

HPS&ST Newsletter
May 2023
Vol.36 (4)
ISSN: 2652-2837

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Introduction

The HPS&ST Newsletter is sent monthly to about 10,300 emails of 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 40+ years.

The Newsletter, along with RESOURCES, OBITUARIES, OPINION PIECES and more, are lodged at the website: [HERE](#)

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 (publications, conferences, Opinion Piece, etc.) are welcome and should be sent direct to the editor: Michael R. Matthews, UNSW, m.matthews@unsw.edu.au .

**# International Society for History,
Philosophy and Social Studies of Biology
(ISHPSSB) biennial conference, 9-15 July
2023, Toronto**

Keynote speaker, [Deborah McGregor](#) (York University) will present on climate and environmental justice, and an interdisciplinary public panel will discuss how environmental degradation, indigeneity, human right to water and health all intersect in and around the Great Lakes. The panelists are Patricia Corcoran (University of Western Ontario), Blaire Morseau (University of Massachusetts Boston), Jennifer Read (University of Michigan), and Marsha Richmond (Wayne State University).

These conversations will be complemented with a tour of the Royal Ontario Museum natural history and world cultures collections, walking through the causes, consequences and solutions to climate crisis.

Please visit the [conference website](#) to submit abstracts.

*Coulomb's Memoirs Available*

A. K. T. Assis and L. L. Bucciarelli, *Coulomb's Memoirs on Torsion, Electricity, and Magnetism Translated into English*

Apeiron, Montreal), 546 pages, ISBN: 978-1-987980-33-2.

The book is available free in PDF format [HERE](#)

Louis L. Bucciarelli is a Professor (Emeritus) of Engineering and Technology Studies at MIT, USA. Andre Assis is Professor at Institute of Physics, University of Campinas

Foreword by Prof. C. Stewart Gillmor, Coulomb's main biographer.

**Coulomb's Memoirs on Torsion,
Electricity, and Magnetism
Translated into English**



Andre Koch Torres Assis
Louis L. Bucciarelli

This book contains complete and commented translations of the main works of Charles-Augustin de Coulomb (1736-1806) on torsion, electricity, and magnetism.

Contents include the 1777 prize winning work on the best method of making magnetic needles, the 1784 paper with the law of torsion of metal wires and his seven major Memoirs on electricity and magnetism.

In these works he arrived experimentally at the law of force between electrified bodies varying with the inverse of the square of their distance (known in textbooks as Coulomb's law), at the law of force between magnetic poles also varying with the inverse square of their distance, at the exponential law of charge leakage, at the distribution of electricity over the surface of charged conducting bodies in various configurations of electrostatic equilibrium, at advanced methods of magnetization and the production of artificial magnets.

Printed copies can be ordered from [Amazon](#):

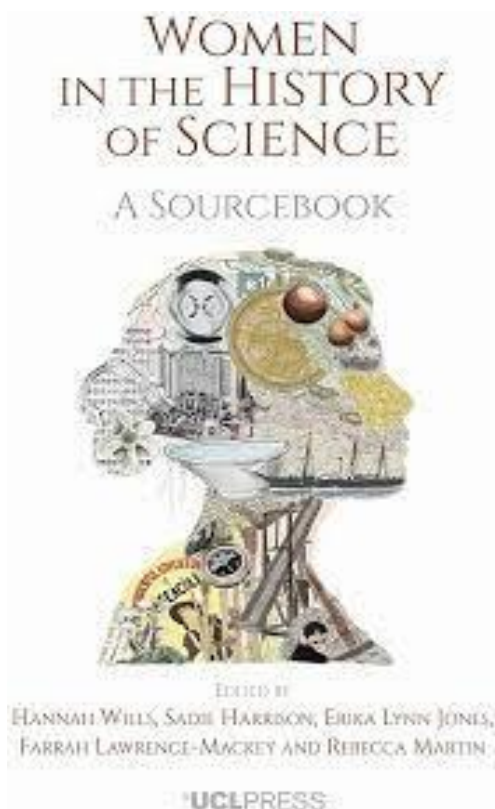
Women in the History of Science: A Sourcebook

Edited by Hannah Wills, Sadie Harrison, Erika Lynn Jones, Rebecca Martin, and Farrah Lawrence-Mackey
University College London Press

Free download: [HERE](#)

Women in the History of Science (446 pps) brings together primary sources that highlight women's involvement in scientific knowledge production around the world. Drawing on texts, images and objects, each primary source is accompanied by an explanatory text, questions to prompt discussion, and a bibliography to aid further research.

Arranged by time period, covering 1200 BCE to the twenty-first century, and across 12 inclusive and far-reaching themes, this book is an invaluable companion to students and lecturers alike in exploring women's history in the fields of science, technology, mathematics, medicine and culture.



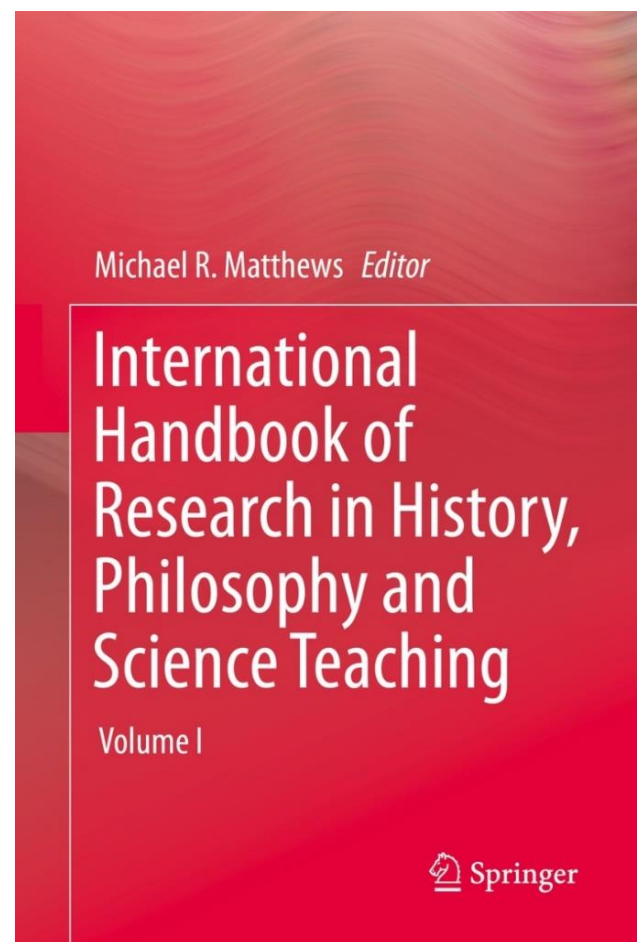
While women are too often excluded from traditional narratives of the history of science, this book centres the voices and experiences of women across a range of domains of knowledge. By

questioning our understanding of what science is, where it happens, and who produces scientific knowledge, this book is an aid to liberating the curriculum within schools and universities.

