

# CHEMICAL INTELLIGENCE

No. 14, June 2015

The Newsletter of the Society for the History of Alchemy and Chemistry

## Editorial

Summer is already upon us, and, as customary, features several conferences and workshop of interest for historians of alchemy and chemistry: the SHAC spring meeting (now passed), the Symposium on Alchemy in Athens, Greece, the BSHS Conference in Swansea, UK, and the 10th International Conference on the History of Chemistry, in Aveiro, Portugal.

The new *Ambix*, a special issue on 'Sites of Chemistry in the Twentieth Century' guest edited by Antonio Garcia-Belmar and John Perkins, must already have graced your mailbox.

We are also pleased to invite submissions to the SHAC 6th Postgraduate Workshop, which will be held at University of Oxford on 30 October. Its theme is 'Alchemy and Chemistry: In Sickness and in Health'. The newsletter also features an outline of autumn's SHAC Annual Meet-

ing, which is entitled 'Chemistry and its Audiences' and will be held at the Royal Institution.

We are pleased to bring you reports of several conferences, including the SHAC Spring Meeting 2015 and Autumn Meeting 2014, the International Workshop on the History of Chemistry, 'Transformation of Chemistry from the 1920s to the 1960s', held in Tokyo, Japan, and the Spring School of History and Communication 'Living in a Toxic World: Experts, Activism, Industry and Regulation', held in Mahon, Spain.

Finally, a personal note. This will be the last issue that I will be authoring as Newsletter Editor. There are two years since I took over the newsletter. Being editor of *Chemical Intelligence* has been a true privilege. Throughout this time I have met and been supported by many individuals dedicated to the



advance of the history of alchemy and chemistry. I have acquired strong experience in the art of putting together an effective, informative and entertaining newsletter. I have done my best to make the newsletter a document that SHAC members would enjoy reading. At this point I must move on and give the editor's pen to someone else, who I am certain will equally benefit from the experience of working on the newsletter. I leave with the conviction that *Chemical Intelligence* will continue to play an important role for SHAC.

Georgiana Hedesan

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SOCIETY FOR THE HISTORY OF ALCHEMY AND CHEMISTRY



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## UPCOMING SHAC EVENTS

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### 6th SHAC Postgraduate Workshop, 'Alchemy and Chemistry in Sickness and in Health' - Call for Papers

*Maison Française, University of Oxford, UK*

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**Deadline for Submission of Abstracts: 15 July 2015.**

October

30

2015

This year the annual postgraduate workshop of the Society for the History of Alchemy and Chemistry (SHAC) will take place in the UK, at the Maison Française, University of Oxford. The workshop offers postgraduate students and early-career researchers the opportunity to share ideas, explore methodological issues and network in a stimulating atmosphere. There will also be the chance to hear papers from, and ask questions of, two keynote speakers.

The theme for 2015, 'Alchemy and Chemistry in Sickness and in Health', seeks to explore the relationship between alchemy and chemistry on the one hand and, on the other, the health of individuals and/or of society as a whole. Topics may address the intentional use of alchemy and chemistry for purposes relating to health or the unintended side-effects of their employment in this area.

We would like to invite papers (between 15 and 20 minutes) on topics related to the workshop theme in any historical period. Please submit an abstract of up to 200 words by email to the SHAC student representatives, Judith Mawer (Goldsmiths, University of London) and Mike A. Zuber (University of Amsterdam), [studentrep@ambix.org](mailto:studentrep@ambix.org). The deadline for the submission of proposals is **15 July 2015**. Presenters should either be currently enrolled as postgraduate students or active as junior researchers (within three years of PhD completion).

Possible topics include but are by no means limited to:

- alchemical/chemical treatments of physical or mental health issues
- health hazards within or emerging from the laboratory
- historical attitudes to the relationship between alchemy/chemistry and health
- alchemical/chemical theories of sickness and health
- development and use of iatrochemical/pharmaceutical solutions for health-related issues
- the implications of alchemy and chemistry for human and societal wellbeing

The workshop is free of charge. Bursaries are available towards the cost of travel and/or accommodation for confirmed presenters in the first instance.

## UPCOMING SHAC EVENTS

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### SHAC Autumn Meeting: 'Chemistry and its Audiences'

*Royal Institution, London*

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#### Programme

November

14

2015

10.30: Registration

11.00: Welcome and introduction

11.10: **Oliver Marsh** (University College London): 'Who are the audiences for science communication in the twenty-first century?'

11.50: **Harriet Lloyd** (University College London), 'Press cuttings and personal accounts: how to build a picture of Humphry Davy's audience'

12.30: SHAC AGM

1.00: Lunch – a sandwich lunch will be provided

2.00: Tour of the Royal Institution led by Frank James

2.40: **Robert Anderson** (Clare Hall, Cambridge): 'Facts or Fantasies in the Lecture Theatre?'

3.20: **John Perkins** (Oxford Brookes University): 'The audiences for chemistry in 18th-century Paris'

4.00: Tea and coffee

4.30: **Melanie Keene** (Homerton College, Cambridge): 'Familiar chemistry and its family audiences'

5.10: Meeting ends

Directions to the Royal Institution may be found at: <http://www.rigb.org/visit-us/find-us>

The registration fee for the meeting, including a sandwich lunch and refreshments is £15 for SHAC members and £20 for non-members.

*To participate:*

**Either** send your name, address and email, along with a cheque drawn on a UK bank for £15 or £20 as appropriate payable to "Society for the History of Alchemy and Chemistry", to Dr Michael Jewess, SHAC Treasurer, The Long Barn, Townsend, Harwell, Oxfordshire, OX11 0DX, UK.

**Or** (suitable for those not having a UK bank account) make a PayPal payment for £15 or £20 as appropriate to the account "treasurer@ambix.org" (quotation marks are not part of the account name) and *then* your name, address and email, by e-mail to [treasurer@ambix.org](mailto:treasurer@ambix.org). (For this, you will have to create your own PayPal account if you do not already have one.) (In case of difficulty with payment, e-mail [treasurer@ambix.org](mailto:treasurer@ambix.org).)

A registration form for the meeting will appear on our website [www.ambix.org](http://www.ambix.org) in due course.

**AMBIX**

*Ambix* 63.2 (2015) is a Special Issue on Sites of Chemistry in the Twentieth Century. Guest edited by Antonio García-Belmar and John Perkins, it includes the following papers:



**Carsten Reinhardt**, 'Introduction'.

**Muriel Le Roux**, 'From Science to Industry: The Sites of Aluminium in France from the Nineteenth to the Twentieth Century'

**Ana Carneiro and Isabel Amaral**, 'Propaganda and Philanthropy: The Institute Bento da Rocha Cabral, the Lisbon Site of Biochemistry (1925–1953)'

**Daniel Normark**, 'Flexibility or Inexactitude? The "Lab 60" at Karolinska Institutet: From Medical Disciplines towards the Modern Biomedical Complex'

**Luc Peterschmitt**, 'New Big Pictures of Alchemy'

The November special issue is planned as a special issue on 'Crossing Oceans,' based on papers delivered at the international conference 'Crossing Oceans: Exchange of Products, Procedures, Instruments and Ideas' (24 to 28 August 2014), sponsored by SHAC and organised by CESIMA (Centre Simão Mathias for Studies in the History of Science) at the Pontificia Universidade Católica de São Paulo. The issue will be guest edited by representatives of both CESIMA and SHAC, and include papers from both sides of the Atlantic.

### ***Books Received for Ambix Review***

**NOTE:** Appearance in this list does not guarantee review in a subsequent issue. Anyone wishing to act as a reviewer of any of the books should contact *Ambix* reviews editor: José-Ramón Bertomeu-Sánchez ([bertomeu@uv.es](mailto:bertomeu@uv.es)).

**Banned. A History of Pesticides and the Science of Toxicology.** By FREDERICK ROWE DAVIES. Pp. 288, illus., index. Yale University Press: New Haven. 2014. \$40. ISBN: 978-0-3002-0-5176.

**Laboratories of Art. Alchemy and Art Technology from Antiquity to the 18th Century.** Edited by SVEN DUPRÉ. Pp. xxiii + 200, illus., index. Springer: Dordrecht, etc.. 2014. € 103,99. ISBN: 978-3-319-05064-5.

