

## **CURRICULUM VITAE (Abridged)**

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**Date and Place of Birth:** 13 October 1958, Lisboa, Portugal.

**Nationality:** Portuguese.

### **Institutional Address:**

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### **Academic Degrees:**

- “Agregação” in History and Philosophy of Science, University of Lisbon (2004).
- Ph.D. in History with Specialization in History and Philosophy of Science (1993), University of Maryland at College Park (May 1993).

### **Present Position:**

- Assistant Professor with Agregação, Unit for the History and Philosophy of Science, Faculty of Sciences, University of Lisbon, (since 1993).
- Coordinator of the Interuniversity Center for the History of Science and Technology
- Coordinator of the MSc Degree Program on History and Philosophy of Science

### **Areas of Research:**

- History of 19<sup>th</sup> and 20<sup>th</sup> century Physical Sciences
- History of Quantum Chemistry
- History of Science in Portugal (since the 18<sup>th</sup> century)
- History of Science in the European Peripheries (founding member of the international group STEP – Science and Technology in the European Periphery).

### **Editorial Activities:**

- Editorial Board of international on-line open-access journal *HoST*.
- Advisory Board of series Boston Studies for the Philosophy of Science (2010-
- Advisory Board of MPIWG Research library for the history and development of knowledge (Open Access Activity) (2010-

- Advisory Editor of *Centaurus* (2010-

### **Training Activities**

- Responsible for the creation of the MSc and PhD Programs in History and Philosophy of Science, Faculty of Sciences of University of Lisbon.
- Responsible for the creation of the Unit/Department of History and Philosophy of Science, Faculty of Sciences of University of Lisbon
- Supervision of various MSc (8 completed, 1 in progress) and PhD theses (3 in progress). Supervision of Post-Doc (3 in progress).

### **Research Projects (selection):**

- Leader of the research project “An open window to the representations of science and technology in the Portuguese press (1900-1926)” (PTDC/HCT/68210/2006)
- Leader of the Portuguese team of the Acção Integrada Luso-Espanhola “Ciência na Península Ibérica: contributos para um estudo histórico comparativo entre Espanha e Portugal, séculos XVIII-XX”
- Leader of the research project “A scientific biography of Correia da Serra” (POCTI/HFC/38073/2001)
- Leader of the Portuguese team of the CE Human Capital and Mobility Project (1994/1996) “Project Prometheus—The Spreading of the Scientific Revolution from the Countries where it Originated to the Countries in the Periphery of Europe during the 17th, 18th and 19th Centuries,” CHRX-CT93-0299.
- Founding member of the international group STEP (Science and Technology in the European Periphery). She presently integrates the recent working group on Universities in the European Periphery.
- Founding member and member of the editorial board of the on-line journal HoST (<http://johost.eu>)

### **Publications:**

Ana Simões is the author of books and edited volumes, papers in national and international journals with refereeing, and chapters of books, totalling more than 80 publications. She is also Scientific coordinator of the Collection “História e Filosofia da Ciência” and “Science and Enlightenment”, both published by Porto Editora.

### **Books and edited volumes**

1. Kostas Gavroglu, Ana Simões, *Neither physics nor chemistry. A history of quantum chemistry* (Cambridge, Mass.: MIT Press, 2012).
2. Ana Simões, Maria Paula Diogo, Ana Carneiro, *Citizen of the world. A scientific biography of Abbé Correia da Serra* (Berkeley: Institute for Governmental Studies, forthcoming 2012), translation of Ana Simões, Maria Paula Diogo, Ana Carneiro, *Cidadão do Mundo. Uma biografia científica do Abade Correia da Serra* (Porto: Porto Editora, 2006)

3. Ana Simões, Maria Paula Diogo, Ana Carneiro, *Cidadão do Mundo. Uma biografia científica do Abade Correia da Serra* (Porto: Porto Editora, 2006)
4. Ana Carneiro, Maria Paula Diogo, Ana Simões, eds., *José Francisco Correia da Serra: Investigações Botânicas* (Porto: Porto Editora, 2003).
5. Ana Simões, Ana Carneiro, Maria Paula Diogo, eds., *Travels of Learning. A Geography of Science in Europe* (Dordrecht: Kluwer Academic Publishers, 2003).
6. Ana Simões, Ana Carneiro, Maria Paula Diogo, eds., *José Francisco Correia da Serra: Itinerários Histórico-Naturais* (Porto: Porto Editora, 2003).
7. Ana Simões, ed., *Memórias de Professores Cientistas. Os 90 anos da FCUL, 1911-2001* (Lisboa: FCUL, 2001).

