

CURRICULUM VITAE

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PERSONAL

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EDUCATION

- 1986-1992 Ph.D. in History and Philosophy of Science,
King's College, University of London.
The Relationship Between the Periodic System, Quantum
Mechanics and the Orbital Model. Supervisor: Heinz Post.
- 1976-1979 Master of Philosophy degree in Physical Chemistry,
University of Southampton.
- 1974-1975 Certificate of Post Graduate Studies in Chemistry,
Darwin College, University of Cambridge.
- 1971-1974 B.Sc. (Honors) in Chemistry,
Westfield College, University of London.
1972 Scholarship Prize
1973 Exhibitioner Prize

PROFESSIONAL EXPERIENCE

- 2006-2010 Continuing Lecturer, Department of Chemistry & Biochemistry,
University of California at Los Angeles. Secondary appointment: Honors
Collegium Department.
- 2000-2006 Lecturer, Department of Chemistry & Biochemistry,
University of California at Los Angeles. Secondary appointment: Honors
Collegium Department.
- 1998-2000 Visiting Assistant Professor of Chemistry,
Purdue University, West Lafayette, Indiana.
- 1997-1998 Visiting Assistant Professor of Chemistry,
Bradley University, Peoria, Illinois.
- 1995-1997 Research Fellow in History and Philosophy of Science,
California Institute of Technology.
- 1994-1995 Part-time lecturer in Philosophy,
London School of Economics and University College, London.
- 1993- 1995 Chemistry Lecturer
Richmond College The American University in London.
- 1990-1993 Senior Lecturer and later Head of Chemistry,
Abbey College, London.
- Lecturer in History of Science,
City of London Polytechnic.
- 1983-1990 Senior Chemistry Lecturer,
Mander-Portman-Woodward College, London.
- 1980-1983 Chemistry and Physics Teacher,
International School of London

COURSES TAUGHT

University of California at Los Angeles

General Chemistry Courses,

Chem. 20 series for science majors and engineering students.

Chem. 14 series for biological science majors including pre-medical students.

What is this thing called science? An introduction to History & Philosophy.

Purdue University

General chemistry.

Philosophy of Science course for graduate students in science education.

Bradley University

General Chemistry

History & Philosophy of Science

California Institute of Technology

Graduate course in history & philosophy of chemistry

Richmond College, the American University in London

Courses in physical chemistry, organic chemistry and inorganic chemistry,

Course in Philosophy of Science.

London School of Economics

Introduction to Philosophy

University College, London

Introduction to History and Philosophy of Science

Abbey College, London

A Level Chemistry

Central London Polytechnic

History of Modern Science

Mander Portman Woodward College

A Level Chemistry

International School of London

International Baccalaureate in Chemistry

Books

1. Editor of *An Oxford Handbook on the Philosophy of Chemistry*, Oxford University Press, in preparation.
2. Author of *A Tale of Seven Elements: the last to be discovered among the 1-92*, Oxford University Press, under contract and in preparation.
3. Author of *A Very Short Introduction to the Periodic Table*, Oxford University Press, under contract and in preparation.
4. Author of *Collected Papers on Philosophy of Chemistry*, Imperial College Press, London, 2008.
5. Author of *Collected Papers on the Periodic Table by Eric Scerri*, Imperial College Press, London, 2009.
6. Author of *The Periodic Table: Its Story and Its Significance*, Oxford University Press, New York, 2007.

Winner of UCLA. Herbert Newby McCoy faculty award.
Chosen as “outstanding academic title for 2007” by Choice Library magazine.

Japanese Translation published by Asakura Publishing Company, October, 2009. This book is currently also being translated into Chinese, Greek and French. Translations into Spanish, Portuguese and Italian are in negotiation.

7. Co-editor of, *The Philosophy of Chemistry: The Synthesis of a New Discipline*, Baird, D., Scerri, E.R., McIntyre, L., (eds.), volume 242 of Boston Studies in the Philosophy of Science, Springer, Heidelberg, 2005.

