ANDREW J. MILLIS
Curriculum Vitae
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Center for Computational Quantum Physics
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Research:
Theoretical Condensed Matter Physics: quantum many-body physics, superconductivity, physics and materials science of novel materials, nonequilibrium phenomena, new computational methods, equilibrium and nonequilibrium quantum critical phenomena, quantum many-body dynamics, machine learning methods for applied mathematics and many-body physics

Employment:

- Professor of Physics, Columbia University (2002-present)
- co-Director, Center for Computational Quantum Physics, The Flatiron Institute of the Simons Foundation (2017-present)
- Managing Director, Flatiron Institute of the Simons Foundation (2022-2026)
- Associate Director for Physics, The Simons Foundation (2011-2017)
- Chair, Department of Physics, Columbia University (2006-2009)
- Professor of Physics, Rutgers University (1999-2001)
- Professor of Physics, The Johns Hopkins University (1997-1998)
- Associate Professor of Physics, The Johns Hopkins University (1996-1997)
- Member of Technical Staff, A. T. & T. Bell Laboratories, (1988-1996)
- Postdoctoral Member of Technical Staff A. T. &T. Bell Laboratories (1986-1988).

Other Appointments:

- Director, Max Planck New York City Center for Nonequilibrium Quantum Phenomena (2019-present)

- Director, Simons Collaboration on the Many Electron Problem (2014-2021)
- Honorary Member Aspen Center for Physics (2014-present)
- Trustee, Aspen Center for Physics (July 2010 to August 2014)
- Associate Director, University of Maryland-Rutgers Materials Research Science and Engineering Center (2000-02)
- Foreign Associate, Canadian Institute for Advanced Research (2000-present)

Visiting Positions:

- Professeur Invitee, College de France, Sept-Oct 2015
- Alliance Exchange Professor, Ecole Polytechnique, Jan-June 2012
- Chercheur Visiteur, CNRS and Ecole Polytechnique, France Janaury-June, 2010
- Chercheur Visituer, CNRS and Ecole Polytechnique, France, 2006
- Chercheur Visiteur, CNRS and ESPCI Lab, France, 2003
- GastProfessor, Universitat Bonn, 1996

Education:

- Ph.D., Physics, M.I.T., 1986
- Certificate of Advanced Study in Mathematics (with Distinction), Cambridge University, Cambridge, England, 1983
- A. B. (Magna cum Laude with highest honors in Physics), Harvard College, 1982.

Professional Societies:
American Physical Society, American Association for the Advancement of Science, United States National Academy of Sciences

Publications: 532 **Invited Talks at Conferences:** 162

Honors and Awards:

- John Bardeen Prize for Superconductivity (2026)
- Inaugural Landau/Chhaabra Lecturer, Georgia Tech (2022)
- National Academy of Sciences, 2020
- Whitfield Lecturer, Penn State University 2020 (postponed due to COVID)
- Reynolds Lecturer, University of Connecticut, 2019
- Hamburg Prize in Theoretical Physics 2017

- Sommerfeld Lecturer, Ludwig Maximilians University, Munich, May 2017
- Professeur Invitee, College de France, Fall 2015
- Fellow, American Association for the Advancement of Science, 2013.
- Fellow, American Physical Society, 1999
- A. T. & T. Bell Laboratories Ph. D. Scholar (MIT) 1984-1986
- Fulbright Scholar (Cambridge University) 1982-1983
- National Merit Scholar (Harvard College) 1978-1982

Service to Profession:

- International Advisory Board, International Conference on Magnetism (2026)
- Board of Directors, New York Quantum Alliance (2025-present)
- National Academy of Sciences Board on Physics and Astronomy (2022-present)
- National Academy of Sciences James Prize committee (2023-25,Chair 2025)
- Facilities Committee, National Science Foundation Math and Physical Sciences Advisory Committee (2022-24)
- International Advisory Board, Thouless Institute for Quantum Matter, University of Washington, (2022-present)
- Board of Electors, Dolby Chair, University of Cambridge (2022-25)
- Selection Committee, Hamburg Prize in Theoretical Physics, 2021-present
- International Advisory Board, Ecole Scientifique Physique et Chimie Industrielle, 2020-present
- Reviewer, National Research Council Research Associates Program, 2020-2023
- co-Organizer, Les Houches Summer School on emergent electronic states confined at interface, 2020.
- co-Organizer, Aspen Winter Conference, Quantum Matter: Computation meets Experiment, 2020.
- International Advisory Board, Cavendish Laboratory, Cambridge University, UK (2019-present)
- Physics Section, American Association for the Advancement of Science, (2018-present)
- Mathematical and Physical Sciences Directorate Advisory Committee, National Science Foundation, (2018-2022)
- Review Panel, Condensed Matter Physics Program, Department of Physics, State University of New York at Stony Brook (2018)

