

Chemical Intelligence

Newsletter of The Society for the History of Alchemy and Chemistry
No. 3 May 2010

SHAC celebrates its 75th Anniversary in 2010, and to mark the occasion *Chemical Intelligence* includes a special report on the founding of the Society. The year began with the Society's first student event: the SHAC Postgraduate Workshop in the History of Alchemy and Chemistry, held in Cambridge. In November, the 75th Anniversary Meeting will be held at the Royal Institution, affording an opportunity to reflect on developments in the field since the Society's foundation in 1935, and to look ahead to future histories of alchemy and chemistry. We hope that you can join us.

Ambix is now available free online to all members. To celebrate the Society's anniversary year, the complete back archive has been digitised and can be accessed via the SHAC website (see section 6, below).

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1. Calendar

1.1 SHAC meetings

17 June **SHAC Council Meeting**
30 Russell Square, Birkbeck College, London

9 June **SHAC General Meeting:**
Journée d'étude sur la chimie et l'alchimie au XVIIe siècle
(Colloquium on seventeenth-century chemistry and alchemy)
Maison de la recherche (salle 20), Université de Lille 3, Villeneuve d'Ascq
(métro Pont-de-bois), Lille

9.30am: Jennifer Rampling (University of Cambridge), "'Which masters call sericon": the evolution of an alchemical practice, 1471–1678'

10.30am: Peter Forshaw (University of Amsterdam), 'Early modern alchemy and cabala'

11.30am: Stephen Clucas (Birkbeck, University of London), 'Margaret Cavendish's materialist critique of Van Helmont'

2pm: Anna Marie Roos (University of Oxford), 'Chemical mechanisms of fossilization in the Royal Society (les mécanismes chimiques de fossilisation de la Société Royale Anglaise)'

3pm: Lawrence Principe (Johns Hopkins University), 'Turning Experiments into Theories: The Evolution of Wilhelm Homberg's *Essais de chimie*'

Organisée par l'UMR 'Savoirs, Textes, Langage' (CNRS, universités de Lille 3 et de Lille 1) et la SHAC.

Pour tout renseignement, s'adresser à: Bernard Joly, bernard.joly@univ-lille3.fr; Rémi Franckowiak, remi.franckowiak@univ-lille1.fr.

Website: <http://stl.recherche.univ-lille3.fr/index.html>.

19 November **75th Anniversary Celebratory Meeting:
'The History of the History of Chemistry'**
The Royal Institution, London

The 75th anniversary of the founding of SHAC will be celebrated on Friday 19 November with a meeting at the Royal Institution in London. The meeting will commence with the Society's AGM, followed by a tour of the Royal Institution led by Professor Frank James. The provisional programme includes:

- Introduction (Robert Anderson, Chairman SHAC)
- The early history of the Society for the History of Alchemy and Chemistry (William H. Brock)
- The 'two cultures' and the history of chemistry (Frank James)
- Changes in the history of alchemy (tbc)
- The history of chemistry in Europe (tbc)
- Panel discussion (with Maurice Crosland, Colin Russell, and David Knight, chaired by Hasok Chang)

The meeting will be followed by a wine reception.

At 7pm, Simon Schaffer (University of Cambridge) will deliver a public lecture, sponsored by SHAC and the RI. A dinner will conclude the day's events.

The full programme will be circulated this summer. For more information, please contact the Hon. Secretary, Georgette Taylor: g.taylor@ucl.ac.uk.

1.2 SHAC-supported events

1 June **AD HOC – History of Chemistry Discussion Group**
6pm–7.30pm (monthly), Malet Place Engineering 1.13, University College London, Bloomsbury, London

AD HOC is a history of chemistry reading and discussion group, organised by Hasok Chang. It meets once a month, usually on the first Tuesday of the month. Each month several readings on a particular topic are selected. The readings are circulated 1–2 weeks in advance of the meeting. The group has been running for six years, with subjects for reading and discussion ranging from medieval alchemy to quantum chemistry. Participants range from advanced undergraduate students in chemistry with an interest in history to professional historians and philosophers of science with an interest in chemistry.

The group would welcome members of SHAC who would like to join the discussions and who are able to attend on a regular basis. Please contact the group's secretary Rosie Coates at r.coates@ucl.ac.uk.

For a report on this year's topics, see section 5 below.

February – **Oxford History of Chemistry Seminar 2009: 'Mastering Nature? Chemistry in History'**
May

27 May 'Chemical adventures: the search for natural products'
3pm–5pm, Maison Française, Norham Road'

- Chris Cooksey (Royal Society of Chemistry Historical Group), 'Indigo in the nineteenth century'
- Laurent Sorcelle (journalist, Paris), will discuss his novel, *Le trésor de Los Mangos*, on the search in Mexico by a young chemist for a rare periwinkle with therapeutic properties.

Convenors: Pietro Corsi, John Christie, Robert Fox, Muriel Le Roux, John Perkins, Viviane Quirke. Further details, including directions, can be found at <http://www.history.ox.ac.uk/hsmt/histchem>, or contact Prof. Corsi's secretary, Stephanie Jenkins, History Faculty, Oxford, 01865 615027, stephanie.jenkins@history.ox.ac.uk.

8–11 July **International workshop: 'On the Fringes of Alchemy'**
Department of Medieval Studies, Central European University, Budapest

The history of alchemy has been subject to intensified interest in the past few decades as testified by a growing number of related conferences and publications. These studies focus largely on Western Europe and the central territories of the Habsburg Monarchy and on major figures in the history of science. However, traces of alchemical experimentation, prince-practitioners and new sites of knowledge production were demonstrably present in less studied geographical areas. Also, many new and relevant studies are published only in national languages and hence not widely accessible. The aim of this workshop is to promote a fresh look on old, and the search for hitherto neglected or unknown, sources related to alchemy.

The workshop explores the fringes of alchemy, both in a disciplinary and a geographical sense. What counts as alchemy in the late medieval and early modern period? Who were the alchemists? Where and how did they practice their art? While the concepts of centre and periphery are no longer considered historically justified, there are still very few publications, especially in English, on alchemy in territories on the fringes of late medieval and early modern Europe. Therefore, we will also address the issue of the transfer of alchemical knowledge between various regions, religions and cultures, between East and West, North and South, Arabic-Islamic and Judeo-Christian traditions. Presentations include:

- Susanna Åkerman (Sweden), 'Sendivogius in Sweden: Johannes Franck's colloquium with mountain gods, 1651'
- Ayten Koç Aydın (Turkey), 'Iatrochemistry in the eighteenth-century Ottoman Empire'
- Dóra Bobory (Hungary), 'New alchemical methods offered by Italian mining experts in sixteenth-century Hungary'

- Christer Böke (Sweden), 'The alchemy of Otto Arnold Paykull'
- Graziana Ciola (Italy), 'Between alchemy and prophecy: Johannes de Rupescissa'
- Carl Michael Edenberg (Sweden), 'Silence is golden: the expulsion of alchemy from the public sphere in the 1790s'
- Ilona Fekete (UK/Hungary), 'The iatrochemistry of Johann David Ruland'
- Gabriele Ferrario (Italy), 'The poetry of alchemy, the alchemy of poetry: preliminary notes on the *Shudhur al-Dhahab*, Ibn Arfa' Ra's alchemical poem'
- Émilie Granjon (Belgium), 'Investigating the alchemical dimension in the *Physicae et theologicae conclusiones* of Otto Vaenius (1621)'
- Ana-Maria Gruia (Romania), 'Alchemical representations on medieval stove tiles'
- Aksel Haaning (Denmark), 'Alchemy, the Bible and philosophy in late medieval monastic culture'
- Håkan Håkansson (Sweden), 'Alchemy of the Ancient Goths – Johannes Bureaus' search for the lost wisdom of Scandinavia'
- John Norris (Czech Republic/Luxemburg), 'Hungarian Vitriol: a brief survey from the chymical literature of the sixteenth to eighteenth centuries'
- Snježana Paušek-Baždar (Croatia), 'Alchemy in Croatia'
- Rafał Prinke (Poland), '*Antemurale Alchimiae*: patrons, readers, and practitioners of alchemy in the Polish-Lithuanian Commonwealth'
- Jennifer Rampling (UK), 'Transmission and transmutation: English alchemy in the Holy Roman Empire'
- Rudolf Werner Soukup (Austria), '*Mercurius Solis*: hunting a mysterious alchemical substance'
- Hermann Stockinger (Austria), 'Alchemica in the Monastery Schlierbach (Upper Austria)'
- Berit Wagner (Germany), 'Painting – Printing – Writing: what Early Modern painters and their patrons expect from alchemy'

The workshop is sponsored by CEU (Budapest), Gerda Henkel Stiftung (Düsseldorf), and SHAC. There is no charge for registration. For information, please contact the convenor, Dóra Bobory (Collegium Budapest Institute for Advanced Study), dora.bobory@gmail.com.

Website: <http://members.upc.hu/bobory.dora/alchemyproject/Welcome.html>.

22–25 July

**Panel: 'The practice of medieval and early modern alchemy',
BSHS Annual Conference 2010**
University of Aberdeen, Scotland

This interdisciplinary panel, sponsored by SHAC, investigates both the variety of medieval and early-modern alchemical activities, and the challenge of reconstructing them from surviving evidence. The panel is chaired by Stephen Clucas (Birkbeck) and includes the following papers:

- Jennifer Rampling (University of Cambridge), 'The alchemist's dilemma: distilling practices from texts'
- Stephanie Seavers (University College London), 'Trial and error: alchemy and assay in the Middle Ages'
- Anke Timmermann (University of Glasgow), 'Dissecting manuscripts: alchemy, medicine and the historian'
- Marcos Martín-Torres (University College London), 'Archaeological approaches to early modern chymistry: old materials, new questions'

The programme includes many other presentations on chemical topics, including a panel session on 'Chemistry', with talks by James Sumner (University of Manchester), Hasok Chang (University College London), and Elisa Cristina Oliosí (Pontificia Universidade Católica de São Paulo).