Articles

1. Response to Hjørland, *Knowledge Organization*, in press.
2. Discovering Rhenium, *Nature Chemistry*, 2, , 2010.
3. Explaining the Periodic Table and the Role of Chemical triads, *Foundations of Chemistry* 12, 69-83, 2010.
4. Chemistry Goes Abstract, *Nature Chemistry*, December 1, (10), 679-680, 2009.
5. Finding francium, *Nature Chemistry*, 1, November 1, (9), 670-670, 2009.
6. Entry for “Periodic Table”, in Elsevier *Handbook of Philosophy of Science*, R. Hendry, A. Woody, (eds.), Elsevier, (in press)
7. The Role of Atomic Number Triads in the Periodic Table, *Journal for the General Philosophy of Science* (submitted)
8. Tales of technetium, *Nature Chemistry*, 1 (4), 332-332, 2009.
9. Periodic Change, *Chemistry World*, March, 2009, 46-49.
10. The Dual Sense of the Term “Element, Attempts to Derive the Madelung Rule and the Optimal Form of the Periodic Table, if any, *International Journal of Quantum Chemistry*, 109, 959-971, 2009.
11. Mendeleev’s Periodic Table – Origins and Debate in *Philosophical Themes in Chemistry*, K. Jensen, A. Nielsen, Copenhagen, 2008, p. 13-36.
12. Periodic Visions, *Cosmos Magazine (Australia)*, 80, 72-77, 2008.
13. The Past and Future of the Periodic Table, *American Scientist*, 52-58, January-February, 2008. Translated into Spanish (twice) in *Educacion Quimica* (Mexico) and *Ciencia y Investigacion*, (Spain) and into French, *Pour La Science*.

14. The Role of Triads in the Evolution of the Periodic System, *Journal of Chemical Education*, 85, 585-589, 2008
15. Mendeleev's Legacy: The Periodic System, *Chemical Heritage*, Vol. 25, No. 1, Spring 2007
16. The Legacy of Mendeleev and his Periodic Table, *Xjenza (Maltese Journal of Science)*, 11, 1-3, 2006. Also at <http://www.xjenza.com/>
17. Reduction and Emergence in Chemistry, Proceedings of the PSA 2006 Meeting, *Philosophy of Science*, 74, 920-931, 2007
18. The Tyranny of the Chemist, *Chemistry International*, 27, 27-28, 2006.
19. Response to Barnes' Critique of Scerri and Worrall, *Studies in History and Philosophy of Science*, 36, 813-816, 2005.
20. Introduction chapter, co-authored with D. Baird, L. McIntyre, in *Philosophy of Chemistry, The Synthesis of a New Discipline*, Baird, D., Scerri, E.R., McIntyre, L., (eds.), Boston Studies in the Philosophy of Science, Springer, Dordrecht, 2005, p. 3-18.
21. On the Continuity of Reference of the Elements, A Response to Hendry, *Studies in History and Philosophy of Science*, 37, 308-321, 2006.
22. Some aspects of the metaphysics of chemistry and the nature of the elements, *HYLE – International Journal for Philosophy of Chemistry*, 11, 127-145, 2005.
23. Commentary on Allen & Knight's Response to the Löwdin Challenge, *Foundations of Chemistry*, 8, 285-293, 2006.
24. Normative and Descriptive Philosophy of Science and the Role of Chemistry, in *Philosophy of Chemistry, The Synthesis of a New Discipline*, Baird, D., McIntyre, L., Scerri, E.R., (eds.), Boston Studies in the Philosophy of Science, Springer, Dordrecht, 2005, p. 119-128.
25. Presenting the left-step periodic table, *Education in Chemistry*, 42, 135-136, 2005.
26. The Formalization of the Periodic System Revisited, in *Cognitive Structures in Scientific Enquiry, Essays in Debate with Theo Kuipers*, Volume 2, Roberto Festa, Atocha Aliseda, and Jeanne Peijnenburg, eds., Poznan Studies in the Philosophy of the Sciences and the Humanities, Rodopi, Amsterdam, 2006.

