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International History, Philosophy and Science Teaching Group

NEWSLETTER

September 2008

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**1. *Science & Education* Latest Number (Volume 17, Nos.8-9)
“Social and Ethical Issues in Science Education”**

Volume 17, Numbers 8-9 of *Science & Education* has been published and mailed to subscribers.
Guest Editors: Dana Zeidler & Troy Sadler

DANA L. ZEIDLER & TROY D. SADLER / Social and Ethical Issues in Science Education: A
Prelude to Action

Social and Ethical Issues Emerging from the Interactions of Science and Society

VIRGINIE ALBE / Students' Positions and Considerations of Scientific Evidence about a
controversial socio-scientific issue

CORY FORBES & ELIZABETH A DAVIS / Exploring Preservice Elementary Teachers' Critique
and Adaptation of Socioscientific Curriculum Materials

RALPH LEVINSON / Controversial Socio-Scientific Issues: Promoting the Role of the Personal
Narrative Story

MARIA DEVELAKI / Socio-Ethical dimension of the Natural Sciences: Complex Problems of the
Age, Interdisciplinarity and the Contribution of Education

MICHAEL REISS / The Development, Implementation and Assessment of a Way of Teaching
about Social and Ethical Issues in a Science Course

SCOTT WEBSTER / How Science Education Further Enables a Values Education

NIKKI HANEGAN / Disconnections between Teacher Expectations and Student Confidence in
Bioethics

ERMINIA PEDRETTI, LARRY BENCZE, JIM HEWITT, ASHIFA JIVRAJ & LISA ROMKEY /
Promoting Issues-based STSE Perspectives in Science Teacher Education: Problems of Identity and
Ideology

Socio-ethical Dimensions of Science

MATTHEW WEINSTEIN / Captain America, Tuskegee, Belmont, and Righteous Guinea Pigs:
Considering Scientific Ethics through Official and Subaltern Perspectives

STEIN DANKERT KOLSTØ / Science Education for Democratic Citizenship through the Use of
the History of Science

Controversy Associated with Evolution Education

JASON BORENSTEIN / Textbook Stickers: A Reasonable Response to Evolution?

RONALD S. HERMANN / Evolution as a Controversial Issue: A Review of Instructional
Approaches

DAVID HILDEBRAND, KIMBERLY BILICA & JOHN CAPPS / Addressing Controversies in
Science Education: A Pragmatic Approach to Evolution Education

The above articles, and all published articles since Volume One, 1992, and all articles that are
currently accepted and ‘in print’, are available on the web via Springer’s journal site:

www.springer.com/journal/11191 .

Journal subscription (print version) can be effected at www.ihpst.org

2. IHPST Tenth International Conference, June 2009

The University of Notre Dame's HPS Graduate Program and Reilly Center for Science, Technology, and Values will host the 2009 Tenth biennial IHPST meeting June 24-28, 2009 on the Notre Dame campus in South Bend, Indiana. It will continue the IHPST tradition of sustained and serious research being discussed in a collegial and convivial atmosphere.

The Springer Lecture will be given by Robert T. Pennock who is an associate professor in the Lyman Briggs College and the Department of Philosophy and the Department of Computer Science at Michigan State University. He received his PhD in History and Philosophy of Science from the University of Pittsburgh in 1991. Pennock's research focuses on epistemic and ethical values as they relate to scientific methodology, and also on using the 'behaviour' of artificial life to examine processes of evolutionary change. He is the author of *Tower of Babel: The Evidence against the New Creationism* (MIT Press, 1999), which provides a critical analysis of the significant developments in the creationist movement in the 1990's, and editor of *Intelligent Design Creationism and Its Critics* (MIT Press, 2001).

Among Pennock's 2007 publications are articles on 'Investigating the Emergence of Phenotypic Plasticity in Evolving Digital Organisms', 'Learning Evolution and the Nature of Science using Evolutionary Computing and Artificial Life', 'Models, Simulations, Instantiations and Evidence: The Case of Digital Evolution', 'God of the Gaps: The Argument from Ignorance and the Limits of Methodological Naturalism' and 'Biology and Religion' the last in the *Cambridge Companion to Philosophy of Biology*.

Apart from scholarly pursuits, Pennock is a staunch defender of proper and sound science education. He was an expert witness in the critical Kitzmiller et al v. Dover Area School Board trial of 2005; he is president of Michigan Citizens for Science; and chair of the Education Committee of the Society for the Study of Evolution; he has long been on the Editorial Committee and a reviewer for *Science & Education*.

The submission date for conference proposals is Sunday March 15, 2009. Panel proposals on thematic topics are welcome; ideally planning for such panels should begin now.

Questions in advance for the formal call for papers can be sent to the conference chair, Don Howard, Philosophy Department, University of Notre Dame, (dhoward1@nd.edu).

3. Science & Education Journal Report

(a) Journal on the Web

The journal *Science & Education* is now available on the web at: <http://www.springerlink.com/> (then PUBLICATIONS, then S, then 'Science & Education'), or more directly at: www.springer.com/journal/11191 . Or the articles can be accessed directly at: <http://springerlink.metapress.com/content/1573-1901/>

All articles can be downloaded as pdf files for free if the individual's institution subscribes to the relevant Springer journal package; otherwise they can be downloaded for a fee.