HPS&ST International Research Handbook (3 vols) Available

Published in 2014 by [Springer](#), this is the first and only handbook devoted to the appraisal and synthesis of past and then-current Research in History, Philosophy and Science and Mathematics Teaching. It consists of 2,544 pages in 3-volumes, with 76 chapters, written by 125 authors from 30 countries.

The extensive scope of the work is reflected in the Subject Index of 2,000 entries, the Name Index of 3,600 entries, and the 10,200 references.



Recognising the intimate historical connection between science and mathematics, and between students' learning of science and learning mathematics, seven chapters are devoted to historically and philosophically-informed research in mathematics education.

The handbook is structured in four sections: pedagogical, theoretical, national, and biographical research. Each chapter sets the relevant literature in its

historical context, and engages in an assessment of the strengths and weakness of the research addressed, and suggests potentially fruitful avenues of future research.

The Handbook lays out the rich tradition of historical and philosophical engagements with science and mathematics teaching, and that lessons can be learnt from these engagements for the resolution of current theoretical, curricular and pedagogical questions that face teachers and administrators.

PDF file available gratis [HERE](#)

International Union for History and Philosophy of Science and Technology (IUHPST)

The main activities of the Union are the two quadriennial congresses organised by the two divisions: the *International Congress for History of Science and Technology* (ICHST) organised by DHST and the [Congress for Logic, Methodology and Philosophy of Science and Technology](#) (CLMPST) organised by DLMPST.

[XVIIth Congress on Logic, Methodology, and Philosophy of Science and Technology](#) (CLMPST 2023)

Science & Values in an Uncertain World
Buenos Aires, Argentina, 24–29 July 2023.

HPS&ST in Latin America

5th International Conference on History, Philosophy and Science Teaching in Latin America (IHPST-LA 2023)

History, Philosophy, Sociology and Science Teaching in times of Scientific Denial

The IHPST-LA will be held in Porto Alegre (Brazil) from August 9th to 11th, 2023. It will gather researchers from all Latin America to discuss HPS&ST and its contemporary challenges. More information is available [HERE](#).

The event will take place at the headquarters of the Institute of Physics of the Federal University of Rio Grande do Sul, in Porto Alegre. Paper submissions will be accepted until April 2nd, 2023. registration, submission rules, dates, are available on the event website: [HERE](#)

The IHPST-LA 2023 event will provide space for dialogue, communication, meetings, in which we can overcome barriers and difficulties to further strengthen our research community. In difficult times like the ones we are experiencing, consolidating and advancing the promotion of research and research and teaching institutions is a powerful way of contributing to building a better and fairer world.

Do you have any contributions about HPS&ST in Latin America? If you have any information about events, publications, research groups, books about HPS&ST in Latin American and want to submit a brief note to be published in the HPS&ST Newsletter, please contact first Nathan Lima [here](#) or secondly Michael Matthews [here](#).

HPS&ST in Asia

If you have any information about events, publications, research groups or books about HPS&ST in Asia and want to submit a brief note to be published in the HPS&ST Newsletter, please contact first Xiao Huang (Zhejiang Normal University) [HERE](#) or secondly Michael Matthews [HERE](#).

Opinion Page. The New Biology: A Battle between Mechanism and Organicism

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Michael Ruse is the former Lucyle T. Werkmeister Professor of Philosophy at Florida State University and Professor Emeritus of Philosophy at the University of Guelph. He is a Guggenheim Fellow, a Fellow of the Royal Society of Canada, a Gifford Lecturer, and the author or editor of more than sixty books.

The Scientific Revolution, lasting from Copernicus to Newton, was above all a change in what linguists call ‘root metaphors’: from seeing the world as an organism – organicism – to seeing the world as a machine – mechanism. To use other language, science pre-Revolution demanded that one think of entities as functioning wholes, ‘holism.’ Science post-Revolution worked by looking at entities as composed of individual parts, ‘reductionism.’

The flies in the mechanistic ointment were living organisms. They seemed too intricately constructed for us to think that they could be the

product of the blind laws we associate with machines. People worried about this problem from the time of Robert Boyle, in the seventeenth century, to Charles Darwin, in the nineteenth century, who claimed that through his mechanism of natural selection we can explain the nature of organisms using only blind laws.

Not all were convinced. Until the end of the nineteenth century there were many professional biologists as well as laypeople, who thought that a return to the old metaphor of the organism was necessary. In the first half of the twentieth century, thanks to advances in the study of heredity, culminating in the discovery of the structure of the genetic material, DNA, in 1953, to many, mechanism was all triumphant.

It turned out, however, that it was too soon to write obituaries for organicism. It is true that understanding the way in which DNA functions demanded one think in terms of its parts, reductionism; but, many phenomena, most particularly the growth and development of organisms, seemed still to demand a more integrated understanding, holism. Today there is a lively, often bitter, divide among biologists over this division.

The move from reductionism

A variety of developments have contributed to recent moves in biology away from the reductionism that sometimes accompanies molecular biology, cell biology and genetics. One such development has been contemporary understandings of inheritance which, rather than simply explaining the appearance of organisms, their phenotypes, in terms of their genes, recognize that genes themselves interact and are sensitive to triggers from the environment that can switch them on or off. The interface between evolutionary and developmental biology (‘Evo-Devo’) has perhaps been at the epicenter of the New Biology (sticking with this term for the moment), but there are other important developments too. Ecology recognizes the significance for each species of its interactions with other species.

More generally, systems biology – meaning that the level of analysis is the system as a whole (e.g., an entire cell or an ecosystem) rather than

focusing only on its separated components – recognizes that there are many biological phenomena that cannot be adequately understood in terms of reductionist explanations, and is developing mathematical modeling in attempts to capture the complex processes involved.

These are no longer points of deep controversy within the academic biology community. Although, of course, there are localized areas of dispute, as with any science in the process of developing new knowledge, by and large, these points are widely accepted, and are guiding current research. A new more systemic, organismal biology *is* gaining ground (Watts & Reiss 2017). However, controversy remains within academic biology and outside of academia, the debate between mechanism/reductionism and organicism/holism is as raucous as it ever was.

Organicism reconsidered

In his *Metaphysics*, Aristotle said “the totality is not, as it were, a mere heap, but the whole is something besides the parts” (Book VIII, 1045a.8–10; in Barnes 1984). It is this insight that lies behind the so-called philosophy of ‘holism’ or ‘organicism’, namely that one cannot rest content with a purely reductionistic approach to understanding – particularly the understanding of organisms – but must in some sense look at the whole or the entire body, be this an individual organism or a collection like a population, species, or even a whole ecosystem. Another popular term is ‘emergence’, meaning that from the parts considered together new overall properties appear.