27. Principles and Parameters in Chemistry and Physics, Proceedings of Philosophy of Science Association meeting, *PSA 2002, Philosophy of Science*, 71, 1082-1094, 2004.
28. Relative Virtues of the Pyramidal and Left-Step Periodic Tables, in *The Periodic Table: Into the 21st Century*, D. Rouvray, B. King (eds.), Science Research Press, UK, 2004, p.
29. The Placement of Hydrogen in Periodic System, reprinted in *Chemistry in Australia*, 71, (4), 22-22, 2004
30. Film review of "What the bleep do we know?", *Critical Inquirer*, Sept-October, 2004.
31. The Placement of Hydrogen in Periodic System, *Chemistry International*, 26, (3), 21-22, 2004.
32. How Ab Initio is Ab Initio Quantum Chemistry? *Foundations of Chemistry*, 6, 93-116, 2004, Special Issue dedicated to Stuart Rosenfeld, N. Bhushan (guest editor),
33. Hafnium, *Chemical & Engineering News*, Special Issue on the Periodic System, Sept 8th, 2003, p. 138.
34. Response to book review by Sara Vollmer, *Philosophy of Science*, 70, 391-398, 2003.
35. Constructivism, Relativism and Chemistry, In *Chemical Explanation, Proceedings of New York Academy of Sciences*, vol .998, J. Earley (ed.), New York, 2003, p. 359-369.
36. Principles and Parameters in Chemistry and Physics, *PSA 2002*, 1082-1094, *Philosophy of Science, (Supplement)*, Symposia Papers edited by S. Mitchell.
37. Philosophy of Chemistry, *Chemistry International*, May-June, 2003, 6-8.
38. Löwdin's Remarks on the Aufbau Principle and a Philosopher's View of Ab Initio Quantum Chemistry, in *Fundamental Perspectives in Quantum Chemistry, A Tribute Volume to the Memory of Per-Olov Löwdin*, E. Brandas and E. Kryachko (eds.), Kluwer Academic Publishers, Dordrecht, Holland, 2003, 675-694.

39. How Ab Initio is Ab Initio Quantum Chemistry ?, *Foundations of Chemistry*, Special Issue dedicated to Stuart Rosenfeld, N. Bhushan (guest editor), 6, 93-116, 2004.
40. Philosophical Confusion in Chemical Education, *Journal of Chemical Education*, 468-474, 2003.
41. The Formalization of the Periodic System Revisited, in *Cognitive Structures in Scientific Inquiry, Volume dedicated to Theo Kuipers*, R. Festa, (ed.), Poznan Studies in Philosophy of Science, Poznan, Poland, 2005, 191-219.
42. The Ambiguity of Reduction, *HYLE – International Journal for Philosophy of Chemistry*, 13, 67-81, 2007.
43. The Nature of Chemical Knowledge and Chemical Education, co-authored with S. Erduran, in *Chemical Education: Towards Research-Based Practice*, J. Gilbert, O. De Jong, R. Justi, D.F. Teagust, J.H. Van Driel, (eds.), Kluwer, Dordrecht, 2002, p. 7-27.
44. Response to Katz, *The Chemical Educator*, E. Letter to the Editor (August 30, 2002). *Chem. Educator* [Online], <http://chemed.boisestate.edu>.
45. Bibliography of Literature on the Periodic System, *Foundations of Chemistry*, 3, 183-196, 2001. Co-author, J. Edwards.
46. The New Philosophy of Chemistry and Its Application to Chemical Education, *Cerapie*, 2, 165-170, 2001.
47. A Philosophical Commentary on Giunta's Critique of Newlands' Periodic System, *Bulletin for the History of Chemistry*, 26, 124-132, 2001.
48. The Periodic Table: The Ultimate Paper Tool in Chemistry, in *Tools and Modes of Representation in the Laboratory Sciences*, Ursula Klein (ed.), Boston Studies in the Philosophy of Science, vol 222, KluwerAcademic Press, Dordrecht, 2001, pp.163-177.
49. The Recently Claimed Observation of Atomic Orbitals and Some Related Philosophical Issues", *Philosophy of Science*, 68 (Proceedings) S76-S88, N. Koertge, ed. Philosophy of Science Association, East Lansing, MI, 2001.
50. Prediction and the Periodic Table, co-authored with J. Worrall, *Studies in History and Philosophy of Science*, 32, 407-452, 2001.

