



## **International History, Philosophy and Science Teaching Group**

### **NEWSLETTER**

**June 2009**

**[www.ihpst.org](http://www.ihpst.org)**

## **CONTENTS**

- 1. *Science & Education* Latest Number (Vol.18 Nos.6-7, 'Science, Education & Worldviews)**
- 2. IHPST Tenth International Conference, June 2009**
- 3. *Science & Education* Journal Report**
- 4. Journal Special Issue: *Pseudoscience in Society and Classroom***
- 5. Journal and Newsletter Book Review Editors and Reviewers Required**
- 6. Anthology: *Science, Worldviews and Education***
- 7. HPS&ST and NOS Course Outlines and Materials**
- 8. Teaching Evolution: Theoretical and Pedagogical Issues, GEITONAS School, Athens, 7-8 November 2009**
- 9. XXIII International Congress of History of Science and Technology, 26 - 31 July, 2009, [Budapest](#), [Hungary](#)**
- 10. 5th Greek Conference, History, Philosophy & Teaching of the Natural Sciences, University of Cyprus, Nicosia, 11-14 June 2009**
- 11. Opinion**
- 12. Book Notes**  
John H. Sceski, *Popper, Objectivity and the Growth of Knowledge* (Reviewed by Peter Slezak)
- 13. Current Research**
- 14. Publications for Sale**
- 15. Coming Conferences**
- 16. IHPST Executive**
- 17. IHPST Graduate Students**
- 18. IHPST Email List**
- 19. Newsletter Items**

## 1. *Science & Education* Latest Number, Volume 18 Nos.6-7

The following number of the journal has been published.

### **Special Issue: Science, Worldviews and Education**

#### Introduction

HUGH G. GAUCH, JR. / Science, Worldviews, and Education

MICHAEL R. MATTHEWS / Teaching the Philosophical and Worldview Components of Science

GÜROL IRZIK & ROBERT NOLA / Worldviews and Their Relation to Science

ALBERTO CORDERO / Contemporary Science and Worldview-Making

ENRICO RENATO ANTONIO GIANNETTO / The Revolutionary Meaning of the  
Electromagnetic Conception of Nature

MICHAEL REISS / Imagining the World: The Significance of Religious Worldviews for Science  
Education

STUART GLENNAN / Whose Science and whose Religion? Reflections on the Relations between  
Scientific and Religious Worldviews

JONATAN I. FISHMAN / Can Science Test Supernatural Worldviews?

HUGH LACEY / The Interplay of Scientific Activity, Worldviews and Value Outlooks

JOHN LAMONT / The Fall and Rise of Aristotelian Metaphysics in the Philosophy of Science

TANER EDIS / Modern Science and Conservative Islam: An Uneasy Relationship

HUGH G. GAUCH Jr. / Some Responses and Clarifications Regarding Science and Worldviews

MICHAEL R. MATTHEWS / Science and Worldviews in the Classroom: Joseph Priestley and  
Photosynthesis

**Erratum:** The following paper should have been part of this special issue, but was inadvertently published in Volume 17 Number 6, 2008, pp.559-571.

COSTAS D. SKORDOULIS / Science and Worldviews in the Marxist Tradition

The following issues have already appeared this year:

#### **Volume 18 No.5, May 2009**

#### **Special Issue: *Constructing Scientific Understanding through Contextual Teaching***

**Guest Editors: Peter Heering & Daniel Osewold**

PETER HEERING & DANIEL OSEWOLD / Editorial

GÁBOR ÁRON ZEMPLÉN / Putting Sociology First -Reconsidering the Role of the Social in  
'Nature of Science' Education

DAVID W. RUDGE & ERIC HOWE / An Explicit and Reflective Approach to the Use of History  
to Promote Understanding of the Nature of Science

DON METZ / William Wales and the 1769 Transit of Venus: Puzzle Solving and the Determination  
of the Astronomical Unit

STEPHEN KLASSEN / Identifying and Addressing Student Difficulties with the Millikan Oil Drop  
Experiment

PANOS KOKKOTAS, PANAGIOTIS PILIOURAS, KATERINA MALAMITSA, IOANNIS  
VLACHOS, KATERINA PLAKITSI, MYRONAS MAUROGIANNAKIS & EFTHYMIS  
STAMOULIS / Teaching Physics to In-service Primary School Teachers in the Context of  
the History of Science: The Case of the Fall of Bodies

YOUJUN WANG / Hands-on Mathematics: Two Cases from Ancient Chinese Mathematics

**Volume 18 Nos. 3-4 April 2009**

**Ninth International, History, Philosophy & Science Teaching Conference (Select Proceedings)  
Guest Editor: HsingChi Wang von Bergmann**

HSINGCHI VON BERGMANN / Designing and Assessing Contextual Approaches to the Teaching of Science and Mathematics: Introduction

ROLAND M. SCHULZ / Reforming Science Education: Part I. The Search for a Philosophy of Science Education

ROLAND M. SCHULZ / Reforming Science Education: Part II. Utilizing Kieran Egan's Educational Metatheory

SUVI TALA / Unified View of Science and Technology for Education: Technoscience and Technoscience Education

HAYO SIEMSEN & KARL HAYO SIEMSEN / Resettling the Thoughts of Ernst Mach and the Vienna Circle to Europe: The cases of Finland and Germany

CALVIN S. KALMAN / The Need to Emphasize Epistemology in the Teaching of Science: Use of Reflective Writing

NAHUM KIPNIS / 'Physical Law' in the Classroom: the Case of Ohm's Law

COLIN F. GAULD / Newton's Use of the Pendulum to Investigate Fluid Resistance: A Case Study and Some Implications for Teaching about the Nature of Science

STEPHEN KLASSEN / The Construction and Analysis of a Science Story: A Proposed Methodology

GLENN ROBERT DOLPHIN / Evolution of the Theory of the Earth: A Contextualized Approach for Teaching the History of the Theory of Plate Tectonics to Ninth Grade Students

AGUSTIN ADURIZ-BRAVO & MERCÉ IZQUIERDO-AYMERICH / Physical Construction of the Chemical Atom: Is it Convenient to Go All the Way Back?

