

CURRICULUM VITAE

Manuel Peimbert

A. PERSONAL DATA

Date and place of birth: June 9, 1941, Mexico City, Mexico
Nationality: Mexican
Address: Instituto de Astronomía, UNAM
Apartado Postal 70-264
04510 México, D. F., Mexico

B. DEGREES OBTAINED:

B. S.: Universidad Nacional Autónoma de México, UNAM, 1962.
M. A.: Department of Astronomy, University of California, Berkeley, 1964.
Ph. D.: Department of Astronomy, University of California, Berkeley, 1967.

C. APPOINTMENTS:

1. Research Assistant, Instituto de Astronomía, UNAM, 1960-1963.
2. Research Assistant, University of California, Berkeley, 1963-1964.
3. Research Assistant, University of California, Lick Observatory, 1964.
4. Post Doctoral Fellow, University of California, Berkeley, 1967-1968.
5. Associate Professor, Instituto de Astronomía, UNAM, 1968-1970.
6. Professor, Facultad de Ciencias, UNAM, since 1968.
7. Professor, Instituto de Astronomía, UNAM, since 1970.
8. On Sabbatical leave at Kitt Peak National Observatory, U.S.A., September 1975-March 1976.
9. On Sabbatical leave at Department of Physics and Astronomy, University College, London, March 1976-August 1976.
10. On Sabbatical leave at Tokyo Astronomical Observatory and Nobeyama Radio Observatory, January-April 1986.

D. MAIN RESEARCH AREAS

Interstellar Matter; Chemical Evolution of Galaxies; Physical Conditions in H II Regions and Planetary Nebulae throughout the Universe

E. MAIN SCIENTIFIC ACOMPLISHMENTS

The determination of the chemical composition of H II regions and planetary nebulae in our Galaxy and other galaxies. The study of the chemical evolution of galaxies and the Universe as a whole. In particular a series of accurate determinations of the primordial helium abundance, abundance that has implications for cosmology and particle physics.

F. RESEARCH PAPERS:

More than 200. See the publications list. The total number of citations in books and in International Journals up to March 2009, to these articles amounts to more than 12,000.

G. COLLABORATORS

The number of his research collaborators has been larger than one hundred. It includes former professors, colleagues, students, and former students from the following countries: Mexico, USA, UK, Venezuela, Chile, Argentina, China, India, Canada, Spain, Italy, France, Germany, Japan, and Armenia (see the publications list).

H. ACKNOWLEDGMENTS IN PAPERS BY OTHER AUTHORS

M. Peimbert has been acknowledged in more than 170 research papers in the world literature.

I. MAIN ACADEMIC DISTINCTIONS:

1. Sciences Prize, Academia Mexicana de Ciencias, 1971.
2. Medal “Guillaume Budé”, College de France, 1974.
3. Investigador Titular ad Honorem of the Centro de Investigación de Astronomía “Francisco J. Duarte”, Mérida, Venezuela, 1981.
4. National Prize in Sciences and Arts, Mexican Government, 1981.
5. Vice-President of the International Astronomical Union 1982-1988.
6. Foreign Associate, National Academy of Sciences, U.S.A., elected, 1987.
7. Fellow, TWAS, The Academy of Sciences for the Developing World (formerly known as The Third World Academy of Sciences), elected 1987.
8. Sciences Prize, Universidad Nacional Autónoma de México, 1988.
9. Associate, Royal Astronomical Society, U. K., elected 1989.
10. Academic Medal, Sociedad Mexicana de Física, 1991.
11. Member, El Colegio Nacional, México, elected 1992. El Colegio Nacional is an Institution that includes 40 mexican intellectuals from the Arts, Humanities, and Sciences, similar in some aspects to the College de France.
12. Fellow, Academia de Ciencias de America Latina, elected 1996.
13. Medal and Lecture, TWAS, 1996.
14. Vice-President, TWAS, 1998-2003.
15. Member of the Academic Board of Governors of the Universidad Nacional Autónoma de México, 2000 - 2010.

16. Foreign Member, American Philosophical Society, U.S.A., elected, 2002.
17. Emeritus Professor (honorary distinction that does not imply retirement), Universidad Nacional Autónoma de México, elected, 2006.
18. Emeritus Researcher (honorary distinction that does not imply retirement), Sistema Nacional de Investigadores (Mexico), elected, 2007.