51. Interdisciplinary Research at the Caltech Beckman Institute, in *Practicing Interdisciplinarity*, P. Weingart, N. Stehr (eds.), University of Toronto Press, 2000, pp. 194-214.
52. Waxing Philosophical About Chemistry, *Chemistry*, Published by American Chemical Society, co-authored with L. Guterman, 17-20, Winter 2000.
53. Response to Nesbet, *Foundations of Chemistry*, 2, 77-78, 2000.
54. Have Orbitals Really Been Observed?, *Journal of Chemical Education* 77, 1492-1494, 2000.
55. Philosophy of Chemistry - A New Interdisciplinary Field?, *Journal of Chemical Education*, 77, 522-526, 2000.
56. Second Response to Needham, *International Studies in Philosophy of Science*, 14, 307-315, 2000.
57. The Failure of Reduction and How to Resist the Disunity of Science in Chemical Education, *Science and Education*, 9, 405-425, 2000.
58. Naive Realism, Reduction and the 'Intermediate Position, in "*Of Minds and Molecules*", Bhushan, N., Rosenfeld, S., (eds.), Oxford University Press, New York, 2000.
59. A Critique of Atkins' Periodic Kingdom and Some Writings on Electronic Structure" *Foundations of Chemistry*, 1, 287-296, 1999.
60. Response to Needham, *International Studies in Philosophy of Science*, 13, 185-192, 1999.
61. La Filosofía de la Química, la Sección Más Reciente de la Filosofía de la Ciencia, *Anuario Latinoamericano de Química* (Argentinean Journal of Chemical Education), XI, 187-191, 1998-99.
62. On the Nature of Chemistry, *Educación Química*, (Mexico), 10, 74-78, 1999.
63. The Evolution of the Periodic System, *Scientific American*, September, 279, 78-83, 1998, translated into French, Italian, German, Spanish, Polish, Russian, Chinese, Japanese, Arabic.
64. Ordinal Explanation of the Periodic System of Chemical Elements E. R. Scerri, V. Kreinovich, P. Wojciechowski and R. R. Yager, *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, 6, 387-400, 1998.

