

Dr. Ana Barahona
Curriculum vitae (2010)

Ana Barahona did studies on biology and graduate studies at the National Autonomous University of Mexico (UNAM). She studied for a year at Harvard University under Professor Everett Mendelshon and was invited to join the American Philosophical Society; she did postdoctoral studies at the University of California in Irvine, under Francisco J. Ayala. She is a full time professor in the department of Evolutionary Biology at the School of Sciences, in the UNAM. She has been a pioneer in the historical and philosophical studies of science since 1980. She founded the area of Social Studies of Science and Technology in the School of Sciences. Some of her interests focused on the history and philosophy of evolution and genetics (especially in Mexico), and in the relationship between epistemology and science teaching and science education, and its assessment. Some of her published works include more than 30 specialized articles, several books on research, and national text books for the Ministry of Education, for elementary education. She is author of biology and philosophy of science text books for middle school and college education. Dr. Barahona has offered more than 50 college courses for graduate and undergraduate education, and has directed more than 30 dissertations. She is a member of the Mexican Academy of Sciences, and of the National System of Researchers, which depend on the Ministry of Education. She was a member of the Board of Directors (2001-05) and is currently the President (2009-2011) of the *International Society for the History, Philosophy and Social Studies of Biology*, an association which groups several of the most relevant specialists in the field. She was a member of the International Committee of the Scientific Society Sigma Xi (2003-2005), and at the moment is an associated editor of the journal *History and Philosophy of the Life Sciences* (since 1999), and a member of the editorial board of *Biological Theory* (since 2004). She was named Technical Advisor of the National Institute for Education Assessment (Instituto Nacional para la Evaluación de la Educación) for the 2002-2008 term, and a member of the Academic Council of the School of Sciences at the UNAM, for the 2005-2007 term.

Areas of interest:

History and Philosophy of Biology (evolution and genetics),
Epistemology and the teaching of evolution and genetics in elementary education,
Education for environmental conservation.

List of Publications

Selected papers

1. Edna Suárez & Ana Barahona. 1992. Física y Biología en el nacimiento de la Biología Molecular. La determinación de la estructura del ADN. *Llull*, 15(29): 395-414.
2. Ana Barahona. 1993. La Historia Natural y el concepto de vida en Buffon. *Revista de Historia de América*, Instituto Panamericano de Geografía e Historia. 116: 8-28.

3. Ana Barahona & Daniel Piñero. 1993. The Origin of Biological Novelties in Natural Populations. The Role of Transposons, Gene Duplications and Horizontal Transmission. *Variability and Evolution*, 2/3: 5-23.
4. Ana Barahona. 1994. Gene y mutación: una visión histórica. *Llull*, 17(32): 5-24.
5. Ana Barahona. 1994. Georges Louis Leclerc y el nacimiento de la vida. *Arbor*, CXLVIII, 581: 9-38.
6. Ana Barahona. 1995. Genetic Mutation: Development of the Concepts and their Evolutionary Implications. *Mexican Studies in the History and Philosophy of Science*. Ramírez S. & R. Cohen (eds). Kluwer Academic Pubs. 172: 89-107.
7. Ana Barahona & Francisco J. Ayala. 1995. La importancia del contexto y el trabajo de Barbara McClintock. *Arbor*, CLII, 598-599: 9-26.
8. Edna Suárez & Ana Barahona. 1996. The Experimental Roots of the Neutral Theory of Molecular Evolution. *History and Philosophy of the Life Sciences*, 17: 3-30.
9. Ana Barahona. 1996. Barbara McClintock and the Transposition Concept. *Archives Internationales d'Histoire des Sciences*, 137(46): 309-329.
10. Ana Barahona & Francisco J. Ayala. 1997. El Progreso Biológico. *Arbor*, Vol. 158: 256-268.
11. Ismael Ledesma & Ana Barahona. 1999. Alfonso L. Herrera e Isaac Ochoterena: la institucionalización de la Biología en México. *Historia Mexicana*, El Colegio de México. 48(3): 635-674.
12. Ana Barahona. 2000. Francisco J. Ayala: el hombre renacentista de la evolución. Conversaciones con Ana Barahona. *Arbor*, 657:1-30.
13. Ana Lilia Gaona & Ana Barahona. 2001. La Introducción de la Genética en México: la genética aplicada al mejoramiento vegetal. *Asclepio*, 53, 2: 23-40. Consejo Superior de la Investigación Científica, Centro de Estudios Históricos, España.
14. Ana Barahona & Ana Lilia Gaona. 2001. The History of Science and the Introduction of Plant Genetics in México. *History and Philosophy of the Life Sciences*, 23: 157-168.
15. Vladimir Cachón & Ana Barahona. 2002. La Transición de la Teoría del Equilibrio Puntuado hacia una Teoría de Rango Medio. *Asclepio*, 54(2): 83-107. Consejo Superior de la Investigación Científica, Centro de Estudios Históricos, España.
16. Ana Barahona & Ismael Ledesma. 2002. El Positivismo y los Orígenes de la Biología Mexicana. *Archives Internationales d'Histoire des Sciences*, 149, 52: 277-305.