KATERINA MALAMITSA, MICHAEL KASOUTAS & PANAGIOTIS KOKKOTAS / Assessing the Development of Critical Thinking in Greece through an Approach of Teaching Science to Primary School Students which Incorporates Aspects of History of Science

CHARBEL NIÑO EL-HANI, RICARDO S DO CARMO & NEIF NUNES-NETO / Gaia Theory in Brazilian High School Biology Textbooks

CHARBEL NIÑO EL-HANI & GEILSA C BAPTISTA / Ethnobiology and Dialogue Between Ways of Knowing in Biology Teaching: A Case Study in a Brazilian Public High School

**Volume 18 No. 2 February 2009**

**Special Issue: *Politics and Philosophy of Science***

**Guest Editor: Heather Douglas**

HEATHER DOUGLAS / Philosophy of Science, Political Engagement, and the Cold War: An Introduction

THOMAS UEBEL / Knowing who your Friends are: The Politics of Logical Empiricism

DAVID J. STUMP / Pragmatism, Activism, and the Icy Slopes of Logic in George Reisch's Portrait of the Philosophy of Science as a Young Field

SCOTT EDGAR / Logical Empiricism, Politics, and Professionalism

GEORGE REISCH / Three Kinds of Political Engagement for Philosophy of Science

DON HOWARD / Better Red than Dead - Putting an End to the Social Irrelevance of Post-war Philosophy of Science

## Volume 18 Number 1, January 2009

- IGAL GALILI / Thought Experiment – Determining the Meaning  
CALVIN KALMAN / A Role for Experiment in Using the Law of Inertia to Explain the Nature of Science: A Comment on Lopes Celho  
PETER KOSSO / The Large-scale Structure of Scientific Method  
MANSOOR NIAZ / Progressive Transitions in Chemistry Teachers' Understanding of Nature of Science Based on Historical Controversies  
VICTOR C. RUCKER & LILY J. ACKERMAN / Alexander Shulgin: Chemist Extraordinaire  
VERONICA S. FLODIN / The Necessity of Making Visible Concepts with Multiple Meanings in Science Education: the Use of the Gene Concept in a Biology Textbook  
SIU LING WONG, JENNY KWAN, DEREK HODSON & BENNY HIN WAI YUNG / Turning Crisis into Opportunity: Nature of science and Scientific Inquiry as Illustrated in the Scientific Research on Severe Acute Respiratory Syndrome  
ANTON E. LAWSON / On the Hypothetico-Deductive Nature of Science-Darwin's Finches  
ALBERTO VILLANI, JESUINA LOPES DE ALMEIDA PACCA, & DENISE DE FREITAS / Science Teacher Education in Brazil: 1950-2000  
KATEMARI ROSA & MARIA CRISTINA M MARTINS / Approaches and methodologies for a course on History and Epistemology of Physics: analyzing the experience of a Brazilian university

The above articles, and all published articles since Volume One, 1992, and all articles that are currently accepted for publication, are available on the web via Springer's journal site: [www.springer.com/journal/11191](http://www.springer.com/journal/11191).

Journal subscription (print version) can be effected at [www.ihpst.org](http://www.ihpst.org)

## 2. IHPST Tenth International Conference, June 24-28, 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.

Conference Web Site: <http://www.nd.edu/~ihpst09>

Please note that the link has to be followed through to the Centre for Continuing Education, then 'complete events calendar'. Alternatively go straight to:

[https://shop.nd.edu/C21688\\_ustores/web/product\\_detail.jsp?PRODUCTID=1065&SINGLESTORE=true](https://shop.nd.edu/C21688_ustores/web/product_detail.jsp?PRODUCTID=1065&SINGLESTORE=true)

### Draft Programme

**Registration and Accommodation** details can be found at the conference web site

*Registration Fees* (include all meeting materials, receptions, refreshments, and Saturday banquet). Full registration is \$370 and will increase to \$450 on June 1 and Graduate Student registration is \$250 and on June 1 will increase to \$325.

*Draft Programme* is currently available on the above conference web site. It will shortly be finalised.

There will be a graduate student session at 4.30 on the Wednesday; the main will begin at 3pm on Wednesday June 24 and conclude at noon on Sunday 28. The exact starting and finishing times will be advised later.

### **Special Call to all Graduate Students Attending the Conference**

There will be a pre-conference Grad student meeting at Notre Dame campus on Wednesday June, 24, at 4.30pm, just before the regular IHPST conference commences, in order for to mingle, get to know each other and coordinate workshop scheduling.

The IHPST Group in the process of compiling a Grad student **list serve** in order for grad students to better interact and share ideas. To be on this list serve, please contact

Roland M. Schulz  
Simon Fraser University,  
[rmschulz@shaw.ca](mailto:rmschulz@shaw.ca)

**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).

**Questions** may be directed to the special conference email address: [ihpst09@nd.edu](mailto:ihpst09@nd.edu) or to:

Don Howard, Philosophy Department, University of Notre Dame. Email: [dhoward1@nd.edu](mailto: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 the journal's home page: [www.springer.com/journal/11191](http://www.springer.com/journal/11191). The home page has provision for signing up for 'Table of Contents Alert', which means each time an issue of the journal is published, the Contents are conveyed by email.

