

Subir Sachdev

Brief Curriculum Vitae

Complete C.V.: <http://qpt.physics.harvard.edu/cv.pdf>.

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Employment

- Chair, Department of Physics, Harvard University, starting January 1, 2018
- Herchel Smith Professor of Physics at Harvard University, starting July 1, 2015
- Professor of Physics at Harvard University, July 1, 2005 to June 30, 2015.
- Stanley S. Hanna Visiting Professor, Stanford University, Fall 2017.
- Dr. Homi Bhabha Chair Professorship, Tata Institute of Fundamental Research, July 1, 2016 to June 30, 2019.
- **Cenovus Energy James Clerk Maxwell Chair in Theoretical Physics (Visiting)** at the Perimeter Institute for Theoretical Physics, Feb 1, 2014 to January 31, 2019.
- Professor of Physics and Applied Physics at Yale University, July 1, 1995 to June 30, 2005.
- Associate Professor (tenured) of Physics and Applied Physics at Yale University, July 1, 1992 to June 30, 1995.
- Associate Professor (term) of Physics and Applied Physics at Yale University, July 1, 1989 to June 30, 1992
- Assistant Professor of Physics and Applied Physics at Yale University, July 1, 1987 to June 30, 1989
- Postdoctoral Member of Technical Staff at AT&T Bell Laboratories, Murray Hill, NJ from September 1, 1985 to August 31, 1987.

Degrees Received

- Freshman year at the Indian Institute of Technology, Delhi, 1978-79
- S.B. (Bachelor of Science) in Physics from the Massachusetts Institute of Technology, February 1982.
- A.M. (Master of Arts) in Physics from Harvard University, June 1984.
- Ph.D. in Theoretical Physics from Harvard University, November 1985. Thesis title: Frustration and Order in Rapidly Cooled Metals.
- M.A. (honorary) from Yale University, 1995.

Significant Research Accomplishments

See the description on the Wikipedia page: [Subir Sachdev](#).

Honors

- **Lars Onsager Prize**, American Physical Society, 2018.
Citation: for his seminal contributions to the theory of quantum phase transitions, quantum magnetism, and fractionalized spin liquids, and for his leadership in the physics community.
- **Star Family Prize for Excellence in Advising**, Certificate of Distinction, Harvard University, 2016.
- **Dirac Medal** for the Advancement of Theoretical Physics, the Australian Institute of Physics, the University of New South Wales, and the Royal Society of New South Wales, 2015.
Citation: The Dirac Medal was awarded to Professor Sachdev in recognition of his many seminal contributions to the theory of strongly interacting condensed matter systems: quantum phase transitions, including the idea of critical deconfinement and the breakdown of the conventional symmetry based Landau-Ginsburg-Wilson paradigm; the prediction of exotic ‘spin-liquid’ and fractionalized states; and applications to the theory of high-temperature superconductivity in the cuprate materials.
- Elected to the U.S. National Academy of Sciences, April 2014.
Citation: Sachdev has made seminal advances in the theory of condensed matter systems near a quantum phase transition, which have elucidated the rich variety of static and dynamic behavior in such systems, both at finite temperatures and at $T = 0$. His book, *Quantum Phase Transitions*, is the basic text of the field.
- Salam Distinguished Lectures, The Abdus Salam International Center for Theoretical Physics, Trieste, Italy, January 27-30, 2014.
- Lorentz Chair, Instituut-Lorentz, 2012
- Distinguished Visiting Research Chair at the Perimeter Institute for Theoretical Physics, 2009 onwards
- Highly ranked in Diffusion of scientific credits and the ranking of scientists, F. Radicchi, S. Fortunato, B. Markines, and A. Vespignani, *Physical Review E* **80**, 056103 (2009).
- APS Outstanding Referee, 2009.
- John Simon Guggenheim Memorial Foundation fellow, 2003.
- Fellow of the American Physical Society, 2001.
Citation: For his contributions to the theory of quantum phase transitions and its application to correlated electron materials.
- Creativity Award from the National Science Foundation, May 1998.
- Alfred P. Sloan Foundation Fellow, February 1989.
- Presidential Young Investigator Award, National Science Foundation, July 1988 - July 1993.
- LeRoy Apker Award, American Physical Society, January 1983.
- Honorable Mention in the William Lowell Putnam Mathematical competition, 1980.
- Second (all India) in the Joint Entrance Examination to the Indian Institutes of Technology, 1978.