### **Papers in International journals**

Referee for *Hyle*, *BJHS*, *Science and Education*, *SHPS*, *JCC*, *Annals of Science*, *e-Journal of Portuguese History*, *Foundations of Chemistry*, *Centaurus*, *Metascience*, *Boston Studies for the Philosophy of Science*.

8. Luís Miguel Carolino, Ana Simões, “The eclipse, the astronomer and his audience: Frederico Oom and the total solar eclipse of 28 May 1900 in Portugal,” *Annals of Science*, DOI:10.1080/00033790.2011.601278, available on-line since 31 Oct 2011
9. Júlia Gaspar, Ana Simões “Techno-physics on the Periphery: A Research School at the University of Lisbon under Salazar’s Dictatorship (1929-1947)”, *Historical Sciences in the natural Sciences*, 41(3) (2011), 303-343.
10. Ana Simões, Ana Carneiro, Maria Paula Diogo, “Riding the waves: natural events in the early twentieth-century Portuguese press”, *Science and Education* (2010), DOI:10.107/S11191-010-929-J, on-line since 2010
11. Júlia Gaspar, Maria do Mar Gago, Ana Simões, “Scientific life under the Portuguese dictatorial regime (1929-1954): the communities of geneticists and physicists,” *HoST* 2-3 (2009).
12. Ana Simões, “Relaciones Peligrosas o asociaciones inevitables: la química cuántica en la encrucijada de la química, la física y las matemáticas”, *Anales de la Real Sociedad Española de Química* 105, (2009), 319-327.
13. Ana Simões, Elsa Mota, Paulo Crawford, “Einstein in Portugal. Eddington’s 1919 expedition to Principe and the reactions of Portuguese astronomers (1917-1925)”, *BJHS*, 42 (2) 2009, 245-73.
14. Ana Simões, Ana Carneiro, Maria Paula Diogo, “Perspectives on Contemporary History of Science in Portugal,” *Nuncius* 23 (2) (2008), 237-263.
15. Ana Simões, “A quantum chemical dialogue mediated by textbooks: Pauling’s *The Nature of the Chemical Bond* and Coulson’s *Valence*,” *Notes and Records of the Royal Society of London*, 62 (2008), 259-269.
16. Kostas Gavroglu, Manolis Patiniotis, Faidra Papanelopoulou, Ana Simões, Ana Carneiro, Maria Paula Diogo, Jose Ramon Bertomeu-Sánchez, Antonio Garcia Belmar, Agusti Nieto-Galan, “Science and technology in the European periphery. Some historiographical reflections”, *History of Science* 46 (2008), 153-175.
17. Ana Simões, “In between words: G.N. Lewis, the shared pair bond and its multifarious contexts”, *Journal of Computational Quantum Chemistry* 28 (2007), 62-72.