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](http://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 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/](http://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.

#### **(d) Article Downloads**

The number of article-downloads from the journal's Springer site are continuing to rise year by year.

| <b>YEAR</b>      | 2004   | 2005   | 2006   | 2007   | 2008   |
|------------------|--------|--------|--------|--------|--------|
| <b>Downloads</b> | 21,373 | 22,500 | 23,584 | 37,593 | 48,634 |

For a 'niche' journal in science education, these figures are most gratifying. They indicate the amount of worldwide interest in the utilization of historical and philosophical studies in addressing theoretical and pedagogical problems in the teaching of science and mathematics. The figures reflect the quality of manuscripts submitted to the journal, and the rigor and competence of the reviewers, normally three per manuscript.

#### **(e) ISI Listing**

The journal is listed in a number of Indexing services, most recently by ISI which has a commanding presence in the field of citation counting and article-impact measures.

#### **(f) Thematic Issues**

Since its inception in 1992 the journal has regularly published thematic issues that bring together historical, philosophical and educational scholarship on particular theoretical or pedagogical themes related to History, Philosophy and Science Teaching.

These thematic issues have included:

- 1994, 'Science and Culture', **3**(1).
- 1995, 'Hermeneutics and Science Education', **4**(2).
- 1996, 'Religion and Science Education', **5**(2).
- 1997, 'Philosophy and Constructivism in Science Education', **6**(1-2).
- 1997 'The Nature of Science and Science Education', **6**(4).
- 1999, 'Values in Science and in Science Education', **8**(1).
- 1999, 'Galileo and Science Education', **8**(2).
- 1999, 'What is This Thing Called Science?', **8**(4)
- 1999, 'Children's Theories and Scientific Theories', **8**(5).
- 2000, 'Thomas Kuhn and Science Education', **9**(1-2).
- 2000, 'Constructivism and Science Education', **9**(6).
- 2003, 'History, Philosophy and the Teaching of Quantum Theory', **12**(2-3)
- 2004, 'Science Education and Positivism: A Reevaluation', **13**(1-2)
- 2004, 'Pendulum Motion: Historical, Methodological and Pedagogical Aspects', **13**(1-2, 7-8)
- 2006, 'Textbooks in the Scientific Periphery', **15**(7-8)
- 2005, 'Science Education in Early Modern Europe', **14**(3-4)
- 2007, 'Models in Science and in Science Education', **16**(7-8)
- 2008, 'Social and Ethical Issues in Science Education', **17**(8-9)
- 2008, 'Feminist Philosophy and Science Education', **17**(10)
- 2009, 'Politics and Philosophy of Science', **18**(2)
- 2009, 'Constructing Scientific Understanding through Contextual Teaching', **18**(5)
- 2009, 'Science, Worldviews and Education', **18**(6-7)

The Contents of all the above issues can be downloaded from the journal's Springer site:

<http://www.springer.com/education/science+education/journal/11191>

#### **4. Journal and Newsletter Book Review Editors and Reviewers Required**

The IHPST newsletter goes direct to about 1,800 personal emails and it is also sent to various HPS and Science Education lists. The journal is subscribed to by about 3,000 institutions. The core

readership of the newsletter and journal range over the fields of science education, history and philosophy of science, and philosophy of education. One useful service that the newsletter and journal can provide is to bring to the attention of readers important books published in these disciplines. It is difficult for one person to keep abreast of publications in these different fields, but it is hoped that by having a 'Review Editor' for each field, who would request books and seek out reviewers, this reviewing task might be able to be done in a much more efficient and comprehensive manner. It is anticipated that reviews would first appear in the newsletter, and then be published subsequently in the journal.

If any IHPST colleague is interested in taking on the role of 'Review Editor' for Science Education, for History of Science, for Philosophy of Science, or for Philosophy of Education, could they please make initial contact with the newsletter and journal editor ([m.matthews@unsw.edu.au](mailto:m.matthews@unsw.edu.au)) giving a brief account of their scholarly background, present position, and their interest in the position or their experience in such work. It is anticipated that it would be a 3-year, renewable appointment.

The success of this endeavour will depend upon having a wide pool of reviewers. Accordingly anyone interested in doing the occasional book review is also invited to send their details to the editor, perhaps specifying in what specific areas of the above fields they have most interest.

## **5. Journal Special Issue: *Pseudoscience in Society and Classroom***

The special issue on 'Pseudoscience in Society and School' is open to a range of research fields: *philosophical* contributions dealing with the long-debated problem of demarcating science from non-science and pseudoscience and other such philosophical concerns; *psychological* and *sociological* contributions dealing with issues concerning pseudoscience and other such topics; and *educational* studies on how schools and teachers might address the questions arising from pseudoscientific beliefs prevalent in society and classrooms.

### Examples of Possible Topics and Questions

1. A Comparison of Belief in Intelligent Design (ID) to Belief in Other Pseudosciences.
2. Histories of Belief in Pseudoscience in various cultures.
3. Cognitive Development of Pseudoscientific beliefs.
4. Reasons for Weak and Strong Belief in Various Pseudosciences.
5. Systematic Research on Pseudoscientific Belief.
6. What Research is Needed and Why, in the Study of Pseudoscience?
7. How do State Science Education Standards Deal with the Issue of Pseudoscience?
8. Can Nature of Science (NOS) Studies Accommodate the Topic of Pseudoscience?

These are intended only as examples of topics that might be considered by potential contributors.