The full programme is available from the BSHS conference website: <http://www.bshs.org.uk/conferences>. Register before **27 May 2010** for a discounted rate.

1.3 Other activities worldwide

1 June

Third Descartes–Huygens Lecture

4.15 pm, Aula Academiegebouw, Domplein 29, Utrecht

Prof. Lawrence Principe, 'Uncovering the secrets of alchemy and its role in the history of science'

Professor Principe is Drew Professor of the Humanities at Johns Hopkins University, and honorary fellow at the Utrecht Descartes Centre. He also holds the F.C. Donders Chair in the Chemistry Department (Faculty of Science, Utrecht University) in the field 'History of Early Modern Chemistry'. The third Descartes Huygens lecture coincides with his inaugural lecture. The lecture is a joint initiative of the Descartes Centre and the Huygens Institute (KNAW).

Entry is free. Drinks will be served afterwards in the Senaatszaal.

10 June

Journée d'étude internationale: 'Mme d'Arconville, femme de lettres, femme de sciences et traductrice au siècle des Lumières'

9.15 am–5.30 pm. Cite des Sciences et de l'Industrie, Salle Painlevé, Bibliothèque des sciences et de l'industrie (entrée Niveau, 1), Paris (Métro: Porte de la Villette)

La cas de Mme Thiroux d'Arconville (1720 – 1805) invite à revisiter 'les passions intellectuelles' et 'l'ambition féminine' mises en lumière(s) par Elisabeth Badinter en dépassant la figure traditionnelle des salonniers. Souvent sous le masque de la traduction et toujours sous celui de l'anonymat, Mme d'Arconville appartient pleinement tout à la fois au monde des lettres et à celui des sciences. Ses *Mélanges de littérature, de morale et de physique* (1775, 7 vol.) témoignent de sa volonté de maintenir l'unité d'une œuvre éclectique. C'est la signification de cette soif d'écriture et de savoir qu'il s'agit de décrypter.

Cette journée s'inscrit dans le prolongement du symposium commun, *Mediators of sciences. Women translators of scientific texts, 1600–1850* au congrès international d'histoire des sciences de Budapest (2009) et de la première année du séminaire *Les langues de l'échange savant, 1660–1840. La traduction scientifique et technique: pratiques et enjeux* au Centre Alexandre Koyré. Programme:

- Marie-Louise Girou-Swidorski (University of Ottawa)
- Julie Candler Hayes (University of Massachusetts, Amherst)
- Élisabeth Bardez (Conservatoire national des arts et métiers)
- Brigitte Van Tiggelen (Mémosciences/Université catholique de Louvain)
- Margaret Carlyle (McGill University)
- Patrice Bret (Centre Alexandre Koyré – CRHST)

- Table ronde, 'Regards croisés sur l'ambition féminine au siècle des Lumières', animée par Brigitte Van Tiggelen, avec Annie Cointre (Université Paul Verlaine, Metz), Jeanne Peiffer (Centre Alexandre Koyré – CRHST), et Jean-Pierre Poirier (auteur de *Histoire des femmes de sciences en France*, 2003).

Organisée par Brigitte Van Tiggelen (email: vantiggelen@memosciences.be) et Patrice Bret.

16 June

Workshop: 'Questioning "occult sciences"'

Laboratoire SPHERE (UMR 7219), Université Paris 7, bâtiment Condorcet, 4 rue Elsa Morante, 75013 Paris

In this workshop, scholars of the occult will question some of the central concepts, such as 'magic', 'occult', 'alchemy' and 'esoteric'. The discussions will evolve around about the meanings of these concepts for early modern actors, how they are related and whether they constitute something that can be called 'occult sciences'. Furthermore, we will debate how these concepts can be used in historiography.

- Introduction by Koen Vermeir (Paris)
- Jennifer Rampling (Cambridge/Leiden), 'Alchemy in England: some problems in the historiography of the occult sciences'
- Steven Vanden Broecke (Gent), 'Magic, reason, and superstition: politicizing the historiography of magic'
- Didier Kahn (Paris), "'Secret sciences" at the time of Montfaucon de Villars' Comte de Gabalis (1670)'
- Ulrike Krampfl (Tours), "'Magic" and the practices of the secret in the early eighteenth century'
- Commentary by Lawrence Principe (Baltimore/Utrecht)

Further information available from the organiser, Koen Vermeir: koen.vermeir@paris7.jussieu.fr.

17–20 June

7th meeting of Science and Technology in the European Periphery

National University of Ireland, Galway, Ireland

The 7th meeting of Science and Technology in the European Periphery (STEP) will be held in Galway, Ireland, from 17 to 20 June 2010. STEP is an international group of historians of science, medicine and technology founded in 1999 by scholars from all over Europe (www.cc.uoa.gr/step). STEP organizes biannual meetings to explore the historical character of science, medicine and technology in regions and societies on the periphery of Europe.

The programme includes two panel sessions on 'Chemical order in transit: comparative studies of the response to the periodic law in various countries from the late 1870s to early 20th century', organised by Masanori Kaji and Anders Lundgren. Papers include:

- Masanori Kaji (Tokyo Institute of Technology), Nathan Brooks (New Mexico State University) and I. S. Dmetriev (St Petersburg State University): 'The early reception of Mendeleev's periodic law in Russia'
- Gisela Boeck (Institute of Chemistry, University of Rostock): 'The periodic table in German popular and school chemistry books at the end of the 19th century'

- José Ramón Bertomeu Sánchez (Universitat de València – CSIC) and Rosa Muñoz Bello (Universitat de València – CSIC): 'Chemical classifications, textbooks and school disciplines in nineteenth-century Spain'
- Pieter Thyssen (Katholieke Universiteit Leuven) and Brigitte Van Tiggelen (Université catholique de Louvain): 'Mendeleev's periodic system in Belgium: a quiet evolution'
- Anders Lundgren (Uppsala University): 'The reception of Mendeleev's periodic system in Scandinavian countries'
- Masanori Kaji (Tokyo Institute of Technology) 'Chemical classification and the response to the periodic law of elements in Japan in the 19th century'
- Commentary by Gabor Pallo (Institute of Philosophy, Hungarian Academy of Sciences)

Further information is available from the scientific committee (email: step2010.galway@gmail.com) or the conference website: <http://www.conference.ie/Conferences/index.asp?Conference=75>.

23 June **'Réorganiser la chimie dans l'entre-deux-guerres: les chimistes face aux enjeux politiques, économiques et sociétaux'**
10.30 am–5.30 pm, 250 rue Saint-Jacques, 75005 Paris

Autour du fonds imprimé de la Maison de la chimie, journée coorganisée par le Groupe d'histoire et de diffusion des sciences d'Orsay (GHDSO) et le Club d'histoire de la chimie (CHC-SCF), dans le cadre du projet de valorisation des collections de la Maison de la Chimie, conservées à la Bibliothèque Sciences de l'Université d'Orsay.

Avec la participation de Viviane Quirke (Oxford), Éric Langlinay (Paris), Michel Letté (Paris), Jacques Breysse (Lyon), Rémi Baillot (Paris), Danielle Fauque (Orsay).

Informations et contact : danielle.fauque@u-psud.fr.

24 June **'Alchemy: Between Science and Religion', ESSWE Thesis Workshop**
P.C. Hoofthuis, Room 1.05, Spuistraat 134, Amsterdam

Further details under 'Graduate Network'.

24–26 June **Scientific Objects and their Materiality in the History of Chemistry Workshop**
Max Planck Institute for the History of Science, Berlin

Commonly, the materiality of scientific objects has been described by two, arguably conflicting, dimensions: First, by studies of materially-intervening practice – the ways in which 'real things' are involved in and condition such practice. Second, by the significance and meaning ascribed to things in discursive practice. These two dimensions are not necessarily in contradiction, and their tension can be used in productive and innovative ways. This conference will build on these traditions and their tensions, focusing multi-disciplinary efforts on a single science and its concepts and objects of inquiry. However, it most importantly seeks to yield new directions in history of chemistry, concentrating on the relation of the concepts of this science, their embodiment in experimental techniques, instruments, and material substances, their representations, and their subsequent re-definition. Although the conference is based on cutting edge themes in history of science and

wishes to contribute to their development, its projected audience escapes the boundaries of this field, and extends into history, science studies, philosophy of science, and of course chemistry itself.