- Advisory Board, Center for Predictive Simulation of Functional Materials, Oak Ridge Laboratory, (2017-2022)
- External Review Panel, Cavendish Laboratory, Cambridge (2016)
- Member-at-Large, Section on Physics, American Association for the Advancement of Science (2016-2018).
- Scientific Advisory Board, arXiv (2016-17).
- Section Lead, ASCR/BES Exascale Requirements Review, November 2015.
- Co-organizer, ICTP-Trieste Workshop on Interacting Fermions: Precision Theory and Experiment (July, 2015).
- International Advisory Committee, Materials and Mechanisms of Superconductivity (M^2S) Conference (2015, 2017, 2019).
- Trustee, Aspen Center for Physics, (2010-2014).
- Member (2012-2014, Chair, 2013, 14) Officer Nominations Committee, American Physical Society Division of Condensed Matter Physics
- International Advisory Committee, Strongly Correlated Electron Systems (SCES) conference (2014).
- Review Panel, Fine Center for Theoretical Physics, University of Minnesota (April 2013)
- International Advisory Committee, TOPNES research collaboration (2011-present; Chair 2017-present)
- Proposal Review Panel, SLAC light source (2010 to 2012)
- Chair, Cuprate Subcommittee of Program Committee for 2012 Materials and Mechanisms of Superconductivity conference
- Co-organizer, Les Houches Summer School on Nonequilibrium Quantum field Theories (2012)
- National Research Council Standing Committee on Condensed Matter Physics (2010 to 2013)
- Co-organizer, DMP Focus Session on Oxide Interfaces (2011 March meeting)
- Chair, Program Committee, Strongly Correlated Electron Systems Conference (2010)
- Co-organizer, "Materials by Design" Conference Kavli Institute for Theoretical Physics (2010)
- Aspen Center for Physics Winter Conference Selection Committee (2010)
- Scientific Advisory Panel, "Materials by Design" program, Kavli Institute for Theoretical Physics (2010)

- Co-organizer, "Workshop on Novel Computational Methods in Condensed Matter Physics", Leiden University, (2010)
- Aspen Center for Physics Winter Conference Selection Committee (2009)
- Chair, American Physical Society McGroddy (New Materials) prize committee (2008)
- Chair, Review committee for Physics Section of the School of Physics and Astronomy, University of Minnesota (2008)
- Review committee, Theoretical Physics Division, Saclay Laboratory (2008)
- Advisory Board, Materials with Novel Electronic Properties (MANEP) program, Switzerland (2007-2020)
- American Physical Society McGroddy (New Materials) prize committee (2007)
- Co-organizer, DCMP Focus Sessions on Surfaces of Correlated Electron Systems (2007)
- Chair, Aspen Center for Physics Public Lectures Committee (2006).
- National Academy of Science MRSEC Review Team (2006-7)
- Organizer: Conference on Quantum Phenomena in Confined Dimensions (International Center for Theoretical Physics, Trieste) (2006)
- Scientific Secretary, Aspen Center for Physics (2004-5)
- Co-organizer, DCMP Focus Sessions on Magnetic Oxides (2004)
- Review Committee, Condensed Matter Sciences Division, Oak Ridge National Laboratories (2002)
- American Physical Society Oliver E Buckley Prize Committee (2002)
- Chair, American Physical Society Oliver E Buckley Prize Committee (2001)
- Co-founder, US Summer School in Condensed Matter and Materials Physics (2000)
- Member Advisory board, Institute for Theoretical Physics (2000-03) (Chair, 2001-2); Co-chair, Correlated Electrons Gordon Conference 2000 (Vice-chair, 1998)
- General Aspen Center for Physics, 1997-2019; honorary 2019-present;
- Co-organizer, 'Non-Fermi-Liquids' program and conference Institute for Theoretical Physics (1996)
- Co-organizer, DCMP Focus Sessions on Manganites (1996)
- A. T. & T. Graduate Research Program for Women Scholarship Committee, 1993-1995

Service to University:

- Quantum Faculty Task Force, 2019-present

- Earth Institute Internal Review Committee (2015)
- Physics Department undergraduate curriculum committee (implemented reform of undergraduate curriculum 2011-2012)
- Science Honors Program Advisory Board (2009-2019)
- Provost's Science Review Committee (2008-2009)
- Faculty Budget Group (2008-2009)
- Steering Committee of Department Chairs (2007-2009)
- Presidential Task Force on Undergraduate Education (2007-2009)
- Chair, Review Committee, Undergraduate Writing Program (2007-2008)
- Academic Review Committee (2006-8)
- Chair, Department of Physics Graduate Curriculum Committee (implemented revision of graduate curriculum) (2004-2005)