

Short Curriculum Vitae

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PERSONAL DATA:

Born March 26, 1949, Taishan, Guangdong, China; naturalized U.S. citizen, 1961; married with 3 children

EDUCATION:

- University of California at Berkeley, Ph.D. in Physics, 1976
- University of California at Berkeley, A.B. in Physics and Mathematics, 1972

SCIENTIFIC CAREER:

- Distinguished Professor of Physics, University of California, Berkeley, 1998-present
- Founding Director, Center for Computational Study of Excited-State Phenomena in Energy Materials (C2SEPEM), Lawrence Berkeley National Laboratory, 2016-present
- Senior Faculty Scientist, Lawrence Berkeley National Laboratory, 1993-present
- Founding Scientific Director, Theory Facility, the Molecular Foundry, 2001-2011
- Professor of Physics, University of California, Berkeley, 1984-1998
- Faculty Scientist, Lawrence Berkeley National Laboratory, 1981-93
- Associate Professor of Physics, University of California, Berkeley, 1980-84
- Assistant Professor of Physics, University of Pennsylvania, 1979-80
- Visiting Scientist, AT&T Bell Laboratories, Murray Hill, 1979
- Postdoctoral Fellow, I.B.M. Watson Research Center, 1977-79
- NSF Postdoctoral Fellow, University of California, Berkeley, 1976

SELECTED HONORS/AWARDS (reversed chronological order):

- Chhabra-Landau Distinguished Lecturer, University of Georgia, 2023.
- Eugene Feenberg Memorial Lecturer, Washington University in St. Louis, 2022
- Foreign Academician, Chinese Academy of Sciences, 2021
- Benjamin Lee Professor Award, Asia Pacific Center for Theoretical Physics (APCTP), 2020
- Fellow, Materials Research Society, 2019.
- Gail & Jeffrey Kodosky Lecturer, Rensselaer Polytechnic Institute, 2018
- H.C. Ørsted Lecturer, Technical University of Denmark, Denmark, 2017
- 2017 Jubilee Professorship, Chalmers University of Technology, Sweden, 2017
- Materials Theory Award, Materials Research Society (MRS), 2015
- Inaugural Simons Fellow in Theoretical Physics, Simons Foundation, 2012
- Member, American Academy of Arts & Sciences, 2009
- Academician, Academia Sinica, Taiwan, 2008
- Mork Family Distinguished Lecturer, University of Southern California, 2008
- Distinguished Research Chair Professor, National Taiwan University, Taiwan, 2007-10
- Fellow, American Association for the Advancement of Science, 2007
- Closs Lecturer, University of Chicago, 2006
- Member, National Academy of Sciences, 2005
- Richard P. Feynman Prize in Nanotechnology (Theory), Foresight Institute, 2003
- Davisson-Germer Prize in Surface Physics, American Physical Society, 1999
- Aneesur Rahman Prize for Computational Physics, American Physical Society, 1996
- Sustained Outstanding Research in Solid State Physics Award, U.S. Dept of Energy, 1993
- Municipal Chair Professor, Joseph Fourier University, France, 1990
- John S. Guggenheim Foundation Fellow, 1989-90

- Eminent Visiting Scholar, University of Tokyo, 1989
- Professor, Miller Institute for Basic Research in Science, 1986–87, 1995
- Fellow, American Physical Society, 1985
- Alfred P. Sloan Foundation Fellow, 1980–82

PRINCIPAL RESEARCH INTERESTS

Theoretical condensed matter physics and nanoscience: electronic and structural properties of solids & interfaces; many-body effects in quasiparticle and optical excitations of bulk and reduced-dimensional systems; graphene and graphene nanoribbons; carbon and BN nanotubes; quasi-2D materials; superconductivity; topological phases; transport through nanostructures; correlated multi-particle excitations; field-driven time-dependent & nonequilibrium phenomena, ultra-fast dynamics; high-performance computing.