**Crucible of Science. The Story of the Cori Laboratory.** By JOHN E. EXTON. Oxford University Press: Oxford. 2013. **The Limits of Matter. Chemistry, Mining, and Enlightenment.** By HJALMAR FORS. Pp. 241, illus., index. University of Chicago Press: Chicago and London. 2015. \$40. ISBN: 978-0-226-19499-8.

**A Biography of Paul Berg. The Recombinant DNA Controversy Revisited.** By ERROL C. FRIEDBERG. Pp. xxxv + 404, illus., index. World Scientific Publishing: Singapore. 2014. ISBN: 978-981-456903-3.

**Medical Monopoly. Intellectual Property Rights and the Origins of the Modern Pharmaceutical Industry.** By JOSEPH M. GABRIEL. Pp. 334, illus., index. The University of Chicago Press: Chicago and London. 2014. \$35. ISBN: 978-0-226-10818-6.

**The Development of Scientific Marketing in the Twentieth Century.** Edited by JEAN-PAUL GAUDILLIÈRE and ULRIKE THOMS. Pp. 267, illus., index. Pickering & Chatto: London. 2015. ISBN: 978-1-8489-3559-4.



## Books Received for Ambix Review

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**Scientific Babel. The Language of Science from the Fall of Latin to the Rise of English.** By MICHAEL D. GORDIN. Pp. 413, illus., index. Profile Books: London. 2015. £25.

**Writing about Lives in Science. (Auto)Biography, Gender, and Genre.** Edited by PAOLA GOVONI and ZELDA ALICE FRANCESCHI. Pp. 287, index. V&R unipress: Göttingen. 2014. \$70. ISBN: 978-3-8471-0263-2.

**Visual Cultures in Science and Technology.** By KLAUS HENTSCHEL. Pp. viii + 498, illus., index. Oxford University Press: Oxford. 2014. ISBN: 978-0-19-871787-4.

**Jacques Gaffarel. Between Magic and Science.** Edited by HIRO HIRAI. Pp. 112, illus., index. Fabrizio Serra Editore: Pisa-Roma. 2014. ISBN: 978-88-6227-730-3.

**Boyle Studies. Aspects of the Life and Thought of Robert Boyle (1627-91).** By MICHAEL HUNTER. Pp. xii + 244, illus., index. Ashgate: Farnham, Surrey. 2015. £70. ISBN: 978-1-4724-2810-3.

**Early Responses to the Periodic System.** Edited by MASANORI KAJI, HELGE KRAGH, GABOR PAL-LÓ. Pp. xv + 322, illus., index. Oxford University Press: Oxford. 2015. ISBN: 978-0-19-0200007-7.

**Science in Wonderland. The Scientific Fairy Tales of Victorian Britain.** By MELANIE KEENE. Pp. 256, illus., index. OUP: Oxford. 2015. £16.99. ISBN: 978-0-19-966265-4.

**Objects of Chemical Inquiry.** Edited by URSULA KLEIN and CARSTEN REINHARDT. Pp. xvii + 382, illus., index. Science History Publications: Sagamore Beach. 2014. \$52. ISBN: 978-90-04-27496-9.

**Gendered Drugs and Medicine. Historical and Socio-Cultural Perspectives.** Edited by TERESA ORTIZ-GÓMEZ and MARÍA JESÚS SANTESMASES. Pp. 246, illus., index. Ashgate: Farnham. 2014. £65. ISBN: 978-1-4094-5404-5.

**The Antibiotic Era. Reform, Resistance, and the Pursuit of a Rational Therapeutics.** By SCOTT H. PODOLSKY. Pp. 309, illus., index. Johns Hopkins University Press: Baltimore. 2015. \$22.50. ISBN: 978-1-4214-1594-9.

**Daughters of Alchemy. Women and Scientific Culture in Early Modern Italy.** By MEREDITH K. RAY, illus., index. Harvard University Press: Cambridge. 2015. \$33.95. ISBN: 978-0-674-50423-3.

**The River Pollution Dilemma in Victorian England. Nuisance Law versus Economic Efficiency.** By LESLIE ROSENTHAL. Pp. 274, illus., index. Ashgate 2014. £ 75. ISBN: 978-1-4904-4182-3.

**James Watt: Making the World Anew.** By BEN RUSSELL. Pp. 280. Reaktion Books: New York. 2014. \$ 22. ISBN: 978-1-780-23375-8.

**Philosophy of Chemistry: Growth of a New Discipline.** Edited by ERIC SCERRI and LEE MCINTYRE. 2015. **Histoire de la chimie en 80 dates.** By ALAIN SEVIN and CHRISTINE DEZARNAUD DANDINE. Pp. 186, illus., index. Vuibert: Paris. 2014. € 25. ISBN: 978-2-311-01376-4.

**Bioproperty, Biomedicine and Deliberative Governance. Patents as Discourse of Life.** By KATERINA SIDERI. Pp. 204, illus., index. Ashgate 2014. £ 65. ISBN: 978-0-7546-7738-3.

**The Recombinant University: Genetic Engineering and the Emergence of Stanford Biotechnology.** By DOOGAB YI. Pp. 304. University of Chicago Press: Chicago. 2015.

**Literature and Chemistry. Elective Affinities.** Edited by MARGARETH HAGEN and MARGERY VIBE SKAGEN. Pp. 338, illus., index. Aarhus University Press: Aarhus. 2013. ISBN: 978-87-7124-174-7.

**Salz: Weisses Gold oder Chemisches Prinzip? Zur Entwicklung des Salzbegriffs in der Frühen Neuzeit.** By JÜRGEN HOLLWEG. Pp. 102, illus., index. Peter Lang: Frankfurt. 2014. € 19.95. ISBN: 978-3-631-64865-0.



## Books Received for Ambix Review

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- Prisoners, Lovers & Spies. The Story of Invisible Ink from Herodotus to al-Qaeda.** By KRISTIE MACRAKIS. Pp. 378, illus., index. Yale University Press: New Haven & London. 2014. £ 18.99. ISBN: 978-0-300-17925-5.
- Toward a New Dimension. Exploring the Nanoscale.** By ANNE MARCOVICH and TERRY SHINN. Pp. 213, illus., index. Oxford University Press: Oxford. 2014. ISBN: 978-0-19-871461-3.
- It started with Copernicus. Vital questions about Science.** By KEITH PARSONS, illus., index. Prometheus Books: Amherst, New York. 2014. \$19.95. ISBN: 978-1-61614-929-1.
- Flickering Light. A History of Neon.** By CHRISTOPH RIBBAT. Pp. 224, illus., index. Reaktion Books: Great Sutton. 2013. £19.95. ISBN: 978-1-78023-091-7.
- The Bet. Paul Ehrlich, Julian Simon, and Our Gamble over Earth's Future.** By PAUL SABIN. Pp. 304, illus., index. Yale University Press: London. 2013. 18.99GBP. ISBN: 978-0-300-17648-3.
- Biologics. A History of Agents Made From Living Organisms in the Twentieth Century.** Edited by ALEXANDER VON SCHWERIN, HEIKO STOFF, BETTINA WAHRIG, illus., index. Pickering & Chatto: London. 2013. ISBN: 978-1-848934-306.
- Ways of Making and Knowing. The Material Culture of Empirical Knowledge.** Edited by PAMELA H. SMITH, AMY R. W. MEYERS, HAROLD J. COOK. Pp. 430, illus., index. The University of Michigan Press: Ann Arbor. 2014. ISBN: 978-0-472-11927-1.
- Feeding France. New Sciences of Food, 1760-1815.** By EMMA C. SPARY. Pp. 418, illus., index. Cambridge University Press: Cambridge. 2014. ISBN: 978-1-107-03105-0.
- The American Synthetic Organic Chemicals Industry. War and Politics, 1910-1930.** By KATHRYN STEEN. Pp. 403, illus., index. The University of North Carolina Press: Chapel Hill. 2014. \$39.95. ISBN: 978-1-4696-1290-4.
- Wirkstoffe. Eine Wissenschaftsgeschichte der Hormone, Vitamine und Enzyme, 1920-1970.** By HEIKO STOFF. Pp. 396, illus., index. Franz Steiner: Stuttgart. 2012. € 52. ISBN: 978-3-515-10099-1.
- Aus der Luft gewonnen. Die Entwicklung der globalen Gaseindustrie, 1880 bis 2012.** By RAYMOND STOKES and RALF BANKEN. Pp. 464, illus., index. Piper: München. 2014. € 29.99. ISBN: 978-3-492-05681-6.
- Une histoire de la chimie du solide. Synthèses, formes, identités.** By PIERRE TEISSIER, illus., index. Hermann: Paris. 2014. € 28. ISBN: 978-2-7056-8807-3.
- Art and Alchemy. The mystery of transformation.** Edited by BEAT WISMER and SVEN DUPRÉ. Pp. 280, illus., index. Hirmer: Düsseldorf. 2014. 39.90 EUR. ISBN: 978-3-7774-2207-7.
- Le origini chimiche della vita. Legami tra la Rivoluzione di Lavoisier e la Biologia di Lamarck.** By ANGELA BANDINELLI. Pp. 252, index. Leo S. Olschki: Firenze. 2013. E\* 27. ISBN: 978-88-222-6270-7.
- Panacea's Daughters. Noblewomen as Healers in Early Modern Germany.** By ALISHA RANKIN. Pp. xiv + 296, illus., index. The University of Chicago Press: Chicago and London. 2013. \$40. ISBN: 978-0-226-92538-7.
- Voyaging in Strange Seas. The Great Revolution in Science.** By DAVID KNIGHT. Pp. 336, illus., index. Yale University Press: New Haven. 2014. \$35. ISBN: 978-0-300-17379-6.