There will be precirculated papers, and short presentations will be given during the workshop. These include:

- Marco Beretta (Bologna), 'Glass and the birth of alchemy'
- Matteo Martelli (Bologna/Pisa), 'Mercury: theory and practice according to Greek alchemical texts'
- Andrea Bernardoni (Firenze), 'The concept of metal in the sixteenth century scholars and engineers' traditions'
- Ursula Klein (MPIWG), 'Material substances'
- Alan J. Rocke (Case Western Reserve University), 'Vinegar and oil: materials and representations in organic chemistry'
- John R. R. Christie (Oxford), 'Phlogiston and the caloric aether in the British chemical community, 1750–1800'
- Lucía Lewowicz, (Uruguay) 'The purloined referent: what the history of "phlogiston" has to say on the relationship between History and Philosophy of Science'
- Stefano Salvia (Pisa), 'Isomorphism. The material biography of a scientific concept'
- Robert Schombs (Cornell University), 'Constructing compounds and communities: The 'Indigogruppe' and the Baeyer group, 1860–1883'
- Klaus Ruthenberg (Coburg), 'Radicals, reactions, realism'
- Jeremiah James (Harvard University), 'Modeling practices and the materiality of the chemical bond'
- Ximo Guillem-Llobat (Valencia), 'Defining, regulating and using saccharin at the birth of the synthetic food era (1888–1914)'
- Mathias Grote (MPIWG), 'Macromolecules as nanomachines'
- Stephen Johnston (Oxford), 'Materiality and museology in the history of chemistry'
- Carsten Reinhardt (Bielefeld), 'Smell. A history of the materialization of a sense'

The workshop is open for a limited number of participants. Registrations are possible until 17 June 2010, by email to carsten.reinhardt@uni-bielefeld.de. (Please note that lunch and dinner are organised for invited speakers only.)

Organised by Michael Gordin (Princeton), Ursula Klein, and Carsten Reinhardt.

3–4
September

150th Anniversary of the *Weltkongress Chemie*

Fakultät für Chemie und Biowissenschaften, Universität Karlsruhe (Th)

The first international congress in chemistry, held in September 1860 in Karlsruhe, Germany, helped trigger the subsequent development of the periodic table by Mendeleev and Meyer. This historic event is commemorated at the '150th Anniversary *Weltkongress Chemie* – Progress and Challenges in Chemistry'. The congress will discuss major breakthroughs made in recent decades, and future challenges. Although primarily a scientific meeting, the congress will open with a historical introduction, 'The chemical revolution in Karlsruhe' by Alan J. Rocke (Case Western Reserve University, Cleveland).

Website: <http://www.chem-bio.uni-karlsruhe.de/weltkongress/index.php>.

18–20
November

'The Circulation of Science and Technology', 4th International Conference of the European Society for the History of Science
Institut d'Estudis Catalans (IEC), Barcelona

The European Society for the History of Science exists to promote European cooperation in the field of History of Science, broadly construed. The conference is intended to stimulate studies and debates about the dissemination of science and technology: first, the circulation of ideas, theories, methods and practices; second, of objects, instruments, machines, artefacts, seeds, plants, minerals, drawings, illustrations, inscriptions, and paintings; third, of texts: manuscripts, printed books, textbooks, journals, letters, book notes; fourth, of scientists and technicians around the world in 'grand tours', trips for leisure, lecturing, business and industrial espionage; and fifth, of information about institutional organization, transmission of knowledge and the influence of local contexts, among others.

The programme includes a panel session on 'Chemical order in transit: comparative studies of the response to the periodic system', co-ordinated by Masanori Kaji (Tokyo Institute of Technology).

Hosted by Societat Catalana d'Història de la Ciència i de la Tècnica (SCHCT)
More information available from the website: <http://taller.iec.cat/4iceshs/>.

2. Calls for papers

9–11 August **International Society for the Philosophy of Chemistry: Summer Symposium 2010**
University College, Oxford

The International Society for the Philosophy of Chemistry (ISPC) is devoted to the international exchange of ideas concerning the philosophical foundations of the chemical sciences and related areas. This exchange fosters discourse between chemists, biochemists, philosophers, historians, sociologists and educators. Philosophy of chemistry concerns both internal questions arising from the methods, concepts, and ontology unique to chemistry and chemical research as well as traditional questions in the philosophy of science, addressed from a chemical perspective.

Abstracts for the 2010 Summer Symposium should be sent before **1 July 2010** to Rom Harré at harre@linacre.ox.ac.uk.

The programme includes plenary sessions and the Distinguished Chemist's Lecture on Monday 9 August, banquet on Tuesday 10 August, and a tour of the Museum of the History of Science on Wednesday 11 August. Further details at the Society's website: <http://ispc.sas.upenn.edu/>

16–18
September
2011

The 8th International Conference on History of Chemistry (8th ICHC)
University of Rostock, Germany

Advance notice: The next biennial ICHC will be held in Rostock in 2011, on the theme of 'Pathways of Knowledge'. The call for papers will be included in *Chemical Intelligence* as soon as it becomes available.

22–24
September
2011

'Alchemy and Medicine from Antiquity to the Enlightenment'
University of Cambridge

Advance notice: An international conference will be held in Cambridge in 2011, exploring interactions between alchemy and medicine. A call for papers will be included in the November issue of *Chemical Intelligence*. Enquiries to Jennifer Rampling (jmr82@cam.ac.uk).

3. Prizes, grants, fellowships

3.1 SHAC grants and prizes

The Partington Prize 2011

Deadline for entries: 31 December 2010

The Society for the History of Alchemy and Chemistry has established the Partington Prize in memory of Professor James Riddick Partington, the Society's first Chairman. It is awarded every three years for an original and unpublished essay on any aspect of the history of alchemy or chemistry. The prize consists of five hundred pounds (£500).

The competition is open to anyone with a scholarly interest in the history of alchemy or chemistry who, by the closing date of 31 December 2010 has not reached 35 years of age, or if older has completed a doctoral thesis in the history of science within the previous three years. Scholars from any country may enter the competition, but entries must be submitted in English and must not have been previously submitted to another journal. The prize-winning essay will be published in the Society's journal, *Ambix*. One hard copy of the entry, word processed on one side of the paper, should be submitted, along with a copy of the entry on disc. We prefer files to be in Microsoft Word XP, if possible. Essays must be fully documented using the conventions used in the current issue of *Ambix*. Essays must not exceed 10,000 words in length, including references and footnotes. All entries must be submitted with a word count.

All entries should be sent to John Perkins, Hon. Treasurer, Centre for Health, Medicine and Society, Oxford Brookes University, Gipsy Lane, Headington, Oxford OX3 0BP, with the words 'Partington Prize' written clearly on the envelope. Each entry should contain a **separate** title page giving the author's name, institution, postal address, email address and date of birth (and if relevant the date of completion of their thesis). The author's name and contact details **must not** appear on the pages of the essay as the identity of the author will not be made available to the judges. Essays (no more than one from each competitor) must be received no later than 31 December 2010.

The decision of the judges appointed by the Council will be final. The Society reserves the right to divide the prize between two or more entries of equal merit, or not to award a prize should no essay be deemed of suitable standard.

The name of the winner will be announced by 30 April 2011, and all essays will be returned to competitors soon after that date.

Society for the History of Alchemy and Chemistry Award Scheme 2010

Deadline for applications: **31 May 2010**

There is still time to apply to the 2010 **Award Scheme**. The Award Scheme is open to all members of the Society, both in the UK and abroad. Awards do not have to be held in the UK. Please contact g.taylor@ucl.ac.uk for an application form.

Two types of award are available: support for research into the history of chemistry or history of alchemy by **New Scholars** and support for **Subject Development** of either history of chemistry or history of alchemy.

The **New Scholars** Award is open to postgraduates (both masters and doctoral students) and those who have obtained a PhD within five years of 1 January of the year in which the application is made. Awards will cover research expenses, including travel, accommodation, subsistence, the reproduction of documents, and library fees. In addition, postgraduate students may apply for the costs of travel to conferences and accommodation, but only in order to give a paper.

Subject Development awards will be made to support activities including, but not limited to, seminars, workshops, colloquia, lecture series, conference sessions, conferences, exhibitions and outreach activities that support either the history of chemistry or history of alchemy as academic subjects.

Society for the History of Alchemy and Chemistry Development Fund

In addition to the Award Scheme, support may be available on an ad hoc basis for projects which contribute to the field of history of chemistry or history of alchemy. Enquiries should be made to the Hon. Secretary (g.taylor@ucl.ac.uk).

3.2 Other prizes, grants and fellowships

Roy G. Neville Prize in Bibliography or Biography 2009

The third annual Roy G. Neville Prize in Bibliography or Biography has been awarded to Professor William H. Brock, for his book, *William Crookes (1832–1919) and the Commercialization of Science*. The Neville Prize, established in 2006, is presented annually by the Chemical Heritage Foundation to recognize an outstanding monograph in the areas of the chemical and molecular sciences. It recognizes either a monograph that contributes to our bibliographical knowledge of the chemical and molecular sciences; or a major work of biography in the chemical and molecular sciences. The prize was awarded on Thursday, 15 October 2009 at the Chemical Heritage Foundation's Board Dinner.

For further details of the Neville Prize, and Professor Brock's contribution, see: <http://www.chemheritage.org/events/event-nav2-neville.html>.

Paul Bunge Prize of the German Chemical Society / Gesellschaft Deutscher Chemiker 2010

Dr Henning Schmidgen, research fellow at the Max-Planck-Institut für Wissenschaftsgeschichte, has been awarded the Paul Bunge Prize 2010 for his contributions to the historical study of scientific instruments, including his monograph, *Die Helmholtz-Kurven. Auf der Spur der verlorenen Zeit*, and his work on

the internet project 'Virtual Laboratory'. The prize was presented on 13 May, at the conference of the Deutsche Bunsen-Gesellschaft für Physikalische Chemie in Bielefeld.

Paul Bunge Prize 2011

Closing date for nominations: 30 September 2010

The German Chemical Society (Gesellschaft Deutscher Chemiker) extends an invitation for international applications for the Paul Bunge Prize 2011, awarded by the Hans R. Jenemann Foundation, which is administered by the German Chemical Society and the German Bunsen Society for Physical Chemistry (Deutsche Bunsen-Gesellschaft für Physikalische Chemie).