An eloquent passage that brings together aspects of both organicism and emergence is found in the writings of John Stuart Mill:

All organised bodies are composed of parts, similar to those composing inorganic nature, and which have even themselves existed in an inorganic state; but the phenomena of life, which result from the juxtaposition of those parts in a certain manner, bear no analogy to any of the effects which would be produced by the action of the component substances considered as mere physical agents. To whatever degree we might imagine our knowledge of the properties of the several ingredients of a living body to be extended and perfected, it is certain that no mere summing

up of the separate actions of those elements will ever amount to the action of the living body itself. (Mill 1843/1974, Book III, Ch. 6, §1)

In the Anglophone world, with the coming of genetics and then of molecular biology, it looked as if reductionism-mechanism had triumphed. Richard Dawkins’ *The Selfish Gene* (1976) seemed to be the apotheosis of that philosophy, with the behavior of individual organisms ‘explained’ by the (metaphorical) unconscious urge of their constituent genes to spread at all costs. But the rival organicist philosophy has proved a sturdy plant. In the world of evolution, the eminent population geneticist Sewall Wright (who for many years worshipped with the Unitarians) was always sympathetic to holism.

A few years later, a number of scholars, notably Richard Lewontin at Harvard, argued for a more holistic philosophy, first in their more scientific works like Lewontin’s *The Genetic Basis of Evolutionary Change* (1974), and then in more general writings like Lewontin’s *Biology as Ideology: The Doctrine of DNA* (1991), where those espousing a reductionistic account of biology are excoriated as naïve and ill-informed.

In paleontology, Stephen Jay Gould argued at length for a more Germanic, organicist view of organisms if we are to understand the diversity of life, first in a massive historical overview, *Ontogeny and Phylogeny* (1977), and then in numerous more scientifically directed publications, like ‘Darwinism and the expansion of evolutionary theory’ (1982).

Development and Emergence

Inheritance segues into the topic of development. From the time of Aristotle, the remarkable phenomenon of development has lent itself to emergent interpretations, as a whole organism apparently miraculously (or ‘bewitchingly’) emerges from seemingly undifferentiated matter. The *Naturphilosophen* (the German Romantics) were particularly interested in this, and embryology became a science of great significance. As Richards notes in his book on Haeckel (2008), development was embedded in Haeckel’s thinking, not the least because of his championing of the so-called biogenetic law – ontogeny (development of an individual from

single cell to adult) recapitulates phylogeny (the history of the evolution of species).

In the twentieth century, with the coming of genetics, development rather fell by the wayside as organisms were treated something like sausage machines – genes and raw materials in at one end, organisms emerging at the other end. Even embryologists, like Gavin de Beer (1940), wrote this way to some extent. However, some pushed the significance of embryology in a major way, linking it to a more organicist view of life.

Noteworthy were the already mentioned Stephen Jay Gould (1977) and, most particularly, the physician-turned-biologist, very deeply committed to computer programming, Stuart Kauffman (1993, 1995, 2008). Both of these scientists felt that an emergentist philosophy was necessary for a full understanding of the workings of life.

Then came the full-flowering of molecular biology with its major insights into the functioning of genes – from DNA to RNA to amino acids to proteins, and so on up the chain. Advances in techniques used in molecular and cell biology, such as proteomics (in which increasingly automated approaches are used to study the entire set of proteins produced by a cell or other system), and bioinformatics and computational biology (where software is used to try to make sense of the vast amount of biological information that is increasingly available about organisms), gave added impetus to the hope that by studying the constituents of organisms in more detail we would be able to understand them.

However, it soon became obvious – and if it was not obvious then major projects like the [Human Genome Project](#) made it so – that growth is a matter of organization as much as materials, and an emergentist approach was nigh mandatory. This was made clear by the scientists themselves, for instance Sean Carroll in *Endless Forms Most Beautiful: The New Science of Evo Devo* (2005) and plant biologist Ottoline Leyser (Leyser & Wiseman 2020), and in those reflecting on the science, for instance Scott Gilbert (2006). More generally, perspectives tied this thinking to emergentist areas elsewhere in science, for instance in physics in *Complexity and the Arrow of Time* (Lineweaver et al. 2013).

Ecology

Ecology and environmental issues generally have always attracted those with emergentist leanings. This is hardly surprising because, as historian Gregory Mitman (1992) documented, ecology does push one towards thinking at the macro, even the mega, level. In addition, historical factors are significant for understanding the present-day distribution of organisms. On the one hand, much ecological thinking has been rooted in the ‘balance of nature’ doctrine. Although this had pagan origins, it was taken over by Christian thinkers and pushed people to think holistically.

Later ecological thinkers, much influenced by G. Evelyn Hutchinson (1948), were more inclined to mechanistic thinking – work on feedback systems in the Second World War was significant here – but some of Hutchinson’s most important followers, notably the Odum brothers, were very inclined to holistic thinking. In many cases, this subsequently connected to a sympathy for the brainchild of the English scientist James Lovelock, the Gaia hypothesis, the idea of the Earth as an organism.

It is noteworthy that Lovelock’s great supporter, Lynn Margulis, was always deeply committed to symbiosis. It is also noteworthy that the Gaia hypothesis is disliked both by scientists such as Richard Dawkins (1982), who think it insufficiently reductionistic, and by Evangelical Christians, who think it deifies the Creation (Van Dyke et al. 1996; Ruse 2013).

The philosophical issues surrounding holistic biology are more subtle than is sometimes appreciated. At the very least, the new more organismal biology seems to move away from a mode of explanation that assumes that higher level phenomena can be explained entirely in terms of lower-level ones. Instead, it moves towards a recognition of: (i) of the reality and importance of ‘emergence’ (that phenomena that are genuinely new can be seen at higher levels, follow their own laws and cannot be explained entirely in terms of lower level phenomena), and (ii) that biological explanations often need to be systemic, and to take into account the possibility that lower-level phenomena can be influenced by higher-level organismal factors and by functional context.

There are also issues about determinism to be explored. Epigenetics and other features of contemporary genetics mark a move away from a simplistic genetic determinism in which it is presumed that the phenotype simply follows from the genotype. Of course, that kind of genetic determinism never received much scientific support, existing more in the media rhetoric of a ‘gene for’ this or that, but it nonetheless has had and continues to have a powerful role in the popular (public and school) understanding of biology (Reiss et al. 2020).

Theology and Religious Belief

These developments in biology have implications for theology and religious belief. The strong reductionism of molecular biology has, in some people’s minds, fostered the idea that modern scientific biology is incompatible with religious faith. While that was never a view that stood up to critical examination, work by sociologists (e.g., Ecklund & Johnson 2021) shows it is quite widely accepted, particularly among atheists. The move away from strong reductionism in biology promises to remove what has been, for some people, an obstacle to religious faith, or at best something that sits uneasily with it. There has been fruitful engagement between theology and emergentism (e.g., Gregersen 2017).

We see similar scope for theology to engage with the current trend towards holistic biology. There are also constructive theological implications of the new biology. The systemic complexity of the new biology points to the inter-connectedness of creation in a way that finds a parallel in the religious vision of the unity of all things in God.