18. Ana Simões, Ana Carneiro, Maria Paula Diogo, "Issues in the Historiography of science in Portugal. A look from the standpoint of four case studies", *Neusis*, 15 (2006), 17-39 (in Greek)
19. Ana Carneiro, Maria Paula Diogo, Ana Simões, "Communicating the new chemistry in 18<sup>th</sup> century Portugal: Seabra's *Elementos de Chimica*," *Science and Education*, 15 (2006), 671-692. Special Issue "Textbooks in the Scientific Periphery", Guest editors: Antonio Garcia Belmar, José Ramón Bertomeu-Sánchez, Manolis Patiniotis and Anders Lundgren, *Science and Education*, 15 (7-8) (2006), 657-880.
20. Ana Simões, "Textbooks, popular lectures and sermons: the quantum chemist Charles Alfred Coulson and the crafting of science," *British Journal for the History of Science*, 37(3) (2004), 299-342.
21. Ana Simões, Ana Carneiro, Maria Paula Diogo, "Building the Republic of Letters: the Scientific Travels of the Portuguese naturalist Correia da Serra (1751-1823)," *Revue de la Maison Française*, 1 (2003), 33-50.
22. Ana Simões, "Dirac's claim and the chemists," *Physics in Perspective*, 4 (2002), 253-266.
23. Kostas Gavroglu, Ana Simões, "Preparing the ground for quantum chemistry to appear in Great Britain: the contributions of the physicist R.H. Fowler and the chemist N.V. Sidgwick," *British Journal for the History of Science*, 35 (2002), 187-212.
24. Maria Paula Diogo, Ana Carneiro, Ana Simões, "The Portuguese Naturalist Correia da Serra (1751-1823) and his Impact on Early Nineteenth-Century Botany," *Journal of the History of Biology*, 34 (2001), 353-393.
25. Ana Simões, Kostas Gavroglu, "Quantum Chemistry in Great Britain: Developing a Mathematical Framework for Quantum Chemistry," *Studies in the History and Philosophy of Modern Physics*, 31 (2000), 511-548.
26. Ana Carneiro, Ana Simões, Maria Paula Diogo, "The Scientific Revolution in Eighteenth-century Portugal: The role of the *Estrangeirados* (Europeanized Intellectuals)," *Social Studies of Science*, 30 (2000), 591-619.
27. Maria Paula Diogo, Ana Carneiro, Ana Simões, "Sources for the History of Science in Portugal: one possible option," *Cronos*, 3 (2000), 115-142.
28. Ana Carneiro, Maria Paula Diogo, Ana Simões, Manuel Troca, "Portuguese Engineering and the colonial project in the nineteenth-century," *ICON*, 6 (2000), 160-175.
29. Ana Simões, Ana Carneiro, Maria Paula Diogo, "Constructing Knowledge: Eighteenth-century Portugal and the New Sciences," *Archimedes*, 2 (1999), 1-40.
30. Ana Simões, Kostas Gavroglu, "Quantum Chemistry *qua* Applied Mathematics. The contributions of Charles Alfred Coulson (1910-1974)," *Historical Studies in the Physical Sciences*, 29 (1999), 363-406.
31. Kostas Gavroglu, Ana Simões, "The Americans, the Germans and the Beginnings of Quantum Chemistry: The Confluence of Diverging Traditions," *Historical Studies in the Physical Sciences*, 25 (1994), 47-110.

