

CURRICULUM VITA

Jacob D. Bekenstein

Personal

Birth : May 1, 1947 in Mexico City.

Status : Married to Bilha, three grown children.

Citizenship : Dual Israeli and American.

Ph.D. (1972) and M.S. (1971): Princeton University.

M.S. (1969) and B.S. (1969): Polytechnic Institute of Brooklyn.

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Academic positions

2015- : Michael Polak Professor, Emeritus.

1993-2015 : Michael Polak Chair of Theoretical Physics, Hebrew University.

1990-2015 : Full Professor, Racah Institute of Physics, Hebrew University of Jerusalem.

1983-90: Robert and Jean Arnow Chair in Astrophysics, Ben-Gurion University, Beersheva.

1978-90: Full Professor, Physics Department, Ben Gurion University.

1976-78: Associate Professor, Physics Department, Ben Gurion University.

1974-76: Senior Lecturer, Physics Department, Ben Gurion University.

1972-74: Postdoctoral Fellow, Center for Relativity, University of Texas at Austin.

Reserch interests

Gravitational theory, black hole physics, relativistic magnetohydrodynamics, galactic dynamics, physical aspects of information theory, physics of the vacuum.

Prizes

2015: Einstein Prize of the American Physical Society

2012: Wolf Prize in Physics

2011: Weizmann Prize in the Exact Sciences (Israel)

2005: Israel Prize in Physics

1988: Rothschild Prize in the Physical Sciences (Israel)

1981: Landau Prize for Research in Physics (Israel)

1981: First prize essay, Gravity Research Foundation (USA)

1977: Ernst David Bergmann Prize for Science (Israel)

Membership in learned societies

World Jewish Academy of Sciences, elected 2003

Israel Academy of Sciences and Humanities, elected 1997

International Astronomical Union, elected 1979

International Society for General Relativity and Gravitation

Other honors

2012: IAS-ISF international conference “Forty Years of Black Hole Thermodynamics” in Bekenstein’s honor, Jerusalem, Sept. 3-7.

2011: DMOND, miniconference on “Relativistic MOND versus Cold Dark Matter”, June 16, on the occasion of Bekenstein’s visit to the Institut d’Astrophysique, Paris.

2008: Outstanding Referee, American Physical Society.

2002: “Thirty years of black hole thermodynamics”, series of three issues in the journal *Foundations of Physics* (Dec, 2002, Jan, Feb. 2003) in Bekenstein’s honor.

2001: Second prize essay (with A. Mayo), Gravity Research Foundation (USA).

2000: Second prize for popular scientific article, Ministry of Science (Israel).

1996: Outstanding Alumnus, Polytechnic University of New York.

Membership in research centers

Founding member and member of academic committee (2012-2015) - Center for Quantum Information Science, Hebrew University

Member of the I-CORE center of excellence “The Quantum Universe” of the Israel Science Foundation (2013-2018).

Founding member and member of academic committee (2013-2016) - Center for Astrophysics and Planetary Science, Hebrew University

Some Invited talks (last 20 years)

2015: Wigner Colloquium, Hungarian Academy of Sciences, Budapest Jun. 23.

COS Lecture, University of Texas at San Antonio, Apr. 16.

Einstein Prize talk, American Physical Society meeting, Baltimore, Apr. 11-14.

Adams Conference, Israel Academy of Sciences, Jan. 27.

Lecturer, 32nd Jerusalem Winter School on Theoretical Physics, 28 Dec. 2014-8 Jan.

2014: CosmoUK, National Astronomy Meeting, Portsmouth, UK, June 23-26.

Ninth Barkla Lecture, University of Liverpool, Liverpool, May. 16.