The guest editors, Ron Good ([rgood@lsu.edu](mailto:rgood@lsu.edu)) and Peter Slezak ([p.slezak@unsw.edu.au](mailto:p.slezak@unsw.edu.au)) can be contacted for further information.

*Submission Deadline is December 31, 2009.*

## 6. **Anthology: *Science, Worldviews and Education***

**Springer** are soon to publish a book based on the thematic double issue of *Science & Education*. Its contents are:

HUGH G. GAUCH Jr. / *Science, Worldviews, and Education*  
MICHAEL R. MATTHEWS / *Teaching the Philosophical and Worldview Components of Science*  
GÜROL IRZİK & ROBERT NOLA / *Worldviews and Their Relation to Science*  
ALBERTO CORDERO / *Contemporary Science and Worldview-Making*  
HUGH LACEY / *The Interplay of Scientific Activity, Worldviews and Value Outlooks*  
ENRICO RENATO ANTONIO GIANNETTO / *Electromagnetic Conception of Nature at the Roots of the Special and General Relativity Theories, and its Revolutionary Meaning*  
STUART GLENNAN / *Whose Science and whose Religion? Reflections on the Relations between Scientific and Religious Worldviews*  
MICHAEL REISS / *Imagining the World: The Significance of Religious Worldviews for Science Education*  
YONATAN I. FISHMAN / *Can Science Test Supernatural Worldviews?*  
COSTAS D. SKORDOULIS / *Science and Worldviews in the Marxist Tradition*  
JOHN LAMONT / *The Fall and Rise of Aristotelian Metaphysics in the Philosophy of Science*  
TANER EDIS / *Modern Science and Conservative Islam: An Uneasy Relationship*  
HUGH G. GAUCH, JR. / *Responses and Clarifications Regarding Science and Worldviews*  
MICHAEL R. MATTHEWS / *Science and Worldviews in the Classroom: Joseph Priestley and Photosynthesis*

**Worldviews** are an important and timely theme as many national and provincial education authorities are requiring that students learn about the Nature of Science (NOS), and that they learn about the broader historical and cultural contexts of science and its practice.

**Questions** about science and worldviews have had a long history. The Galilean revolution, the Darwinian revolution, and the Einsteinian revolution were all associated with profound cultural, religious and philosophical transformations and debates. The European Enlightenment was the first such major impact.

**Globalisation** and the science-based industrialization of many non-Western societies, with their own religious traditions and worldviews, make urgent the understanding of science and its interrelation with worldviews, and for the development of informed and appropriate science education.

**Appraisals** by early readers have been very positive:

*“What is a scientific worldview? How does it differ from other worldviews? Is it possible to be educated in science yet lack a scientific worldview? Can science thrive in a society where such a worldview is lacking? These questions and more are discussed in depth by a distinguished group of scientists, philosophers, educators and theologians in this uniquely valuable volume.”*

**Albert H. Teich**, Director, Science & Policy Programs, American Association for the Advancement of Science.

*“This wide ranging collection of essays is an excellent way to enter the too often neglected territory of how science and science education relate to larger socio-cultural worldviews.”*

**Peter Machamer**, Department of History and Philosophy of Science, University of Pittsburgh.

## ORDER FORM

Please mail \_\_\_\_ copies of *Science, Worldviews and Education* at cost of USD25 (postage included), to:

NAME:

ADDRESS:

EMAIL:

CREDIT CARD NUMBER (VISA or MASTERCARD):

EXPIRY DATE:

*Return to:* A/Prof. Michael R. Matthews, School of Education, UNSW, Sydney 2052, Australia

*or, email this order information to:*

[m.matthews@unsw.edu.au](mailto:m.matthews@unsw.edu.au)

*or, purchase from 'publications' section of:*

[www.ihpst.org](http://www.ihpst.org)

## 7. HPS&ST and NOS Course Outlines and Materials

Many colleagues in many countries are either teaching or preparing to teach courses with titles such as: 'History, Philosophy and Science Teaching', 'Nature of Science for Science Teachers', 'Science Studies and the Study of Science'. Such courses are taught to education students, science students and humanities students. Many are taught as in-service courses for science teachers.

What would be of great assistance to teachers and students is to have as many as possible of such course outlines – with their Reading Lists, Essay Topics, Web Pages – available for all to examine and make use of. Pleasingly IHPST member, Glen Dolphin at Syracuse University ([grdolphi@syr.edu](mailto:grdolphi@syr.edu)) has volunteered to coordinate the collection and up-dating of such materials, and to see that they are added to the IHPST web site ([www.ihpst.org](http://www.ihpst.org)).

Could such files please be sent to Glen. After some months a list of such courses will be included in the Newsletter, with a link to where the full details can be found.

## 8. Teaching Evolution: Theoretical and Pedagogical Issues, GEITONAS School, Athens, 7-8 November 2009

To celebrate Darwinian anniversary a Conference is being organized by GEITONAS School in Athens (website: [geitonas.edu.gr](http://geitonas.edu.gr)). Experts in the history of science, philosophy of science, and science education as well as teachers are invited to participate. Papers that focus on theoretical or pedagogical issues related to the teaching of evolution are welcome.

Submissions should be in the form of an extended summary (1,000-1,500 words) and should be sent as an e-mail attachment to [darwin2009@geitonas-school.gr](mailto:darwin2009@geitonas-school.gr) in order to be reviewed by the members of the scientific committee.