Issues about reductionism have been at the heart of work on the interface between science and theology. Philosophical reconciliations have been proposed, including the non-reductive physicalism of Warren Brown, Nancey Murphy and colleagues in *Whatever Happened to the Soul?* (1998), the emergentism of Philip Clayton in *Mind and Emergence* (2006), and elsewhere.

There is a degree of convergence to be explored between the sense of the inter-dependence within nature that emerges from the new biology, the mystical vision of the unity of all things, and the Christian conviction that all things cohere in

Christ. This is an approach with a long history, one reflected in fiction and the visual arts (William Blake, Samuel Palmer, Samuel Taylor Coleridge, David Jones and others) as well as in theology. The new biology also adds weight to the point often made by Arthur Peacocke, for example in *Paths from Science towards God: The End of all our Exploring* (2001), that there is ‘top-down’ causation as well as ‘bottom-up’ causation, and that wholes influence parts as well as parts giving rise to wholes.

In medicine, a more holistic biology lends strong support to the whole-person approach. To emphasize, we are not against the use of such techniques as molecular biology in medicine. Far from it, we welcome them. Our point is a different one, namely that the (often implicit) presumption made by many that such techniques render redundant consideration of other levels is erroneous, indeed positively harmful.

More recently, the advent of COVID-19 has clearly indicated that a successful response requires action at every level from the molecular biology used to identify new variants through to the regulatory and other measures taken at government level with regards to such diverse considerations as mandating masks and social distancing, and providing temporary economic support to individuals and businesses adversely affected by the pandemic. At the time of writing, one of the notable features of international comparisons is that many countries have done well at one or more of these levels but none has done well at all of them.

Both human health and the workings of the natural world are more complex than biologists’ models sometimes presume. We should therefore always be mindful that an approach that takes seriously a number of levels (from molecules, through individual organisms to organisms in ecosystems and beyond) is likely, though more complicated, ultimately to be more fruitful than one that focuses only on one or two of these levels.

We also need to remember that there are limits to deterministic predictions. These points do not mean that there is nothing that biology can predict, and, throughout, we try to steer a path between overly reductionist and overly holistic approaches.

Education

Finally, we note that the issues we are considering have implications for biology education, which takes place in a number of places and at various times throughout our lives. It happens in our families, in our schools and through such media as popular science books, internet posts, natural history museums, TV and radio. One of the most fundamental issues in biology education is whether one starts with basic scientific principles (e.g., food webs, nutrient cycling and energy flow in ecology; genetics and natural selection in evolution; cell biology in physiology) or with real-life instances (such as the effects of the extinction and re-introduction of wolves in Yellowstone Park; the evolution of the horse; the regulation of the beating of the heart). There are advantages and disadvantages with either approach and there is much to be said for learners of biology coming to appreciate that both bottom-up (reductionist) and top-down (more holistic) approaches can provide us with important ways of understanding what is going on.

Equally, the various metaphors we explore for understanding biological systems each have their place. There is, for example, value in seeing organisms as the product of a natural selection that is blind, selfish and allows for no meaning. Indeed, such an understanding of what it is to be human can help strip away layers of flabby self-congratulation. At the same time, there is value in seeing organisms as entities with purpose, a purpose that started, evolutionarily, simply with leaving copies in succeeding generations, and over time has led to organisms with varying degrees of self-awareness, including to humans capable of appreciating beauty, seeking truth and striving to be good.

It may, therefore, not be possible to find a single unified framework for biological explanations that commands universal agreement. What we are clear about, though, is that particularly in the policy implications of biology, there is real danger from too great an emphasis on either mechanism/reductionism or organicism/holism. We need, more than ever, policy to draw on the best of biology and to be sensitive to the ways such knowledge is employed.

The above observations are all elaborated in our book *The New Biology: A Battle between Mechanism and Organicism* (Harvard University Press, 2023)

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Invitation to Submit Opinion Piece

In order to make better educational use of the wide geographical and disciplinary reach of this *HPS&ST Note*, 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 editor. 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 Note.

They will be archived, and downloadable, in the OPINION folder at the HPS&ST web site [HERE](#):

Varia

- HPS&ST books, downloadable files [HERE](#)
- *Science & Education* Open Access articles (387). [HERE](#)
- ,Taking fishers' knowledge and its implications to fisheries policy seriously' *Ecology & Society* [HERE](#)

This paper moves from an investigation on epistemological diversity, by working with fishers on how they explain and represent the world, to social engagement with the political issue of how their own epistemological and ontological perspectives are silenced in decision making that affect their lives.

See also *Ethnobiology and Conservation* article (in Portuguese) [HERE](#)

- The 2023 IHPST-LA conference will be held in Porto Alegre – Brazil (August 9-11), and its theme will be HPS&ST in times of science-denial. Information about the event (dates, work submission, costs) are already available at [HERE](#)

XVII Congress on Logic, Methodology, and Philosophy of Science and Technology (CLMPST 2023)

Science & Values in an Uncertain World

Buenos Aires, Argentina, 24–29 July 2023.

This will be the first CLMPST congress held in the southern hemisphere. These congresses have been organised since its first instalment, held at Stanford University in 1960, by the *Division of Logic, Methodology and Philosophy of Science and Technology of the International Union for History and Philosophy of Science and Technology* (DLMPST/IUHPST), the global voice for logic and philosophy of science and technology.

The members of the DLMPST represent the national research communities of 38 countries

from all continents and twelve international research organisations. For many decades, our congresses were mostly organised in Europe and North America, not reflecting the truly global nature of the logic and philosophy of science community. We are very happy to see that CLMPST 2023 will break this pattern by highlighting the important role of the southern hemisphere for our field.

The academic world in 2023 is a very different place than it was when the congress was in Prague in 2019. Some of the themes that were central in 2019 remain as acute as ever such as the rising danger of science denialism and disinformation; but the global Covid pandemic that hit the world in 2020, leading to an extensive public debate about the way scientific knowledge is created, the role of values in scientific research, the interface between science and policy decisions, the robustness of scientific knowledge, the role of scientific models for predictions, and in general, decision-making under uncertainty. Logic and philosophy of science and technology are central for all of these topics. Therefore, it is most fitting that the congress in Buenos Aires will be held under the theme *Science and Values in an Uncertain World*.

The large number of submissions of presentations and symposia to CLMPST XVII should guarantee that the whole community is represented at the congress and that it covers this complex theme from a variety of different viewpoints. In addition to submitted presentations and symposia, DLMPST will continue to highlight the links of our fields to the wider global communities in science and the humanities by special symposia.

Continuing a tradition going back to the congresses in Helsinki (2015) and Prague (2019), we aim to have jointly organised special symposia with our mother organisations, the *International Science Council (ISC)* and the *Conseil International de Philosophie et des Sciences Humaines (CIPSH)* on topics where the input of logicians and philosophers of science and technology can impact global science and humanities policy.

