Otero, M. R. (Eds.). (2020). *Science Education Research in Latin America*. Leiden: Brill/Sense.

ISBN: 978-90-04-40908-8

“This volume of the *World of Science Education* gathers contributions from Latin American science education researchers covering a variety of topics that will be of interest to educators and researchers all around the world. The volume provides an overview of research in Latin America, and most of the chapters report findings from studies seldom available for Anglophone readers. They bring new perspectives, thus, to topics such as science teaching and learning; discourse analysis and argumentation in science education; history, philosophy and sociology of science in science teaching; and science education in non-formal settings.

As the Latin American academic communities devoted to science education have been thriving for the last four decades, the volume brings an opportunity for researchers from other regions to get acquainted with the developments of their educational research. This will bring contributions to scholarly production in science education as well as to teacher education and teaching proposals to be implemented in the classroom.” (From the Publisher)

More information available [here](#).

Gronda, Roberto (2020). *Dewey's Philosophy of Science*. Springer: Cham.

ISBN: 978-3-030-37562-1

“This monograph presents a unitary account of Dewey's philosophy of science and demonstrates the relevance for contemporary debates. The book is written from a theoretical angle and explains Dewey's views on experience, language, inquiry, construction and realism. Via taking this route the book addresses key philosophical problems – such

as the nature of language, the idea of experience, the notion of logical constructivism, the criticism of representationalism and the nature of scientific practices.

“John Dewey (1859-1952) is one of the most representative philosophers of the United States. He is well known for his work in education, psychology and social reform and one of the primary figures associated with the philosophy of pragmatism. His philosophy of science underwent a period of almost total unpopularity and neglect. In recent times, however, as a consequence of the strong pragmatist renaissance we are now witnessing, Dewey’s philosophy of science has attracted new attention. This book presents for the first time a comprehensive overview of Dewey’s philosophy of science and will be of interest to scholars working in nineteenth and twentieth century philosophy of science and on the relationship between pragmatism and logical empiricism.” (From the Publisher)

More information available [here](#).

Nunes-Neto, N. F. & El-Hani, C. N. (2020). *Life on Earth is not a Passenger, but a Driver: Explaining the transition from a physicochemical to a life-constrained world from an organizational perspective*. In: Zaterka, L. & Baravalle, L. (Eds.). *Life and Evolution – Latin American Essays on the History and Philosophy of Biology* (pp. 69-84). Cham: Springer. ISBN: 978-3-030-39589-6

“[This chapter is part of a book that] offers to the international reader a collection of original articles of some of the most skilful historians and philosophers of biology currently working in Latin American universities. During the last decades, increasing attention has been paid in Latin America to the history and philosophy of biology, but since many local authors prefer to write in Spanish or in Portuguese, their ideas have barely crossed the boundaries of the continent. This volume aims to remedy

this state of things, providing a good sample of this production to the English speaking readers, bringing together contributions from researchers working in Brazilian, Argentinean, Chilean, Colombian and Mexican universities.

“The stress on the regional provenance of the authors is not intended to suggest the existence of something like a Latin American history and philosophy of biology, supposedly endowed with distinctive features. On the contrary, the editors firmly believe that advances in this field can be achieved only by stimulating the integration in the international debate. Based on this assumption, the book focuses on two topics, life and evolution, and presents a selection of contributions addressing issues such as the history of the concept of life, the philosophical reflection on life manipulation and life extension, the structure and development of evolutionary theory as well as human evolution.

“*Life and Evolution – Latin American Essays on the History and Philosophy of Biology* will provide the international reader with a rather complete picture of the ongoing research in the history and philosophy of biology in Latin America, offering a snapshot of this dynamic community. It will also contribute to contextualise and develop the debate concerning life and evolution, and the relation between the two phenomena.” (From the Publishers)

More information available [here](#).

Poliseli, L. & El-Hani, C. N. (2020). *Imagination in science*. In Tateo, L. (Ed.). *A theory of Imagining, Knowing and Understanding* (pp. 65-84). Cham: Springer. SpringerBriefs in Psychology. ISBN: 978-3-030-38025-0

“[This Chapter is part] of a book about imaginative work and its relationship with the construction of knowledge. It is fully acknowledged by epistemologists that imagination is not something opposed to

rationality; it is not mere fantasy opposed to intellect. In philosophy and cognitive sciences, imagination is generally “delimiting not much more than the mental ability to interact cognitively with things that are not now present via the senses.” (Stuart, 2017, p. 11) For centuries, scholars and poets have wondered where this capability could come from, whether it is inspired by divinity or it is a peculiar feature of human mind (Tateo, 2017b).