Alternatively subscription renewals for printed journals and new subscriptions (USD100 pa, with discount for students, retired faculty and scholars from depressed economies), can be effected at the IHPST web site: www.ihpst.org

The Springer site is now linked to Google, and articles can be searched in Google by typing in author name and first words of title. This goes direct to the Springer site and the pdf file of the article.

Approximately 3,000 institutions around the world have subscribed to the on-line version of the journal, while many institutions have subscriptions to both print and on-line versions.

The on-line version is heavily used. In 2007 there were 37,593 article-downloads from the Springer site; this was a 60% increase over the 23,584 downloads in 2006. These figures make *Science & Education* one of the most utilised of all Springer education journals.

The web site provides many services to researchers:

- # The 'On Line First' section allows access to all accepted, forthcoming articles in the journal. As soon as an article is accepted for publication, a typeset pdf version of it is posted on the web and can be accessed by individual journal subscribers or by individuals whose institutions subscribe to a Springer package that includes '*Science & Education*'.
- # The Contents of each issue of the journal, back to Volume 1 Number 1 in 1992, are available. These can be downloaded by subscribers and individuals whose institutions subscribe to the journal. They are also available, at a cost, to non-subscribers.
- # Full details of the Editorial Board and Submission process are posted.

(b) Manuscript Submissions

Scholars can submit manuscripts in file form direct to the journal at:

www.editorialmanager.com/sced/

Thereafter they can check on its progress through the review process. Most submissions are reviewed by three senior scholars, usually involving a spread of educator, historian, philosopher or cognitive scientist. The submission site also has a guide to the journal's format and style conventions.

(c) Copyediting Assistance for Manuscripts from Non-English Authors

The journal publishes many works by scholars whose native language is not English. Copyediting of these papers is very time-consuming and assistance would be greatly appreciated. The papers would all be ones that have passed review and are in reasonable linguistic shape, but they do need refinement. Volunteers would be asked to copyedit no more than one paper per year.

If any folk are able to assist in this important task, please just send an email to the editor.

4. Darwinian Anniversary Year, 2009, a Journal Special Issue, Call for Papers

The year 2009 is a Darwinian double anniversary: 200 years since Darwin was born (12 February 1809) and 150 years since the publication of *On the Origin of Species* (24 November 1859). To celebrate the occasion a special multiple-issue of *Science & Education* will be published.

Researchers working on areas related to Darwinism and evolution education are invited to contribute to this special issue. Conceptual, theoretical, empirical or position-based manuscripts are welcome. Examples of topics may include (but are not limited to) the following:

<ul style="list-style-type: none"> • Darwinism in the history and philosophy of science • Darwin's methodology and theorizing • Historical treatments of <i>The Origin</i> • Darwinism and politics • Darwinism and religion • Current status of evolutionary theory • Public understanding and acceptance or rejection of evolution, especially in non-Western cultures • Evolutionary explanations 	<ul style="list-style-type: none"> • Evolution and teleology • Research in evolution education • Evolution and the Nature of Science • Creationism and Intelligent Design • Cognitive barriers in understanding evolution • Rationales and strategies for teaching evolution when it is controversial • The teaching of evolution in cultures where Darwinism is rejected • <i>Other appropriate topics</i>
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A number of prominent scholars are contributing invited essays. These include:

David Depew, History, University of Iowa: current historical studies of Darwinism.

Thomas Glick, History, Boston University: the comparative reception of Darwinism, with special attention to its reception in non-western countries.

Robert Pennock, Philosophy, Michigan State University: research relating to intelligent design and creationism

Michael Ruse, Philosophy, Florida State University: on Darwinism from a philosophical perspective.

Mike Smith, Medicine, Mercer University: contemporary science education research relating to the teaching and learning of evolution.

Paul Thagard, Philosophy and Psychology, University of Waterloo: cognitive and social impediments to acceptance of natural selection.

Submission Date: **December 31, 2008** Anticipated Publication Date: **November, 2009**

Manuscripts, with Abstract, should be submitted for review direct to:

www.editorialmanager.com/sced/

Notification of intention to submit and subject matter is appreciated as it assists coordination and planning of the issue. Questions and inquires should be directed to either of the guest editors:

David W. Rudge

Biological Sciences & The Mallinson Institute
for Science Education, Western Michigan
University, USA
email: david.rudge@wmich.edu

Kostas Kampourakis

Geitonas School,
Athens,
GREECE
email: kkamp@ath.forthnet.gr

5. Applied HPS in the Classroom, Journal Special Issue, Call for Papers

Research and discussion about the multiple contributions of history and philosophy of science (HPS) to science teaching has gone on for many years. This special issue will focus on research dealing with applied and innovative projects concerning the “realization” in the classrooms of the various proposals about the use of HPS in science teaching.

HPS has provided a fruitful background for developing Nature of Science (NOS) instructional units, materials and teaching approaches. At the same time, it has offered efficient resources to researchers and educators in order to develop and evaluate classroom activities concerning the interactions of Science and Culture. HPS also features in the many goals proposed for Scientific Literacy that can be found in current curricular materials.