## GRADUATE NETWORK

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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). 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. The 6th annual workshop, 'Alchemy and Chemistry in Sickness and in Health', will take place in Oxford on 30 October 2015.

If you are a postgraduate student or junior researcher interested in the history of alchemy or chemistry, you are also invited to join our online Graduate Network group, which publicises announcements and hosts discussions related to the fields. Should you wish to join, please send an e-mail, mentioning your name, affiliation and brief interest, to: [shac\\_graduate\\_network\\_subscribe@yahoogroups.co.uk](mailto:shac_graduate_network_subscribe@yahoogroups.co.uk). Please note that you do not need to be a member of SHAC to become part of the Graduate Network.

The current SHAC Student Representatives are **Mike Zuber**, International Student Representative and PhD candidate at the University of Amsterdam ([studentrepint@ambix.org](mailto:studentrepint@ambix.org)) and **Judith Mawer**, UK Student Representative and PhD candidate at Goldsmiths, University of London ([studentrepuk@ambix.org](mailto:studentrepuk@ambix.org)).

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### Carolyn Cobbold

*Cambridge University*

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I am a mature part-time PhD student in the history department at Cambridge University, currently in my fourth year of five. I completed my undergraduate degree in Mechanical Engineering at Imperial College, London in 1984 and have spent nearly 30 years working as a journalist, specialising in industrial risk management. I completed a Masters in the History of Science in 2010, writing a dissertation on Victorian bread technology and competing scientific theories about yeast. My interest in food science and technology during the second industrial revolution led to my current PhD, examining how the first commercially produced dyes synthesised from coal-tar waste were introduced into food. In particular, I am investigating how these potentially toxic food additives were received by both consumers and public analysts, the newly ap-

pointed chemists charged with overseeing the integrity of Britain's food supply. My research is providing great insight into society, science and risk; the difficulties of measuring and knowing completely new manmade substances; and the mediation and power play between different types of chemists and other scientists evolving in the nineteenth century as well as the public, press, politicians, retailers and industrialists. I am increasingly realising how relevant and helpful my work and experience as a risk management journalist is to my historical research work. I also thrive on the fact that my studies cross several historical disciplines granting me the good fortune to meet many fascinating scholars in the history of science, especially chemistry; food; environmental risk and other sectors. Organisations such as SHAC are very important in fostering such links.



## GRADUATE NETWORK

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### **What is the greatest challenge you are facing as a postgraduate student?**

Trying not to write and think like a journalist! However, I fervently believe the most important function of writing is communication and that the ability to explain something complex in simple language is often underrated in academia. Like all professions, academia has managed to formulate its own complex and sometimes unnecessarily formidable language, which successfully acts as a method of exclusion! The other challenge would be life sometimes getting in the way as the chief family carer. But I am certainly not complaining as both work and family act as delightful distractions from each other!

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### **Ruben Verwaal**

*University of Groningen*

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Working as PhD student in the NWO-funded Vital Matters project in Groningen (the Netherlands), my project 'Blood, Sweat & Tears' is about the history of physiology, medicine and chemistry in the eighteenth century. I specifically look at investigations into the nature and function of bodily fluids. Although physicians agreed that William Harvey discovery of the circulation of the blood was wonderful, the English physician had said nothing about the properties of blood itself. Where did blood come from? What were its constituent parts? Why does it coagulate? In my research, I investigate chemical examinations of blood, milk, urine and other bodily fluids and hypothesise that because of these insights from chemistry, the physiology of the body moved from a solely mechanical view to include vital powers intrinsic to living matter. As all Dutch universities were equipped with chemical laboratories in the course of the eighteenth century, I will argue that especially Herman Boerhaave and his students such as Jerome Gaub ignited the interest in the chemistry

of the body.

### **What is the greatest challenge you are facing as a postgraduate student?**

You don't need a title like 'Blood, Sweat and Tears' to know that writing a PhD dissertation is a lot of work. Still, I often struggle with the anxiety of not having read enough. There are always more eighteenth-century textbooks, journals, correspondences, and scientific instruments to analyse. And every day, new books and articles are published within the history of science, chemistry, medicine, university history and material culture. In short, there is simply too much to know. But then again, nobody said a PhD was easy.

I would like to add that I am keen to meet like-minded scholars in the history of chemistry and medicine, so please feel free to contact me on [r.e.verwaal@rug.nl](mailto:r.e.verwaal@rug.nl).



## OTHER MEETINGS

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### Symposium on Alchemy: from the Late Antiquity to the Early Modernity *Athens, Greece*

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June

26-27

2015

**Friday 26 June****Morning session**Chair: **Constantine Skordoulis**, *National and Kapodistrian University of Athens*10.00 – 10.40 **Jennifer M. Rampling**, *Princeton University*

What is Mercury? Interpretation and Substitution in Alchemical Practice.

10.40 – 11.20 **Maria Papathanassiou**, *National and Kapodistrian University of Athens*

Stéphanos d'Alexandrie: la tradition patristique dans son œuvre alchimique.

11.20 – 11.40 Break

11.40 – 12.20 **Christina Viano**, *CNRS, Paris*

Olympiodore l'alchimiste et la transformation du minerai d'or : art, nature, histoire et archéologie.

12.20 – 13.00 **Rémi Franckowiak**, *Lille 1 University*

Levantine Chemistry in Athanasius the Rhetor's papers.

13.00 – 15.00 Lunch

**Afternoon session**Chair: **Lawrence Principe**, *Johns Hopkins University*15.00 – 15.40 **Matteo Martelli**, *Humboldt Universität zu Berlin*

Byzantine Alchemy in Two Late Greek Alchemical Manuscripts from the Meteora and Ellassona.

15.40 – 16.20 **Gerasimos Merianos**, *National Hellenic Research Foundation*

In pursuit of gold: Did alchemy pose a risk to the Byzantine state?

16.20 – 17.00 **Constantin Canavas**, *Faculty of Life Sciences, Hamburg University of Applied Sciences*

Fractal transmission patterns: Reconstructing the alchemical allegories of Ibn Umayl and his Greek- Byzantine affinities.

17.00- 17.20 Break

17.20 – 18.00 **Gabriele Ferrario**, *Genizah Research Unit / Clare Hall College – University of Cambridge*

Graeco-Arabic Natural Sciences in Jewish Garb: Evidence from the Cairo Genizah.

18.00 – 19.10 **Sébastien Moureau**, *F.R.S.-FNRS / University of Louvain*

From Greek medicine to Arabic alchemy: Jābir ibn Hayyān's 'Science of the Balance'.