The prize is endowed with 7500 Euro and honours outstanding publications in German, English or French in all fields of the history of scientific instruments. In addition to the scientific work, applications should also include a curriculum vitae and a list of publications. The deadline for nominations and self-nominations is September 30, 2010. The Advisory Board of the Hans R. Jenemann Foundation will decide on the prize winner.

The prize is named after the most important designer of analytical, assay and high-performance precision balances in the second half of the nineteenth century, Paul Bunge. It will be awarded in May 2011 on the occasion of the conference of the Deutsche Bunsen-Gesellschaft für Physikalische Chemie.

Please submit your nominations by 30 September 2010, to

Gesellschaft Deutscher Chemiker
Barbara Köhler, b.koehler@gdch.de
Varrentrappstr. 40-42
60486 Frankfurt am Main
Germany

Joshua Phillips Award for Innovation in Science Engagement 2010

Closing date for nominations: 10 September 2010

Nominations for the 2010 Joshua Phillips Award for Innovation in Science Engagement are now open. The Josh Award is an annual award that recognises excellence and innovation in science engagement. The winner will be announced and presented with the award at the Manchester Science Festival this October.

The award is open to anyone involved in science engagement, who is recognised as an up and coming talent, with innovative and new ideas. As well as a cash prize and a trophy, the winner will be appointed Science Communicator in residence at the 2011 Manchester Science Festival.

Previous winners include Chris Smith from the Naked Scientists, Karen Bultitude from the University of the West of England and David Price from Science Made Simple.

To find out more and download the nomination form and guidelines head to the Manchester Science Festival website:

<http://www.manchestersciencefestival.com/news/joshaward2010>.

Travel grants, Chemical Heritage Foundation, Philadelphia

There is no deadline for travel grant applications. Applications can be submitted at any time and are assessed by an internal CHF review committee. A travel grant application must contain:

- A research proposal that also details how the applicant will make use of CHF's collections (one page)
- A curriculum vitae (up to three pages)
- One reference letter (applicants are responsible for references submitting letters directly to CHF via the email address below)

Travel grant applications must be submitted electronically, as Word or PDF files, to: travelgrants@chemheritage.org.

4. SHAC Graduate Network

The SHAC Graduate Network aims to stimulate research into the history of alchemy and chemistry worldwide, by providing research training, grants and networking opportunities for postgraduate students and postdoctoral researchers working in these fields. As part of this scheme, postgraduates and early career researchers are eligible to apply for grants towards the cost of research (the **New Scholars** Award, section 3.1 above). The Society also organises an annual workshop for students and junior scholars, focusing on methods, sources and approaches in the history of alchemy and chemistry.

For further details on the Graduate Network and planned events, please contact Jennifer Rampling at jmr82@cam.ac.uk.

4.1 Graduate Network events

January 2010: SHAC Postgraduate Workshop in the History of Alchemy and Chemistry

The SHAC Graduate Network held its first postgraduate workshop on Friday 8 January, hosted by the Department of History and Philosophy of Science, Cambridge. This one day event followed the BSHS Postgraduate Conference, encouraging attendance from students working on a variety of topics in the history of science and medicine. The workshop attracted over twenty participants, including junior scholars from Belgium, France, Germany, Greece, Norway, the UK and the USA, with research interests ranging from medieval alchemy and metallurgy to twentieth-century chemotherapy and chromatography.

The workshop focused on the skills and methodologies used in researching chemistry at different points in its history. The day began with a panel on alchemy and early chemistry. Jennifer Rampling, who had recently completed her PhD in the host department, spoke on approaches to primary sources: 'Interpreting alchemy: text, image and practice'. Surviving manuscripts show that printed versions of alchemical works do not always tell the full story. For instance, a famous alchemical poem, *The Vision of Sir George Ripley*, was printed twice as a medieval, English work. From the manuscript record, we learn that the poem was originally composed in Latin, and translated into English only in the 1570s. Even when the origins of their sources are known, historians may struggle to interpret alchemical materials, in which ideas and practices are frequently shrouded in deliberately obscure language and allegorical

imagery. The *Vision*, for instance, describes the death of a toad after drinking the "juice of grapes." The poem refers to a popular alchemical practice in which lead was dissolved in wine vinegar: a relationship which only becomes apparent when we examine other recipes of the period. For some alchemists, the marvellous union of 'mineral' and 'vegetable' ingredients gave this process a dimension beyond the merely practical, alluded to in allegorical works like the *Vision* and the emblematic imagery of the 'Ripley Scrolls'.

Over time these sources have been interpreted in many different ways, and historians of alchemy often express concern that their subject is misrepresented or misunderstood. Karin Ekholm, a doctoral candidate at Indiana University, Bloomington, introduced these issues in her talk, 'Some problems in the history of seventeenth-century chemistry'. Karin outlined the main historiographical debates, referring to the detailed bibliography she provided as a hand-out. Historians still disagree over exactly what alchemical practice entailed: a problem magnified by the text-based nature of most evidence, since few material artefacts survive. One outcome is a scholarly focus on alchemical theories, at the expense of alchemy's role as a practical, experience based craft, allied to other fields, such as mining, metallurgy, and medicine. Another issue is the degree of continuity between alchemy and modern chemistry. Continuist approaches see the theories and practices of medieval and early modern alchemy as having contributed to the development of modern chemistry. The discontinuist position holds alchemy to be essentially different from chemistry: a 'pre-scientific' pursuit, indivisible from cosmological and religious themes. The nature of these disputes demonstrates continuities of a different kind. Many current debates – from the proper decipherment of allegorical language and images, to the over- or under-emphasis on religious interpretation, and the scope of alchemy's contribution to the pursuit of medicine and natural philosophy – echo seventeenth-century arguments on similar topics.

In the second session, Professor Hasok Chang (Science and Technology Studies, UCL) gave a talk titled, 'Why has chemistry become unfashionable for historians of science?' He began with the short answer: "For no good reason." Despite previous heydeys, the history of chemistry is currently less well represented in history of science curricula and publications, and attracts fewer graduate students, than the history of physics or biology. He suggested that the field may suffer from a PR problem: its proponents more focused on technical internal histories, and less willing to jump on history of science 'bandwagons', from sociology of scientific knowledge to cultural history.

However, history of chemistry has its own unique selling points. As a complex physical science, chemistry is central to the understanding of fields as diverse as meteorology and geology, while also inextricably linked to the practical realms of life, from public health to the chemical industry. The "unavoidably material practice" of chemistry involves all the senses in experiencing and understanding matter, while its philosophical dimensions mean that chemistry is well situated within new, integrated approaches to history and philosophy of science. Recent, popular themes in the historiography of science also offer promising routes for historians of chemistry to explore. These include material and visual culture, studies of instruments and laboratories, scientific practices and tacit knowledge, communication and pedagogy, local history, experimental replication, and relations with other fields, such as medicine, industry, and war.

Several of these approaches, including local history, experimental re-enactment, and the boundaries between chemistry and medicine, were investigated in the third session of the day. The afternoon panel took the history of chemistry a century at a

time, from the eighteenth century to the twentieth. John Perkins (SHAC/Oxford Brookes University) began by 'Searching for chemists in eighteenth-century France'. He introduced the social history of chemistry, looking beyond Parisian institutions and well known figures to focus on the lesser-known French provinces. The place of chemistry in local economies, such as the provincial city of Rouen, can be excavated from a range of sources, including the archives of the Parlement and the Intendant, the local press, records of the commercial court, and parish registers, marriage contracts and family reconstitutions. These archives are full of information on chemists, their work, and their professional, social and familial networks, enabling researchers to map the creation of chemistry as a public science in the decades prior to the French Revolution.

In Paris itself, he traced a flourishing chemical world outside the Academie des Sciences, and beyond Lavoisier. There were probably 200 chemistry laboratories in Paris in the 1770s and 80s, although few institutional archival sources or laboratory notebooks survive from this period. However, the French national archives contain millions of eighteenth-century documents, detailing property transactions, marriage contracts, and inventories after death. French periodicals and newspapers can also be mined for information on chemistry, notably advertisements for public and private courses, with details of content, duration, location, fees, and audiences. By tracking down these initially unpromising sources, and adjusting research questions and methodologies to accommodate the new possibilities they raise, historians can map developments often omitted from standard histories.

Pieter Thyssen spoke next, on 'The Replication Method in the history of chemistry: resolving a nineteenth-century priority dispute'. Pieter, a PhD student at the Catholic University of Leuven, looked at the nineteenth-century race to isolate rare earth elements. Similarities in the chemical and physical properties of these elements made it difficult for chemists to isolate individual substances, prompting rare earth specialists to try alternatives to the traditional methods of chemical analysis – for instance, by applying the new spectroscopic techniques developed in Heidelberg in the 1860s. However, the difficulty of interpreting results led to fresh problems, as chemists using different techniques made claims and counter-claims for the discovery of new elements. Thus two chemists claimed priority in isolating a new element from 'didymium', a compound previously thought to have been an element. The Austrian Baron Carl Auer von Welsbach employed a chemical separation technique, while a Czech chemist, Bohuslav Brauner, used spectroscopy. Yet it is not clear whether the two chemists were describing the same material.

Pieter suggested that modern historians might attempt to resolve such priority disputes by replicating Brauner's experiments. The 'replication method' itself raises challenges for historians, from the reconstruction of instruments and acquisition of chemicals, to the recreation of the experiment and contextualisation of the results. Is Pyrex a suitable, modern substitute for Brauner's Bohemian glassware? How to reconstruct a Steinheil spectroscope? And how to obtain 'didymium'? Since this 'element' turned out to be a complex substance, didymium cannot be bought from chemical suppliers; nor is it likely that historians can retrieve its exact composition from literary sources, such as Brauner's laboratory notebooks. Pieter suggested a creative solution: visiting the Bastnäs district, the source of Brauner's minerals, in order to collect materials for laboratory analysis.