This special issue of *Science & Education* will offer to educators and researchers working in all the above areas (HPS, NOS, Science and Culture, Scientific Literacy) a forum to communicate their research, ideas, questions and worries concerning the application of HPS in classrooms.

Conceptual, theoretical, empirical or position-based manuscripts are welcome. Accordingly, examples of topics may include (but are not limited to) the following:

- Instructional material design inspired by history and philosophy of science
- HPS didactical/instructional units
- HPS programs, units and textbooks
- HPS in teacher education proposals
- HPS assessment in the classroom
- HPS and ICT in classroom proposals
- Cross-disciplinary approaches to HPS teaching in the classrooms
- Identifying in the classroom new research question for HPS
- Research methodology in the classroom concerning HPS
- HPS action research

The journal, founded in 1992, is published by Springer, and is associated with the International History, Philosophy and Science Teaching Group. It is now the most downloaded of all Springer Education journals, with 37,600 articles downloaded in 2007.

Information about the IHPST Group, and journal style and formatting conventions, can be found out at: www.ihpst.org

Manuscripts, with Abstract, should be submitted for review direct to:
www.editorialmanager.com/sced

Submission date: **March 1st, 2009.**

Further questions and inquiries, as well as intention to submit, should be directed to the guest editors:

Fanny Seroglou School of Primary Education Faculty of Education Aristotle University of Thessaloniki Greece seroglou@eled.auth.gr	Agustín Adúriz-Bravo CEFIEC Faculty of Science University of Buenos Aires Argentina aadurizbravo@cefiec.fcen.uba.ar
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6. Is Cognitive Science Relevant to Teaching?

At the Sixth IHPST conference in Denver (November 2001), a Symposium was organised on The Relevance of Cognitive Science to Teaching. One participant was Peter Slezak, a long-time IHPST member who then was Director of the University of New South Wales Cognitive Science Programme. He argued that knowing about cognitive science was *irrelevant* to teaching. This was certainly a counter-intuitive claim, and at odds with the curricula of many teacher education programmes that are dominated by educational psychology; typically learning theory in its various guises. If Slezak's thesis is correct, then *it* at least has relevance for teacher education.

After laying fallow for some while, Slezak has revisited his Denver paper, up-dated it taking into account criticism at the time, and has broadened its cognitive science purview to take in Piagetian research, social constructivism, radical constructivism, model-based reasoning, cognitive load theory and finally cognitive neuroscience. His conclusion remains the same: research in all of these fields is irrelevant to teaching.

The following paragraphs are from the opening of the paper:

“This paper is concerned with what Robert Glaser (1994) has called “an applied science of learning” – the application of cognitive science to the problems of pedagogy. My discussion bears on learning generally but I give some emphasis to the case of science education as illustrative. A voluminous literature attests to the prevalence of the view that “cognitive psychology has greatly contributed to current advances in learning and instruction” (Vosniadou 1996, p. 96). This literature professes to explain “How Cognitive Science Can Contribute to Education” (Bruer 1995). In a typical remark, Bruer says “If we place education on a more scientific footing by applying cognitive research in the classroom, we can ... help all students learn better” (1995, p. 72). My concern is not to directly deny such claims or to impugn work that might warrant them. However, I survey a sample of cognitive science writing which advertises its bearing on educational practice but is demonstrably without any such value. Thus, although my discussion is relentlessly negative and harshly critical, the exercise is important because, if warranted, it reveals a malaise in the field in view of the ubiquity of spurious claims for the educational value of cognitive science. Since the cases are chosen for their shortcomings, there is no suggestion that the work discussed is representative, but only widespread.

“A further caveat is in order since my critical analysis risks being misunderstood. My criticisms bear only on the claims for *educational relevance* and not on the merits or significance of the theoretical or empirical claims in cognitive science as such. That is, the most outstanding work in psychology may have no bearing on practical applications for education. For example, even the most complete theoretical understanding of language or vision may be irrelevant to performance, its acquisition or improvement, just as ornithology and aerodynamics are of no use to birds.

“Of course, many of the foremost cognitive scientists are duly cautious about the prescriptive pedagogical conclusions that might be drawn from their theoretical work. Thus, for example, Carey (2000) acknowledges that “All good teachers have always realized” some of the fundamental insights that modern psychology is coming to understand in a systematic way. She is concerned to characterize the “conceptual challenges that science educators face,” but with due caution Carey is content “leaving to others to comment on what we have learned about how to meet this challenge” (2000, p. 14). We will see that such circumspection is far from being universal.”

The paper has been published as:

Slezak, P.: 2007, ‘Is Cognitive Science Relevant to Teaching?’ *Journal of Cognitive Science* **8**, 171-208.

And is available as a pdf file from the author's web site:

<http://hist-phil.arts.unsw.edu.au/staff/staff.php?first=Peter&last=Slezak>

7. XXIII International Congress of History of Science and Technology, 26-31 July, 2009, Budapest, Hungary

The Hungarian National IUHPS Committee is pleased to invite you to attend and take an active part in the XXIII International Congress of History of Science and Technology in Budapest between 26 and 31 July, 2009.