## OTHER MEETINGS

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### Symposium on Alchemy: from the Late Antiquity to the Early Modernity *Athens, Greece*

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June

26-27

2015

**Saturday 27 June****Morning session**Chair: **Agamemnon Tselikas**, National Bank of Greece Cultural Foundation10.00 – 10.40 **Didier Kahn**, CNRS, Cellf 16e-18e

Alchemical interpretations of ancient Mysteries.

10.40 – 11.20 **Geneviève Xhayet**, CHST Université de Liège

The project THERWAL (TRaditional Herbal Remedies of WALLonia).

11.20 – 11.40 Break

11.40 – 12.20 **Lawrence Principe**, Johns Hopkins University

Texts and Practices: The Promises and Problems of Laboratory Replication and Chemical Explanation of Early Alchemical Processes.

12.20 – 13.00 **Robert Halleux**, CHST, Université de LiègeThe 'Technical Treatises' of the Greek *Corpus Chemicum*. Technology transfer in the Byzantine world.13.00 – 13.15 Concluding remarks by **Robert Halleux**.

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### British Society for the History of Science Annual Conference 2015 *Swansea University, UK*

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July

02-05

2015

The programme is now available on the website at: <http://www.bsbs.org.uk/conferences/annual-conference/2015-swansea>

We would like to highlight the following alchemy and chemistry-related talks:

Science and Religion Panel**Jennifer Rampling** (Princeton University): 'Between City and Cloister: The Place of Alchemy in Pre-Reformation England.'Using Oral Histories Panel**Luciana-Marioara Jinga** (Institute for the Investigation of Communist Crimes and the Memory of Romanian Exile, Bucharest): 'Fraud or science? Women chemists in communist Romania.'

## OTHER MEETINGS

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### 14th ICHSEA Conference: Sources, Locality and Global History: Science, Technology and Medicine in East Asia

*Paris, France*

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July

06-10

2015

The 14th ICHSEA is focussing on ‘Sources, locality and global history: science, technology and medicine in East Asia’.

As all specialists in this field are only too aware, studies of ‘the West’ still dominate the history of science, technology and medicine. As a consequence, the tools, concepts and assessment criteria that are most familiar to specialists have been shaped mainly or solely on the basis of the European historical experience. Working on a different part of the world, in this case East Asia, therefore entails a tension that historians need to live with. On the one hand, they need to construct analytical tools based on the evidence available; this means giving priority to a close reading of sources. On the other hand, they need to construct a continuing dialogue with colleagues, be they ‘occidentalists’ or specialists of other cultural areas; this dialogue must aim at making respective studies commensurable with one another. This dialogue is all the more necessary for those who study the globalisation of knowledge in history: the varied representations of this phenomenon need to be studied and compared. This implies taking full account of the situation of the objects historians study in time and space —the latter being understood as not only geographical but also social, political and cultural— or in other words, of locality.

For any request or additional information regarding the conference, please contact the organisers at: [14ichsea@sciencesconf.org](mailto:14ichsea@sciencesconf.org)

For more information, please see <http://14ichsea.sciencesconf.org/resource/page/id/12>

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### 10<sup>th</sup> International Conference on the History of Chemistry (10<sup>th</sup> ICHC): ‘Chemical Biography in the 21st Century’

*University of Aveiro, Portugal*

<http://10ichc-2015.web.ua.pt/>

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September

09-12

2015

#### Key-note speakers

**Prof Jorge Calada** (Instituto Superior Técnico, University of Lisbon) – ‘Ghost Science’

**Prof Bernadette Bensaude-Vincent** (Université Paris 1 Panthéon-Sorbonne) ‘Towards a Biography of Carbon at the Intersection between Nature and Culture’

**Prof Michael Gordin** (Princeton University) - ‘Who Doesn’t Get a Biography in the History of Chemistry?’

The full programme is now online on the conference website, <http://10ichc-2015.web.ua.pt>, and the deadline for early bird registration has been postponed accordingly. For any information contact the conference organisers : [FIS-10ICHC@ua.pt](mailto:FIS-10ICHC@ua.pt).

## OTHER MEETINGS

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### 16th Congress of History and Fundamentals of Chemistry

*Bologna, Italy*

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September

22-24

2015

The 16th Congress of History and Fundamentals of Chemistry, organised by the National Group of Fundamentals and History of Chemistry (GNFSC), will take place this year in Rimini, the city where the alchemist Giovanni Aurelio Augurelli (ca. 1456) born. Since this year marks the anniversary of the First World War, it will address, in a special session, the theme 'Chemistry and the Great War.'

For more information, see <https://eventi.unibo.it/storiachimica2015>

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### Royal Society of Chemistry Historical Group, Wheeler Lecture and Bragg Nobel Prize Centenary Meeting

*Royal Institution, London*

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October

13

2015

11.00 Coffee

11.30 **Wheeler Lecture: *Frank James*** (Royal Institution): 'Where Humphry Davy learnt to be a chemist: Thomas Beddoes and the Medical Pneumatic Institute in the 1790s'

12.30 Royal Society of Chemistry Historical Group AGM

12.45 Lunch break. Lunch is **not** provided, but there is a café/restaurant at the RI, and there are plenty of sandwich bars, etc., nearby.

14.00 **Meeting to mark the centenary of the award of the Nobel Prize to William and Lawrence Bragg for their work in X-ray crystallography**

14.00 **Jennifer Wilson** (University College London): 'The early career of Kathleen Lonsdale in x-ray crystallography working with Sir William Henry Bragg'

14.45 **Michael Glazer** (University of Oxford): 'Lawrence Bragg's role in X-ray Crystallography'

15.30 Tea

16.00 **Rupert Cole** (Royal Institution / University College London): 'Bragg and the Beeb: Lawrence Bragg, the Royal Institution and televising science, 1938-1965'

16.45 **Richard Catlow, FRS** (University College London): 'Using synchrotrons, neutrons and computers to unravel the atomic architecture of matter'

17.30 Informal tour of RI

There is no charge for this meeting, but prior registration is essential. Please send your name, address and email details to Professor John Nicholson, 52 Buckingham Road, Hampton, Middx TW12 3JG, [jwnicholson01@gmail.com](mailto:jwnicholson01@gmail.com), by **6 October**. **If having registered, you are unable to attend, please notify Professor Nicholson.**

## OTHER MEETINGS

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### **Tropical Medicine and Global Health in the Nineteenth and Twentieth Centuries: 2nd Luso-Brazilian Meeting on the History of Tropical Medicine (2LBMHTM)**

*Lisbon, Portugal*

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October

14-16

2015

The 2nd Luso-Brazilian Meeting on the History of Tropical Medicine welcomes proposals for individual papers, but preference will be given to organised sessions of three or more papers. We particularly invite contributions with a transnational dimension concerning the historical analyses of the links between tropical medicine and international health in the post-World War II, in paying particular attention to ideas, exchanges, technologies and practices in Portuguese-African-Asian-Brazilian relations, notably by addressing the circulation of ideas and ideologies in the light of each region's socioeconomic, political, and administrative peculiarities, as well as power correlations between markets, nation states and international agencies.

For more information, see <http://eventos.fct.unl.pt/conghmt>

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### **Old and New Worlds: the Global Challenges of Rural History International Conference**

*Lisbon, Portugal*

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January

28-30

2016

The concern to open up and globalise research in rural history, in both the historical and the historiographical senses, draws the guideline for this international conference, which simultaneously harbours the VI Encontro Rural RePort and the XV Congreso de Historia Agraria de la SEHA, to be held in Lisbon, Portugal, hosted by ISCTE- University Institute of Lisbon. Among many others, there will be panels focused on history of chemistry such as the one titled 'Wine Quality in the 19th and 20th centuries'.

For more information, see <http://lisbon2016rh.wordpress.com/>.

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### **History of Science Society Meeting**

*San Francisco, California, USA*

<http://hsonline.org/meetings/2015-hss-annual-meeting/>

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November

03-06

2015

This year's HSS Annual Meeting will be held at the Westin St. Francis Hotel, across from Union Square in downtown San Francisco. The address is:

Westin St. Francis Hotel  
335 Powell Street  
San Francisco, CA 94102  
415-397-7000

The 2015 HSS Distinguished Lecture will be given by **Paula Findlen** of Stanford University. Her lecture is tentatively titled 'Jesuit Itineraries: Towards a Global History of Early Modern Science.'