17. Ismael Ledesma & Ana Barahona. 2003. The Institutionalization of Biology in Mexico in the early 20th Century. The Conflict Between Alfonso Luis Herrera (1868-1942) and Isaac Ochoterena (1885-1950). *Journal of the History of Biology*, 36-2: 285-307.
18. Irama Nuñez, Edgar González Gaudiano & Ana Barahona. 2003. La Biodiversidad. Historia y Contexto de un Concepto. *Interciencia*, 28(7): 387-393.
19. Ana Barahona & Erica Torrens. 2004. El Telos Aristotélico y su Influencia en la Biología Moderna. *Ludus Vitalis*, Revista de Filosofía de las Ciencias de la Vida. Número especial dedicado a Ernst Mayr (1904), Editor Francisco J. Ayala. 12(21): 161-178.
20. Ana Barahona, Susana Pinar & Francisco J. Ayala. 2005. Introduction and Institutionalization of Genetics in Mexico. *Journal of the History of Biology*, 38(2): 273–299.
21. Ana Barahona & Francisco J. Ayala. 2005. The Role Played by Theodosius Dobzhansky in the Emergence and Institutionalization of Genetics in Mexico. *Genetics*, 170: 981-987.
22. Ana Barahona & Francisco J. Ayala. 2005. History of Genetics in México. *Nature Reviews/ Genetics*, 6(11): 860-866.
23. Ana Barahona. 2005. La Eugenesia y el Surgimiento de la Genética Humana. *Ludus Vitalis*, Revista de Filosofía de las Ciencias de la Vida. 12(23): 151-162.
24. Ana Barahona. 2006. La Introducción de la Genética en la Agricultura y el Programa de Genética y Radiobiología en México. *Investigación y Ciencia (Scientific American)*, 359: 22-28.
25. Ana Barahona. 2007. Science and Representation: the Case of Genetic Maps. *History and Philosophy of the Life Sciences*, 29:145-160.
26. Ana Barahona & Vladimir Cachón. 2008. The Rhetorical Dimension of Stephen J. Gould's Work. *Oxford Handbook for the Philosophy of Science*, Michael Ruse (ed.). Oxford University Press. pp. 625-640.
27. Ana Barahona. 2008. Mendelism and agriculture in the first decades of the 20th Century in Mexico. *Max Planck Institute for the History of Science Preprint*, 343: 111-128.
28. Vladimir Cachón, Ana Barahona & Francisco J. Ayala. 2008. The Rhetorical Construction of Eldredge and Gould Article on the Theory of Punctuated Equilibria in 1972. *History and Philosophy of the Life Sciences*, 30:341-362.
29. Ana Barahona. 2009. Francisco José Ayala. *Evolution. The First Fourth Billion Years*. Harvard University Press. Pp 433-436.

30. Ana Barahona & Elisa Bonilla. 2009. Teaching Evolution: Challenges for Mexican Primary Schools. En: *ReVista Harvard Review of Latin America*, 3(3):16-17.
31. Ana Barahona. Introducción del Darwinismo en México. *Teorema*. 28, 2:201-214. Oviedo, España.