The XXIII International Congress of History of Science and technology will be supported by the Hungarian Government, the Hungarian Academy of Sciences, the Budapest City Council, the Federation of Technical and Scientific Societies and other local institutions and organisations.

The World Academy of Young Scientists (with its seat in Budapest) will contribute to wide participation of young people from all over the world.

Budapest is undoubtedly one of the most beautiful metropolises in the world. The warm hospitality of the people, excellent food and wine, reliable and frequent public transportation, vivid cultural life, rich museums attract millions of visitors every year. Budapest is easy to reach, by air and on the ground, visitor-friendly visa policy, value-for-the-price services and goods, pleasant climate also make Hungary one of the most popular meeting venues world-wide.

Important Dates:

Deadline for determination of the symposia programs	15 December, 2008
Deadline for abstract submission	15 January, 2009
Deadline for early registration	15 March, 2009
Deadline for hotel reservation	30 April, 2009
Abstracts on the web	30 June, 2009
Opening of the Congress	26 July, 2009

Details available at: <http://www.conferences.hu/ichs09/>

8. Division of History of Science and Technology (DHST)

(The following is a short historical note on the Division of History of Science and Technology (DHST) of the International Union of History and Philosophy of Science, sponsors of the Budapest Conference)

The International Academy of History of Science, the ancestor of the DHST, came into existence in 1928, at the Oslo Congress of Historical Sciences, when a group of scholars decided that the field should be institutionalised. This group first constituted an informal Academy. Over the years the Academy underwent some reforms: from a society of individual members, it gradually developed into a larger institution including more and more national committees. Its official journal was *Archeion*, which was edited by Aldo Mieli.

When UNESCO was founded, it established links with other bodies, more particularly, it set up a partnership with the International Council of Scientific Unions (ICSU), which had been founded in 1931. New scientific Unions were set up and the Academy was invited to elaborate the Statutes of the International Union of History of Science (IUHS), which were adopted in 1947, at the time when IUHS joined ICSU. On its side, the International Union of Philosophy of Science (IUPS) was created in 1949, but was not immediately admitted as a member of ICSU.

Indeed, it was in 1956 that the IUPS and the IUHS were firmly invited by ICSU to merge into a single Union, and the International Union of History and Philosophy of Science was created with its two Divisions: the Division of History of Science (DHST) and the Division of Logic, Methodology and Philosophy of Science (DLMPS). However, the two bodies have always kept organising their congresses separately. In order to bring the two divisions closer, it was decided, in 1971, to set up a joint DHST-DLMPS commission entrusted with the holding of regular joint conferences on matters of common interest for both divisions.

The Moscow congress (1971) saw the definite institutional separation between the Union and the Academy. The latter became an association of distinguished scholars publishing a journal, the Archives Internationales d'Histoire des Sciences and the Collection of Studies. From the Moscow congress on, the Academy has been playing, in an unofficial capacity, the role of adviser to the Union.

In recent years, since the IUHPS/DHST represents in some ways ICSU's historical consciousness, efforts were made to establish closer co-operation between IUHPS/DHST and the other Unions. It is in that spirit that five inter-Union Commissions were set up with the International Union of Geological Sciences (Paris, 1968), the International Union of Mathematics (Moscow, 1971), the International Geographical Union (Moscow, 1971), the International Union of Soil Sciences (Liège, 1997). Moreover, the DHST Commission on Bibliography and Documentation launched in 1999 a major project on the preservation of the archives of contemporary scientists which gathered representatives from IUPAC, IUPAP, ICSTI, ICSU Press, IUSS, the IAU.

The two Divisions, the DHST and the DLMPS organize their own international congress once every four years.

The DHST's last congresses took place in Mexico City in 2001 and Beijing 2005 and the next is going to take place in Budapest 2009. Financial support for the DHST comes from the subscriptions of the 49 national committees that adhere to the division. Its scholarly work is conducted mainly through its 13 scientific commissions, 5 inter-union commissions, and 3 independent scientific sections.

With such a structure, the quality of the DHST's work is largely determined by the vigor of its commissions and sections, and inevitably the profile of activity over the years has been variable. But, aided by the exceedingly modest support that DHST has been able to give, several commissions and sections have achieved striking results, in the form of meetings, newsletters, and scholarly publications.

The Teaching Commission

In mid-2007 the Teaching Commission was reconstituted. Prof. Michael Matthews, accepted the position of President of the Commission and Prof. Costas Skordoulis accepted the position of Secretary of the Commission.

The web site of the Teaching Commission was established: <http://dhst-tc.org>

The Teaching Commission has basically three purposes:

First a disciplinary purpose: to assist in the better and more informed teaching of history of science as a subject in universities, and in high schools where appropriate.

This goal can be achieved by advertising teaching materials, books, web sites, holding symposia and conferences on teaching history of science, etc. An important part of this function will be served by better and more sophisticated use of web communication, for instance by trying to link together the 'Teaching Committees' of the different national History of Science societies and associations, so that those inquiring to one committee can see links to our central DHST Teaching Division web site.