Nancy Cartwright (President)
Benedikt Löwe (Secretary-General)

Plenary speakers: [Philip Kitcher](#), [Helen Longino](#), [Itala d'Ottaviano](#)

Invited speakers: Maria Caamaño, Matteo Colombo, David Danks, Yasuo Deguchi, John Dupré, Catarina Dutilh Novaes, Juliet Floyd, Maya Goldenberg, Erich Grädel, Décio Krause, Fenrong Liu, Paolo Mancosu, Alfredo Marcos, Nikolaj Jang Lee Linding Pedersen, Elaine Pimentel, Anya Plutynski, Paula Quinon, Giuseppe Rosolini, Federica Russo, Daniel Steel, Josefa Toribio, Peter Vickers, Sylvia Wenmackers and Leandro Vigners

Full congress details: [HERE](#)

American Chemical Society, History Award

The recipients of the 2023 Joseph B. Lambert HIST Award of the History of Chemistry (HIST) Division of the History of Chemistry of the American Chemical Society are Professor Geoffrey Rayner-Canham and Professor Marelene Rayner-Canham.

The HIST Award is for outstanding achievement in the history of chemistry and is international in scope. This award is the successor to the Dexter Award (1956-2001) and the Sydney M. Edelstein Award (2002-2009), also administered by the Division of the History of Chemistry (HIST) of the American Chemical Society.

The HIST Award consists of an engraved plaque and a check for \$1500, and will be presented to the Rayner-Canhams at the fall national meeting of the American Chemical Society in San Francisco in August, 2023. Additional information about the award can be found on the HIST [HERE](#)

Recent HPS&ST Research Articles

International Studies in the Philosophy of Science (Vol. 35, 2022)

Special issue: Feyerabend and the Philosophy of Physics, Part I

Editors: Jamie Shaw and Michael T. Stuart
Chi, M., Zheng, C. & He, P. (2023). Reframing Chemical Thinking Through the Lens of

Disciplinary Essential Questions and Perspectives for Teaching and Learning Chemistry. *Sci & Educ*, 1-26.
<https://doi.org/10.1007/s11191-023-00438-3>

Leber, C. & Spenninger, C. (2023) The many histories of the conflict thesis: the science vs. religion narrative in nineteenth-century Germany, *Annals of Science*, 1-29
<https://doi.org/10.1080/00033790.2023.2187086>

Liu, S., Liu, C., Samarapungavan, A. et al. (2023). A Framework for Evidentiary Reasoning in Biology: Insights from Laboratory Courses Focused on Evolutionary Tree-thinking. *Sci & Educ*, 1-32. <https://doi.org/10.1007/s11191-023-00435-6>

Malaterre, C., Javaux, E.J., & López-García; P. (2023). Misconceptions in Science. *Perspectives on Science*, 1-40;
https://doi.org/10.1162/posc_a_00590

Satanassi, S., Branchetti, L., Fantini, P. et al. (2023). Exploring the boundaries in an interdisciplinary context through the Family Resemblance Approach: The Dialogue Between Physics and Mathematics. *Sci & Educ*, 1-34. <https://doi.org/10.1007/s11191-023-00439-2>

Soysal, Y. (2023). Developing a Phenomenographic Argument for Science Teacher Educators' Conceptions Regarding Question-Asking. *Sci & Educ*, 1-28.
<https://doi.org/10.1007/s11191-023-00440-9>

Strat, T.T.S., Henriksen, E. K., & Jegstad, K. M. (2023) Inquiry-based science education in science teacher education: a systematic review. *Studies in Science Education*, 1-59.
<https://doi.org/10.1080/03057267.2023.2207148>

Witucki, A., Beane, W., Pleasants, B. et al. (2023). An Explicit and Reflective Approach to Teaching Nature of Science in a Course-Based Undergraduate Research Experience. *Sci & Educ*, 1-29. <https://doi.org/10.1007/s11191-023-00441-8>

Recent HPS&ST Related Books

Desmond, D., & Ramsey, G. (Eds.) (2023) *Human Success: Evolutionary Origins and Ethical Implications*. Oxford, UK: Oxford University Press. ISBN: 9780190096168

“*Human Success: Evolutionary Origins and Ethical Implications* examines human success from a variety of disciplinary perspectives, with contributions from leading paleobiologists, anthropologists, geologists, philosophers of science, and ethicists. It considers how the human species grew in success-linked metrics, such as population size and geographical range, and how it came to dominate ecological systems across the globe. It probes whether the consequences of that dominance, such as human-driven climate change and the destruction of biodiversity, mandate a rethinking of the meaning of human success. The essays in this book urge us to reflect on what has led to our apparent evolutionary success—and, most importantly, what this success implies for the future of our species.” (From the Publishers)

More information [HERE](#)

Domski, M. (2023). *Newton's Third Rule and the Experimental Argument for Universal Gravity*. Abingdon, UK: Routledge. ISBN: 9781032026220

“This book provides a reading of Newton’s argument for universal gravity that is focused on the evidence-based, “experimental” reasoning that Newton associates with his program of experimental philosophy. It highlights the richness and complexity of the *Principia* and also draws important lessons about how to situate Newton in his natural philosophical context.

“The book has two primary objectives. First, it defends a novel interpretation of the third of Newton’s four Rules for the Study of Natural Philosophy – what the author terms the Two-Set Reading of Rule 3. Second, it argues that this novel interpretation of Rule 3 sheds additional light on the differences between Newton’s experimental philosophy and Descartes’s “hypothetical philosophy,” and that it also illuminates how the practice of experimental philosophy allowed Newton to make a universal force of gravity the centerpiece of his explanation of the system of the world.

“*Newton’s Third Rule and the Experimental Argument for Universal Gravity* will be of interest to researchers and advanced students working on Newton’s natural philosophy, early modern philosophy, and the history of science.”

More information [HERE](#)

Donald, A. (2023). *Not Just for the Boys: Why We Need More Women in Science*. Oxford, UK: Oxford University Press. ISBN: 9780192893406

“*Not Just For the Boys* looks back at how society has historically excluded women from the scientific sphere and discourse, what progress has been made, and how more is still needed. Athene Donald, herself a distinguished physicist, explores societal expectations during both childhood and working life using evidence of the systemic disadvantages women operate under, from the developing science of how our brains are—and more importantly aren’t—gendered, to social science evidence around attitudes towards girls and women doing science.

“It also discusses how science is done in practice, in order to dispel common myths: for example, the perception that science is not creative, or that it is carried out by a lone genius in an ivory tower, myths that can be very off-putting to many sections of the population. A better appreciation of the collaborative, creative, and multi-disciplinary nature of science is likely to lead to its appeal to a far wider swathe of people, especially women.