## OTHER MEETINGS

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**The plenary session** (organised by *Anthony Grafton* and *Jennifer Rampling*, Princeton University) will be titled 'Passing the Book: Bringing Early Modern Readers to Life,' and will include findings from the alchemical and chemico-medical library of John Winthrop Jr and his family.

**FoHCS (the Forum for the History of Chemical Sciences)** will be organising a session, titled '**Chemistry in (Practical) Context: Connecting Eighteenth-Century Chemistry to its Uses.**' The session is currently slated to take place on Friday, November 20, 2015, 4:00-6:00pm. While eighteenth-century chemistry has sometimes been framed and characterised by the much-debated revolution of Lavoisier and his laboratory chemistry, recent work has showcased the integral place of chemistry in a variety of practices, fields, and industries. This panel aims to highlight such work, placing chemistry in its diverse contexts—international, disciplinary, and practical. *Charlotte Abney* and *Lissa Roberts* will both address the networks within which chemistry functioned, Abney focusing on placing the Swedes who discovered and identified new elements within their diverse roles as government mining administrators, private mine owners, university chemists, skilled labourers, and chemical, mineralogical, and geological experts, and Roberts describing a new collaborative project that aims to create an online research tool that connects the many sites of chemistry. *Simon Werrett* will offer a specific example of how such networks of connections and contexts worked for one specific chemist, Mikhail Vasil'evich Lomonosov, discussing the place of chemistry in the politics, economics, and spectacle of glass manufacture in Russia. *John Stewart's* paper will demonstrate that 'chemical' theories like affinity transgressed the sorts of disciplinary boundaries that historians tend to recognise and respect in ways that their actors did not. For William Cullen (and a number of his contemporaries and predecessors), chemistry and medicine were a part of the same pursuit. Together, these papers show chemistry to be the 'central science' indeed, perhaps most importantly because its practices and theories incorporated and migrated into other academic subject areas and non-academic professional practices.

**FoHCS** is also organising a **two-part session called 'After Ypres: The Integration of Science into War'**, co-sponsored by the Commission of the History of Modern Chemistry (CHMC), International Union for History and Philosophy of Science and Technology, Division of the History of Science and Technology (IUHPST-DHST). The session is co-organised by *Yoshiyuki Kikuchi*, FoHCS, SOKENDAI (The Graduate University for Advanced Studies) and *Brigitte Van Tiggelen*, CHMC, Chemical Heritage Foundation and Université de Louvain-la-neuve. The Commentator will be *Michael D. Gordin*, Princeton University.

On April 22, 1915, the first gas attack was launched in Ypres, causing terror and severe casualties among French and British troops while prompting a horrified response from the general public. The use of chemical weapons persisted nonetheless for the remainder of World War I on both sides of the conflict, and constitutes a milestone in chemists' and more generally scientists' involvement in warfare. At the same time it had a lasting impact on the public image of chemistry and raised debates about scientists' connections with the military. The relationship continued through World War II and beyond, despite the usual characterisation of this conflict and its nuclear conclusion as 'the physicists' war'. Indeed, though less prominent and celebrated than their physicist colleagues, chemists and chemical engineers contributed to the Manhattan Project in crucial ways, putting their skills to use in wartime manufacturing and constructing the breeder reactors in Hanford. These are only a few examples of a more general trend that this two-part session will explore from a global perspective: the integration of science into war. The following questions are among those we wish to address: How far did this integration draw on existing collaborations and communication channels between scientists, governments, and militaries? How

## OTHER MEETINGS

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did it affect the way chemists work and think of their own discipline and its role in society? What happens once a war is over? How did public opinion regarding this integration influence the writing, acceptance, and the enforcement of arms control treaties and disarmament protocols?

### Part I: Chemistry and chemists through War: Dual use and Dual Role

**Kathryn Steen** (Drexel University), 'U.S. Chemical Warfare in World War I: The Gas Networks'

**Etienne Aucouturier** (University of Ghana and French Ministry of Foreign Affairs), 'Auguste Trillat and the foundations of the French biological and chemical weapons program'

**Matthew Shindell** (Harvard University), 'A Man of Peace in Times of War: Harold C. Urey, Pacifism and National Service in the Two World Wars'

**Jeffrey Allan Johnson** (Villanova University): 'On the social responsibility of the scientist in wartime: Should Fritz Haber have been tried as a war criminal?'

### Part II: Reactions to the integration of science into war

**Molly Girard Dorsey** (University of New Hampshire) 'In Fear of Science: Lay and Diplomatic Doubt about the Geneva Gas Protocol and Efforts to Ban Gas Effectively in the Interwar and World War II'

**Robert Bud** (Science Museum, London) 'Blowing gas across discourses about science in 1920s Britain'

**Walter E. Grunden** (Bowling Green State University) 'The Rabbits of Okunoshima: Public Memory and the Legacies of Chemical Warfare in Japan'

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### 5th *Scientiae* Conference

University of Oxford, UK

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July

5-7

2016

*Scientiae* is an international conference organised every year by an international research group situated at the nexus of Renaissance/early modern intellectual history and history/philosophy of science. The *Scientiae* conference is targeted at scholars of early modern intellectual culture, whose research finds a focal point in issues relating to the period's emergence of modern natural science. The conference alternates every year between North America, UK and continental Europe, and previous locations have included University of Toronto, University of Warwick and University of Vienna. The attendance to the event is always large; around 110-140 persons have come to *Scientiae* conferences, and the number has been rising every year. For more information please see *Scientiae*'s website at <http://scientiae.co.uk/>.

For its 5-year anniversary session in 2016, *Scientiae* will be hosted at the University of Oxford. The planned period is 5-7 July (3 full days) and the location St Anne's College. The conference's convenor is **Georgiana Hedesan**, with the support of **Prof Howard Hotson** as senior adviser, the *Scientiae* Executive Committee and an Organising Team.

The Call for Papers will be published shortly. Based on past experience, we estimate that several panels will focus on the history of alchemy.

## OTHER NEWS, EVENTS & GRANTS

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### **Beckman Center for the History of Chemistry Travel Fellowships in the History of Sciences, Technology, Medicine, & Industry**

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The Beckman Center for the History of Chemistry at CHF offers grants to cover travel and accommodation expenses for researchers who wish to use its collections for short-term research (periods of up to one month) on the history of the chemical and molecular sciences. Travel grant recipients have access to the collections of the Othmer Library and are encouraged to use CHF's oral history materials and its collection of art, artefacts, archives, and images. Travel grants are \$750 per week and are intended to help defray the costs of travel and accommodation.

Travel grant applicants must reside more than 75 miles from Philadelphia to be eligible. No more than one travel grant per person per fiscal year (1 July to 30 June) can be awarded. Grants must be taken within one year of the award or the grantee must request an extension or reapply. 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 e-mail address below)

Travel grant applications must be submitted electronically, as Word or PDF files, to: [travel-grants@chemheritage.org](mailto:travel-grants@chemheritage.org).

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### **Situating Chemistry—a Relational Database for the History of Chemistry**

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The database has been developed for the project *Situating Chemistry, 1760-1840*, which explores the interactions between the conceptual transformations of chemistry, its institutionalisation and the role of chemistry and chemists in innovation in industry and agriculture. The database stores biographical information on chemists and on others who were involved with chemistry as well as data on the sites where chemistry was practised, the networks of people, materials, processes and substances that circulated around them, chemistry (and other) courses and their audiences, together with events, organisations and associated documents and images. It is searchable and the reports it generates include interactive maps. It can be found at <http://situatingchemistry.org>. Although developed for chemistry in the period 1760-1840 it has been designed for much wider application. The database is publicly accessible as view-only. If you wish to use it or contribute data you will need to open an account. For further information please contact the designers **John Perkins**, [jperkins@brookes.ac.uk](mailto:jperkins@brookes.ac.uk), and **John Stewart**, [johnstewart@ou.edu](mailto:johnstewart@ou.edu).