The twentieth century was represented by Viviane Quirke, RCUK Academic Fellow in Twentieth-Century Biomedicine and Pharmaceuticals at Oxford Brookes University. Viviane explored the intersections between chemistry and pharmacy in her talk on 'Chemistry, the pharmaceutical industry, and medicine in the twentieth century:

drugs as “boundary objects.”” Drugs provide powerful boundary objects, functioning at once as therapeutic agents, experimental tools, and vehicles for concepts and theories of pharmacological action. These concepts have included competitive antagonism and receptor theory, two of the central tenets of chemotherapy, embodied in drugs such as the sulphonamides, antibiotics, beta-blockers, and anti-cancer treatments. For instance, the isolation of beta-receptor and oestrogen proteins in the late 1960s led to the development of beta-blockers and the anti-cancer drug tamoxifen (the latter originally marketed as a contraceptive). These discoveries offer more to historians than simple ‘drug histories’. As boundary objects, drugs have influenced not only medical, but also lay understanding of health and disease, helping to create a ‘chemical understanding of disease’ (in which the receptors on the surface of cells play a major role). They provide a lens for studying not only the intersection of chemistry and medicine, but also relations between science, technology, medicine, and society more widely.

Each session was accompanied by discussion, which continued over lunch and during breaks. As the meeting closed, participants braved the icy streets of Cambridge in order to continue their deliberations in the pub.

Jennifer Rampling

The Second SHAC Postgraduate Workshop in the History of Alchemy and Chemistry will be held in Cambridge in September 2011, on the theme of ‘The material culture of chemistry’. More details, including a call for papers, will appear in the next issue of *Chemical Intelligence*.

4.2 Graduate Network awards

Conference grants: SHAC Postgraduate Workshop

The Society awarded three travel bursaries to support the attendance of graduate students at the SHAC Postgraduate Workshop on 8 January 2010. Awards were made to Mr Apostolos Gerontas (Norwegian University of Science and Technology), Mrs Flora Paparou (University of Athens), and Mr Amin Turki (Ecole Normale Supérieure, Paris).

4.3 Other graduate events

24 June **ESSWE Thesis Workshop: ‘Alchemy: Between Science and Religion’**
P.C. Hoofthuis, Room 1.05, Spuistraat 134, Amsterdam

A one day workshop for graduate and postgraduate students organised by the Chair for History of Hermetic Philosophy and Related Currents, University of Amsterdam, and sponsored by ESSWE (European Society for the Study of Western Esotericism).

Throughout the day, international scholars from varying perspectives (cultural, intellectual, history of science) will present papers, discuss issues around framing research questions, and reflect on the importance of developing the skills necessary to successfully carry out research. This workshop will provide an opportunity for graduate and postgraduate students to engage with specialists in the history of medieval and early modern alchemy, and others more broadly based in the field of Western Esotericism. While the focus of our three specialist speakers is on alchemy, time will be available for students to interact with the scholars and discuss more general strategies for research,

such as the issues of definitions, typologies, disciplinary boundaries and interdisciplinarity, questions of primary and secondary sources, publication, networking and other practical matters of a scholarly life. The chronological focus will not be restricted to the Early Modern period, but will range from the Middle Ages to the 20th Century.

The day will be divided into three parts:

1) Oratory: Presentations by guest speakers.

- Lawrence Principe (Johns Hopkins University)
- Stephen Clucas (Birkbeck, University of London)
- Jennifer Rampling (University of Cambridge)

2) Laboratory: Students have the opportunity to discuss practical research issues with the following scholars, in addition to the speakers: Jean-Pierre Brach, Antoine Faivre, Peter Forshaw, Nicholas Goodrick-Clarke, Wouter Hanegraaff, Boaz Huss, Andreas Kilcher, Marco Pasi, Mark Sedgwick, and György Szőnyi.

3) A roundtable discussion focused on specific themes:

- Definitions and typologies: issues of terminology, reification, essentialism, actors' categories
- Boundary work: magic, science and/or religion; hybridity
- Alchemy and culture (elite, court, popular)

This is a free event and we are seeking funding for student bursaries to assist with travel. To book a place, contact Peter Forshaw (p.j.forshaw@uva.nl), or for more details visit http://esswe.org/agenda_detail.php?agenda_id=69.

1–2 July

Research training: 'Theories and Methods: Literature, Science and Medicine'

Royal Institution of Great Britain and the National Maritime Museum, London

Applications are now open for the third event in the AHRC-funded 'Theories and Methods: Literature, Science and Medicine' training programme (www.litscimed.org.uk).

Day 1: Using History of Science Archives (Royal Institution of Great Britain)

Day 2: Exploring Science, Literature and Objects (National Maritime Museum)

There will be twenty funded places given to doctoral students for this training event. Bursaries are available for travel/subsistence and accommodation. Applications must be submitted by **1 June 2010** (forms and a provisional programme are available at <http://litscimed.org.uk/page/event3>). We hope to confirm places by Tuesday 8th June 2010.

Even if you have applied but been unsuccessful in applications for previous events we encourage you to put in an application for this and future events. We should note, however, that it is unlikely that MA or non-UK based students will be given places.

5. Reports

75th Anniversary report

The Origins of the Society for the History of Alchemy & Chemistry

The Society for the Study of Alchemy & Early Chemistry (to give the present society its original title) was founded in November 1935 when a Committee (later Council) was formed and advertised widely in the national press during the following month. Although the society apparently held no open meeting until one at University College London in November 1936, papers were solicited and accepted for delivery at the inaugural meeting and the launch of the journal *Ambix* in May 1937.

Interest in alchemy among historically-minded chemists had increased during the 1920s and 1930s. This paralleled a growing worldwide interest in the history of science. A new department for the academic study of the history of science had been established at University College London in 1926 and regular courses on the history of chemistry began to be taught by the former chemist Douglas McKie. In 1931 an important and influential international congress devoted to the history of science met in London. Five years later, in 1936, McKie was one of the figures behind the creation of a new journal called *Annals of Science* which was to be dedicated to the publication of research in history of science, medicine and technology. One of the major pieces of research published in the new journal was a collaboration between McKie and James Riddick Partington on the development of the phlogiston theory and its downfall. The 1930s were also the decade in which Ernest Rutherford's work on nuclear chemistry was extended when John Cockcroft and Ernest Walton split the atom and when physicists revealed the real possibility of the transmutation of elements. Chemists' minds were inevitably directed to the history of their discipline and the ideas and practices of their alchemical forebears.

The 1920s and 1930s were decades in which there was intense interest in anthropology and archaeology, and in the historical cultures of Egypt, Greece, India and China. At least seven of the original Council of twelve of the Society for the Study of Alchemy and Early Chemistry had interests in anthropology and early cultures. The physical chemist, J. R. Partington, published the archaeologically-informed *Origins and Development of Applied Chemistry* in 1936 as well as a tremendously influential *Short History of Chemistry* in the following year; he had also drawn attention to Chinese alchemy in several articles published in *Nature*. The organic chemist John Read published his entertaining *Prelude to Chemistry* in 1936, while in Germany the scholar Julius Ruska had been actively revealing details of Persian and Arabic chemical and mineralogical knowledge since the 1920s. His findings on alchemy were summarised in an edition of the *Turba Philosophorum* in 1931. Meanwhile, Eric Holmyard, a chemistry science teacher at Clifton College who had taught himself Arabic, published a book on Avicenna in 1927 and many historical books, such as the popular *Makers of Chemistry* (1933). Most importantly of all, the chemist Frank Sherwood Taylor, who became Partington's colleague in the chemistry department of Queen Mary College, published an exciting essay on Greek alchemy in the *Journal of Hellenic Studies* in 1930. This was capped in 1934 when the American academic A. J. Hopkins produced his *Alchemy Child of Greek Philosophy*. A year later, the Swiss psychiatrist Carl Jung began to give his first lectures on the psychological interpretation of alchemy.

It seems clear, then, that November 1935 was the right moment for Partington, McKie and Taylor to create a society to study and interpret alchemy and early chemistry. Its object would be "the study of alchemy and early chemistry in their

scientific and historical aspects, and the publication of relevant material.” The emphasis on *scientific* aspects was obviously to deter the interests of the occultists who had largely predominated in the membership of the earlier Alchemical Society that had flourished between 1912 and 1914. An exception was made for Gerard Heym, an Anglo-German occultist and student of Jung’s who was a member of a number of secret societies that had spawned from the original Hermetic Order of the Golden Dawn. He was undoubtedly elected a member because he owned one of the finest collections of alchemical books in the British Isles.

Unfortunately, like the earlier Alchemical Society, the Society for the History of Alchemy & Early Chemistry was forced to close down for the duration of the Second World War. But unlike the earlier society, Partington, McKie and Taylor were successful in re-establishing it in 1946 despite the post-war austerity that lasted until the 1950s. As the Society celebrates its 75th anniversary in 2010 it can be seen that its continuing success, and the international reputation of *Ambix*, owes much to its several chairmen, its many dedicated secretaries and treasurers, and the successive editors of its flagship journal.

W. H. Brock

5.1 SHAC events

November 2009:

‘Chymistry and mechanism in the seventeenth and eighteenth centuries’

On Saturday 14 November 2009, The Society for the History of Alchemy and Chemistry held a meeting at Birkbeck College, Malet Street, London, entitled ‘Chymistry and Mechanism in the Seventeenth and Eighteenth Centuries’. This meeting is the first leg in a two part collaborative colloquium with Universités de Lille 1 and 3, and all the papers given were presented by speakers from Lille. The second part will take place in June 2010 in Lille.