This book examines the modern way of working in scientific research, and how gender bias operates in various ways within it, drawing on the voices of leading women in science describing their feelings and experiences. It argues the moral and business case for greater diversity in modern research, the better to improve science and tackle the great challenges we face today.” (From the Publisher)

More information [HERE](#)

Flannery, M.C. (2023). *In the Herbarium: The Hidden World of Collecting and Preserving Plants*. New Haven, CT: Yale University Press. ISBN: 9780300247916

“Collections of preserved plant specimens, known as herbaria, have existed for nearly five centuries. These pressed and labeled plants have been essential resources for scientists, allowing them to describe and differentiate species and to document and research plant changes and biodiversity over time—including changes related to climate.

“Maura C. Flannery tells the history of herbaria, from the earliest collections belonging to such advocates of the technique as sixteenth-century botanist Luca Ghini, to the collections of poets, politicians, and painters, and to the digitization of these precious specimens today. She charts the growth of herbaria during the Age of Exploration, the development of classification systems to organize the collections, and herbaria’s indispensable role in the tracking of climate change and molecular evolution. Herbaria also have historical, aesthetic, cultural, and ethnobotanical value—these preserved plants can be linked to the Indigenous peoples who used them, the collectors who sought them out, and the scientists who studied them.

“This book testifies to the central role of herbaria in the history of plant study and to their continued value, not only to biologists but to entirely new users as well: gardeners, artists, students, and citizen-scientists.” (From the Publishers)

More information [HERE](#)

García-Sancho, M. & Lowe, J. (2023). *A History of Genomics across Species, Communities and Projects*. UK: Palgrave Macmillan. ISBN:978-3-031-06129-5 [Open Access]

“This open access book offers a comprehensive overview of the history of genomics across three different species and four decades, from the 1980s to the recent past. It takes an inclusive approach in order to capture not only the international initiatives to map and sequence the genomes of various organisms,

but also the work of smaller-scale institutions engaged in the mapping and sequencing of yeast, human and pig DNA. In doing so, the authors expand the historiographical lens of genomics from a focus on large-scale projects to other forms of organisation. They show how practices such as genome mapping, sequence assembly and annotation are as essential as DNA sequencing in the history of genomics, and argue that existing depictions of genomics are too closely associated with the Human Genome Project.

“Exploring the use of genomic tools by biochemists, cell biologists, and medical and agriculturally-oriented geneticists, this book portrays the history of genomics as inseparably entangled with the day-to-day practices and objectives of these communities. The authors also uncover often forgotten actors such as the European Commission, a crucial funder and forger of collaborative networks undertaking genomic projects. In examining historical trajectories across species, communities and projects, the book provides new insights on genomics, its dramatic expansion during the late twentieth-century and its developments in the twenty-first century. Offering the first extensive critical examination of the nature and historicity of reference genomes, this book demonstrates how their affordances and limitations are shaped by the involvement or absence of particular communities in their production. (From the Publisher)

More information [HERE](#)

Hjertholm, P. (2023). *A History of the Cultural Travels of Energy: From Aristotle to the OED*. Abingdon, UK: Routledge. ISBN: 9781032344454

“This book offers a cultural history of the travels of energy in the English language, from its origins in Aristotle’s ontology, where it referred to the activity-of-being, through its English usage as a way to speak about the inherent nature of things, to its adoption as a name for the mechanics of motion (capacity for work).

“A distinguished literature deals with energy as matter of science history. But this literature

fails to adequately answer a historical question about the rise of the science of energy: How did the commonplace word ‘energy’ end up becoming a concept in science? This account differs in important ways from the history of the word in the *Oxford English Dictionary*. Discovering the origins and early travels of energy is essential for understanding how the word was borrowed into physics, and therefore a cultural history of energy is a necessary companion to the science history of the term. It is important that modern scholars in a variety of fields be aware that energy did not always have a scientific content. The absence of that awareness can lead to, have led to, anachronistic interpretations of energy in historical sources from before the 1860s.

“*A History of the Cultural Travels of Energy* will be useful for those interested in the history of science and technology, cultural history, and linguistics.” (From the Publishers)

More information [HERE](#)

Lorusso, L, & Winther, R. G. (Eds.) (2023). *Remapping Race in a Global Context*. Abingdon, UK: Routledge. ISBN: 9781032152707

“Investigating the reality and significance of racial categories, *Remapping Race in a Global Context* examines the role of race in human genomics, biomedicine, and struggles for social justice around the world.

“In this book, biologists, anthropologists, historians, and philosophers inspect critical questions around the biological reality of race and how it has been understood in different national and regional contexts. The essays also examine debates on the usefulness of race in medical and epidemiological studies. With a focus on the fields of human genomics and biomedicine, this book presents critical findings on whether and how race might be ethically and epistemologically justified in our age of personalized medicine, mass surveillance, and biased algorithms.

“The book will be of interest to researchers and advanced students in a broad range of scientific and humanistic disciplines, including biology,

anthropology, geography, philosophy, cultural or community studies, critical race theory, and any field concerned with the deep racial dividing lines running across societies globally.” (From the Publishers)

More information [HERE](#)

Meyns, C. (Ed.) (2023). *Information and the History of Philosophy*. Abingdon, UK: Routledge. ISBN: 9780367755645

“In recent years the philosophy of information has emerged as an important area of research in philosophy. However, until now information’s philosophical history has been largely overlooked.

“*Information and the History of Philosophy* is the first comprehensive investigation of the history of philosophical questions around information, including work from before the Common Era to the twenty-first century. It covers scientific and technology-centred notions of information, views of human information processing, as well as socio-political topics such as the control and use of information in societies.

“Organised into five parts, 19 chapters by an international team of contributors cover the following topics and more:

- Information before 500 CE, including ancient Chinese, Greek and Roman approaches to information;
- Early theories of information processing, sources of information and cognition;
- Information and computation in Leibniz, visualised scientific information, copyright and social reform;
- The nineteenth century, including biological information, knowledge economies and information’s role in empire and eugenics;
- Recent and contemporary philosophy of information, including racialised information, Shannon information and the very idea of an information revolution.

“*Information and the History of Philosophy* is a landmark publication in this emerging field. As such, it is essential reading for students and researchers in the history of philosophy, philosophy of science and technology, and library and information studies. It is also a valuable resource for those working in subjects such as the history of science, media and communication studies and intellectual history.” (From the Publishers)

More information [HERE](#)

Perillan, J. (2023). *Science Between Myth and History. The Quest for Common Ground and Its Importance for Scientific Purpose* [New in Paperback]. Oxford, UK: Oxford University Press. ISBN: 9780198883609

“Scientists regularly employ historical narrative as a rhetorical tool in their communication of science, yet there's been little reflection on its effects within scientific communities and beyond. *Science Between Myth and History* begins to unravel these threads of influence. The stories scientists tell are not just poorly researched scholarly histories, they are myth-histories, a chimeric genre that bridges distinct narrative modes. This study goes beyond polarizing questions about who owns the history of science and establishes a common ground from which to better understand the messy and lasting legacy of the stories scientists tell. It aims to stimulate vigorous conversation among science practitioners, scholars, and communicators.