## Chapters of books and entries in encyclopedias

32. Ana Simões, Kostas Gavroglu, “La liaison chimique, quelques aperçus historiques” in Jean-Pierre Llored, ed., *La Chimie cette inconnue* (Hermann, forthcoming 2012).
33. Ana Simões, Kostas Gavroglu, “The chemical bond. Some historical insights,” in Jean-Pierre Llored, ed., *Chemistry, the unknown science* (Cambridge Scholars Publishing, forthcoming 2012)
34. Kostas Gavroglu, Ana Simões, “Escaping from the thought forms of the physicists”: various issues in writing the history of quantum chemistry”, Festschrift volume honoring Amorim da Costa (forthcoming).
35. Ana Simões, “Quantum Chemistry”, in D. Greenberger, B. Falkenburg, K. Hentschel, F. Weinert, eds., *Compendium of Quantum Physics: Concepts, Experiments, History and Philosophy* (Berlin: Springer Verlag, 2009), pp. 518-523.
36. Ana Simões, “Mulliken, Robert Sanderson,” *New DSB* 23 (2008), 209-14.
37. Vanda Leitão, Ana Carneiro, Ana Simões, “Tackling a complex chemical equation: The History of the Portuguese Society of Chemistry (1911-1926)” in Anita Kildebæk Nielsen, Sona Strbanova, eds., *European Chemical Societies. Comparative Analyses of Demarcations* (London: Royal Society of Chemistry, 2008), pp. 257-80.
38. Maria Paula Diogo, Ana Carneiro, Ana Simões, “El *Grand Tour* de la Tecnología: El *Estrangeirado* Manuel de Azevedo Fortes” in Antonio Lafuente, Ana Cardoso de Matos, Tiago Saraiva, eds., *Maquinismo Ibérico* (Madrid: Editones Doce Calles, 2007), pp.101-121.
39. Ana Simões, Ana Carneiro, Maria Paula Diogo, “Introduction” in Ana Simões, Ana Carneiro, Maria Paula Diogo, eds., *Travels of Learning. Towards a Geography of Science in Europe* (Dordrecht: Kluwer Academic Publishers, 2003), pp. 1-18.
40. Ana Simões, “Chemical Physics and Quantum Chemistry in the Twentieth-Century,” in Mary Jo Nye, ed., *Modern Physical and Mathematical Sciences. Cambridge History of Science. 5th Volume* (Cambridge: Cambridge University Press, 2003, vol.5), pp. 394-412.
41. Ana Simões, Kostas Gavroglu, “Issues in the History of Theoretical and Quantum Chemistry, 1927-1960,” in C. Reinhardt, ed., *Chemical Sciences in the 20<sup>th</sup> century. Bridging Boundaries* (New York: Wiley-VCH, 2001), pp.51-74.
42. Ana Simões, “Lewis, Gilbert Newton,” *The History of Science in the United States: An Encyclopedia*, Garland Encyclopedias in the History of Science (New York: Garland, 2001), pp. 314-315.
43. Ana Simões, “Mulliken, Robert Sanderson,” *The History of Science in the United States: An Encyclopedia*, Garland Encyclopedias in the History of Science (New York: Garland, 2001), pp. 362-363.
44. Ana Simões, “Noyes, Arthur Amos,” *The History of Science in the United States: An Encyclopedia*, Garland Encyclopedias in the History of Science (New York: Garland, 2001), pp. 399-400.
45. Kostas Gavroglu, Ana Simões, “One face or many? The role of textbooks in building the new discipline of quantum chemistry,” in Anders Lundgren, Bernadette Bensaude-Vincent, eds., *Communicating Chemistry. Textbooks and*

*their Audiences, 1789-1939* (USA: Science History Publications, 2000), pp. 415-449.

46. Ana Simões, "Mulliken, Robert Sanderson," *American National Biography* (New York: Oxford University Press, 1999), vol. 16, pp. 77-79.
47. Ana Simões, Kostas Gavroglu, "Different Legacies and Common Aims: Robert Mulliken, Linus Pauling and the Origins of Quantum Chemistry" in J.-L. Calais, E.S. Kryachko, eds., *Conceptual Perspectives in Quantum Chemistry*, (Dordrecht: Kluwer Academic Publishers, 1997), pp. 383-413.