Examples of topics may include (but are not limited to) the following:

- The life and work of Charles Darwin
- The theory of evolution in the light of the history and philosophy of science
- Cognitive barriers in understanding the theory of evolution
- Rationales and strategies for teaching evolution

| <b>INVITED SPEAKERS</b>   | <b>SCIENTIFIC COMMITTEE</b>  |
|---|--|
| John Hedley Brooke<br><i>Emeritus Professor, University of Oxford</i>     | Costas B. Krimbas<br><i>Professor Emeritus, University of Athens</i> |
| James G. Lennox<br><i>Professor, University of Pittsburgh</i>             | Kostas Gavroglou<br><i>Professor, University of Athens</i>           |
| David W. Rudge<br><i>Associate Professor, Western Michigan University</i> | Vassiliki Zogza<br><i>Professor, University of Patras</i>            |
| Costas B. Krimbas<br><i>Emeritus Professor, University of Athens</i>      | Vassilis Koulaidis<br><i>Professor, University of Peloponese</i>     |
| Eleftherios Zouros<br><i>Emeritus Professor, University of Athens</i>     | Stathis Psillos<br><i>Associate Professor, University of Athens</i>  |
| Kyriacos Athanasiou<br><i>Professor, University of Athens</i>             |  |
| Vasso Zogza<br><i>Professor, University of Patras</i>                     |  |

**Submission date: June 20th 2009**

Information: [darwin2009@geitonas-school.gr](mailto:darwin2009@geitonas-school.gr)

## **9. XXIII International Congress of History of Science and Technology, July 28 – August 2, 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.

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

## **10. 5th Greek Conference, History, Philosophy & Teaching of the Natural Sciences, University of Cyprus, Nicosia, 11-14 June 2009**

The main subject of the Conference of the Philosophy, History and Teaching of Natural Sciences that will take place in Cyprus, in June 2009, is determined as "The interaction of the Great Scientific Theories in the Teaching of the Natural Sciences". The conference, has as main target, to reveal the interaction between the great scientific theories, pointing out questions as the impact of the characteristics of the Darwinian theory in our general perception for the scientific theories. An example is the degree in which the contemporary discussions, concerning the universality of the scientific laws, the limits of their application and the type of explanation that they give in the scientific phenomena, have been influenced by the structure of the Darwinian theory. Another example is the teaching of the scientific theories as a medium for explanation and prediction of phenomena which are characterized by limited fields of application and are continuously being criticized and revised.

The History of Science reveals that the theoretical pluralism is the most important sign of the development of Science. Undoubtedly, the scientific theories are created, developed and declined as a lot of other products of the human mind. However, a small number of scientific theories is characterized by extraordinary resistance in time. One from these theories, is the "Theory of Evolution" of Darwin. This theory was firstly presented in 1859 in the book "The Origin of Species". In 2009, 150 years will have been completed from the first publication of the book and 200 years will have been completed from the birth of Darwin. This anniversary provides the opportunity to all of us to think about the reason for which these great theories (eg, Darwinian, Newtonian, Quantum, Mechanics, Relativity) are diachronic and constituting an integral part of our Scientific Education.

In Greece, a small community of researchers and teachers has been already been created and since 2001 organized the conference of History, Philosophy and Teaching of the Natural Sciences. The present conference is the 5th conference in the row and has as basic target, like the previous conferences had, to promote an in-depth examination in relevance with the nature as well as the characteristics and the content which the history and the philosophy can obtain into the frame of the Natural Sciences.

The organizing committee of 5th Conference intends to broaden the character of the conference by inviting not only the Greek scientists and researchers but by inviting as well as scientists and researchers from all over the world to participate. A first step to this direction will be the lectures by distinguished foreign scientists as well as the organisation of an English-speaking symposium, that will take place during the conference.

For full conference details see: [www.ucy.ac.cy/htp2009](http://www.ucy.ac.cy/htp2009)

## **11. Opinion**

There is no Opinion piece for this newsletter.

Opinion pieces on topics that bear upon the overlap of history, philosophy and science teaching are welcome. They should be sent as word attachments to the editor. Maximum length 2,000 words.

## 12. Book Notes

John H. Sceski, *Popper, Objectivity and the Growth of Knowledge*, Continuum, 2007, 159pp., \$120.00 (hbk), ISBN 9780826489043.

Reviewed by Peter Slezak, University of New South Wales (p.slezak@unsw.edu.au)

Sceski's book provides an answer to Godfrey-Smith's (2007) recent question: "Is Popper's philosophy alive or dead?" Sceski says "I assert that Popper's philosophy provides the best framework to answer all questions concerning objectivity: epistemological, metaphysical, political, linguistic, and ethical." (p. xi) Sceski's aim is partly "to argue that Popper's philosophy merits a more extensive place in contemporary philosophical discourse than it has generally received." (p. xii)

Although the book's brevity is a virtue (around 130 pages of text), Popper's relevance is harder to establish than in a larger work such as Keuth's (2005). For example, Sceski does not place Popper fully into the rich philosophical context and tradition in which his work arises. To mention an important example to be discussed presently, the differences between Popper and Kuhn are surely relevant to assessing whether Popper still provides the best answers to the questions Sceski cites. Moreover, his technical discussions are not as helpful for the uninitiated as they might have been in a longer treatment. Nevertheless, Sceski covers the wide range of Popper's ideas that undoubtedly deserve serious ongoing attention. Not least, Popper's idea that critical rationalism has relevance to politics as well as science has not lost its importance. Other central topics discussed include Popper's view of probabilities as propensities, his Three Worlds doctrine, verisimilitude, evolutionary epistemology and ethics.

Although it is perhaps an overstatement, Sceski (p. 8) says "Popper is the first to see things rightly" in recognizing that the goal of science is not to justify our theories as true but rather to make fallible claims objective and, thereby, to have "an irrational faith in reason" (p. 9). Perhaps Hume could be credited with the same insight. Nevertheless, Sceski (p. 7) notes that Popper's philosophy of science is revolutionary because it leads us to view knowledge as "everything epistemologists say it should not be" -- in Miller's (1994) *bon mot*: "unjustified, untrue, unbelief".