## OTHER NEWS, EVENTS & GRANTS

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### HIST Award: Prof Christoph Meinel

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The recipient of the 2015 HIST Award of the Division of the History of Chemistry of the American Chemical Society is **Professor Dr. Christoph Meinel** of the History of Science Unit at the University of Regensburg, Germany. This international award for contributions to the history of chemistry has been granted since 1956 under sequential sponsorships by the Dexter Chemical Company, the Edelstein Foundation, the Chemical Heritage Foundation, and the History of Chemistry Division. The event, consisting of a monetary presentation, a plaque, a symposium honoring the work of Professor Meinel, and a lecture by the awardee, will take place on August 18, 2015 at the American Chemical Society's annual meeting in Boston, Massachusetts.

Meinel earned a Diploma in organic chemistry in 1974 at the University of Marburg, followed three years later by a Ph.D. in the history and philosophy of science at the same university. His admirable thesis on the history of chemistry at Marburg was published in book form in 1978. He then broadened his perspectives with a series of positions in major centers of chemical history such as the University of Kent (with Maurice Crosland), Hamburg, Mainz, Smith College, the University of Paris, and the Center for the History of Chemistry in Philadelphia. He earned his habilitation in 1987 and was called to a professorship at the University of Regensburg in 1990, where he remained until his retirement this year.

Meinel's published research in the history of chemistry astonishes both by its extraordinary breadth, as well as its depth. He has done prodigious research on the 17<sup>th</sup> century polymath, Joachim Jungius (1587-1657), as well as on the history of alchemy. He is a leading historian of the chemistry of the 18<sup>th</sup>-century in Europe, and has published extensively on the major 19<sup>th</sup> century German chemists Justus von Liebig, Friedrich Wöhler, and August Wilhelm von Hofmann. His work is particularly notable by its attention to the social, cultural, and philosophical contexts of chemistry, while also maintaining meticulous attention to the technical aspects of the science itself.

An active and generous colleague across international borders, perfectly fluent in the major European languages, Meinel is especially known for stimulating other historians of chemistry to do their best work. He has trained 15 doctoral students, has organized innumerable conferences and edited volumes on the history of chemistry. In 1997 he organized (and still supervises) the international listserv for history of chemistry, and in the following year he spearheaded the Commission on the History of Modern Chemistry of the International Union for the History and Philosophy of Science.

Meinel's scholarship has been recognized by a long list of honors, awards and prizes, including membership in the German National Academy of Sciences (the 'Leopoldina'), the Gmelin-Beilstein Memorial Medal of the Gesellschaft Deutscher Chemiker, and the Alexander Koyré Medal of the International Academy of the History of Science. HIST is proud to join these other organizations in recognizing one of the foremost leaders of the field of the history of chemistry.

**Gary Patterson,**

ACS-HIST Chair

## OTHER NEWS, EVENTS & GRANTS

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### **Paul Bunge Prize 2016: History of Scientific Instruments**

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The German Chemical Society (Gesellschaft Deutscher Chemiker- GDCh) extends its invitation for international applications for the Paul Bunge Prize 2016. The Prize is awarded by the Hans R. Jenemann Foundation and administered by the German Chemical Society (Gesellschaft Deutscher Chemiker) and the German Bunsen Society for Physical Chemistry (Deutsche Bunsen-Gesellschaft für Physikalische Chemie).

The prize is endowed with 7.500 Euro and honours outstanding publications in German, English or French in all fields of the history of scientific instruments. In addition to the published work, applications must include a curriculum vitae and a list of publications. The deadline for nominations and self-nominations is **30 September 2015**.

Nominations and self-nominations may be submitted. The Advisory Board of the Hans R. Jenemann Foundation will decide on the prize winner.

The prize is named after Paul Bunge, the most important maker of analytical, assay and high-performance precision balances in the second half of the 19th century.

The award ceremony will take place in Rostock on the occasion of the conference of the Deutsche Bunsen-Gesellschaft für Physikalische Chemie (May 5 – 7, 2016). Please submit your nomination by September 30, 2015 to Gesellschaft Deutscher Chemiker, Barbara Köhler, [b.koehler@gdch.de](mailto:b.koehler@gdch.de), P.O.Box 90 04 40 / 60444 Frankfurt / Varrentrappstr. 40 – 42, 60486 Frankfurt, Germany

For further information see <https://www.gdch.de/gdch/preise-und-auszeichnungen/stiftungen/jenemann-stiftung.html>

## OTHER NEWS, EVENTS & GRANTS

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### New Publications

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#### Royal Society of Chemistry Historical Group Occasional Paper Number 7

The Wheeler Lecture, entitled 'Nitrogen, Novel High-Pressure Chemistry, and the German War Effort (1900-1918)', which was given by **Anthony S. Travis** at the Royal Society of Chemistry on 22 October 2014, has now been published as an Occasional Paper by the Royal Society of Chemistry Historical Group. It is now available to all online at:

<http://www.chem.qmul.ac.uk/rschg/OccPapers/OccPap7.pdf>

#### Abstract

'Nitrate', a commodity essential to the production of modern explosives employed in warfare, mainly aromatic nitro compounds such as TNT and picric acid, was common currency to all belligerents in the First World War. Nevertheless outside of scientific and industrial circles the critical roles of what was in fact Chilean nitrate (Chilean saltpetre, or sodium nitrate), extracted from the mineral caliche, and the other nitrogen-containing chemicals of commerce, such as calcium cyanamide and ammonia, as sources of vast destructive power, was generally given little, if any, prominence at the start of the war in early August 1914.

It was the military stalemate reached in September 1914 that led to immediate and unprecedented demand for these chemicals, nitric acid, and coal tar aromatics. That demand became even more urgent in Germany when at the end of the year, through the efforts of the British Royal Navy, German manufacturers of nitric acid and explosives were denied direct access to Chilean saltpetre. From then on the Kaiser's chemists and industrialists gave top priority to the capture of atmospheric nitrogen. This was the turning point in the modern manufacture of nitrogen products. State sponsorship of and industrial investment in essential nitrogen products enabled the construction of vast chemical works for the purposes of war, but with the potential of no less vast markets after the war. German science and technology succeeded magnificently, something over which even the Allies were in agreement. Moreover, and as a measure of the complexities overcome by German scientists and technologists, their achievements could not be matched elsewhere. Fortunately for the Allied nations, they could continue to rely on the natural nitrates, despite submarine attacks on merchant shipping. In many respects, the impact during the years immediately following cessation of hostilities was no less great, as Germany's former enemies fought to catch up in nitrogen fixation processes and the development of high-pressure chemical technology that it spawned.

## REPORTS

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### SHAC New Scholar Awards

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**Malika Basu**

*University of Calcutta*

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Since time immemorial, India had its own rich tradition in the field of medical science. It is worth mentioning that along with the development of different scientific traditions, the development of alchemy and its application for human welfare were also important footsteps in the growth of Indian scientific tradition. In this connection, the development of 'indigenous pharmaceutical industries' comes naturally as an integral part of alchemy. I have selected 'indigenous pharmaceutical industries' as an important facet of the application of alchemical knowledge in India.

The present research aimed to understand the two-way interaction between colonial science and the development of pharmaceutical industries in India. Therefore the objectives of the present research were (i) to chronicle the history and scientific discourse of development of four indigenous pharmaceuticals in colonial Bengal, (ii) to chronicle the pharmaceutical productions of these four indigenous pharmaceuticals in a detailed manner, (iii) to identify how medical education, medical services and the context of public health led to the development of pharmaceuticals in colonial Bengal, (iv) to understand how nationalism and imperial economy gave impetus to develop indigenous pharmaceutical industries in colonial Bengal and (v) to understand what strategies were adopted by the indigenous pharmaceutical companies to create consumers for their medical products and to edge out their competitors. Here pharmaceutical industries have been viewed as an illuminating lens which enables the present researcher to understand the interconnectedness between Indian traditions of thought and western science and the subsequent development of pharmaceutical industries in colonial India. Being the British capital, Kolkata has been selected as the venue of research. To understand different developmental consequences, four indigenous pharmaceuticals, namely Butto Krishna Paul & Co (1855), Dabur India Limited (1884), Bengal Immunity (1919) and Standard Pharmaceuticals Limited (1934) have been selected. Both primary and secondary data (books, journals, proceedings, micro films, archival documents and other relevant sources) have been used for the present study.