Second a service purpose: to promote the utilisation of history of science in university and school science courses, and in programmes for the preparation of science teachers.

This goal can also be achieved by advertising curricular materials especially national statements such as are found in the US Science Education Standards and the Norwegian Education Framework, bringing HPS&ST books and appropriate web sites to the attention of science teachers and teacher educators, holding symposia and conferences on teaching history of science, maintaining a web site listing all relevant research literature and reports pertaining to the teaching of history of science, etc. Again there are a number of national HPS&ST associations, and sub-groups within larger science education associations, that can be linked together on the web and hence back to our Teaching Commission website.

Third a cultural purpose: to show that the history of science can contribute positively to better understanding of some of the major issues concerning contemporary cultural conflict, multiculturalism and globalisation. Re-examination of the European Enlightenment and the contemporary appraisal of its core arguments is clearly one component of this cultural purpose that the Teaching Commission can promote.

Activities Plan for the Calendar Years 2008, 2009

The Teaching Commission is planning a Symposium in Athens, November 28-29. The topic of the Symposium will be "Utilising Historical Scientific Instruments and Education".

The Teaching Commission also plans to hold a symposium at the 2009 Budapest conference on 'The *Origin of Species*: What are the Pedagogical Issues 150 years later?' As 2009 is also the two hundredth year anniversary of the birth of Darwin, the topic is especially appropriate.

Kostas Skordoulis, Dept. of Primary Education, University of Athens (kskordul@primedu.uoa.gr)

9. Symposium: 'Educational Aspects of the History of Scientific instruments' 28-29 November 2008, Athens, Greece

The Teaching Commission of the Division of History of Science and Technology, a division of the UNESCO-affiliated International Union of History and Philosophy of Science is staging this Symposium, and inviting contributions and participation.

In the last 30 years one aim for sociology, history, and philosophy of science has been to investigate and to understand natural sciences as practical work: a work of minds, of hands and as a social process. Within this context the History of Scientific Instruments might contribute into science teaching, since the study of the interaction between the contexts of "manufacture" and "utilization"

reveals both the cultural and human nature of science and the latter's interaction with society, while it facilitates teaching and learning science at the same time.

There are many aspects to consider in examining the design and function of instruments. Scientific observation is determined by the human sensory system, which generally relies on instruments that serve as mediators between the world and the senses. Thus, instruments can be considered as a reinforcement of the senses, providing a great capacity for penetrating the mysteries of nature, increasing the power of observation and making induction processes easier. Furthermore, scientific instruments constitute a major factor in the establishment of speculations and hypotheses, as well as in the calculation of measures in an abstract mathematical way which allows checking, refuting or changing previously established theories.

Many pedagogical aspects are related to the study of historical scientific instruments. These instruments make it possible to understand science as a practical work that takes place, mainly, in laboratories. It enables learners to get an idea of the meaning of experimentation in the history of science. This comprises the difficulties of experimenting, the development of experimental skills as well as the possibility of sensuous experiences. Selected scientific instruments will be the epistemological connection between a determined practical question, inserted in a determined era and with all the political, economical, religious, cosmological conditionings, etc, that are inherent to it on one hand and, on the other some kind of theoretic knowledge, such as Geometry, Mechanics, Chemistry, etc.

More specifically, the study of the History of Scientific Instruments is expected to introduce students to the philosophy and process of measurement, while the information on their historical evolution is decisive for perceiving the *historical time* concept. Furthermore, information on scientific instruments characteristics like: country of origin, manufacturer, period of manufacturing, manufacturing materials and their usage, leads students to know the scientific and technological development of their country and other countries, as well as scientists' lives and activities, who left their mark on the history of humanity. Activities, such as reconstructing the instruments and methods used in historical discoveries, permits the student of discovery to re-experience the processes of generating and interpreting the original data in its physical context, thereby casting light on the difficulties faced by the original investigators in arriving at the meaning of what they *saw*.

Studying the history of Scientific Instruments learners have the opportunity to find out more about historical ways of experimenting. They can experience and reflect on themselves as part of experiments. By using scientific instruments, in real or computational environment, students will be able to redo historical experiments and, in this way, experiences become self-experiences.

Students can also work with historical instruments that possibly are out of use today, in order to develop several skills to succeed in a replicated experiment. Within this context, they can use scientific instruments in order to interpret their data, discover unexpected results, confirm the validity of their data, make predictions about their solutions and check for errors.

These and other pedagogical aspects of scientific instruments and their history can be presented in this symposium and the experts may contribute to the enlargement and development of the field.

For further details contact: Professor Constantine Skordoulis, Secretary of the DHST-Teaching Commission, School of Education, University of Athens, Greece
kskordul@primedu.uoa.gr; kostas4skordoulis@gmail.com

10. Models and Simulations, Third Conference, March 5-7 2009

The Third Models and Simulations Conference will be held at Charlottesville, Virginia, March 5-7 2009. It will be the first such conference in North America, following the successful MS1 in Paris and MS2 in Tilburg, The Netherlands. This is an international conference and those outside North America are encouraged to attend.