The first speaker, Solange Gonzalez, spoke on ‘The role of chemistry in the debates on occasionalism in the second half of the seventeenth century’.

Descartes identified matter as nothing more than extension, and mundane change as matter in motion. The doctrine of occasionalism subsequently limited the agency of matter even further by claiming that all events are caused directly by God: matter does not even act as a secondary cause. How did chymistry, with its principles and active matter, fare within this post-Cartesian philosophical context?

Géraud de Cordemoy (1626–1684) accepted Descartes’ premise that the fundamental structure of matter should be deduced from the properties of extended substance. He distinguished a prime matter of ultimate corpuscles which combine to create the higher order of indivisible bodies, which in turn make up mixed substances. All change is in principle explained by the movement and rearrangement of minute parts, but Cordemoy made no attempt to connect his theoretical discourse with the actual properties of bodies. He presented classic chymical processes such as fermentation and digestion as merely mechanical transformations. In this programme driven by metaphysical concerns, one might say that chemical phenomena are to be explained away rather than explained.

But this was not the only response to Descartes’ legacy. Pierre-Sylvain Régis (1632–1707) was equally committed to Cartesianism but had a far more substantial exposure to chemical teaching, particularly through Lémery’s *Cours de chymie*. He

recognised the practical and explanatory utility of chemical principles but interpreted them as made up of elementary subtle matter, variously configured by its passage through the differently shaped internal pores of the earth. Although retaining this link to Cartesian physical foundations, Régis did not pretend that the hypothetical constructions of theoretical chemistry attained the metaphysical certainty that Descartes demanded of natural knowledge.

These two case studies displayed the difficult epistemological position of chemistry in later seventeenth-century France. For Cordemoy, adherence to a Cartesian theory of matter left no room for a distinctively chemical explanation of phenomena; for Régis, the remote abstractions of Cartesian matter gave a freer, but less demonstrative, hand to autonomous chemical enquiry.

The second speaker, Anne-Lise Rey, gave a paper on 'The place of chemistry in the natural philosophy of G. W. Leibniz: The Leibnizian understanding of chemical changes of matter in the correspondence between Hartsoeker and Leibniz'.

In this paper Anne-Lise Rey examines the correspondence between Leibniz and the chemist Nicolas Hartsoeker from December 1706 to December 1710 on the subject of the reality of chemical principles, and shows that, for Leibniz, chemistry was neither a science nor a principle of intelligibility, but had a purely heuristic value (allowing the natural philosopher to perceive the results of imperceptible processes).

Hartsoeker was an atomist who maintained that chemical principles were the elementary material components of all substances. Leibniz, however, insisted that the principles of the chemists were both indemonstrable and theoretically impossible. Rey shows how Leibniz's philosophical commitments to the infinite divisibility of matter and to a vitalist conception of matter as endowed with soul and perception leads him to oppose the idea of chemical principles. For Leibniz, chemical principles could not be elementary, but could always be decomposed into simpler bodies. He also denied that as a purely material substrate chemical principles could account for the production or destruction of substances in nature, which must be the result of an internal active principle. Rey shows that chemical principles fell between the two levels of the intelligibility of bodies recognized in the Leibnizian system: the dynamic and the organic. Chemical principles, understood as primary elements did not accord with Leibniz's conception of sufficient reason, which gave intelligible form to material reality.

For Leibniz the status of chemical principles and physical atomism was illusory and fictional. The explanations of the chemists were conjectural – they appealed to the imagination, but gave no real account of the reality of material transformations. Rey rejects the idea that there is a Leibnizian atomism. While Leibniz referred to the monad as a 'metaphysical' or 'spiritual' atom, there is an irreducible difference between Leibniz's philosophy and the atomism of the chemists of the second half of the seventeenth century – while for the latter the atom is a material substrate which can meaningfully account for the perceptible transformations of bodies, for Leibniz lifeless material atoms could never account for the orderliness and harmony we see in the material universe.

The meeting broke for lunch, during which the AGM of the Society was held.

The first speaker after lunch was Bernard Joly, speaking on 'Between Newton and Stahl, Etienne-Francois Geoffroy and the chemical mistrust of mechanism'. This paper delved into what is a long standing debate in history of chemistry – the question of whether E.F. Geoffroy, the originator of the first affinity table in the early eighteenth

century, can be labelled as a Newtonian, a Cartesian or a Stahlian. Joly argues that it is impossible to assign a decisive position to Geoffroy, whose work was influenced predominantly by his laboratory experiences, as well as by Stahlian, as well as Newtonian ideas. He claims that Geoffroy's reluctance to join the mechanist ideas inspired by Cartesianism was more due to his attachment to an alchemical tradition as renewed in the work of Stahl as much as any interest in the works of Newton.

In 1698, as Joly explains, Geoffroy visited England (as yet a very young man), during which visit he met Hans Sloane and was elected FRS. Geoffroy established a regular correspondence between himself and Sloane, and became an intermediary between the Royal Society and the Academie Royale des Sciences. Much of this correspondence survives and Joly draws heavily on it for his argument, including one letter concerning the appointment of British philosophers as *associé étrangers* in which Newton was described as having been "contemptuous of this mark of distinction" [my translation]. Newton had not seen fit, despite having had the title of *associé étranger* conferred on him, to communicate with the Academie. In his discussion of chemical and philosophical matters, however, Geoffroy seems to have been cautious in his approach to Newtonianism. As Joly shows, although some remarks might be interpreted as demonstrating his adherence to Newtonian thinking, the same remarks might just as easily be interpreted as showing the opposite.

Joly also distinguishes between the chemical content of Geoffroy's affinity table, which clearly drew on a Stahlian modernisation of traditional alchemical chemistry, and the idea itself – of bringing together these experiments into a table and arranging them in order of 'rapports'. The latter idea appears thoroughly Newtonian, and indeed did so to Geoffroy's successors. However, Joly argues, where Newton utilised chemistry only to buttress his general thesis, Geoffroy held strictly to the chemical domain.

Much of Geoffroy's own chemical work, as communicated to the Royal Society and published in the Philosophical Transactions, was notably influenced by the works of Stahl and Becher, and by an older chemical tradition, to the extent that his Cartesian rivals, the Lémerys, criticised his work and his reluctance to adopt a reductionist mechanism. The Lémerys took issue with Geoffroy both on the grounds of his references to Stahl and Becher while at the same time suspecting him of an adherence to Newtonianism. In their eyes, what all these doctrines had in common was their lack of accommodation of the mechanist reduction of the objects of chemistry to form, extension and movement that, for them, constituted modern chemistry. Geoffroy, Joly argues, did not respond dogmatically to these attacks, nor did he adopt the posture of either a Newtonian or a Cartesian. He was simply a chemist. This, he argues, was what made his table des rapports, so successful.

The final speaker, Remi Franckowiak of Universités de Lille 1 and 3, spoke on 'Du Clos and the Mechanization of Chemical Philosophy'. This paper explored ten papers read by Samuel Cottureau Du Clos 1669 to the Academie Royale des Sciences in Paris on the subject of Robert Boyle's *Tentamina Chimica*. Rather than discussing directly Du Clos's view of Boyle's work, Franckowiak sought to use his discussion of the latter to elucidate Du Clos's own philosophy of chemistry. He sought to show that Du Clos aimed to introduce some mechanical considerations about a divisible and passive matter that can be driven by the action of a cause, while at the same time reducing the tangible properties of bodies to substantial qualities attached to the chemical principles of which they were made.

Du Clos sought to apply Boyle's own practice to his *Tentamina Chimica* in confronting his doctrine with his practice as set out in that work. He also confronted it with his

own experiments, performed before his Academician peers. He showed that in many of the cases cited by Boyle, there was no cause of the motion that resulted in new arrangements of particles. Rather than calling into question Boyle's experiments, he simply rejected their interpretation.

However, as Franckowiak shows, Du Clos did not reject mechanical considerations entirely. Indeed he did refer to particles in motion which can unite and bind, but he confined these kinds of explanations to tangible bodies only. Du Clos's chemical philosophy combined a Paracelsian idea of two realities (one a tangible part, concerned with mechanical explanations only and the other a spiritual matter full of forces and qualities) with a more complex scheme that saw each body as composed of three principles – a 'nature' principle, active and incorporeal, an informative cause that takes place in the 'body principle. The latter is concrete and passive and is made up of the element of water, to which air and earth elements are attached. The 'spirit' principle is intermediate between the nature principle and the body principle, establishing a link between the two instances of reality for the constitution of natural mixts. Franckowiak demonstrates how Du Clos utilised this system to provide both mechanical and chemical explanations of chemical occurrences, although the mechanical approach is only justified as a first and superficial approach to laboratory phenomena.

Du Clos's chemistry thus mixes chemical and mechanical reasoning in a complementary way. Franckowiak describes Du Clos's chemistry as a "chemical physics", aiming for knowledge of causes of natural phenomena and natural principles of bodies by experimental practice. But particles, for Du Clos, do not represent the ultimate foundation of matter – the true causes must be sought on a more fundamental, chemical, level where the qualities of a substance are the expression of an interior chemical activity. As Franckowiak concludes "Du Clos, in the History of Chemistry, may be the first after Boyle to equip chemistry with mechanical explanations, which in addition is in a perfectly coherent form with a chemistry of the principles."

The meeting closed with a short reception.