J. OTHER ACADEMIC ACTIVITIES:

1. Member of the Scientific Organizing Committee of 36 International Meetings in: Austria, Brazil, Bulgaria, Canada, France, Germany, Greece, Holland, India, Italy, Japan, Mexico, U.K., U.S.A., and Venezuela.
2. Participation in more than 100 International Symposia and Colloquia in: Argentina, Austria, Australia, Belgium, Brazil, Canada, Chile, China, Denmark, France, Germany, Greece, Holland, India, Italy, Japan, Mexico, Poland, Spain, Sweden, Switzerland, U.K., U.S.A., Uruguay, and Venezuela.
3. More than 100 invited talks delivered in: Argentina, Austria, Brazil, Canada, Chile, China, France, Germany, Italy, Japan, Spain, U.K., U.S.A., Uruguay, and Venezuela.
4. Several courses delivered in Brazil, U.S.A., Italy, and Spain.
5. Professor at the Facultad de Ciencias, Universidad Nacional Autónoma de México, since 1968 of many courses of Astronomy and Physics.
6. Referee of more than 200 papers of: *The Astrophysical Journal*, *Astronomy and Astrophysics*, *Monthly Notices of the Royal Astronomical Society*, *Publications of the Astronomical Society of Japan*, *Astronomical Journal*, *Publications of the Astronomical Society of the Pacific*, *Revista Mexicana de Astronomía y Astrofísica*, *Revista Mexicana de Física*.
7. Member of numerous academic committees of the University of Mexico and the Mexican Government.
8. Member of the Consejo Editorial of the Journal *Geofísica Internacional* (México) 1970-1980.
9. Member of the Telescope Assignment Committee of the Observatorio Interamericano de Cerro Tololo, Chile, 1973-1977.
10. Councilor of the American Astronomical Society 1975-1978.
11. Member of the Comitato Consultivo Delle Memorie Della Societa Astronomica Italiana, 1976-1980.
12. Member of the Telescope Assignment Committee of Kitt Peak National Observatory, U.S.A., 1976-1980.
13. Vice-President of the Organizing Committee of Commission 34 (Interstellar Matter) of the International Astronomical Union, 1979-1982.

14. President of the Scientific Organizing Committee of the II Reunión Astronómica Regional Latinoamericana of the International Astronomical Union, Mérida, Venezuela, 1981.
15. Editor-in-Chief, *Revista Mexicana de Física*, 1981-1985.
16. President of the Scientific Organizing Committee of Symposium 103, *Planetary Nebulae*, of the International Astronomical Union, University College, London, England, 1982.
17. President of the Organizing Committee of Commission 34, Interstellar Matter, of the International Astronomical Union, 1982-1985.
18. Coeditor of the Symposium *Star Forming Regions*, International Astronomical Union (D. Reidel: Dordrecht), eds. M. Peimbert and J. Jugaku, 1987.
19. Associate Editor of the journal *Fundamentals of Cosmic Physics* (Gordon and Breach Science Publishers: New York), 1987-1992.
20. Member of the International Committee of the Medal of Nice Observatory, 1987-1992.
21. President of the Scientific Organizing Committee of the 2nd. and 5th. Mexico-Texas conferences in Astrophysics, 1989, 1995.
22. Chair of the Tinsley Prize Committee of the American Astronomical Society 1991-1993.
23. Chair of the Physics Award Committee of TWAS, 1995-2003.
24. President of the Scientific Organizing Committee of Symposium 180, *Planetary Nebulae*, of the International Astronomical Union, Groningen, Holland, 1996.
25. Member of the Council of TWAS, 1996-1998.
26. Member of the Time Allocating Committee of the Hubble Space Telescope, October-November, 1996.
27. Member of the Bower Award Committee, Franklin Institute, USA, 1997.
28. Member of the COSPAR (Committee on Space Research) Awards Committee, 2000-2008.
29. Member of the Assunta Principi de Dottori Award Committee, 2000-2001.
30. Emeritus Councilor of *Revista Mexicana de Física*, since 2001.
31. Chair of the Physics Membership Committee of TWAS, 2004-2005.
32. Chair of the Astronomy and Space Sciences Membership Committee of TWAS, 2005-2006.
33. Member of the Time Allocation Committee of the Hubble Space Telescope, February-March 2006.

34. Member of the Gran Telescopio Canarias External Evaluation Committee for the OSIRIS proposals, June 2008.
35. Member of the Sociedad Mexicana de Física Awards Committee, 2005-2006, 2009-2010.