The focus of the conference is on the philosophical and methodological aspects of simulations and models, broadly construed, and papers on any aspect of these topics are welcome from both philosophers and scientists. In addition to papers directly addressing simulations or models, MS3 welcomes submissions on related topics such as representations, artificial life, complexity theory, logic, agent based modeling, the truth status of models, the relations between theories, simulations, and models, neural nets, and other subjects.

The keynote speakers for 2009 will be Mark Bedau and Patrick Suppes. Initial submissions should be in the form of a 1000 word abstract and all submissions are refereed.

The deadline for submissions is September 15 2008.

Research on models in science and in science teaching has had a prominent place in science education research – see contributions to the special issue of *Science & Education* vol. 16 (7-8), 2007. This conference should be useful for such researchers.

Details of the conference and instructions for paper submissions are available at:

<http://people.virginia.edu/~pwh2a/MS3.htm>

11. European Philosophy of Science Association, Second Conference

After its successful first conference in Madrid in November 2007, the second conference of the European Philosophy of Science Association (EPSA) will take place at VU University Amsterdam from 21-24 October 2009. Contributed papers and proposals for symposia are invited.

The conference has eight sections:

1. General philosophy of science
2. Philosophy of the physical sciences
3. Philosophy of the life sciences
4. Philosophy of the cognitive sciences
5. Philosophy of the social sciences
6. Philosophy of the applied sciences
7. Formal philosophy of science
8. Historical, social and cultural studies of philosophy of science

Contributed Papers: Please submit an extended abstract of 1000-1500 words. See <http://www.epsa09.org> for instructions. The allocated time for delivering contributed papers at the conference will be 30 minutes, including discussion.

Symposium Proposals: Please submit a full proposal. This includes a general description of the topic of the proposed symposium and its significance (up to 1500 words), a 500-word abstract of

each paper, and short CVs of all participants (up to 500 words each). See <http://www.epsa09.org> for further instructions. Accepted symposia will be allocated 150 minutes.

All submissions have to be made electronically through the webpage of the conference (<http://www.epsa09.org>).

Important Dates

15 January 2009: Submission deadline (contributed papers and symposia)

1 April 2009: Notification of acceptance

1 June 2009 : Early registration deadline

21-24 October 2009: Conference

Details: <http://www.epsa09.org>

12. Academic Position in Social Foundations, Philosophy of Education, Science Education, at University of New South Wales

With the appointment of a new Head of School, The University of New South Wales is seeking to appoint five senior staff members. One appointment is in area of Social Foundations and/or Philosophy of Education. It will be an advantage if the applicant can contribute to teaching courses in Science Education Theory and Method.

Depending upon qualifications, the appointment will be made at Senior Lecturer (AUD91-105K) Associate Professor (AUD109-120K) or Professorial level (AUD140K). On top of these salaries there is a 17% loading for leave and superannuation. [1AUD = 0.8USD = 0.6EUR] The initial appointment will be for three years, with the option of then making it a continuing appointment. The successful applicant is expected to take up the position between 1 January 2009 and 1 January 2010. The appointee will be expected to teach in the School's undergraduate and postgraduate programs, playing a very active role in the School's research program; undertaking research projects and supervising honours and higher degree research students.

Enquires may be directed to Professor Chris Davison, Head of School, School of Education, email: c.davison@unsw.edu.au.

To apply for this position, interested applicants will need to review the position documentation, systematically address the selection criteria in their applications, and specify which level of appointment they would like to be considered for.

Full details and application procedures can be found at: www.hr.unsw.edu.au/jobs.html

Applications close 30 September 2008

13. Post-doctoral Fellow in Science Education (NOS Related), The University of Hong Kong,

Applications are invited for appointment as Post-doctoral Fellow (PDF) in the Faculty of Education of The University of Hong Kong for a period of three years from as soon as possible, but in any case not later than January 1, 2009. The successful candidate will work on a board research

theme, "Improving Science Education", specifically on projects related to the area of nature of science and related fields. (Ref.: RF-2008/2009-186)

The group has contributed to recent IHPST conferences and has secured considerable funding for projects in the area of Nature of Science (NOS) research including the following studies:

- *Enhancing teachers' understanding of the nature of science through a case study on SARS research*. Research Grant Council, Competitive Earmarked Research Grant, HK\$262,500, from Jan 2005 for 18 months
- *Enhancing senior secondary students' understanding of nature of science and the interconnection between science, technology, society and environment (STSE) through innovative teaching and learning activities*. Quality Education Fund, HK\$2,173,000, from Sept 2005 for 24 months.
- *Preparing teachers for teaching ideas about science in the New Senior Science Curriculum – A dual approach*. Quality Education Fund, HK\$1,933,900, from Sept 2008 for 24 months.