The study not only portrays political and economic background to the emergence of the indigenous pharmaceuticals in colonial India but links economic nationalism and the quest for self-sufficiency among Indian nationalists and entrepreneurs. Finally the development of pharmaceutical industry in India can be symbolized as a specific wave of cultural response to modern science, which was to pave the subsequent trajectory to national scientific endeavour in India.

## REPORTS

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### **Cesare Pastorino**

*Berlin Centre for the History of Knowledge*

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The SHAC grant allowed me to travel to the National Archives and British Library in London, in order to collect information and material on early modern English records of metal assay trials (or ‘mineral trials’).

Mineral and metal assaying had a fundamental and well-recognised place in early modern societies and economies, as testified by the work of goldsmiths, mint assayers and officials, the technical experimenters and testers in the mining industry and the metallurgists involved in voyages of discovery and exploration. My research analyses the role of assaying practices in the origins of seventeenth century experimentation. Assayers inherently employed working methodologies, standards, and procedures that anticipated those of the English experimental philosophers. For instance, the establishment of accurate, quantitative and replicable results was an obvious aim of early modern assay-masters and mint officers, as their judgments and assessments could critically affect the monetary and financial stability of a state. We know of such requirements because of records and accounts of assay trials. Such records have never been studied in the past and are very important sources for the history of early modern metallurgy and technical experimentation.

For these specific visits, I focused on 16<sup>th</sup>- and 17<sup>th</sup>-century manuscripts of the Royal Mint held at the National Archives, Kew, and the British Library. These records show that assaying practices, techniques and routines related to the Mint were strongly established and consolidated. Also, the format and template of the documents associated with assaying tests show a strong stability over the years.

The reports and accounts of the so-called ‘Trials of the Pyx’ are an especially interesting set of documents. An official and institutional test of coinage produced at the Mint, the Trials of the Pyx had striking analogies with actual judicial trials. From Medieval times, the Crown had the right to call the officers of the Mint to a public test of coinage in Star Chamber at Westminster Hall. In this occasion, the Privy Council would summon a jury, composed of prominent members of the Goldsmiths’ Company. The jury retired in nearby room where a mint furnace was kept in order to produce the assay of coinage. Subsequently, the goldsmiths would record and subscribe their results, and finally draft and again subscribe a binding verdict.

Extensive records of these trials are preserved both at the National Archives and the British Library. Giving full accounts of all of the steps of the Pyx trials, they show a surprising overlapping of technical and judicial aspects. They confirm the existence of an English culture of technical experimentation conducted at the presence of expert witnesses, and subsequently duly recorded and officially subscribed. Through these documents, the assayers’ expert witnessing can be studied as a striking example of experimental production of ‘matter of fact,’ well predating the advent of the Royal Society and establishing a substantially unexplored middle ground between the legal and experimental tradition.

## REPORTS

December 2014

**Report on SHAC's Autumn Meeting 'Making Chemistry: History, Materials, and Practices'***Held on 8 December 2014 at Royal Institution, London*

The Society for the History of Alchemy and Chemistry met at the Royal Institution for its Annual General Meeting on Monday December 8, 2014. The AGM accompanied a one-day workshop on the role of the material in alchemy and chemistry. The aim of the workshop was to explore relationships between chemistry and materials, approaching the topic through a diverse range of disciplines, including history, anthropology, fine art and performance. About thirty persons attended.

Philosopher of science **Emma Tobin** reported on work she has been doing with **Chiara Ambrosio** at UCL's Department of Science and Technology Studies on theory choice and the history of chemistry, seeking to use history to make sense of philosophical problems in chemistry. Artist **Hilary Powell** presented on her work in her current position as artist-in-residence at the Department of Chemistry at UCL. Powell uses materials from demolition sites to make pop-up books and images. **Kaori O'Connor** (Anthropology, UCL) explored the anthropology of everyday chemical practices, in this case the multifarious chemical cleaning materials in people's homes. **Marie Thébaud-Sorger** (CNRS, Paris) took us back to the eighteenth century, and the ways public and often spectacular demonstrations of fire-fighting machines in that period helped constitute audiences for chemistry. **Simon Werrett** (UCL Department of Science and Technology Studies) then discussed the way that pyrotechnists adopted chemistry as a means to develop new fireworks in the eighteenth century. Werrett's talk provided an historical prelude to the finale of the day, a practical demonstration lecture by pyrotechnist **Matthew Tosh** held at UCL's Institute of Making. Amidst an assortment of flashes, bangs, oohs and aahs, Tosh explained the chemistry of fireworks effects and the various materials used to perform displays. The workshop was organised by **Simon Werrett** (Hon. Secretary, SHAC) with much-appreciated assistance from **Prof. Frank James** of the Royal Institution, **Dr. Anna Simmons** (Membership secretary, SHAC), and Sarah Wilkes (Institute of Making, UCL).

**Simon Werrett,**  
University College London

## REPORTS

March 2015

**Report on the The International Workshop on the History of Chemistry, 'Transformation of Chemistry from the 1920s to the 1960s'***Held on 2-4 March 2015 at the Tokyo Institute of Technology*

The International Workshop on the History of Chemistry, 'Transformation of Chemistry from the 1920s to the 1960s' (IWHC 2015), was held on 2-4 March 2015, at the Tokyo Institute of Technology, Japan. The years between the 1920s and the 1960s witnessed a transformation of chemistry in Japan, as well as around the world. This was the period, particularly in Japan, when chemistry transformed from locally orientated to global research. During this time, the development of new methods and theories, along with the opening of new fields by Japanese chemistry, helped produce seven Japanese Nobel laureates in Chemistry.

The Workshop was held to stimulate discussion on the transformation of chemistry in Japan and around the world during this period, using comparative perspectives and an interdisciplinary approach to focus on the social dimension of chemistry. This was one of the first international conferences on the history of chemistry in Japan.

The Workshop featured the following eight sessions:

1. From Local Products to Global Chemistry
2. Preserving the Chemical Heritage
3. Internationalizing Chemistry and the Chemical Community
4. Interface between Chemistry and Biology
5. Instruments and Measurements
6. Making Theories and Making Methods
7. Synthesis and Production
8. Interface between Chemistry and Physics

In these sessions, nine Japanese historians and 13 historians from foreign countries, including Korea, Australia, the United States, France, Great Britain, and Germany, presented their papers. Each speaker had 20 minutes for a presentation and 10 minutes for discussion, and all the participants presented their work in the same room over the three-day Workshop. All these factors helped to produce friendly, successful interactions among the participants.

Each day featured a keynote speech on a different topic: 'From Bio-organic Chemistry to Molecular and Synthetic Biology: Fulfilling Emil Fischer's Dream' by **Jeffrey Johnson**, 'A Career at the Center: Linus Pauling and the Transformation of Chemical Science in the Twentieth Century' by **Mary Jo Nye**, and 'On Molecules, Men, and Mirrors: Different Ways to Write a History of the Chemical Industry' by **Ernst Homburg**.

About 60 participants from Japan and overseas enjoyed the Workshop's interesting presentations and lively discussions, and the interactions continued during coffee breaks, receptions, and the banquet. Thirty-nine participants and their companions took part in the banquet, which was held in a Japanese-style banquet house with a Japanese garden near the university campus, where the President of the Tokyo Tech was present and gave his speech.

After the Workshop, we organised a one-day optional excursion in Central Tokyo, visiting Hamarikyu Gardens, Meiji Shrine, Tokyo Waterworks Historical Museum, Asakusa (an old traditional downtown), and Tokyo Station, with a lunch at a Japanese-style restaurant.

Thanks to the SHAC Award, we could present the participants with printed collections of abstracts and leaflets from the Workshop, plus some souvenir goods from Tokyo Tech.

**Masanori Kaji**

## REPORTS

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May 2015

### **Report on the Spring School of History and Communication ‘Living in a Toxic World: Experts, Activism, Industry and Regulation’**

*Held on 14-16 May 2015 at Mahon, Spain*

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Following on the footsteps of the seven previous editions, the annual Spring School of History and Communication has been held this year on 14-16 May in Mahon (Menorca) under the title ‘Living in a toxic world: Experts, Activism, Industry and Regulation’. The meeting has been organised by **José R. Bertomeu-Sánchez** and **Ximo Guillem-Llobat**, under the auspices of the following institutes and associations: the Institut Menorquí d’Estudis (IME) in Menorca, the Societat Catalana d’Història de la Ciència i de la Tècnica (SCHCT), the European Society for the History of Science (ESHS), the Society for the History of Alchemy and Chemistry (SHAC), the Center for the History of Science (University Autònoma de Barcelona) and the Institute of History of Medicine and Science ‘López Piñero’ (University of Valencia).