### **Papers and chapters of books in national publications**

48. Ana Simões, Ana Carneiro, Maria Paula Diogo, Luís Miguel Carolino, "Da Escola Politécnica e da Faculdade de Ciências de Lisboa. Construções identitárias e culturas científicas" in Sérgio Campos de Matos, Jorge Ramos do Ó, eds., *A Universidade de Lisboa (1834-2003) - da Revolução liberal à actualidade* (Lisboa: Tinta da China, forthcoming 2011).
49. Ana Simões. "O ano de 1947 e o Laboratório de Física da Faculdade de Ciências de Lisboa," *Gazeta de Física* 14(2) (2011), 16-21.
50. José Eduardo Franco, Ana Simões, "Uma utopia revisitada," Introduction to Dossiê temático Centenário da Universidade de Lisboa, eds José Eduardo Franco, Ana Simões, *Letras ComVida*, 3 (2011), 20-22
51. Fernando Catarino, Ana Simões, "Flávio Resende (1907-1967). Um botânico inconformista na Faculdade de Ciências da Universidade de Lisboa", *Letras ComVida*, 3 (2011), 55-57.
52. Ana Simões, "Copérnico ou Galileu: um problema mal colocado" *Gazeta de Física*, 33 (2010), 12-15.
53. Conceição Tavares, Ana Carneiro, Maria Paula Diogo, Ana Simões, "A Imagem Pública da Ciência na Imprensa Portuguesa (1900-1901)", in Carlos Cordeiro, Susana Serpa Silva (coord.), *A História da Imprensa e a Imprensa na História. O contributo dos Açores*, Ponta Delgada: Centro de Estudos Gaspar Frutuoso, CEIS 20, 2009, pp. 519-536.
54. Paulo Crawford, Ana Simões "O eclipse de 29 de Maio de 1919. A.S. Eddington e os astrónomos do Observatório da Tapada," *Gazeta de Física*, 32 (2009), 22-28.
55. Ana Simões, "Equilíbrio impossível: Max Planck no período do Terceiro Reich," *Gazeta de Física*, 31(4) (2008), 17-19.
56. Ana Simões, "Max Planck um revolucionário conservador (1858-1947)," *Gazeta de Física*, 31(3) (2008), 7-11.
57. Ana Simões, "Memórias de uma cidade renascida: Berlim, física e Max Planck," *Gazeta de Física*, 31(1/2) (2008), 13-16.
58. Ana Simões, Júlia Gaspar, "Recordar o passado, pensar o futuro", *Gazeta de Física*, 30 (2007), 14-16.
59. Ana Simões, "Considerações históricas sobre ciência e sociedade: divórcio litigioso ou casamento de sucesso?", in A. Tostões, E.R. Arantes de Oliveira, J.M. Pinto Paixão, P. Magalhães, eds, *Encontro de Saberes. Três gerações de bolseiros da Gulbenkian* (Lisboa: ed. FCG, 2006), pp.247-257.
60. Ana Simões, "Einstein, um homem do seu tempo?" in Número especial dedicado ao Ciclo de Colóquios "A Luz de Einstein", *Gazeta de Física* 29 (2006), 4-7.

61. Ana Simões, “A Biblioteca do Saber” in Catálogo “À Luz de Einstein” (Lisboa: Fundação Calouste Gulbenkian, 2005), pp. 21-37.
62. Elsa Mota, Ana Simões, Paulo Crawford, “Einstein em Portugal: o primeiro teste da teoria da relatividade geral e o seu impacto na comunidade científica nacional” in C. Fiolhais, org., *Einstein entre nós. A recepção de Einstein em Portugal de 1905 a 1955* (Coimbra: Imprensa da Universidade, 2005), pp. 43-56
63. Ana Simões, “Encontros e desencontros nos primeiros cinquenta anos da química quântica,” *Boletim da Sociedade Portuguesa de Química*, Jan-Mar (2004), 11-19.
64. Ana Simões, “A reacção dos químicos à afirmação reducionista de Dirac de 1929,” *Gazeta de Física*, 25 (2002), 14-18.
65. Maria Paula Diogo, Ana Carneiro, Ana Simões, “Ciência portuguesa no Iluminismo: os estrangeirados e as comunidades científicas europeias” in João Arriscado Nunes, Eduarda Gonçalves, eds., *Enteados de Galileu? A semiperiferia no sistema mundial da ciência* (Porto: Edições Afrontamento, 2002), pp.209-238.
66. Maria Paula Diogo, Ana Carneiro, Ana Simões, “Imagens do Portugal Setecentista-Textos de estrangeirados e de viajantes,” *Penélope-Revista de História e Ciências Sociais* 22 (2000), 73-92.
67. Ana Simões, “Reinterpretando as Origens da Química Quântica: Mulliken-Pauling versus Heitler-London”, *Boletim HFCT-História e Filosofia da Ciência e da Técnica*, 1 (1998), 9-14.
68. Margarida Fragoso, Ricardo Laranjeiro, Olga Santo, Ana Simões, “Recordando Thomas Kuhn 1922-1996: o filósofo e o historiador das ciências, II,” *Gazeta de Física*, 21 (1) (1998), 2-6.
69. Margarida Fragoso, Ricardo Laranjeiro, Olga Santo, Ana Simões, “Recordando Thomas Kuhn 1922-1996: o filósofo e o historiador das ciências, I,” *Gazeta de Física*, 20 (4) (1997), 2-6.
70. Paulo Crawford, Ana Simões, “Tempo e Relatividade II,” *Gazeta de Física*, 9(3) (1986), 49-56.
71. Paulo Crawford, Ana Simões, “Tempo e Relatividade I,” *Gazeta de Física*, 9(2) (1986), 36-40.