Details of the group's recent publications in this area are listed below for interested applicants:

- Wong, S. L. and Hodson, D. From the horse's mouth: What scientists say about scientific investigation and scientific knowledge. *Science Education*. First Published Online: May 27, 2008.
- Wong, S. L., Kwan, J., Hodson, D. and Yung, B.H.W. Turning Crisis into Opportunity: Nature of science and scientific inquiry as illustrated in the scientific research on Severe Acute Respiratory Syndrome. *Science & Education*. Published Online First: 9 October 2007.
- Wong, S. L., Hodson, D., Kwan, J. and Yung, B.H.W. (2008) Turning crisis into opportunity: Enhancing student teachers' understanding of the nature of science and scientific inquiry through a case study of the scientific research in Severe Acute Respiratory Syndrome. *International Journal of Science Education*, 30(11), 1417–1439.
- Wong, S. L., Yung, B.H.W., Cheng, M.M.W. and Day, J.D. (2007). 12 sets of teaching resources on Nature of Science and Science-Technology-Society-Environment can be accessed through the website <http://learningscience.edu.hku.hk>

The closing date is 30 September 2008. Further information can be found from the following website:

https://extranet.hku.hk/cgi-bin/apptunit/senior/show_vacancy_new.pl?rf2008-186-10000-20080930

14. Current Research

Apart from contributions to *Science & Education* the following are some papers published in recent years that bear upon the research concerns of the IHPST Group.

Suggestions for up-dating this list should be sent to the Editor at m.matthews@unsw.edu.au

Niaz, M.: 2007, 'Can Findings of Qualitative Research in Education be Generalized?', *Quality and Quantity: International Journal of Methodology* **41**, 429-445.

Costu, B., Ayas, A., Niaz, M., Ünal, S., & Calik, M.: 2007, 'Facilitating conceptual change in students' understanding of boiling concept', *Journal of Science Education and Technology* **16**, 524-536.

Carson, R. & Rowlands, S.:2007, 'Strategies for Affecting the Necessary Course of Cognitive Growth as an Integral Part of Curricular and Instructional Planning', *Interchange* **38**(2).

- Schulz, R. M.: 2007, 'Lyotard, Postmodernism and Science Education. A Rejoinder to Zembylas', *Educational Philosophy and Theory*, **39**(6), 633-656.
- El-Hani, C. N. & Mortimer, E. F.:2007, 'Multicultural Education, Pragmatism, and the Goals of Science Teaching', *Cultural Studies of Science Education* **2**(3): 657-687.
- El-Hani, C. N.:2007, Between the Cross and the Sword: The Crisis of the Gene Concept. *Genetics and Molecular Biology***30**(2), 297-307.
- Ford, M.:2008, 'Disciplinary Authority and Accountability in Scientific Practice and Learning', *Science Education* **92**, 404-423.
- Rowlands, S.: 2008, 'The crisis in science education and the need to enculturate all learners in science'. In C.L. Petroselli (ed) *Science Education: Issues and Developments*. New York; Nova.
- El-Hani, C.N. & Bandeira, F.P.S.F.: 2008,. 'Valuing Indigenous Knowledge: To call it "Science" will not help. *Cultural Studies of Science Education* **3**(3): 751-779. DOI: 10.1007/s11422-008-9129-6
- Slezak, P.: 2007, 'Is Cognitive Science Relevant to Teaching?' *Journal of Cognitive Science* **8**, 171-208.

The following books have recently been published by group members:

- Maria Rentetzi, *Trafficking Materials and Gendered Experimental Practices: Radium Research in Early 20th Century Vienna*: 2007, Columbia University Press, New York.
- Andre Koch Torres Assis & Julio Akashi Hernandes: 2007, *The Electric Force of a Current. Weber and the Surface Charges of Resistive Conductors Carrying Steady Currents*, Apeiron Books, Montreal. [This book is also available as a pdf file from author at: assis@ifi.unicamp.br]

15. Publications for Sale

The following publications can be ordered from the IHPST Group at www.ihpst.org :

- #1 *CD Proceedings of the 6th IHPST Conference, Denver, 2001*, 100 papers, W. McComas (ed.), USD10.
- #2 *CD Proceedings of the 7th IHPST Conference, Winnipeg, 2003*, 100+ papers, D. Metz (ed.), USD10.
- #3 *Science Education and Culture*, F. Bevilacqua, E. Giannetto & M.R. Matthews (eds.), Kluwer, 2001, 362pp, USD20.
- #4 *Science & Education* journal Volume 2, 1993, 382pp, USD10.
- #6 *Science & Education* journal Volume 12, 2003, 808 pps, USD20.
- #7 *Science & Education* journal Volume 13, 2004, 840 pps, USD10.
- #8 *The Pendulum: Scientific, Historical, Philosophical & Educational Perspectives* (Michael R. Matthews, Colin Gauld & Arthur Stinner (eds.), Springer, 2005, USD20

16. Coming Conferences

- October 21-24, 2008, 11th Brazilian Physics Teaching Research Meeting, Curitiba-Paraná, Brazil. The conference includes a strand on 'History, Philosophy and Science Teaching'. Details from conference chair: Dr. Erika Zimmermann (xiepef@sbfisica.org.br), and at: <http://www.sbf1.sbfisica.org.br/eventos/epf/xi/index.shtml>
- October 27-31, 2008, Ninth Argentine Symposium on Physics Education Research, Rosario. Details from Susana Cabanellas, Graciela Utges: (sief9@fceia.unr.edu.ar)

November 6-9, 2008. US History of Science Society and US Philosophy of Science Association, Joint Conference, Pittsburgh.