Georgette Taylor (Hon. Secretary)
Stephen Johnston (Museum of the History of Science, Oxford)
Stephen Clucas (Birkbeck, University of London)

December 2009–May 2010: AD HOC – History of Chemistry Discussion Group

This year has been a full programme for AD HOC, which attracted 17 attendees over the course of the year, with an average of 8.8 attendees per month. The participants have a wide range of affiliations, including UCL (STS), UCL (Chemistry), Imperial/UCL, the Open University, University of Cambridge, Harvard University, Indiana University, *New Scientist*, the Royal Institution, the Science Museum, and the Wellcome Trust Centre for the History of Medicine at UCL.

The SHAC funding has allowed us to have tea and biscuits at each monthly meeting as well as paying for the administration of the group. Our readings this year have been:

December 2009: 'Alchemy'

Thomas Norton, *The Ordinall of Alchemy* (extracts); William Newman, 'Alchemy, assaying and experiment', in F. L. Holmes and T. H. Levere (eds.) *Instruments and Experimentation in the History of Chemistry* (Cambridge, MA, 2000)

January 2010: 'Alchemy II'

Tara Nummedal, *Alchemy and authority in the Holy Roman Empire* (Chicago, 2007), introduction and chapter 4

February 2010: 'From Alchemy to Chemistry'

John Read, *From Alchemy to Chemistry* (London, 1961), chapter 6 ('The diversity of alchemists'); E.J. Holmyard, *Alchemy* (Harmondsworth, 1957), chapter 6 ('Early Western alchemy')

March 2010: 'Chemistry and Mineralogy'

David Knight, 'Chemists get down to earth', in C.Lewis and S.Knell (eds.) *The making of the Geological Society of London* (London, 2009); Matthew Eddy, *The language of mineralogy: John Walker, chemistry and the Edinburgh Medical School, 1750–1800* (Burlington, VT, 2008), chapter 4

April 2010: 'Synthetic Chemistry'

Roald Hoffmann, *The same and not the same* (New York, 1995), chapters 19–26

May 2010: 'Liebig'

Justus von Liebig, *Familiar letters on chemistry*, 3rd ed. (London, 1851), letters 3 and 4

Rosie Coates (UCL, Chemistry)

Hasok Chang (UCL, STS)

5.2 Reports on SHAC Award Scheme 2009

SHAC Subject Development Award: 'The Collected Davy and his Circle Letters edition'

We are very grateful to the Society for the History of Alchemy and Chemistry for their contribution towards the production of a Calendar of the Letters of Humphry Davy and his Circle. The Calendar is the first stage of an intended project to publish, for the first time, the Collected Letters of Humphry Davy and his Circle. The project team comprises Professors Tim Fulford (Nottingham Trent University), Frank James (Head of Collections, Royal Institution), Jan Golinski (University of New Hampshire), David Knight (University of Durham), and Sharon Ruston (University of Salford). The SHAC grant accompanies other small grants provided by the Wellcome Trust, the British Academy, and the British Society for the History of Science that will enable us to produce an online, searchable Calendar of the 1000 known (over half of which are unpublished) Davy and his Circle letters, which will be of inestimable interest and assistance to researchers of early nineteenth-century scientific and literary culture. The Calendar will eventually be hosted on the Royal Institution's website.

Davy was the foremost scientist of his day, his wife, Jane, corresponded with many of the key literary figures of the time, and his brother John was the Inspector General of Hospitals. The editors possess, and have permission to use, a typescript of 763 letter transcriptions prepared by the late Jane Fullmer, one of Davy's foremost biographers. Enquiries made of archives worldwide have identified further letters not known to Fullmer. The SHAC grant specifically will cover the cost of entering transcriptions of

the new letters into the online database. The database created will be searchable by address, addressee, archive, date, among other search terms, facilitating the historical study of Davy, early nineteenth-century science and literature, and publishing for the first time a comprehensive list of known correspondence.

Born in Penzance, Cornwall, Davy rose to prominence at the Pneumatic Institute in Bristol, before moving to the Royal Institution in London, and eventually becoming President of the Royal Society. He was the first to isolate the elements sodium, potassium, barium, strontium, calcium, boron, and magnesium—the largest number credited to any individual discoverer. Davy's letters illuminate the major achievements of his scientific career and his relations with other leading men of science. They document his early work on natural philosophy and pneumatic medicine, under the direction of Dr. Thomas Beddoes in Bristol. After Davy's move to London, his distinguished scientific correspondents included J. J. Berzelius, H. C. Ørsted, Joseph Banks, A. M. Ampère, John Dalton, Michael Faraday, Georges Cuvier, E. D. Clarke, W. H. Wollaston, William Buckland, William Whewell, H. C. Schumacher, and Alexander von Humboldt. These letters document Davy's work on electrochemistry and electromagnetism, mineralogy and geology, and his collaborations with other chemists such as J. G. Children and W. H. Pepys. They illuminate the controversy that initially followed his identification of chlorine as an element and his experiments on fluorine and iodine. The experimental work leading to development of the safety lamp and the subsequent dispute concerning credit for that invention are also covered.

The Collected Davy and his Circle Letters edition promises to reveal much about Davy himself, his wife and brother, and the milieu in which they lived.

Sharon Ruston
Chair in Nineteenth-Century Literature and Culture
University of Salford

SHAC New Scholars Award: 'The development of Guyton de Morveau's course of chemistry in Dijon'

In the 18th century France, province academies had an essential role in the process of social recognition of scientific knowledge. Financially supported by the 'États du Duché de Bourgogne', the Academy of Dijon offered annually (from 1776 to 1793) to the public a free course on chemistry and mineralogy. During three months, three weekly sessions of about 2 hours each were offered to a varied public at the academy's laboratory, that could accommodate around 50 people. L-B. Guyton de Morveau was primarily responsible for the creation of this course, as well as for its administrative and pedagogical organization. Although it included the study of vegetal and animal chemistry, the central purpose of the course was teaching mineral chemistry and its relation with mineralogy. Starting in the second year, the students had access to a textbook.¹

The pedagogical organization of this textbook is based on a theoretic-experimental conception of chemical science as the branch of natural history which investigates the

¹ For a description of the pedagogic organization of the course, see the textbook, *Éléments de Chymie Théorique et Pratique, rédigé dans un nouvel ordre, d'après les découvertes modernes, pour servir aux Cours publics de l'Académie de Dijon*, Dijon, Frantin, 3 volumes, 1777/78. For the development of the course see the periodical, *Nouvelles de la République de Lettres et des Arts* (1779-88); the *Registre de l'Académie de Dijon* (1777-1793), Archives privées de l'Académie des Sciences, Arts et Belles-Lettres de Dijon, Bibliothèque de Dijon; and Claude-Antoine Prieur, *Leçons du Cours de Chymie de l'Académie de Dijon, commencé le 25 février 1789, par M. de Morveau, Chaussier et Jacotot écrites de mémoire et d'après les notes prises à la leçon même*, Ms. 193, Bibliothèque Interuniversitaire de Pharmacie, www.biup.univ-paris5.fr/manuscrits.html.

processes of dissolution and crystallization. Guyton's proposition was extremely original, since it tried to explain all chemical operations from a theoretical approach based on a reinterpretation of Stahl's chemistry, uniting phlogiston to the solution theory of Boerhaave, through a Buffonian version of Newton's attraction theory. In fact, this Guytonian synthesis consists of the first entirely Newtonian explanation of chemical operations proposed by a French chemist. That is, Guyton successfully achieved Macquer's objective of building a 'chimie physique'. The textbook is divided into 20 chapters, one for each solvent. These solvents, conceived as instruments in chemical operations, are organized in a synoptic table that presents the same prognostic characteristics as Geoffroy's affinity table. In fact, this table represents Guyton's conception that chemistry is the science of dissolutions and unites the left part of Geoffroy's table (in which water is the solvent) with the right part (where fire is the solvent).

To strengthen the interest in the course and to guarantee its continuity, the chosen strategy was to renew the experiments annually. This allowed for a continuous updating of the course, with the integration of new experimental features into a permanent theoretical basis. The study of this pedagogical method makes it possible to understand not only the evolution of Guyton's chemical thought, but also its relation to the ideas of his most frequent correspondents (Macquer, Bergman, Kirwan, Berthollet and Lavoisier). This research allows us to refute the traditional description of Guyton de Morveau's intellectual path. For a historiography of chemistry centered in the works of Lavoisier, Guyton de Morveau frequently appears as a fervent supporter of the theory of phlogiston who, after some reluctance, is converted into the new theory of combustion/calcination/acidity by oxygen (1787) and starts to collaborate in the construction of a new chemical language. However, the intellectual relation between Guyton de Morveau and Lavoisier is a lot more complex than a 'paradigmatic conversion'. After arriving at a conclusion on the subject of the nature of 'airs' and the composition of certain substances, the specificity of Guyton's chemical theory allowed him to associate the 'instrumental functions' of phlogiston to the caloric of Lavoisier. Moreover, his role in the elaboration of a new nomenclature is not restricted to a 'namegiving technique' developed previously (1782) in translating Lavoisier's linguistic philosophy, but constitutes an original contribution with a philosophical basis which differed from the 'Condillac-Lavoisier project'. Thus, instead of a 'conversion', the relation must be understood as a 'theoretical convergence' in the explanation of phenomena central to the chemistry of the 1780s.

Finally, using a course manuscript from 1789 (of Claude-Antoine Prieur), we were able to analyze the chemistry taught by Guyton after his partnership with Lavoisier. This manuscript allows us to conclude that there was no 'revolutionary rupture' in the chemical teaching at the Dijon Academy, which continued to integrate new experimental features into a theoretical basis that, while improving, continued to see chemistry as the science of the dissolutions and reciprocal attractions.