Sceski (p. 14) notes Popper's central demand that theories not be self-contradictory on the grounds that "a self-contradictory system is uninformative . . . consistency is the most general requirement for a system . . . if it is to be of any use at all." However, one is reminded of Russell's (1946, p. 637) remark on Locke:

No one has yet succeeded in inventing a philosophy at once credible and self-consistent. Locke aimed at credibility, and achieved it at the expense of consistency. Most of the great philosophers have done the opposite. A philosophy which is not self-consistent cannot be wholly true, but a philosophy which is self-consistent can very well be wholly false. The most fruitful philosophies have contained glaring inconsistencies, but for that very reason have been partially true.

Russell's point is perhaps equally pertinent to the most fruitful scientific theories where the logician's ideals are less important than the vagaries of intellectual creativity and explanatory fecundity.

In other respects also, as Kuhn argued, Popper's logical ideals may be seen as too unrealistic to account for actual scientific practice. Sceski does not explore the important differences with Kuhn

on the crucial Popperian doctrine of falsifiability. However, when the practice and psychology of scientific research are taken seriously as opposed to the logic of discovery, Kuhn (1970, p. 6) noted that we must "turn Sir Karl's view on its head" since "it is precisely the abandonment of critical discourse that marks the transition to science". Relatedly, there is no index entry in Sceski's book to the holism of Duhem and Quine that counts against Popper's falsifiability doctrine. Sceski's passing mention of "truth holism" (p. 42, 43) is unclear at best.

Sceski (p. 61) rejects the view of Keuth (2005, p. 125) that "Popper did not *solve* the problem [of induction]; rather he *shifted* it." Sceski suggests that Popper "uncovered the true character of universal scientific claims as conjectural." Sceski (p. 39, 60) says that Popper's account of scientific method may be summed up in the idea of science as "a system of controlled guesswork," meaning, of course, his famous conception of "conjectures and refutations." However, in light of the rich technical developments since his writing about this "guesswork", it is clear that there is much more to say about "the true character of universal scientific claims as conjectural." Symptomatic of what is missing from Sceski's treatment is consideration of pertinent work in the tradition of *Induction* by Holland, Holyoak, Nisbett and Thagard (1986) that incorporates psychology, artificial intelligence and philosophy.

As far as Popper's continuing relevance on this issue is concerned, it is worth noting his explicit concern in *The Logic of Scientific Discovery* (1959, p. 31) to distinguish the "psychology of knowledge" or the genesis of an idea, from the "logic of knowledge." Popper argues, "The initial stage, the act of conceiving or inventing a theory, seems to me neither to call for logical analysis nor to be susceptible of it." Perhaps because he shares Popper's view, Sceski neglects important developments in this area that bear on his concern to rehabilitate Popper. The celebrated work of Herbert A. Simon (1966) and others (Langley 1987, Thagard 1992, Nersessian 2008) has shown that something like a logical analysis of creative scientific discovery is indeed possible along the lines of Pierce's abduction. In his early paper 'Scientific Discovery and the Psychology of Problem Solving', Simon (1966) cites Kuhn (1962) and Hanson (1958) as having anticipated his approach to the modelling of scientific creativity. Sceski discusses Popper's (1959, p. 53) analogy between methodological rules in science and the rules of chess but misses the irony and significance of this very example. Popper takes the rules of chess to be analogous to the methodological "rules of the game of science -- that is, of scientific discovery". But it was precisely for the game of chess that Newell and Simon (1972) developed their theory of "heuristic problem solving" that was adapted to models of scientific discovery (Langley 1987). Sceski (p. 135) notes Popper's explanation of "how the transition from one epoch to another takes place in a rational manner", namely, "via a tradition of critical inquiry". But this is an almost empty formula and provides little to compare with the detailed cognitive, intellectual mechanisms for "conceptual revolutions" proposed by theorists such as Thagard (1992) and Nersessian (2008) who propose model-based reasoning involving activities such as creating analogies, deploying visual representations, and performing thought experiments.

Besides the problem of induction, the second fundamental problem in the theory of knowledge for Popper is the problem of demarcation. Here too, Sceski's treatment of this question does not indicate that Popper's views may be seen as dated and superseded. For example, Laudan (1983) sees the entire question of demarcating science from non-science lapsing in favour of adjudicating the intellectual, explanatory merits of theories and their warrant.

Despite occasional dissent from Popper's views (p. 121), Sceski's discussion remains uncritical on central issues. For example, Popper's views on language and its evolution are exceedingly naïve by contemporary standards. Despite the controversial nature of Chomsky's claims about language and its uniqueness (Hauser, Chomsky & Fitch 2002; Fitch, Hauser & Chomsky 2005), Popper's idea that human language emerged from "animal language" cannot be uncritically asserted as if there is no serious alternative. Moreover, in light of the contemporary engagement of philosophers with

cognitive science and linguistics, while there are some who are guilty, there is no justification for Sceski's (p. 111) unsupported generalization that "philosophers have mostly addressed the problem of language independent of what science can tell us" (see Collins 2008, Devitt 2006, Jutronic 2006, Ludlow 1997).