- Plenary at 2014 COST meeting “Fundamental Problems in Quantum Physics”, Rehovoth, March 23-27.
- COST workshop “Black Holes and Quantum Information”, Rehovoth, Jan. 12-17.
- 2013: Q-start: inaugural conference of the quantum information science center at Hebrew University, Jerusalem, June 24-27.
- 2012: Keynote at international workshop “Horizons of Quantum Physics: from Foundations to Quantum-Enabled Technologies”, Taipei, Oct. 15-18.
- 2011: Israel Institute of Advanced Study Research Conference “Forty Years of Black Hole Thermodynamics”, Jerusalem, Sept. 2-7.
- Theo Murphy meeting: “Testing General Relativity with Cosmology”, Kavli Royal Society International Center, Buckinghamshire, Feb. 28-Mar. 1.
- 2010: Inaugural Public Lecture “Limits of Information and Black Holes”, Institute for Quantum Information Science, University of Calgary, Jun. 2.
- 2009: “Light on Black Holes” workshop, University of Michigan, Sept. 21-25.
- 2008: PANIC08 - Particles and Nuclei International Conference, Eilat, Israel Nov. 9-14.
- 2007: Shulamith Goldhaber Memorial Lecture, Tel-Aviv University, Jun. 3.
- Einstein Colloquium, Weizmann Institute, Rehovoth, May 31.
- “Black Holes VI”, White Point, Nova Scotia, May 12-16.
- 2006: Giulio Racah Lecture, Hebrew University, Jun 20.
- Sackler Lecture, Niels Bohr Institute, Copenhagen, May 10.
- 2005: Plenary lecture, Israel Physical Society meeting, Carmiel, Dec. 29.
- International Solvay Workshop “Dark Matters”, Free University of Brussels, May 18-20.
- International Conference “Albert Einstein’s Legacy - A One Hundred Years Perspective”, Israel Academy of Sciences, Jerusalem, April 11-13.
- 2004: International “School and Workshop on Quantum Entanglement, Decoherence, Information, and Geometrical Phases in Complex Systems”, Center for Theoretical Physics, Trieste, Nov. 1-12.
- Lecturer, NATO Advanced Study Institute “Neutrinos and Explosive Events in the Universe”, Erice July 2-13.
- 28th Johns Hopkins Workshop on Current Problems in Particle Theory “Hyperspace, Superspace, Theory Space and Outer Space”, Baltimore, June 5-8.
- International Miniconference “Recent Developments in Quantum Physics”, Haifa, Feb. 1-2.
- 2001: International Workshop “What is Information”, Sdeh Boker, Israel Dec. 17-21.
- Lecturer, XXV International School of Theoretical Physics, Ustron, Poland, Sept. 10-16.

- Inaugural Conference of Michigan Center for Theoretical Physics, Ann Arbor, Michigan, May 21-25.
- Lecturer, Nato Advanced Study Institute *Advances in the Interplay Between Quantum and Gravity Physics*, Erice, Sicily, April 30-May 10.
- 2000: IX Marcel Grossman Meeting on General Relativity, Rome, July 2–7.
- IARD 2000: International Conference on Relativistic Dynamics, Ramat Gan, June 26-28.
- International Conference “The Conceptual Foundations of Statistical Mechanics”, Jerusalem, May 22–25.
- 1999: International conference in honor of Joseph Katz, Hebrew University.
- 1998: Set of lectures, IX Brazilian School of Cosmology and Gravitation, Rio de Janeiro, Jul. 27–Aug. 7.
- Spinoza Conference “The Quantum Black Hole”, Utrecht, Jun. 29–Jul. 3.
- Symposium “Science at the Turn of the Century: Twenty Years of Wolf Prizes” Jerusalem, May 11-12.
- “Entropy Day” conference, Israel National Academy of Sciences, Dec 17.
- 1997: Plenary lecture: VIII Marcel Grossman Meeting on General Relativity, Hebrew University, Jerusalem, June 22-27.
- 1996: Plenary lecture: XVII Brazilian National Meeting on Particles and Fields, Serra Negra, Brazil.
- Second Andrei Sakharov Memorial Conference, Lebedev Institute, Moscow.
- 1994: Plenary lecture: VII Marcel Grossman Conference on General Relativity, Stanford University, July 24-30.

Visiting positions

- 2015 : Visiting Professor, Wigner Research Center for Physics, Hungarian Academy of Sciences, Budapest.
- 2014 : Visiting Professor, University College London.
- 2013 : Visiting Professor, Physics Department, University of Helsinki.
- 2009-2010 : Member and IBM Einstein fellow, Institute for Advanced Study, Princeton.
- 2005 : Visiting Professor, KIPAC-SLAC and Physics Dept., Stanford University.
- 2005 : Visiting Scientist, Physics Department, Imperial College, London.
- 2004 : Visiting Scholar, Jefferson Physical Laboratory, Harvard University.
- 1998 : Visiting Professor, Institute de Hautes Etudes Scientifiques, Bures-sur-Yvette.
- 1995, 1996: Visiting Professor, Swiss Federal Polytechnic Institute, Zürich.
- 1993: Visiting Scientist, Aspen Center for Physics.
- 1992-1993: Visiting Professor, University of California at Santa Barbara.

- 1989: Visiting Astronomer, Kapteyn Institute, University of Groningen, Holland.
1988: Visiting Scholar, Institute of Astronomy, Cambridge, UK.
1986-1987: Visiting Professor, Canadian Institute for Theoretical Astrophysics, Toronto.
1986: Visiting Scholar, Center for Theoretical Physics, Univ. of Texas, Austin.
1985: Visiting Scientist, Center for Astrophysics, Harvard University.
1983: Visiting Scientist, Aspen Center for Physics.
1980: Visiting Research Astrophysicist, Princeton University Observatory
1980: Visiting Professor, University of Wisconsin at Milwaukee.
1980: Visiting Scientist, Institute for Theoretical Physics, Santa Barbara.