“Scientific myth-histories undoubtedly deliver value, coherence, and inspiration to their communities. They are tools used to broker scientific consensus, resolve controversies, and navigate power dynamics. Yet beyond the explicit intent and rationale behind their use, these narratives tend to have great rhetorical power and social agency that bear unintended consequences.

Science Between Myth and History unpacks the concept of myth-history and explores four case studies in which scientist storytellers use their narratives to teach, build consensus, and inform the broader public. From geo-politically informed quantum interpretation debates to

high-stakes gene-editing patent disputes, these case studies illustrate the implications of storytelling in science.

“*Science Between Myth and History* calls on scientists not to eschew writing about their history, but to take more account of the stories they tell and the image of science they project. In this time of eroding common ground, when many find themselves dependent on, yet distrustful of scientific research, this book interrogates the effects of mismatched, dissonant portraits of science.” (From the Publisher)

More information [HERE](#)

Ro, S-H. (2023) *Neo-Confucianism and Science in Korea: Humanity and Nature, 1706-1814*. Abingdon, UK: Routledge. ISBN: 9780367701871

“Historians of late premodern Korea have tended to regard it as a hermit kingdom, isolated from its neighbours and the wider world. In fact, as Ro argues in this book, Korean intellectuals were heavily influenced by both Chinese Neo-Confucianism and the European Enlightenment in the late 18th and 19th centuries.

“In the late Choson period the regime felt threatened by the new, more empirical, approaches to knowledge emerging from both the East and the West. For this reason many Korean intellectuals felt it necessary to work in the shadows and formed secret societies for the study of nature. Because of the secrecy of these societies, much of their work has remained unknown even in Korea until recent years. Ho looks at the work of these intellectuals and analyses the impact their thinking and experimentation had on knowledge production in Korea.

“A fascinating insight into the largely overlooked story of how globalization affected intellectual life in Korea before the 20th century. This book will be of great interest to students and researchers of Korean history and of Asian intellectual history more broadly.” (From the Publishers)

More information [HERE](#)

Sojka, M. M. (2023). *A Heated Debate: Meta-Theoretical Studies on Current Climate Research and Public Understanding of Science*. New York, NY: Columbia University Press.

“Ever since climate change has been identified as one of the most significant challenges of humanity, climate change deniers have widely tried to discredit the work of scientists. To show how these processes work, Maria M. Sojka examines three ideals about how science should operate. These ideals concern the understanding of uncertainties, the relationship between models and data, and the role of values in science. Their widespread presence in the public understanding of science makes it easy for political and industrial stakeholders to undermine inconvenient research. To address this issue, Sojka analyses the importance of tacit knowledge in scientific practice and the question of what defines an expert.” (From the Publishers)

More information [HERE](#)

Statman, A. (2023). *A Global Enlightenment: Western Progress and Chinese Science*. Chicago, IL: The University of Chicago Press. ISBN: 9780226825748

“The Enlightenment gave rise not only to new ideas of progress but consequential debates about them. Did distant times and places have anything to teach the here and now? Voltaire could believe that they did; Hegel was convinced that they did not. Early philosophes praised Chinese philosophy as an enduring model of reason. Later philosophes rejected it as stuck in the past. Seeking to vindicate ancient knowledge, a group of French statesmen and savants began a conversation with the last great scholar of the Jesuit mission to China. Together, they drew from Chinese learning to challenge the emerging concept of Western advancement.

“*A Global Enlightenment* traces this overlooked exchange between China and the West to make compelling claims about the history of progress, notions of European

exceptionalism, and European engagement with Chinese science. To tell this story, Alexander Statman focuses on a group of thinkers he terms “orphans of the Enlightenment,” intellectuals who embraced many of their contemporaries’ ideals but valued ancient wisdom. They studied astronomical records, gas balloons, electrical machines, yin-yang cosmology, animal magnetism, and Daoist medicine. And their inquiries helped establish a new approach to the global history of science.

“Rich with new archival research and fascinating anecdotes, *A Global Enlightenment* deconstructs two common assumptions about the early to late modern period. Though historians have held that the idea of a mysterious and inscrutable East was inherent in Enlightenment progress theory, Statman argues that it was the orphans of the Enlightenment who put it there: by identifying China as a source of ancient wisdom, they turned it into a foil for scientific development. But while historical consensus supposes that non-Western ideas were banished from European thought over the course of the Enlightenment, Statman finds that Europeans became more interested in Chinese science—as a precursor, then as an antithesis, and finally as an alternative to modernity.” (From the Publishers)

More information [HERE](#)

Authors of HPS&ST-related papers and books are invited to bring them to attention of the Newsletter’s assistant editor Paulo Maurício (paulo.asterix@gmail.com) for inclusion in these sections.

Isis Journal: Most Read Articles

Most read articles within the past 12 months:

[Ulinka Rublack. The Astronomer and the Witch: Johannes Kepler’s Fight for His Mother.](#)

- [Hannah Murphy](#)

[The History of Medicine and the Scientific Revolution](#)

- [By Harold J. Cook](#)

[Introduction: The Humanities and the Sciences](#)

- [Rens Bod](#) and [Julia Kursell](#)

[Science and Orthodox Christianity: An Overview](#)

- [Efthymios Nicolaidis](#),
- [Eudoxie Delli](#),
- [Nikolaos Livanos](#),
- [Kostas Tampakis](#), and
- [George Vlahakis](#)

2023 NARST Annual International Conference, April 18-21, Chicago.

The US National Association for Research in Science Teaching conference ([HERE](#)) has for many years had a strand (#13) dedicated to ‘History, Philosophy, Sociology, and Nature of Science’.

Strand 13 sessions at the Chicago conference are:

Developing Teachers’ NOS Views

Preservice SPED Teachers’ Nature of Science Conceptions and Lesson Planning

[Mila Rosa L Carden](#)¹, [Bridget K Mulvey](#)², [Laura Corr](#)³

¹ University of North Texas, Denton, Texas, USA. ² Kent State University, Kent, Ohio, USA. ³ Arizona State University, Tempe, Arizona, USA

Exploring the view of NOS and PCK of NOS in a group of biology teachers.