Sceski critically discusses Popper's attempt to combat subjectivism and his arguments for World Three objects as arising from language. Sceski (p. 121) characterizes Popper's view here as "woefully inadequate and ignorant of developments in the philosophy of language", referring to the later Wittgenstein and to Quine's rejection of meaning that he takes to be "an important foil to Popper's World Three ontology" (p. 121). Quine's doctrine is perhaps not the last word on these matters, but in any case Popper's illustration of the natural numbers suggests that his view is defensible in the same ways that the status of mathematical objects may be warranted. In particular, intuitionist or conceptualist views have an analog in Chomsky's (1982, p. 16) view of grammars construed as representing tacit knowledge of conceptual structures. This is essentially the intuitionist according to which mathematical formalisms have no independent existence apart from the constructions of the mind (see Gil 1983, Pylyshyn 1973, and Parsons 1995).

These accounts bear on Popper's conception of World One objects such as a book of logarithm tables and other such ink marks. Sceski (p. 119) reports Popper's view that "All such products can be studied objectively, that is we can study them not in terms of the subjective thought processes that underlie their production, but instead as products developed in response to a particular problem situation." However, this conception of objective "products" is found also in recent nominalist views of linguistic tokens (Devitt 2006) but subject to severe, well-known criticisms (see Slezak 2009). Thus, Bromberger (1989, p. 59) notes that linguists "habitually conflate mention of tokens with mention of types" but "tokens are not what linguistics is primarily concerned with. Types are." Bromberger concludes "linguistics is not just about types and tokens but is also inescapably about minds", just as we might also conclude about Popper's World One objects.

As Sceski notes (pp. 8, 42, 83), the historicist tendencies that Popper excoriated have an analog today in Bloor's (1976) "strong program in the sociology of knowledge". Sceski says "With some charity, we can say that this approach is praiseworthy to the extent it is motivated by the recognition of the fallibility of our truth claims" (p. 43). Popper wouldn't have been so charitable. These doctrines are essentially the ones Popper characterised as the "revolt against reason" -- a rejection of ideals of truth and rationality which, however difficult to explicate, are nonetheless central to the Western scientific, intellectual heritage. Popper saw the same tendencies in Hegel which he bitterly denounced as "this despicable perversion of everything that is decent". Pretty strong stuff, but there can be little doubt about the close affinities between Hegel's doctrines and what Gross and Levitt (1994) refer to as the "grotesqueries" and "intellectual dereliction" of modern academic life in Bloor's sociology of knowledge. For the varieties of social constructivism, just as for Hegel, truth is determined by historically particular social milieux. Popper says that with the advent of these doctrines "freedom of thought and the claims of science to set its own standards, give way, finally, to their opposites". Popper's discussion of Hegel's specific doctrines as well as his "bombastic and mystifying cant" is striking in its parallels with the scathing critiques of the sociology of knowledge by Laudan (1990) and others (Slezak 1994a, b).

Popper's analysis and condemnation go well beyond Sceski's diagnosis of the sociology of knowledge as founded on the thesis that conceivability entails possibility (pp. 42-3), citing the somewhat tenuous connection with Gendler and Hawthorne (2002). Equally doubtful is Sceski's suggestion (p. 84) that "a coherent account of verisimilitude might do much to dissuade those thinkers who are trying to dissuade culture in general concerning the objectivity of science." On Popper's view, the problem posed by such tendencies is rather more serious. Like Laudan (1990, p. x) who sees a "rampant relativism" as "the most prominent and pernicious manifestation of anti-

intellectualism in our time," Popper (1966, p. 395) warns against the "magic of high-sounding words" and the "power of jargon" to be found in doctrines which are

full of logical mistakes and of tricks, presented with pretentious impressiveness. This undermined and eventually lowered the traditional standards of intellectual responsibility and honesty. It also contributed to the rise of totalitarian philosophizing and, even more serious, to the lack of any determined intellectual resistance to it.

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**NOTE:** This review was initially written for the University of Notre Dame Philosophical Reviews. All reviews can be found at: <http://ndpr.nd.edu/>

All newsletter readers are invited to submit *Book Notes*. They should follow the format and style as used in this newsletter, and be 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. Longer 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.

### 13. 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](mailto: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.
- Niaz, M.: 2008, 'Whither constructivism? --- A chemistry teachers' perspective', *Teaching and Teacher Education* **24**, 400-416.
- Niaz, M. : 2008, 'What 'ideas-about-science' should be taught in school science? A chemistry teachers' perspective', *Instructional Science* **36**, 233-249.
- Niaz, M.: 2009, *Critical appraisal of physical science as a human enterprise: Dynamics of scientific progress*. Springer, Dordrecht, The Netherlands.
- Niaz, M.: 2008, 'A rationale for mixed methods (integrative) research programmes in education', *Journal of Philosophy of Education*, 42(2), 287-305.
- Niaz, M., & Fernández, R.: 2008, 'Understanding quantum numbers in general chemistry textbooks', *International Journal of Science Education* **30**, 869-901.
- 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).
- Davson-Galle, P.:2008, 'Against Science Education: The Aims of Science Education and Their Connection to School Science Curricula', *Education Research Trends*, Nova Publishers, Bertrand, T. & Roux, L. (ed), pp. 1-30. ISBN 978-1-60456-640-6 (2008). Also available at: <http://eprints.utas.edu.au/7553/> in final submission, but unformatted, form.
- 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.
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- Yip, D.: 2006, 'Using History to Promote Understanding of Nature Of Science in Science Teachers'. *Teach Educ* **17**(2):157-166

The following books have recently been published by group members:

- Maria Rentetzi: 2007, *Trafficking Materials and Gendered Experimental Practices: Radium Research in Early 20th Century Vienna*, Columbia University Press, New York.
- Andre Koch Torres Assis & Julio Akashi Hernandez: 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: <http://www.ifi.unicamp.br/~assis> ]

- Kalman, C.S.: 2007, *Successful Science and Engineering Teaching in Colleges and Universities*, Anker Publishing Company, Boston
- Kalman, C.S.: 2008, *Successful Science and Engineering Teaching: Theoretical and Learning Perspectives*, Springer, Dordrecht.
- Andre Koch Torres Assis: 2008, *Archimedes, the Center of Gravity, and the First Law of Mechanics*, Apeiron Books, Montreal.  
 [This book is also available as a pdf file from: <http://www.ifi.unicamp.br/~assis> ]
- Niaz, M.: 2008, *Teaching general chemistry: A history and philosophy of science approach*, Nova Science Publishers, New York.
- Forge, J.: 2008, *The Responsible Scientist: A Philosophical Inquiry*, University of Pittsburgh Press, Pittsburgh.