K. MEMBER OF THE FOLLOWING SCIENTIFIC SOCIETIES:

Academia de Ciencias de América Latina
 Academia Mexicana de Ciencias
 American Astronomical Society
 American Philosophical Society
 International Astronomical Union
 National Academy of Sciences, U. S. A.
 Royal Astronomical Society, U. K.
 Sociedad Mexicana de Física
 TWAS, The Academy of Sciences for the Developing World

L. SCIENCE POPULARIZATION

Presentation of more than 250 talks for the general public. Participation in many panel discussions as well as in TV and radio programs.

Member of the selection committee of “ Fondo de Cultura Económica”, the most important publishing house in Mexico (since 1989).

Associate Editor of *Revista de la Universidad Nacional Autónoma de México*, 1994 - 2001.

Editor of the book: *Temas Selectos de Astrofísica* (UNAM), 1984.

Editor of the book: *Fronteras del Universo* (Fondo de Cultura Económica), 2000.

Editor of the book: *La Evolución en la Astronomía*, (El Colegio Nacional), 2006.

Author of more than 50 articles and book chapters, most of them in Spanish.

M. RESEARCH PAPERS WITH MORE THAN 100 CITATIONS

The following list presents those articles that before March 2009 had received more than 100 citations in the world literature.

- *4. “The Planetary Nebula in M15”. C. R. O’Dell, M. Peimbert, & T. D. Kinman. *The Astrophysical Journal*, Vol. 140, 119, 1964. Citations: 117.
- *12. “Temperature Determinations of H II Regions”, M. Peimbert. *The Astrophysical Journal*, Vol. 150, 825, 1967. Citations: 467.

- *15. “Physical Conditions in the Nuclei of M51 and M81”, M. Peimbert, *The Astrophysical Journal*, Vol. 154, 33, 1968. Citations: 208.
- *17. “Chemical Abundances in Galactic H II Regions”, M. Peimbert & R. Costero, *Boletín de los Observatorios de Tonantzintla y Tacubaya*, Vol. 5, 3, 1969. Citations: 459.
This is the most cited article in the history of the *Boletín de los Observatorios de Tonantzintla y Tacubaya*.
- *24. “Optical Studies of Cassiopeia A. IV. Physical Conditions in the Gaseous Remnant”, M. Peimbert & S. van den Bergh, *The Astrophysical Journal*, Vol. 167, 223, 1971. Citations: 149.
- *25. “Planetary Nebulae. I. Photoelectric Photometry”, M. Peimbert & S. Torres-Peimbert, *Boletín de los Observatorios de Tonantzintla y Tacubaya*, Vol. 6, 21, 1971. Citations: 174.
- *26. “Planetary Nebulae. II. Electron Temperatures”, M. Peimbert, *Boletín de los Observatorios de Tonantzintla y Tacubaya*, Vol. 6, 29, 1971. Citations: 132.
- *27. “Planetary Nebulae. III. Chemical Abundances”, M. Peimbert & S. Torres-Peimbert, *The Astrophysical Journal*, Vol. 168, 413, 1971. Citations: 172.
- *33. “Planetary Nebulae. V. On the Planetary Nebula in M15”, M. Peimbert, *Memoires de la Soc. Roy. des Sciences de Liege*, 6a. Serie, Tome V, P. 307, 1973. Citations: 114.
- *36. “Ionization of the Low Density Interstellar Medium”, S. Torres-Peimbert, A. Lazcano-Araujo, & M. Peimbert, *The Astrophysical Journal*, Vol. 191, 401, 1974. Citations: 129.
- *38. “Chemical Composition of H II Regions in the LMC and its Cosmological Implications”, M. Peimbert & S. Torres-Peimbert, *The Astrophysical Journal*, Vol. 193, 327, 1974. Citations: 403.
- *42. “A Catalogue of Galactic O Stars and the Ionization of the Low Density Interstellar Medium by Runaway Stars”, C. Cruz-González, E. Recillas-Cruz, R. Costero, M. Peimbert, & S. Torres-Peimbert, *Revista Mexicana de Astronomía y Astrofísica*, Vol. 1, 211, 1974. Citations: 258.
- *43. “Chemical Composition of Extragalactic Gaseous Nebulae”, M. Peimbert, *Annual Review of Astronomy and Astrophysics*, Vol. 13, 113, 1975. Citations: 155.
- *45. “Chemical Composition of H II Regions in the Small Magellanic Cloud and the Pregalactic Helium Abundance”, M. Peimbert & S. Torres-Peimbert, *The Astrophysical Journal*, Vol. 203, 581, 1976. Citations: 295.