Details at: <http://philsci.org/conferences/psa2008/> or <http://www.hssonline.org>

November 28-29, 2008, Athens, “Educational Aspects of the History of Scientific Instruments”. A conference of the Teaching Commission of the Division of the History of Science and Technology.

Details from Professor Costas Skordoulis, kskordul@primedu.uoa.gr;

March 19-22, Philosophy of Education Society (USA) annual conference, Montreal

Details at: <http://philosophyofeducation.org/>

April 17-21, National Association for Research in Science Teaching (NARST) annual conference, Anaheim, California.

The conference includes a strand on ‘History, Philosophy and Science Teaching’.

Details at: <http://www.narst.org/>

June 24-28, 2009. Tenth IHPST Conference, Notre Dame University, Notre Dame, IN

Details at: ihpst09@nd.edu, and www.nd.edu/~ihpst09

July 26-31, 2009. XXIII International Congress of History of Science and Technology, Budapest.

Details at: <http://www.conferences.hu/ichs09/>

August 31-September 4, 2009. ESERA Conference, Istanbul Turkey.

Details from M. Fatih Tasar: (mftasar@gazi.edu.tr) or <http://www.earli2009.org/>

October 21-24, 2009, Second European Philosophy of Science Association Conference, Amsterdam

Details at: www.epsa09.org

17. IHPST Executive

After twenty years of very productive, but informal existence, the IHPST Group has held its first elections. The following members were elected to the indicated positions on the Council:

President: Michael Matthews (m.matthews@unsw.edu.au)

Past-president: William McComas (mccomas@uark.edu)

President Elect: David Rudge (david.rudge@wmich.edu)

Secretary: Pierre Boulos (boulos@uwindSOR.ca)

Treasurer: Robert Carson (rcarson@montana.edu)

Council Members: Peter Heering (peter.heering@uni-oldenburg.de)

Fanny Seroglou (seroglou@eled.auth.gr)

Student Member: Roland Schulz (rmschulz@shaw.ca)

Programme Officer: Don Howard (dhoward1@nd.edu)

Members of the Nominating Committee:

Elisabeth Cavicchi (ecavicch@mit.edu)

Ismo Koponen (ismo.koponen@helsinki.fi)

Igal Galili (igal@vms.huji.ac.il)

Mark Lattery (lattery@uwosh.edu)

18. IHPST Graduate Students

The IHPST Group is keen to facilitate the research and scholarship of graduate students in the fields of Nature of Science studies, and Historical, Philosophical and Sociological studies and their utilisation in pedagogical and theoretical issues facing science teachers and curriculum writers.

One idea that has emerged out of Council discussion is to create a register of such students that would list their names, contact details, and thesis area or topic. This might be placed on the IHPST web site and progressively up-dated for each student as they progress through their studies. Where completed theses are required to be placed in public domain on the web, such retail would finally be given.

Such a register would enable students to make contact with each other; see who is doing comparable research; perhaps share results of literature searches; perhaps share drafts of work in progress; and perhaps be put in direct contact with more senior IHPST members who could add to local supervisor's comments on the project.

The IHPST Council Student Member, Roland Schulz (rmschulz@shaw.ca), has agreed to oversee this project. Thus beginning graduate students through to nearly-finishing students, are invited in the first instance to email Roland so as to commence this new initiative.

19. Book Notes

Unfortunately there are no Book Notes for this newsletter issue..

All newsletter readers are invited to submit *Book Notes*. They should follow the format and style as previously used in the newsletter, and sent as attachments to the editor. This basically means providing full bibliographic details, some brief account of the content of the book in 3-5 paragraphs, and ideally a scanned file of its cover. Reviews are also welcome.

The Book Notes are a way of bringing good and relevant books on history and philosophy of science, sociology of science, philosophy of education to the attention of the large group of scholars interested in the utilisation of these fields of study in addressing theoretical, curricular and pedagogical issues in science and mathematics education.

20. Newsletter Items

This IHPST Electronic *Newsletter* goes to 1,500 email addresses on the IHPST list, and it is also posted to various science education, philosophy of education and HPS lists. Items for inclusion in the *Newsletter* are appreciated. These can be items for the 'Recent Research', 'Recent Books', 'Books' or 'Conferences' sections.

Please email newsletter material as an attachment (or journal subscriptions or publication orders) to: m.matthews@unsw.edu.au

20. IHPST Email List

The email list is used sparingly, perhaps once a month, to send group information such as contained in this Newsletter. It is a closed list, not an open discussion list.

If you receive this email message and wish to remove yourself from the IHPST list, send a message to: majordomo@explode.unsw.edu.au . In the body of the message, not the subject line, simply write: 'unsubscribe ihpst-group'.

Alternatively, if you have friends, colleagues or students who would like to subscribe to the list, tell them to send a message to: majordomo@explode.unsw.edu.au . In the body of the message, not the subject line, simply write: 'subscribe ihpst-group'.