“The omnipresence of imaginative work in both every day and highly specialised human activities requires a profoundly radical understanding of this phenomenon. We need to work imaginatively in order to achieve knowledge, thus imagination must be something more than a mere flight of fantasy. Considering different stories in the field of scientific endeavour, I will try to propose the idea that the imaginative process is fundamental higher mental function that concurs in our experiencing, knowing and understanding the world we are part of. This book is thus about a theoretical idea of imagining as constant part of the complex whole we call the human *psyche*. It is a story of human beings striving not only for knowledge and exploration but also striving for imagining possibilities.” (From the Publishers)

More information available [here](#).

Schwartz, James S.J (2020). *The Value of Science in Space Exploration*. Oxford, UK: Oxford University Press. ISBN: 978-0-190-06906-3

“Space exploration, especially the recent push for the commercialisation and militarisation of space, is attracting increased attention not only from the wider public and the private sector but also from scholars in a wide range of disciplines. At this moment of uncertainty about the future direction of national spaceflight programs, *The Value of Science in Space Exploration* defends the idea, often overlooked, that the scientific understanding of the

Solar System is both intrinsically and instrumentally valuable. Drawing on research from the physical sciences, social sciences, and the humanities, James S.J. Schwartz argues further that there is truly a compelling obligation to improve upon our scientific understanding-including our understanding of space environments-and that there exists a corresponding duty to engage in the scientific exploration of the Solar System.

“After outlining the underpinning epistemological debates, Schwartz tackles how this obligation affects the way we should approach some of the major questions of contemporary space science and policy: Is there a need for environmental preservation in space? Should humans try to establish settlements on the Moon, Mars, or elsewhere in the Solar System, and if so, how? In answering these questions, Schwartz parleys with recent work in science policy and social philosophy of science to characterise the instrumental value of scientific research, identifying space research as a particularly effective generator of new knowledge. Additionally, whereas planetary protection policies are currently employed to prevent biological contamination only of sites of interest in the search for extraterrestrial life, Schwartz contends that all sites of interest to space science ought to be protected.

“Meanwhile, both space resource exploitation, such as lunar or asteroid mining, and human space settlement would result in extensive disruption or destruction of pristine space environments. The overall ethical value of these environments in the production of new knowledge and understanding is greater than their value as commercial or real commodities, and thus confirms that the exploitation and settlement of space should be avoided until the scientific community develops an adequate understanding of these environments. At a time when it is particularly pertinent to consider the ways in which space exploration might help solve some of the world’s ethical and resource-driven concerns, *The Value of Science in Space Exploration* is a thought-provoking and much-needed examination into the

world of space.” (From the Publisher)

More information available [here](#).

Snowden, Frank M. (2020) *Epidemics and Society: From the Black Death to the Present*. New Haven, CT: Yale University Press. [with a new Preface] ISBN: 978-0-300-25639-0

“This sweeping exploration of the impact of epidemic diseases looks at how mass infectious outbreaks have shaped society, from the Black Death to today, and in a new preface addresses the global threat of COVID-19. In a clear and accessible style, Frank M. Snowden reveals the ways that diseases have not only influenced medical science and public health, but also transformed the arts, religion, intellectual history, and warfare.

“A multidisciplinary and comparative investigation of the medical and social history of the major epidemics, this volume touches on themes such as the evolution of medical therapy, plague literature, poverty, the environment, and mass hysteria. In addition to providing historical perspective on diseases such as smallpox, cholera, and tuberculosis, Snowden examines the fallout from recent epidemics such as HIV/AIDS, SARS, and Ebola and the question of the world’s preparedness for the next generation of diseases.” (From the Publisher)

More information available [here](#).