- *51. “Chemical Composition of the Orion Nebula”, M. Peimbert & S. Torres-Peimbert, *Monthly Notices of the Royal Astronomical Society*, Vol. 179, 217, 1977. Citations: 393.
- *52. “Photoelectric Photometry and Physical Conditions of Planetary Nebulae”, S. Torres-Peimbert & M. Peimbert, *Rev. Mexicana de Astronomía y Astrofísica*, Vol. 2, 181, 1977. Citations: 482.
This is the most cited article in the history of *Revista Mexicana de Astronomía y Astrofísica*.
- *54. “Abundance Gradients in the Galaxy Derived from H II Regions”, M. Peimbert, S. Torres-Peimbert & J. F. Rayo, *The Astrophysical Journal*, Vol. 220, 516, 1978. Citations: 192.
- *55. “Chemical Abundances in Planetary Nebulae”, M. Peimbert, IUA Symposium No. 76 “Planetary Nebulae” ed. Y. Terzian (Reidel) 215, 1978. Citations: 374.
- *59. “Chemical Composition and Evolution of Irregular and Blue Compact Galaxies”, J. Lequeux, M. Peimbert, J. F. Rayo, A. Serrano, & S. Torres-Peimbert, *Astronomy and Astrophysics*, Vol. 80, 155, 1979. Citations: 719.
This article has been selected to appear in the 40 years commemorative issue of *Astronomy and Astrophysics*, since it is one of the most cited articles in the journal’s history.
- *63. “On the Helium and Nitrogen Enrichment of the Interstellar Medium by Planetary Nebulae”, M. Peimbert & A. Serrano, *Revista Mexicana de Astronomía y Astrofísica*, Vol. 5, 9, 1980. Citations: 118.
- *64. “IUE and Visual Observations of the Orion Nebula and IC 418: The Carbon Abundance”, S. Torres-Peimbert, M. Peimbert, & E. Daltabuit, *The Astrophysical Journal*, Vol. 238, 133, 1980. Citations: 151.
- *67. “Physical Conditions in the Nucleus of M81”, M. Peimbert & S. Torres-Peimbert, *The Astrophysical Journal*, Vol. 245, 845, 1981. Citations: 116.
- *74. “Gradients in the Physical Conditions of M101 and the Pregalactic Helium Abundance”, J. F. Rayo, M. Peimbert, & S. Torres-Peimbert. *The Astrophysical Journal*, Vol. 255, 1, 1982. Citations: 154.
- *79. “Type I Planetary Nebulae”, M. Peimbert & S. Torres-Peimbert, IAU Symposium 103, “Planetary Nebulae” ed. R. D. Flower (Reidel), p. 233, 1983. Citations: 298.
- *80. “Bipolar Nebulae and Type I Planetary Nebulae”, N. Calvet & M. Peimbert, *Revista Mexicana de Astronomía y Astrofísica*, Vol. 5, 319, 1983. Citations: 101.

- *101. “Chemical Composition of Type I Planetary Nebulae. Collisional Excitation Effects on He I Line Intensities”, M. Peimbert & S. Torres-Peimbert, *Revista Mexicana de Astronomía y Astrofísica*, Vol. 14, 540, 1987. Citations: 142.
- *107. “Physical Conditions of H II Regions in M101 and the Pregalactic Helium Abundance”, S. Torres-Peimbert, M. Peimbert, & J. Fierro, *The Astrophysical Journal*, Vol. 345, 186, 1989. Citations: 144.
- *120. “The O⁺⁺/H⁺ Abundance Ratio in Gaseous Nebulae Derived from Recombination Lines”, M. Peimbert, P. J. Storey, & S. Torres-Peimbert, *The Astrophysical Journal*, Vol. 414, 626, 1993. Citations: 117.
- *130. “The Evolution of C/O in Dwarf Galaxies”, D. R. Garnett, E. D. Skillman, R. J. Dufour, M. Peimbert, S. Torres-Peimbert, R. Terlevich, E. Terlevich & G. A. Shields, *The Astrophysical Journal*, 443, 64, 1995. Citations: 123.
- *150. “Chemical Composition of the Orion Nebula Derived from Echelle Spectrophotometry”, C. Esteban, M. Peimbert, S. Torres-Peimbert, & V. Escalante, *Monthly Notices of the Royal Astronomical Society*, 295, 401, 1998. Citations: 204.
- This is the most cited article of those based on data obtained at the Observatorio de San Pedro Mártir de la UNAM, in Baja California.
- *167. “The Chemical Composition of the Small Magellanic Cloud H II Region NGC 346 and the Primordial Helium Abundance”, M. Peimbert, A. Peimbert, & M. T. Ruiz, *The Astrophysical Journal*, 541, 688, 2000. Citations: 129.