## Book Reviews

72. Ana Simões, Ana Carneiro, book review of Juergen Heinrich Maar, *Pequena História da Química. Uma História da Ciência da Matéria. Primeira Parte: Dos Primórdios a Lavoisier* (Florianópolis, Editora Papa-Livro, 1999), *HYLE*, 7 (2001), 169-171. (versão digital 7-1, primavera 2001).
73. Ana Simões, book review of Carsten Reinhardt, *Shifting and Rearranging: Physical Methods and the Transformation of Modern Chemistry*, *Centaurus*, 49(3) (2007), 247-8.
74. Ana Simões, “History of Science in Portugal: where do we stand today,” HSS Newsletter, July 2008, 16-17.
75. Ana Simões, book review of Nestor Herran et al, *Beyond Borders*, *ISIS* 100 (4), (2009), 891-2.
76. Ana Simões, book review of Kostas Gavroglu, *O Passado das Ciências como História (The Past of the Sciences as History)* *HoST* 2-3 (2009).
77. Ana Simões, “Modern chemistry, red in tooth and claw”, book review of Patrick Coffey, *Cathedrals of Science. The Personalities and Rivalries that made Modern Chemistry to appear in Metascience*

### Papers in Conference Proceedings

78. Ana Simões, "Introduction to Session 'Chemistry in relation to physics,'" Proceedings of the 6<sup>th</sup> International Congress for the History of Chemistry (Leuven, 2008), 159-162. On-line at <http://www.euchems.org/Divisions/History/EIC.asp>,
79. Ana Simões, "Dangerous liaisons or unavoidable associations: quantum chemistry at the crossroads of chemistry, physics and mathematics, Proceedings of the 6<sup>th</sup> International Congress for the History of Chemistry (Leuven, 2008), pp.35-52. On-line at <http://www.euchems.org/Divisions/History/EIC.asp>
80. Ana Simões, "C.A. Coulson and the popularization of theoretical chemistry in the twentieth-century", in Proceedings 5<sup>th</sup> International Conference on the History of Chemistry (Aveiro: SPQ, 2006), 175-183.
81. Ana Carneiro, Ana Simões, Maria Paula Diogo, "Science in Eighteenth century Portugal: the naturalist Correia da Serra," in C.A. Lértora-Mendoza, E. Nicolaidis, J. Vandersmissen, eds., *The Spread of the Scientific Revolution to the European Periphery, Latin America and East Asia*, Proceedings of the XXth International Congress of History of Science (Bélgica: Brepols, 2000), pp. 67-75.
82. Ana Simões, "La Polémique entre Boltzmann et Zermelo sur l' Interprétation Statistique de la Deuxième Loi de la Thermodynamique," in Fernando Gil, ed., *Controvérsias Científicas e Filosóficas/Scientific and Philosophical Controversies* (Lisboa: Editorial Fragmentos, 1990), pp. 203-212.
83. Ana Simões, "L'Idée d'Irreversibilité dans l'Oeuvre de W. Thomson et ses Implications Physiques et Géologiques" in *Col·leció Actes*, Institut D' estudis Catalans, Comissió Interdepartamental de Recerca I Innovació Tecnològica (Barcelona: CIRIT, 1988), pp. 281-290.

### PhD Thesis

84. Ana Simões, *Converging Trajectories, Diverging Traditions: Chemical Bond, Valence, Quantum Mechanics and Chemistry, 1927-1937*, University Microfilms Inc., Publication # 9327498 (University of Maryland, 1993).