## 14. Publications for Sale

The following publications can be ordered from the IHPST Group at [www.ihpst.org](http://www.ihpst.org) :

- #1 *CD Proceedings of the 6<sup>th</sup> IHPST Conference, Denver, 2001*, 100 papers, W. McComas (ed.), USD10.
- #2 *CD Proceedings of the 7<sup>th</sup> 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
- #9 *Science, Worldviews and Education* Michael R. Matthews (ed.), 2009, USD25

## 15. Coming Conferences

- June 11-14, 2009, Fifth Greek Conference for History, Philosophy & Teaching of the Natural Sciences, University of Cyprus  
 Details at: [www.ucy.ac.cy/htp2009](http://www.ucy.ac.cy/htp2009)
- June 18-20, 2009, Second Biennial Conference of the Society for Philosophy of Science in Practice, University of Minnesota.  
 Information from: Hasok Chang, [h.chang@ucl.ac.uk](mailto:h.chang@ucl.ac.uk)
- June 24-28, 2009. Tenth IHPST Conference, Notre Dame University, Notre Dame, IN  
 Details at: [ihpst09@nd.edu](mailto:ihpst09@nd.edu), and [www.nd.edu/~ihpst09](http://www.nd.edu/~ihpst09)
- July 12-16, 2009, Biennial Meeting of the International Society for the History, Philosophy and Social Studies of Biology, Brisbane, Australia  
 Details at: [www.ishpssb.org](http://www.ishpssb.org)
- July 28- August 2, 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 at: <http://www.earli2009.org/>
- September 7-10, 2009, Eighth International Congress on Research in Science Education, Barcelona.  
 Details at: <http://ensciencias.uab.es:80/congreso2009/>
- October 21-24, 2009, Second European Philosophy of Science Association Conf., Amsterdam

Details at: [www.epsa09.org](http://www.epsa09.org)

October 28-30, 2009, First Nordic History, Philosophy and Science Teaching Conference, Helsinki

Details from Dr Ismo T Koponen, [ismo.koponen@helsinki.fi](mailto:ismo.koponen@helsinki.fi)

June 7-9, 2010, The Genius of Archimedes: 23 Centuries of Influence on Mathematics, Science, and Engineering, Syracuse Italy

Details at: <http://www.archimedes2010.org/>

June 24-27, 2010, History of Philosophy of Science Society (HOPOS) Conference, Budapest

Details at: <http://www.hopos2010.ceu.hu> <http://www.hopos2010.ceu.hu/>

## 16. 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:

|                           |   |
|---------------------------|---|
| <b>President:</b>         | Michael Matthews ( <a href="mailto:m.matthews@unsw.edu.au">m.matthews@unsw.edu.au</a> )   |
| <b>Past-president:</b>    | William McComas ( <a href="mailto:mccomas@uark.edu">mccomas@uark.edu</a> )  |
| <b>President Elect:</b>   | David Rudge ( <a href="mailto:david.rudge@wmich.edu">david.rudge@wmich.edu</a> )  |
| <b>Secretary:</b>         | Pierre Boulos ( <a href="mailto:boulos@uwindsor.ca">boulos@uwindsor.ca</a> )  |
| <b>Treasurer:</b>         | Robert Carson ( <a href="mailto:rcarson@montana.edu">rcarson@montana.edu</a> )  |
| <b>Directors :</b>        | Peter Heering ( <a href="mailto:peter.heering@uni-oldenburg.de">peter.heering@uni-oldenburg.de</a> )<br>Fanny Seroglou ( <a href="mailto:seroglou@eled.auth.gr">seroglou@eled.auth.gr</a> ) |
| <b>Student Member:</b>    | Roland Schulz ( <a href="mailto:rmschulz@shaw.ca">rmschulz@shaw.ca</a> )  |
| <b>Programme Officer:</b> | Don Howard ( <a href="mailto:dhoward1@nd.edu">dhoward1@nd.edu</a> )   |

### Members of the Nominating Committee:

|                    |  |
|--------------------|--|
| Elisabeth Cavicchi | ( <a href="mailto:ecavicch@mit.edu">ecavicch@mit.edu</a> )                 |
| Ismo Koponen       | ( <a href="mailto:ismo.koponen@helsinki.fi">ismo.koponen@helsinki.fi</a> ) |
| Igal Galili        | ( <a href="mailto:igal@vms.huji.ac.il">igal@vms.huji.ac.il</a> )           |
| Mark Lattery       | ( <a href="mailto:lattery@uwosh.edu">lattery@uwosh.edu</a> )               |

## 17. 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](mailto: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.

## **18. 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](mailto: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](mailto:majordomo@explode.unsw.edu.au) . In the body of the message, not the subject line, simply write: 'subscribe ihpst-group'.

## **19. Newsletter Items**

This IHPST Electronic *Newsletter* goes to 2,000 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 'Opinion', 'Recent Research', 'Recent Books', 'Books' or 'Conferences' sections.

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