Stegenga, Jacob (2020). *Medical Nihilism*. Oxford, UK: Oxford University Press. ISBN: 978-0-198-74720-8 [new in paperback]

”This book is philosophy with a bite. Should we trust medicine? Stegenga shows there is much to be sceptical of. This is a scary thesis, all the more so because Stegenga’s arguments are persuasive and

his accounts of the empirical facts seem fair and well balanced. The underlying problem that the book tackles in medicine how to distinguish compelling science from chaff is not only at the heart of philosophy of science but at the heart of every science. Here Stegenga shows how we can address this problem in a particular scientific context by understanding the fine details of research. This is first-rate philosophy applied to one of our most important sciences.” – Nancy Cartwright, University of California San Diego & Durham University

“Medical nihilism is the view that we should have little confidence in the effectiveness of medical interventions. This volume argues that medical nihilism is a compelling view of modern medicine. If we consider the frequency of failed medical interventions, the extent of misleading evidence in medical research, the thin theoretical basis of many interventions, and the malleability of empirical methods in medicine, and if we employ our best inductive framework, then our confidence in the effectiveness of medical interventions ought to be low. Part I articulates theoretical and conceptual groundwork, in which Jacob Stegenga offers a defence of a hybrid theory of disease, which forms the basis of a novel account of effectiveness, and applies this to pharmacological science and to issues such as medicalisation.

“Part II critically examines details of medical research. Even the very best methods in medical research, such as randomised trials and meta-analyses, are malleable and suffer from various biases. Methods of measuring the effectiveness of medical interventions systematically overestimate benefits and underestimate harms. Part III summarises the arguments for medical nihilism and what this position entails for medical research and practice. To evaluate medical nihilism with care, Stegenga states the argument in formal terms. Medical nihilism suggests that medical research must be modified, that clinical practice should be less aggressive in its therapeutic approaches, and that regulatory standards should be enhanced.” (From the

Publisher)

More information available [here](#).

Wang, Wei (2020). *Explanation, Laws, and Causation*. Abingdon, UK: Routledge [New in Paperback]. ISBN: 978-0-367-52290-2

“Scientific explanation, laws of nature, and causation are crucial and frontier issues in the philosophy of science. This book studies the complex relationship between the three concepts, aiming to achieve a holistic synthesis about explanation–laws–causation.

“By reviewing Hempel’s scientific explanation models and Salmon’s three conceptions – the epistemic, modal, and ontic conception – the book suggests that laws are essential to explanation and that our understanding of laws will help solve the problems of the latter. Concerning the nature of laws, this book tackles both the problems of regularity approach and necessitarian approach. It also proposes that the ontological order of explanation should be from events (or processes) to causation, then to regularity (laws), and finally to science system, but the epistemological order should be from science system to laws to explanation and causation. In addition, this book examines the legitimacy of *ceteris paribus* laws, the connection between explanation and reduction, the relation between explanation and interpretation, and some other issues closely related to explanation–laws–causation. This book will attract scholars and students of philosophy of science, natural sciences, social sciences, etc.” (From the Publishers)

More information available [here](#).

Authors of HPS&ST-related papers and books are invited to bring them to attention of [Paulo Maurício](#) or [Nathan Oseroff-Spicer](#) for inclusion in these sections.

Coming HPS&ST Related Conferences

June 8-12, 2020, Philosophy of Biology at the Mountains (POBAM), Workshop, University of Utah.

Details available [here](#).

June 16-17, 2020, International Workshop on Disciplinary Identity: Insights from the History and Philosophy of Chemistry. Hebrew University of Jerusalem, Israel.

Details available [here](#).

June 17-19, 2020, Fourth International History of Physics Conference, Trinity College Dublin

Details available [here](#).

June 29 – July 3, 2020, Objects of Understanding: Historical Perspectives on Material Artefacts and Practices in Science Education. Europa-Universität, Flensburg, Germany. POSTPONED TO 2021

Inquiries at OoU-conference@uni-flensburg.de

June 29 – July 1, 2020, Measurement at the Crossroads 2020 – Measuring and Modeling. Milan, Italy.

More information available [here](#).

June 30 – July 2, 2020, 7th annual conference of the International Association for Philosophy of Time. Barcelona, Spain.