Membership in councils and policy committees

- Chair, Israel Prize in Physics committee, 2009
Chair, Landau Prize in Astrophysics committee, 2009
Editorial Board, *Entropy* on-line open access journal, 2008-2014.
Israel Academy of Sciences Visiting Committee on Astronomy, 2002
Council of the Israeli Space Agency 2001-
International Committee for General Relativity and Gravitation 1997-2007, 1983-92
Wolf Prize Physics Committee, Israel 1994-1997
Rothschild Prizes Council, Israel 1993-97
Council of the Basic Research Foundation, Israel 1989-92
Rothschild Scholarships Committee, Israel 1990-92
Israel Academy of Sciences Committee on Astrophysics 1989-1990

Membership in organizing and advisory committees

- Scientific Advisory Board, Second Karl Schwarzschild Meeting, Frankfurt, 20-24 July, 2015.
International Advisory Committee of conference “Hot Topics in General Relativity and Gravitation II”, Qui Nhon, Vietnam, August 9-15, 2015.
Scientific Advisory Board, First Karl Schwarzschild Meeting, Frankfurt, 22-26 July, 2013.
International Advisory Board: 2nd Mediterranean Conference on Classical and Quantum Gravity, Losinj, Croatia, June 2013.
International Advisory Committee, XXIX-th International Workshop on High Energy Physics, Protvino, Russia, June 2013.
Scientific Organizing Committee, of workshop “Testing Gravity with Astrophysical and Cosmological Observations”, Kashiwa, Japan, February 2012.
International Coordinating Committee, XIII Marcel Grossman Conference, Stockholm, Sweden, 1-7 July, 2009.
Advisory Board of the XXXV Conference on Theoretical Physics in Ustroń, Poland; 12-18 September, 2011.

International Advisory Committee of International Association for Relativistic Dynamics (IARD), from 2009.

Advisory Committee, "50 Years of the Aharonov-Bohm effect: concepts and applications", Tel-Aviv University, November 2009.

International Advisory Committee, IV International Sakharov Conference on Physics, Moscow, May 2009.

International Coordinating Committee, XII Marcel Grossman Conference, Sorbonne, Paris, July 2009.

Scientific Organizing Committee, 1st Orléans Physics School on the Sciences of the Universe and 11th Capra Conference, Orleans, 23 June-1 July 2008.

International Advisory Committee, International Conference on Theoretical Physics, Lebedev Physical Institute, Moscow 2005.

International Scientific Advisory Committee, III International Sakharov Conference on Physics, Moscow, Jun. 2002.

Scientific Committee, International Workshop "What is Information ?", Sdeh Boker, Israel, Dec. 17-21, 2001.

International Scientific Committee, XXV International School of Theoretical Physics, Ustroń, Poland, Sept 10-16, 2001.

Local Organizing Committee, IARD 2000, Second International Conference on Relativistic Dynamics, Ramat Gan, Israel June 26-28, 2000.

International Advisory Committee for conference "The Future of the Universe and the Future of Our Civilization", Budapest, July 1999.

Scientific Committee, International Symposium on Mathematical Physics in Memory of S. Chandrasekhar, Calcutta 1997.

Local Organizing Committee, VIII Marcel Grossman Meeting on General Relativity, Jerusalem 1997.

Scientific Committee, XIV conference on General Relativity and Gravitation, Italy, 1995.

International Organizing Committee, Lanczos Memorial Conference, Raleigh, North Carolina 1993.

International Advisory Committee, Landau Memorial Conference on Frontiers of Physics, Tel-Aviv, 1988.

Steering committee, Jerusalem Winter School for Theoretical Physics 1983-91.

Internal committees

1992-97: Appointments Committees on Theoretical Physics, Theoretical Condensed Matter Physics, and Theoretical Nuclear Physics, Hebrew University.

1991-92: Coordinator, Center for Microphysics and Cosmology, Hebrew University.

1988-89: Chairman, Committee for Dozor Distinguished Visiting Professors, Ben Gurion University.

1987-90: Physics appointments committee, Ben Gurion University.

1977-79: Chairman, Physics curriculum committee, Ben Gurion University.

Graduate students

Mark Rosenkrantz, M. Sc. (Ben Gurion University) 1977.

Eliezer Oron, Ph. D. (Ben Gurion University) 1979.

Amnon Meisels, Ph. D. (Ben Gurion University) 1979.

Ofer Lahav, M. Sc. (Ben Gurion University) 1985.

Marcelo Schiffer, Ph. D. (Ben Gurion University) 1988.

Eyal Maoz, M.Sc. (Ben Gurion University) 1990; Ph.D. (Hebrew University) 1993.

Uri Ben-Yacov, Ph. D. (Hebrew University) 1992.

Ran Zamir, Ph. D. (Ben Gurion University) 1993.

Avraham Mayo, M. Sc. (Hebrew University) 1996; Ph. D. (Hebrew University) 2001.

Tsippora Mendelson, M. Sc. (Hebrew University) 1999.

Gilad Gour, M. Sc. (Hebrew University) 1998; Ph. D. (Hebrew University) 2002.

Asaf Oron, Ph. D. (Hebrew University) 2004.

Eva Sagi, Ph. D. (Hebrew University) 2011.