The conference program consisted of three main lectures given by **Gerald Markowitz** from John Jay College and Graduate Center (CUNY) on *Lead*, **Thomas Le Roux** from Centre de Recherches Historiques (CNRS/EHESS) on *Smoke* and **Andrew Cunningham** from Cambridge University on *Mercury*. Unfortunately, **Nathalie Jas** (RiTME Research Unit (INRA), Paris), could not present her talk on pesticides due to health problems. Apart from the key-note talks, a large number of papers were presented in three different workshops and one poster session. These activities were developed and discussed by around 40 participants from all over the world, who came to share and communicate the research lines in which they are currently working, in many cases as part of a doctoral or postdoctoral research.

This has certainly been an interesting and controversial meeting, corresponding to the nature of the issues discussed. Among the topics addressed in the meeting, I would highlight the following ones: (1) the different types of experts involved in toxic regulation, their role in advisory committees and their authority and credibility; (2) ways of demonstration of toxic effects in different social, political and cultural settings (3) risk perception and the activities of industry and activists (4) Capitalism, racism and the unequal distribution of pollution hazards. All of these issues were analyzed in different geographical contexts (France, Italy, Spain, England, USA, Germany, Korea, etc.) by adopting a broad range of scales: local, regional, national, international, or even global. In that way, the meeting has offered a well-chosen and concise selection of historical topics and current concerns concerning the regulation of toxicants.

*Silvia Pérez*, University of Valencia



## REPORTS

May 2015

**Report on the SHAC Meeting***Held on 15 June 2015 at Clare Hall, Cambridge, UK*

The first SHAC meeting of 2015 was held at Clare Hall, and at the Department of the History and Philosophy of Science, Cambridge, on 15 June. Both parts were well-attended.

The structure of the day was that at Clare Hall (a graduate college within the University of Cambridge) the meeting ran from coffee to tea time, after which everyone moved to HPS in Free School Lane, where an Ad Hoc session was organised by **Hasok Chang**, Rausing Professor of HPS at Cambridge, and **Claus Ruthenberg** of Coburg University. (For those who are not aware of this, the 'Hoc' derives from **history of chemistry**.)

There had been an enthusiastic response to the call for papers, and eleven short presentations were made. Under the chairmanship of **Jennifer Rampling** (Princeton), **Eoin Bentick**, a graduate student of UCL, gave the day an impressive start by discussing the alchemical content of the medieval 'Roman de la Rose'. **Robin Gordon** from St Mary's University, Los Angeles, followed with Chinese alchemy and Chinggis ('Genghis' to many of us) Khan; she also discussed Mary of Alexandria. **Ruben Verwaal** of the University of Groningen was concerned with chemistry of the blood in late 17<sup>th</sup> and early 18<sup>th</sup> century Leiden up to the time of Hermann Boerhaave. **Robert Anderson** (Cambridge) then took over as chair. **Roderick Home** of Melbourne University considered primacy in bringing the concept of latent heat to the attention of the scholarly world (if only Joseph Black had put pen to paper...). **Frank James** (RI and UCL) followed, discussing the work of the radical Thomas Beddoes at Hotwells near Bristol at the end of the 18<sup>th</sup> century. The therapy he introduced consisted of inhalation of gases; sadly, carbon monoxide did nothing for tuberculosis patients other than possibly hastening their death.

A generous hour was allowed for lunch in the dining hall of Clare Hall. At least one of the contributors to the day had previously spent time in the college as a Visiting Fellow (the college appoints 40 such fellows in each academic year, and possibly some of the authors of the day's papers will find themselves in Clare Hall in this capacity at some future date). The afternoon started with **Harriet Lloyd** (a graduate student from UCL) talking about the inaccuracy (or was it?) of newspaper reporting of Humphry Davy's lectures. **Edward Werner Cook**, of the Chemist's Club of New York, gave a broad survey of structural reasoning of organic molecules in the 1850s and 60s. Then **Carolyn Cobbold** of HPS, Cambridge, made us squirm a little when she told us of her research concerning the chemical dyes which were cavalierly added to food in Victorian England.



At this point, **Simon Werrett** (UCL) took over chairing. His first speaker was **Vangelis Antzoulatis** of the University of Lille (“you can tell I am French from my name”, he quipped). His was a sophisticated paper about the ‘driving force’ of chemical reactions, describing the ‘energetical’ answer of Marcelin Berthelot. Then **Irena McCabe**, who for many years served as librarian of the Royal Institution, presented a paper dealing with the rise of physical chemistry as a new discipline in the 19<sup>th</sup> century. The final Clare Hall paper was a little different: **John Perkins** talked about his ‘Situating Chemistry’ database, developed with **John Stewart** of the University of Oklahoma. This is a hugely ambitious project which allows historians to add data they have developed in their research for all to gain access to. We shall be hearing a lot more about it.

The meeting then moved the half mile or so eastwards to Free School Lane, and to a welcome cuppa before **Claus Ruthenberg** and **Hasok Chang** presented their thoughts on ‘Quotidian, Protonic and Electronic Acidity’ particularly comparing the views of Johannes Brønsted and G. N. Lewis. As has been a feature of Ad Hoc, much of the meeting was taken over by general discussion. This was a sad occasion because it was the last Cambridge Ad Hoc meeting, at least for the time-being. However, Hasok did raise the possibility of there being future ad hoc Ad Hocs. The meetings in Cambridge and at UCL have been supported financially by SHAC and doubtless their revival would be sympathetically considered. Ad Hoc-ers then made their way, in time-honoured fashion, to a local watering-hole.

**Robert G.W. Anderson**  
Clare Hall, Cambridge


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## NEW MEMBERS

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### SHAC welcomes the following new members:

Leonardo Anatrini	University of Bologna, Italy
Eoin Bentick	University College London, UK
Vincenzo Carlotta	University of Pavia, Italy
Thijs Delva	KU Leuven, Belgium
Thijs Hagendijk	University of Maastricht, The Netherlands
Konstantin Kiprijanov	University of Leeds, UK
Juergen Maar	Florianopolis, Brazil
Joris Mercelis	University of Ghent, Belgium
Michael Monhart	New York, USA
Sophie Osiecki	University of Cambridge, UK
Flora Paparou	Marousi Athens, Greece
Hilary Powell	Artist in Residence, UCL Chemistry Department
Dafydd Roberts	Aberystwyth University, UK
Fabiana Lopes da Silveira	Campinas, Brazil
Luis Garcia Vallarta Zepeda	Mexico City, Mexico
Nicholas Zumbulyadis	Rochester, USA



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We welcome any contributions that newsletter readers might wish to make to the *Chemical Intelligence*. This includes, but is not limited to:

- Upcoming Conferences or Meetings
- Publications
- Conference or Meeting Reports (these should not normally exceed 1,000 words)
- News Items or Announcements
- Grants, Fellowships or Awards
- Reviews of Websites, projects or blogs of interest (up to 500 words)

The Editor retains the right to select those contributions that are most relevant to the interests of the Society's members.

We also wish *Chemical Intelligence* to provide a platform for interaction between members. We therefore encourage you to submit:

- Questions you may wish to put to other members
- Materials that you are working on and wish to share
- Suggestions for improvement

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

Jo Hedesan, E-mail: [georgianahedesan@yahoo.com](mailto:georgianahedesan@yahoo.com)

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## Society for the History of Alchemy and Chemistry

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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 chem-

istry. 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 quarterly from 2013. Members also receive the Society's newsletter,

*Chemical Intelligence*, twice yearly, and the annual *Sources of Alchemy and Chemistry* volume.

Application forms and membership information may be found on the Society's website, <http://www.ambix.org/>, under 'Membership'.

For all membership questions, please contact the Membership Secretary, Dr Anna Simmons.

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