Ronei Mocellin
Université Paris Ouest

6. News and resources

Back issues of *Ambix* available online

The digitisation of the back issues of *Ambix* from Volume 1 (1937) is now complete and they are available to members of the Society to read or download from the

IngentaConnect website. Access to them is via the 'Member's Services' page on the Society's website at www.ambix.org. This page may be accessed from the home page via a username and password which have been emailed to members. If you have any problems or wish to enquire about membership please contact the Hon. Treasurer, John Perkins, shacperkins@googlemail.com.

The Chemical Heritage Foundation Beckman Center for the History of Chemistry: Fellows for 2010–2011

The Chemical Heritage Foundation is pleased to announce the appointment of the Beckman Center Fellows for the academic year 2010–2011. CHF will welcome six long-term fellows and nine short-term fellows. Below are the fellows, their affiliations, and the title of their research topics.

Long-Term Postdoctoral Fellows:

- Tayra Maria Carmen Lanuza-Navarro (University of Valencia, Spain), Edelstein Fellow: 'Alchemy, astrology and books of secrets: ideas and practices before the Spanish Inquisition'
- Donna Messner (University of Pennsylvania), Cain Fellow: 'The origins of medical foods and their regulation'
- Cesare Pastorino (Indiana University), Cain Fellow: "'Minerall Tryalls": metal assaying and experiment in Early Modern England'
- Nasser Zakariya (Harvard University), Haas Fellow: 'The matter of life: the role of chemistry in the scientific epic'

Long-Term Dissertation Fellows:

- Melanie Kiechle (Rutgers University), Haas Fellow: "'The air we breathe": nineteenth-century Americans and the search for fresh air"
- Christine Nawa (Universität Regensburg, Germany), Price Fellow: 'Robert Wilhelm Bunsen's research style and his teaching'

Short-Term Fellows:

- José Ramón Bertomeu-Sánchez (University of Valencia, Spain), Doan Fellow, one month: 'Between science and crime: Mateu Orfila and nineteenth-century toxicology'
- Matthew Crawford (Kent State University), Herdegen Fellow, three months: 'Chemistry in the eighteenth-century Spanish Atlantic: an under-appreciated imperial science?'
- William Goodwin (Rowan University), Allington Fellow, two months: 'Resolving a controversy: the non-classical ion debate'
- Catherine (Cai) Guise-Richardson (Mississippi State University), Ulliot Scholar, two months: 'Mind and matter: the development and marketing of Thorazine and Stelazine at Smith, Kline & French'
- Vangelis Koutalis (University of Ioannina, Greece), Allington fellow, three months: 'The historical significance of chemistry as a philosophical inquiry'
- Jordi Mora Casanova (Universitat Autònoma de Barcelona, Spain), CHF Fellow, three months: 'Alchemical reminiscences of modern chemists in the nineteenth century'
- Alexander Pechenkin (Lomonosov Moscow State University, Russia), Allington Fellow, two months: 'The social history of quantum chemistry in the USSR (1950–1991)'

- Linda Richards (Oregon State University), Doan Fellow, three months: 'Disrupting Hozho: a comparative history of nuclear science and radiation safety in university research and uranium mining'
- John Stewart (University of Oklahoma), Allington Fellow, two months: 'Beyond chemistry: affinity as a unifying principle in science at the turn of the nineteenth century'

Ampère papers at Académie des Sciences, Paris, online from 15 April

Le CNRS et l'Académie des Sciences annoncent la mise en ligne des archives d'André-Marie Ampère (1775–1836) sur le site 'Ampère et l'histoire de l'électricité' (www.ampere.cnrs.fr).

Déjà riche de la correspondance d'Ampère, de ses principales publications et d'un parcours pédagogique multimédia sur l'histoire de l'électricité, ce site développé par le Centre Alexandre-Koyré et le Centre national pour la numérisation des sources visuelles (CN2SV), donne désormais accès à l'un des plus importants fonds d'archives de savants français.

Conservé dans 39 cartons aux Archives de l'Académie des Sciences, le fonds offre, une fois numérisé, la consultation en ligne de plus de 26 000 feuillets. Tous les domaines de la connaissance y sont abordés: mathématiques, physique (en particulier l'électricité qui rendit célèbre Ampère), chimie, sciences naturelles, philosophie, mais aussi poésie et ébauches de tragédies, projet de langue universelle. Restés pour l'essentiel inédits, ces manuscrits éclairent les intuitions et les remaniements de la pensée d'Ampère. Ils esquissent – au travers de documents familiaux et administratifs – la vie sous la Révolution d'un jeune Lyonnais qui devient, au début du XIXe siècle, un membre éminent de la communauté scientifique parisienne aux côtés d'autres grands savants, comme Laplace, Arago ou Cuvier.

La numérisation et la mise en ligne du fonds répondent à un triple objectif : préservation du patrimoine scientifique, diffusion sur le web et enfin valorisation du corpus.

Ce fonds est accessible de trois manières: un 'Aperçu du fonds Ampère', sélection commentée d'une soixantaine de documents, une section 'Parcourir le fonds' qui permet la consultation de l'ensemble des fac-similés des manuscrits, et un 'Inventaire archivistique'.

Au public curieux et non spécialiste, cette mise en ligne permet d'accéder au 'laboratoire' des historiens en présentant leur matériel de travail à l'état brut. Aux historiens des sciences, elle ouvre de nouvelles perspectives en facilitant la navigation dans une masse considérable de documents et en offrant la possibilité de transcrire les manuscrits grâce à un outil collaboratif d'édition en ligne.

A l'heure où la numérisation du patrimoine est inscrite parmi les priorités nationales, ce projet d'envergure montre l'intérêt pour la communauté scientifique comme pour le public, de structures et d'outils fédérateurs au service des 'humanités numériques' tels que les Centres de Ressources Numériques du CNRS et le Très Grand Equipement ADONIS.

'Ampère et l'histoire de l'électricité' est un projet mené au Centre Alexandre-Koyré (Unité mixte de recherche CNRS/EHESS/MNHN/CSI) sous la direction scientifique de Christine Blondel (CNRS) en collaboration avec le CN2SV sous la responsabilité

technique de Stéphane Pouyllau (CNRS), et avec la participation de Delphine Usal, Marie-Hélène Wronecki et Bertrand Wolff.

Ce projet a bénéficié des soutiens de l'Agence Nationale de la Recherche, de la Cité des Sciences et de l'Industrie, du TGE Adonis (CNRS-INSHS) et de la Fondation EDF, ainsi que du concours de l'Académie des sciences et de la Société des Amis d'Ampère.

Contact: Christine Blondel: christine.blondel@vjf.cnrs.fr

Matthew D. Eddy, *The Language of Mineralogy: John Walker, Chemistry and the Edinburgh Medical School, 1750–1800* (Ashgate, 2008)

Hardback copies of Dr Eddy's book on eighteenth-century chemistry and mineralogy are currently available at a special price of £15 (original price £60) for those living outside North or South America. Copies at the new price can be ordered on the following webpage: <http://www.ashgate.com/mineralogy>.

For further information, contact Dr Matthew D Eddy, Department of Philosophy, Durham University, 50 Old Elvet, Durham, DH1 3HN, United Kingdom. Email: m.d.eddy@durham.ac.uk.

Peter J. T. Morris (ed.), *Science for the Nation. Perspectives on the history of the Science Museum* (Palgrave Macmillan, 2010)

A new collection of essays on the history of the Science Museum, edited by Peter Morris with a foreword by Simon Schaffer, is available from Palgrave. Twelve contributors examine the ways in which scientific objects are collected and displayed; relations between the state, business and industry, and museum funding; and the context of other national museums in London. Further information from www.palgrave.com.

7. Membership

New members

The Society for the History of Alchemy and Chemistry warmly welcomes the following new members:

Dr Dóra Bobory (Budapest)
Dr Remi Franckiwak (Université de Lille 1)
Prof Charles George (Sydney Medical School)
Paul Hardacre (Chiang Mai, Thailand)
Dr John Harris (Cupar, Fife)
Prof Bernard Joly (Université de Lille 3)
Dr Lauren Kassell (University of Cambridge)
Dr Anna Maria Klonkowska (University of Gdansk)
Flora Papparou (National University of Athens)
Griscia Pogliési (Guibiasco, Switzerland)
Jacques Schouteeten (Université de Lille 3)
Dr Leslie Tomory (Montreal)
Dr Simon Werrett (University of Washington)

Joining SHAC

The Society for the History of Alchemy and Chemistry has a longstanding tradition in the field, organising colloquia, publications and promoting the interdisciplinary study of the history of alchemy and chemistry from its early beginnings to the present. The Society offers support to its members, including an award scheme, regular meetings and events, graduate network, and the triennial Partington prize for original academic writing on any aspect of the history of alchemy and chemistry. It offers a forum for advertising forthcoming events, both within the United Kingdom and internationally, and its website provides a portal to resources relating to the history of alchemy and chemistry.

Members receive the Society's journal *Ambix*, the leading scholarly journal in the field of history of alchemy and chemistry. *Ambix* is published by Maney Publishing and appears three times a year. Members will also receive the Society's newsletter, *Chemical Intelligence*, twice yearly.

Application forms and membership information may be found on the Society's website, http://www.ambix.org/SHAC_Join_Us.htm.

For all membership questions, please contact the Hon. Treasurer:

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Further Intelligence

For queries regarding the content of *Chemical Intelligence*, or to suggest material for inclusion in future issues, please contact the Editor:

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