[Carolina Parraguez](#), [Paola Nuñez](#), [Hernan Cofre](#)
Universidad Catolica de Valparaiso, Valparaiso, Chile

Leveraging a History and Philosophy of Science Course to Develop PCK for Teaching NOS

[Khadija E Fouad](#), [Alan J King](#), [Matthew Lance](#)
Appalachian State University, Boone, NC, USA

Pre-Service Teachers' Scientific Content Knowledge and Nature of Science Views after a Socioscientific Issues-based Unit

Savannah R Graham, Hayat Hokayem
Texas Christian University, Fort Worth, Texas, USA

Issues and Trends in NOS Research

Review of the Research on Teaching, Learning, and Assessment of Nature of Science: 2013–2021

Fouad Abd-El-Khalick¹, Norman G. Lederman²
¹ University of North Carolina at Chapel Hill, Chapel Hill, NC, USA. ² Illinois Institute of Technology, Chicago, IL, USA

A Systematic Review of NOS Research in Science Education: Varieties of Scholarship, Trends and Considerations

Noushin Nouri¹, William F. McComas², Maryam Saberi³
¹ University of Texas Rio Grande Valley, Edinburg, Tx, USA. ² University of Arkansas, Fayetteville, Arkansas, USA. ³ Ministry of education, Ministry of education, Iran, Islamic Republic of

Synthesis of Variations in Nature of Science (NOS) Among Adult Learners

Joseph V. Watts, Kent Crippen
University of Florida, Gainesville, Florida, USA

Nature of Science Assessment Efforts: Interplay Between Contemporary Frameworks and Curricular Tensions

Alex J Sobotka, Michael P Clough
Texas A&M University, College Station, TX, USA

The role of nature of science in tackling societal emergencies: An international perspective

Symposium: Wonyong Park¹, Hagop Yacoubian², Alison Cullinane³, Haira Gandolfi⁴, Noemi Waight⁵, Shakhnoza Kayumova⁶, Jennifer Tripp⁵, Feyza Achilova⁷, Andreia Guerra⁸, Cristiano Moura⁸

¹ University of Southampton, United Kingdom. ² American University of Armenia, Armenia. ³ University of Edinburgh, United Kingdom. ⁴ University of Cambridge, United Kingdom. ⁵ University at Buffalo, USA. ⁶ University of Massachusetts, Dartmouth, USA. ⁷ Dartmouth High School, USA. ⁸ Centro Federal de Educação Tecnológica Celso Suckow da Fonseca, Brazil

New Contexts for NOS Teaching and Learning

Cognitive and Epistemic Account of Nature of Engineering: Implications for Science Education in Schools

Miri Barak¹, Tamar Ginzburg¹, Sibel Erduran²
¹ Technion, Haifa, Israel. ² University of Oxford, Oxford, United Kingdom

Development of chemical experiments for the explicit reflection of Nature of Science

Janne-Marie Bothor, David-Samuel Di Fuccia
University of Kassel, Kassel, Germany

E-VNOS: Analysis Framework for Characterizing Enacted Views of the Nature of Science in Student Theses

Annelies Pieterman-Bos^{1,2}, Marc H.W. van Mil¹
¹ University Medical Center Utrecht, Utrecht, Netherlands. ² Utrecht University, Utrecht, Netherlands

Examining Middle School Students' Nature of Science Views

Dilara Goren, Ebru Kaya
Boğaziçi University, Istanbul, Turkey

A new focus for achieving scientific literacy

Symposium: Renee Schwartz¹, Judith Lederman², Valarie Akerson³, Selina Bartels⁴, Patrick Enderle¹, Irene Neumann⁵, Kerstin Kremer⁶, Frauke Voilte⁷
¹ Georgia State University, Atlanta, Georgia, USA. ² Illinois Institute of Technology, Chicago, Illinois, USA. ³ Indiana University, Bloomington, Indiana, USA. ⁴ Valparaiso University, Valparaiso, Indiana, USA. ⁵ IPN -Leibniz Institute for Science and Mathematics Education, Kiel,

Germany. ⁶ Justus-Liebig-University Giessen,

Germany. ⁷ Leibniz Universität Hannover,

Germany

Ninth Norwegian Conference on History of Science, 29 November – 2 December 2023, Trondheim, Norway

The conference is being held at the Norwegian University of Science and Technology. The organizers invite papers on any aspect of the history of science, technology or medicine and particularly welcome papers engaging with the issue of anniversaries, broadly defined.



Historians can be ambivalent about anniversaries. On the one hand, they offer an opportunity to reassess and mobilize interest in topics that otherwise would not receive widespread attention. Anniversaries are an occasion to reflect on the enduring importance of history to the contemporary world and are frequently used to argue for funding specific projects. On the other hand, not all topics of historical interest have anniversaries; anniversaries may isolate topics from their historical context or facilitate an arbitrary juxtaposition of past and present; and they may foster expectations that the past must be celebrated rather than critically analyzed.

Such topics are fundamental to historical inquiry, prompting reflection on the relationships between scholars and audiences, between research and social context – including teaching – and between events of the past and the imperatives of the present.

Deadline for submissions June 1.

For more information, see [conference webpage](#)

Contact person: Annette Lykknes
(annette.lykknes@ntnu.no)

PhD Award in HPS&ST

We welcome publishing details of all PhDs awarded in the field of HPS&ST. Send details (name, title, abstract, supervisor, web link) to editor: m.matthews@unsw.edu.au

Coming HPS&ST Related Conferences

May 23-24, 2023, Ernst Mach Workshop: ‘On Causation’, Prague

Details: [HERE](#)

June 8-9, 2023, 10th International Philosophy of Medicine Roundtable, Bologna, Italy

Details [HERE](#)

June 9-11, 2023, Eighth Annual Conference on the History of Recent Social Science, Uppsala, Sweden

Details [HERE](#)

June 27-30, 2023, ASERA Annual Conference, Cains, Australia

Details [HERE](#)

July 4-7, 2023, European Society for the History of the Human Sciences, Rome conference

Details [HERE](#)

July 9-15, 2023, ISHPSSB biennial conference, Toronto, Canada.

Details [HERE](#)

July 24-29, 2023, 17th DLMPST Congress, University of Buenos Aires

Information: [HERE](#)

August 9-11, 2023, IHPST-LA regional conference, Porto Alegre, Brazil

Details [HERE](#)

August 14-18, 2023, International Committee for History of Technology, 50th Conference, Tallinn, Estonia

Details [HERE](#)

August 29-Sept.3, 2023, ESERA biennial conference, Cappadocia, Turkey

Details [HERE](#)

September 4-6, 2023, 3rd International Conference on History of Science and Education, Algrave, Portugal.

Details [Isilda Teixeira Rodrigues](#)

September 18-22, 2023, 42nd Scientific Instrument Symposium, Palermo, Italy

Details [HERE](#)

September 20-23, 2023, European Philosophy of Science Association (EPSA23), Belgrade, Serbia

Details [HERE](#)

November 9-12, 2023 History of Science Society (HSS), annual meeting, Portland OR.

Details [HERE](#)

November 29-December 2, 2023, 9th Norwegian Conference on the History of Science, Trondheim, Norway.

Details [HERE](#)

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

[ACS HIST](#) – American Chemical Society Division of the History of Chemistry

[GWMT](#) - Gesellschaft für Geschichte der Wissenschaften, der Medizin und der Technik
[ISHEASTME](#) – International Society for the History of East Asian History of Science Technology and Medicine

[EASE](#) - East-Asian Association for Science Education

[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

[BAHPS](#) - Baltic Association for the History and Philosophy of Science

[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 at: [HERE](#)

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

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