Reviews

32. Santiago Ramírez & Ana Barahona. 1993. Pío del Río Ortega. *Isis*, Vol. 84(2): 401-402.
33. Ana Barahona. 1995. The Temptations of Evolutionary Ethics. *History and Philosophy of the Life Sciences*, 17: 29-30.
34. Ana Barahona. 2000. Buffon: A Life in Natural History, Las Épocas de la Naturaleza, *Isis*, 91(1):158-159.
35. Ana Barahona. 2000. How scientists explain disease. *History and Philosophy of the Life Sciences*, 22(1): 2-4.
36. Ana Barahona. 2001. The Century of the Gene. *Bulletin of Mathematical Biology*, 00: 1-2.
37. Ana Barahona. 2001. Plantas Americanas para la España Ilustrada. *Isis*, 92(4): 760.
38. Ana Barahona. 2002. The Tangled Field. *Mendel Newsletter*, 11: 21-23.
39. Ana Barahona. 2002. The Tangled Field. *Journal of Heredity*, 89(1): 76.
40. Ana Barahona. 2002. Historia de la inmunología. La búsqueda del yo frente al no yo. *History and Philosophy of the Life Sciences*, 24(3/4): 541.
41. Ana Barahona. 2004. Selectivity and Discord. *History and Philosophy of the Life Sciences*, 24: 464-465.
42. Ana Barahona. 2005. Ageless Quest. One Scientist's Search for Genes that Prolong Youth. *History and Philosophy of the Life Sciences*, 27: 135-137.
43. Ana Barahona. 2007. Experiencing Nature. The Spanish American Empire and the Early Scientific Revolution. *History and Philosophy of the Life Sciences* 29: 257-258.
44. Ana Barahona. 2007. Evolution. From molecules to Ecosystems. *Biological Theory* 2(2) 23: 21-22.

Books

45. Ana Barahona, Susana Pinar & Francisco J. Ayala. 2003. *La Genética en México. Institucionalización de una Disciplina*. Coordinación de Humanidades/UNAM. 241pp.
46. Ana Barahona & Ofelia Cortés. 2008. *La enseñanza de los valores en la ciencia*. MacMillan/Castillo. 212pp.
47. Ana Barahona & Francisco J. Ayala. 2009. *El siglo de los genes. Patrones de Explicación en Genética*. España: Alianza Editorial.
48. Carlos Ochoa & Ana Barahona. 2009. *Formalismo versus funcionalismo. Historia de los conceptos de homología y analogía*. México: FES Iztacala/Facultad de Ciencias/DGAPA, UNAM.
49. Ana Barahona. *La Genética en la Medicina en México*. 2009. CONACYT/DGAPA y Facultad de Ciencias/UNAM.

Compilations

50. Sergio Martínez & Ana Barahona (Comps.). 1998. *Historia y Explicación en Biología*. Fondo de Cultura Económica/UNAM, 510pp.
51. Carlos Álvarez & Ana Barahona (Comps.). 2002. *La Continuidad en las Ciencias*. Fondo de Cultura Económica/UNAM. 350pp.
52. Guillermina Waldegg, Ana Barahona, Beatriz Macedo & Armando Sánchez (Comps.). 2003. *Retos y Perspectivas de las Ciencias Naturales en la Escuela Secundaria*. SEP/OREALC/UNESCO. 166pp.
53. Ana Barahona & Lucía Almeida-Leñero (Coords.). 2006. *Educación para la Conservación*. México: Facultad de Ciencias/CONACYT/PUMA. 422pp.
54. Ana Barahona, Edna Suárez & Hans-Jörg Rheinberger. 2009. *The Hereditary Hourglass: Narrowing and Expanding the Domain of Heredity*. Max Planck Institute for the History of Science Preprint (in press).

Text books

55. *Ciencias Naturales, 3er. grado*. A. Barahona, R.M. Catalá, J.A. Chamizo, B. Rico y V. Talanquer. 1996. Libro de Texto Gratuito. SEP.
56. *Ciencias Naturales, 4to. grado*. A. Barahona, R.M. Catalá, J.A. Chamizo, B. Rico y V. Talanquer. 1997. Libro de Texto Gratuito. SEP.

57. *Ciencias Naturales, 5to. grado*. A. Barahona, R.M. Catalá, J.A. Chamizo, B. Rico y V. Talanquer. 1998. Libro de Texto Gratuito. SEP.
58. *Ciencias Naturales y desarrollo humano, 6to. grado*. A. Barahona, R.M. Catalá, J.A. Chamizo, B. Rico y V. Talanquer. 1999. Libro de Texto Gratuito. SEP.
59. Ana Barahona, Edna Suárez & Sergio Martínez (Comps.) 2001. *Filosofía e Historia de la Biología*. Libro de Texto para el primer semestre de la carrera de Biología, Facultad de Ciencias. Dirección General de Publicaciones, UNAM. 467pp.
60. Ana Barahona. 2006. *Ciencia y Tecnología I (Biología)*. Editorial MacMillan/Castillo, 290pp.