SCHOLARLY CONTRIBUTIONS

- More than **685** scientific publications, with over **93,800** Web of Science citations and an **h-index** of **143**, as of June 2023 (over **126,100** citations and **h-index** of **168** on Google Scholar).
- Named to the Web of Science Highly Cited Researchers (HRC) list every year since inception.
- Publications include: **14** *Nature*, **11** *Science*, **135** *Phys. Rev. Lett.*, **39** “Nature family” (*Nat. Phys.*, *Nat. Materials*, etc), **35** *Nano Lett.*, **9** *PNAS*, **8** *ACS Nano*, etc.
- Awarded **7** U.S. patents.
- Authored textbook (with M. L. Cohen): *Fundamentals of Condensed Matter Physics* (Cambridge University, 2016). Co-editor of **3** additional books: *Quantum Theory of Real Materials* (Kluwer, 1996); *The Optical Properties of Materials*, MRS Symp. Proceed. Vol. 579 (MRS, 2000); *Conceptual Foundations of Materials: A Standard Model for Ground- and Excited-State Properties* (Elsevier, 2006).
- Originator of **3** *ab initio* computational materials software packages: many-electron excited-state properties code “BerkeleyGW”, density functional theory code “PARATEC”, and Wannier functions electron-phonon coupling code “EPW”, available freely to users.
- More than **650** invited talks at conferences, universities, and research institutions.
- Supervised **43** PhD students and **61** postdoctoral fellows.

SELECTED PROFESSIONAL AND SERVICE ACTIVITIES (SINCE 2005)

Louie has served on numerous national/international committees, panels, and boards. Selected activities include: an editor of *Solid State Communications*, 1994-2011; Exec Cmte of APS Materials Physics Div, 2005-08; APS Adler Award Cmte, 2005; Visiting Cmte, ISSP, U of Tokyo, 2005; Class Membership Cmte, NAS, 2006-09; Organizer, U.S.-Taiwan Workshop on Nanoscience, 2006; Adv Cmte of Inst. of Atomic & Molecular Sciences (IAMS), Taiwan, 2007-10, Chair 2010-; Sci Council, APCTP, 2009-18; Sci Cmte, Cariplo Foundation (Italy), 2009-14; DOE Review Panel, Ames Lab, 2010; Phys Sci Panel, Research Grants Council, Hong Kong, 2010-17; Visiting Member, Inst. of Advanced Study, Hong Kong U of Sci & Tech, 2011-; Chair, NAS Class III Int Temp Nominating Group, 2011-20; Organizer, 15th Int Conf on Sci & Appl of Nanotubes, 2012-14; Initiator and Co-organizer, annual BerkeleyGW Workshop, 2012-; Advisory Council, Molecular Foundry, LBNL, 2012-19; Search Cmte, President of APCTP, Korea, 2012-13; Ext Rev Board, Area of Excellence Centers, Hong Kong, 2012-18; Review Panel, ORNL, 2012; NAS Baker Award Cmte, 2013; Co-organizer, Annual Int Workshop on Quantum Energy, China, 2014-; Organizer, 17th Int Workshop on Comput Phys & Mat Sci, ICTP, Italy, 2015; Int Adv Board, Institut Catala de Nanociencia i Nanotecnologia (ICN2), Spain, 2015-22; Sci Adv Board, Argonne DOE CMS-MiCCOM Center, 2015-; Staff Cmte, MSD, LBNL, 2016-; Chair, Int Adv Cmte, Ctr for Theor & Comput Physics, Hong Kong U, 2016-18; Int Adv Cmte, Nat Ctr for Theor Sci, Taiwan, 2016-21; Visiting Cmte, HK Baptist U, 2016; Search Cmte, Dir of IAMS, Taiwan, 2016-17, and Dir of MSD, LBNL, 2017; Co-organizer, NSF-MolSSI Workshop on Materials Software, 2016-17; Sci Adv Board, Princeton DOE CCS-CSSI Center, 2018-; Chair, APS Isakson Prize Cmte, 2019; Co-organizer, Annual Berkeley Excited States Conference (BESC), 2019-; Co-organizer, 2020 and 2023 Elect Struct Workshop, 2019-23; Physics Panel, Samsung Sci & Tech Foundation, Korea, 2020-22; Convener, CIMTEC 2024, Italy, 2024; among others.