Inquiries at iapt7barcelona@gmail.com

- July 1-3, 2020, 'STEMM and Belief in Diverse Contexts: Publics, Praxis, Policy and Pluralism', Stellenbosch, South Africa
Details available [here](#).
- July 2-4, 2020, 4th International Conference on Science and Literature, University of Girona, Spain.
Details at: <http://icscienceandliterature.com/>
- July 7-10, 2020, Society for Philosophy of Science in Practice (SPSP) Eighth Biennial Conference, Michigan State University, USA
Details available [here](#).
- July 8-11, 2020, British Society for History of Science Annual Conference, Aberystwyth University, Wales.
Information at: <http://bshsaberystwyth2020.info/>
- July 9-11, 2020, 6th International STEM in Education Conference, Vancouver, Canada.
Details at: www.stem2020.ubc.ca
- July 15-17, 2020, 8th Integrated History and Philosophy of Science Conference (&HPS8). Virginia Tech, Blacksburg VA.
Information: Lydia Patton (critique@vt.edu) or Jutta Schickore (jschicko@indiana.edu)
- July 21-23, 2020, 24th Conference of the International Society for the Philosophy of Chemistry. Buenos Aires, Argentina.
More information available [here](#).
- July 27-31, 2020, Summer School on "Open science": ambivalences and tensions – New borderlands between science, technology and society (Donostia-San Sebastian, Spain).
Details available [here](#) or Lilia Bolz (lilia.bolz@humtec.rwth-aachen.de).
- August 10-14, 2020, Bayesian Epistemology: Perspectives and Challenges. MCMP, LMU Munich.
Details available [here](#).
- August 18-21, 2020, EASST + 4S Joint Conference, Prague
Details available [here](#).
- August 31 – September 3, 2020, European Society for History of Science Biennial Conference, Bologna
Details available [here](#).
- September 9-11, 2020. The 8th Congress of the Society for the Philosophy of Science. University of Mons, Belgium.
Details available [here](#).
- September 14-19, 2020, 39th annual symposium of the Scientific Instrument Commission, London
Details available [here](#).
- October 8-9, 2020 Conference on Science & Technology Education, Porto, Portugal
Details available [here](#).
- October 8-11, 2020, History of Science Society Annual Conference, New Orleans
Details available [here](#).
- November 19-22, 2020, Twenty-Seventh Biennial Meeting of the PSA. Baltimore, Maryland
Details available [here](#).
- July 4-8, 2021, IHPST 16th International Conference, University of Calgary, Canada
Details from Glenn Dolphin: glenn.dolphin@ucalgary.ca.
- July 25-31, 2021, 26th International Congress of History of Science and Technology (DHST), Prague
Information: <https://www.ichst2021.org/>
- September 20-22, 2021, 'Developing Mario Bunge's Scientific-Philosophical Programme',

Huaguang Academy of Information Science,
Wuhan, China

Details from Zongrong LI 2320129239@qq.com.

July 24-29, 2023, 17th DLMPST Congress, University of Buenos Aires Information: Pablo Lorenzani, pablo@unq.edu.ar.

HPS&ST Related Organisations and Websites

IUHPST – International Union of History, Philosophy, Science, and Technology

DLMPST – Division of Logic, Mathematics, Philosophy, Science, and Technology

DHST – Division of History, Science, and Technology

IHPST – International History, Philosophy, and Science Teaching Group

NARST – National Association for Research in Science Teaching

ESERA – European Science Education Research Association

ASERA – Australasian Science Education Research Association

ICASE – International Council of Associations for Science Education

UNESCO – Education

HSS – History of Science Society

ESHS – European Society for the History of Science

AHA – American History Association

ISHEASTME – International Society for the History of East Asian History of Science Technology and Medicine

BSHS – British Society for History of Science

EPSA – European Philosophy of Science Association

AAHPSSS - The Australasian Association for the History, Philosophy, and Social Studies of Science

HOPOS – International Society for the History of Philosophy of Science

PSA – Philosophy of Science Association

BSPS – The British Society for the Philosophy of Science

SPSP – The Society for Philosophy of Science in Practice

ISHPSB – The International Society for the History, Philosophy, and Social Studies of Biology

PES – The Philosophy of Education Society (USA)

The above list is updated and kept on the HPS&ST website [HERE](#).

HPS&ST-related organisations wishing their web page to be added to the list should contact assistant editor Paulo Maurício (paulo.asterix@gmail.com)

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