65. How Good is the Quantum Mechanical Explanation of the Periodic Table? *Journal of Chemical Education*, 75, 1384-1385, 1998.
66. Popper's Naturalized Approach to the Reduction of Chemistry, *International Studies in Philosophy of Science*, 12, 33-44, 1998.
67. Has the Periodic Table Been Successfully Axiomatized? *Erkenntnis*, 47, 229-243, 1997.
68. The Periodic Table and the Electron, *American Scientist*, 85, 546-553, 1997.
69. The Case for Philosophy of Chemistry, (co-authored with L. McIntyre), *Synthese*, 111, 213-232, 1997.
70. Bibliography on Philosophy of Chemistry, *Synthese*, 111, 305-324, 1997.
71. Interdisciplinary Research at the Beckman Institutes, *Interdisciplinary Science Reviews*, 22, 1-7, 1997.
72. Chemical Periodicity, in *Macmillan Encyclopedia of Chemistry*, J.J. Lagowski ed., Macmillan, New York, vol. 3, 22-32, 1997.
73. The Periodic System, *Encarta Internet Encyclopedia*, Microsoft Corporation.
74. Are Chemistry and Philosophy Miscible?, *Chemical Intelligencer* 3, 44-46, 1997.
75. It All Depends What You Mean By Reduction, in *From Simplicity to Complexity, Information, Interaction, Emergence*, Proceedings of the 1994 ZiF Meeting in Bielefeld, 77-93, K. Mainzer, A. Müller, and W. Saltzer, eds., Vieweg-Verlag.
76. Reduktion und Erklärung in der Chemie, *Philosophie der Chemie Bestandsaufnahme und Ausblick*, K. Ruthenberg and N. Psarros, J. Schummer, eds. Würzburg, Königshausen & Neumann, 1996.
77. Why the 4s Orbital Is Occupied before the 3d", *Journal of Chemical Education*, 73, 6, 498-503, 1996. (Co-authored with M. Melrose).
78. Stephen Brush, The Periodic Table and the Nature of Chemistry, in *Die Sprache der Chemie*, P. Jannich and N. Psarros, eds. Proceedings of the Second Erlenmeyer Colloquium on Philosophy of Chemistry, Würzburg, Königshausen & Neumann, 1996, pp. 169-176.

79. Philosophy of Chemistry *Resurgens*, *Chemical Heritage*, Beckman Center for History of Chemistry, Philadelphia, 13, no. 1, 33, Winter 1995-96.
80. The Exclusion Principle, Chemistry and Hidden Variables, *Synthese*, 102, 165-169, 1995.
81. Has Chemistry Been at Least Approximately Reduced to Quantum Mechanics? in *PSA* 1 D. Hull, M. Forbes, and R. Burian, eds., 160-170, 1994.
82. Plus ça Change (The Periodic Table), *Chemistry in Britain*, 30, no. 5, 379-381, 1994.
83. Prediction of the Nature of Hafnium from Chemistry, Bohr's Theory and Quantum Theory, *Annals of Science*, 51, 137-150, 1994.
84. The Reduction of Chemistry, Popper and Induction, in *The Philosophy of Chemistry*, Report of a meeting held at Science Museum, London, October 1993, Royal Society of Chemistry, London, 1993.
85. Is Chemistry a Reduced Science?, *Education in Chemistry*, 30, no. 4, 112, 1993.
86. Configurational Energy and Bond Polarity Index, *Journal of Physical Chemistry*, 97, 5786, 1993.
87. Correspondence and Reduction in Chemistry, in *Correspondence, Invariance and Heuristics. Essays in Honour of Heinz Post*, S. French and H. Kammenga, eds., Boston Studies in Philosophy of Science, no. 148: 45-64, Dordrecht: Kluwer, 1993.
88. Electronic Configurations, Quantum Mechanics and Reduction, *British Journal for the Philosophy of Science*, 42, no. 3, 309-325, 1991.
89. Chemistry, Spectroscopy and the Question of Reduction, *Journal of Chemical Education*, 68, no. 2, 122-126, 1991.
90. Eastern Mysticism and the Alleged Parallels with Physics, *American Journal of Physics*, 57, no. 8, 687-692, 1989.
91. Vychodní Mysticismus A Udajné Paralely s Fyzikou, *Universum* (Prague) 13, 3-13. 1994, Czech Translation of above paper from *American Journal of Physics*, 1989.

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93. The Tao of Chemistry, *Journal of Chemical Education*, 63, no. 2, 106-107, 1986.
94. Low Frequency Raman Spectra of Polyoxymethylene, *Polymer*, 20, no. 12, 1470, 1979.
95. The Physical Significance of the Planck Length, *Indian Journal of Theoretical Physics*, 28, 389-91, 1980.
96. The Mass-Space-Time Continuum, *Speculations in Science and Technology*, 1, 3, 289, 1978.