Named and plenary lectures

- Homi Bhabha Memorial Public Lecture, IISER Pune, November 14, 2017.
- Distinguished lecture, Texas A&M University, November 9, 2017.
- Biard Lecture, California Institute of Technology, Pasadena, November 2, 2017.
- 13th Homi Bhabha Public Lecture, Tata Institute of Fundamental Research, Mumbai, January 17, 2017.
- Dirac Lecture, University of New South Wales, Australia, September 1, 2015.
- Salam Distinguished Lectures, The Abdus Salam International Center for Theoretical Physics, Trieste, Italy, January 27-30, 2014.
- Institute Lecture, Indian Institute of Technology, Kanpur, January 21, 2014.
- Arnold Sommerfeld Lectures, University of Munich, January 31 - February 3, 2012.
- HRI-Girdharilal Mehta Lecture, Harish-Chandra Research Institute, Allahabad, January 13, 2012.
- Rapporteur at the 25th Solvay Conference on Physics - The Theory of the Quantum World, Brussels, October 19-22, 2011.
- Plenary talk at the International Conference on Strong Correlated Electron Systems, August 30, 2011.
- Marc Kac Memorial Lectures, Los Alamos National Laboratory, May 3-5, 2011.
- Moshe Flato Lectures, Ben Gurion University, Israel, March 10, 2011.
- Subramanyan Chandrasekhar Lectures, International Center for Theoretical Sciences, Bangalore, Dec 6-8, 2010
- Plenary talk at the 24th International Conference on Statistical Physics, Cairns, Australia, July 2010.
- Niels Bohr Lecture, Niels Bohr Institute, May 5, 2010
- Colloquium Pierre et Marie Curie, University of Paris, May 3, 2010
- De Sitter Lecture Series in Theoretical Physics 2009, University of Groningen, November 2009
- Solvay colloquium, International Solvay Institutes, Brussels, October 2009
- Plenary talk at the 25th International Conference on Low Temperature Physics, Amsterdam, August 2008
- Rapporteur at the 24th Solvay Conference on Physics, Quantum Theory of Condensed Matter, Brussels, Oct 11-13, 2008
- Distinguished Lecture Series, Technion, Israel, March 2007.
- Plenary talk at the International Conference on Strongly Correlated Electronic Systems, Karlsruhe, Germany, July 2004
- Matsen Lecture at the University of Texas, Austin, October 2002.
- Ehrenfest Lecturer at the Lorentz Institute in Leiden, Holland, May 1998.
- Plenary talk at the 19th International Conference on Statistical Physics, Xiamen, August 1995.

Ph. D. Students and Postdocs

See <http://qpt.physics.harvard.edu/students.html>.

Research appointments

- Research at Harvard and Yale has been continually supported by grants from the Division of Materials Research of the National Science Foundation since 1988.
- Visiting professor at Harvard University, January-June 2001.
- Visiting professor at the University of Fribourg, Switzerland, June 2000.
- Visiting professor at the Institut Henri Poincare, Paris, July 1999.
- Visiting professor at Université Joseph Fourier, Grenoble, France, Nov-Dec, 1997.
- Visiting professor at Université de Paris VII, May-July 1993.
- Visiting Scientist at AT&T Bell Laboratories, 1987, 1988, 1989.
- Visiting Scientist at IBM Thomas J. Watson Research Center, August 1988.
- Ph.D. dissertation research under Prof. D.R. Nelson at Harvard University involving the statistical mechanics of liquids and glasses.
- Undergraduate thesis research under Prof. D. Kleppner at M.I.T. involving theory on atom-field interactions.

Professional

- Co-editor, Annual Reviews of Condensed Matter Physics
- Scientific Council, International Center for Theoretical Physics, Trieste.
- International Advisory Committee, Higgs Centre for Theoretical Physics, Edinburgh.
- International Advisory Board, International Center for Theoretical Sciences, TIFR, Bangalore.
- Divisional Associate Editor, Physical Review Letters.
- Advisory board, Dutch Research School of Theoretical Physics.
- Chair of steering committee and advisory board, Kavli Institute for Theoretical Physics, Santa Barbara.
- General member and admissions committee, Aspen Center for Physics.
- Review panel for Condensed Matter Science, Brookhaven National Laboratory.

Teaching

See <http://qpt.physics.harvard.edu/teaching.html>

Publications

Books

- *Quantum Phase Transitions*, by Subir Sachdev, published by Cambridge University Press, Cambridge (1999); paperback in 2001; expanded second edition in 2011. For reviews see
 - Physics Today, vol **54**, number 2, page 56 (February 2001).
 - Contemporary Physics, vol **42**, number 2, page 141, March 2001.
 - Physikalische Blatter, vol **57**, number 10, page 68 (2001).
 - Journal of Statistical Physics, vol **103**, 1139 (2001).
- *Holographic Quantum Matter*, by Sean Hartnoll, Andrew Lucas, and Subir Sachdev, published by MIT Press (2018).

For a listing of all journal publications, see <http://qpt.physics.harvard.edu/publications.html>

Talks

For files of all talks since 1999, see the web page <http://qpt.physics.harvard.edu/talks/talks.html>