

PAUL C. W. CHU

Founding Director and Chief Scientist, TcSUH

Texas Center for Superconductivity

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Education:

B.S. Cheng-Kung University Taiwan, ROC 1958-1962

M.S. Fordham University Bronx NY 1963-1965

Ph.D. University of California San Diego CA 1965-1968 Thesis Advisor: Bernd T. Matthias

Employment History:

- Adjunct Professor of Physics, Sharif University of Technology, Tehran, Iran, 2014-present
- Honorary Chancellor, Taiwan Comprehensive University System, 2012-present
- Founding Director & Chief Scientist, Texas Center for Superconductivity at the University of Houston, 2011-present
- President Emeritus and University Professor Emeritus, Hong Kong University of Science and Technology, 2009-present
- Founding Director, Institute for Advanced Study, Hong Kong University of Science and Technology, 2006-present
- Executive Director, Texas Center for Superconductivity at the University of Houston, 2005-2011
- Guest Scientist, Lawrence Berkeley National Laboratory, 2005-present
- Convener, Heads of Universities Committee, Hong Kong, 2003-2004
- President and Professor of Physics, Hong Kong University of Science and Technology, 2001-2009 (voted eight times as the best university president in Hong Kong for overall performance; secured more than HK\$500 million for HKUST from the Government and industry)
- Principal Investigator, Lawrence Berkeley National Laboratory, 1999-2005
- Director, National Science Foundation Materials Research Science and Engineering Center on Advanced Oxides and Related Materials at the University of Houston, 1996-1997
- Visiting Miller Research Professor, University of California, Berkeley, 1991
- Director, Texas Center for Superconductivity at the University of Houston, 1987-2001
- T. L. L. Temple Chair of Science, University of Houston, 1987-present
- M. D. Anderson Chair of Physics, University of Houston, 1987-1989
- Director, Solid State Physics Program, National Science Foundation, 1986-1987
- Director, Space Vacuum Epitaxy Center, NASA/UH, 1986-1988
- Director, Magnetic Information Research Laboratory, University of Houston, 1984-1988
- Professor of Physics, University of Houston TX, 1979-present
- American Physical Society, Division of Solid State Physics, Teller, 1976
- Los Alamos Scientific Laboratory, Los Alamos NM, Visiting Staff Member, 1975-1980
- Professor of Physics, Cleveland State University OH, 1975-1979
- Associate Professor of Physics, Cleveland State University OH, 1973-1975
- Stanford University, Stanford CA, Hansens Physics Laboratory, Visiting Scientist, Summer 1973
- Argonne National Lab, Argonne IL, Resident Research Associate, Summer 1972
- Assistant Professor of Physics, Cleveland State University OH, 1970-1973
- Member, Technical Staff, Bell Labs, Murray Hill NJ, 1968-1970
- Research Assistant, University of California, San Diego CA, 1965-1968
- Teaching Assistant, Fordham University, Bronx NY, 1963-65
- Second Lieutenant, Nationalist Chinese Air Forces, 1962-1963

Honors and Awards:

- Founding Member, Academy of Sciences of Hong Kong (HKAS), 2015
- Charter Fellow, National Academy of Inventors, 2013
- Fellow, Hong Kong Institution of Science, 2011
- Member, Honor Society of Phi Kappa Phi, 2010
- Foreign Member, Russian Academy of Engineering, 2005
- Foreign Member, Chinese Academy of Sciences (PRC), 1996
- Fellow, Texas Academy of Sciences, 1992
- Member, Electromagnetic Academy, 1990
- Member, American Academy of Arts and Sciences, 1989
- Member, National Academy of Sciences, 1989
- Member, Third World Academy of Sciences, 1989
- Royal Society for the Encouragement of Arts, Manufacturers, and Commerce (RSA), 1989
- Member, Academia Sinica (ROC), 1988
- American Association for the Advancement of Science (AAAS), 1987
- Fellow, American Physical Society, 1978
- IEEE Milestone on "High-Temperature Superconductivity, 1987", dedicated 2014
- IEEE Council on Superconductivity Max Swerdlow Award for Sustained Service to the Applied Superconductivity Community, 2014
- International Leadership Foundation Inspirational Award, 2014
- Recipient, Hong Kong Institution of Engineers Hall of Fame Award, 2010
- Distinguished Visiting Chair Professorship, National Cheng Kung University, Tainan, Taiwan, 2009
- K. T. Li Professor Chair Award, National Cheng Kung University, Tainan, Taiwan, 2009
- One of 100 Influential Alumni, University of California, San Diego, Alumni Association, 2009
- Prize Ettore Majorana - Erice - Science for Peace 2007, Ettore Majorana Foundation and Centre for Scientific Culture, awarded 2008
- Lifetime Achievement Award, Chinese Institute of Engineers (CIE-USA), 2008
- Cha Distinguished Chair, Zhejiang University, Hangzhou, China, 2006
- Achievement Award, Chinese Professional Club, 2006
- Distinguished Lectureship sponsored by Applied Materials, Inc., National Cheng Kung University, Tainan, Taiwan, 2005
- Cohen-Ofer Distinguished Lectureship on Experimental Physics, Hebrew University, Jerusalem, Israel, 2004
- Invited Contributor, *Chemical & Engineering News* 80th Anniversary Special Issue on the Elements, 2003
- Distinguished Lectureship, Taiwan Semiconductor Manufacturing Corporation, 2003
- Distinguished Lectureship, Chien-Shiung Wu and Luck C. L. Yuan Natural Science Foundation, 2003
- Distinguished Achievement Award, Association of American-Chinese Professionals (AACP) Foundation, 2001
- John Fritz Medal, American Association of Engineering Societies, 2001
- Esther Farfel Award, University of Houston, 2000
- One of the 20th Century's 100 Most Influential People in Gas and Electricity, *Century of Power, Hart Energy Markets*, 2000
- Invited Contributor, National Millennium Time Capsule, 2000
- Sharif University Award, 1999
- Houston Hall of Fame Award, George Bush Intercontinental Airport, 1999
- Distinguished Scientific Achievement Award, Washington DC Metropolitan Association of Chinese American Professionals, 1998
- Bernd Matthias Prize, International Conference on Materials and Mechanisms of Superconductivity, High Temperature Superconductors, 1994
- Superconductivity Award of Excellence in Scientific Accomplishments, World Congress on Superconductivity, 1994
- St. Martin de Porres Award, 1990
- Best Researcher in the US, *US News and World Report*, 1990
- Texas Instruments Founders' Prize, 1990
- Medal of Scientific Merit, World Cultural Council, 1989

- International Prize for New Materials, American Physical Society, 1988
- Comstock Award, National Academy of Sciences, 1988
- Distinguished Alumnus Award, Cheng-Kung University, 1988
- Houston Hall of Fame Award, Greater Houston Convention and Visitors Bureau, 1988
- National Medal of Science, 1988
- NASA Achievement Award, 1987
- Leroy Randle Grumman Medal for Outstanding Scientific Achievement, Grumman Corporation, 1987
- Physical and Mathematical Science Award, New York Academy of Sciences, 1987
- Distinguished Alumnus Award, University of California at San Diego, 1987
- Sigma Xi Research Excellence Award, 1987
- Faculty Research Award, University of Houston, 1987
- Achievement Award, Chinese American Academic and Professional Association, 1987
- Honorary Citizen of the State of Texas, 1987
- Honorary Citizen of the City of Houston, 1987

Ten Honorary Doctorates, seven Honorary Professorships and one Honorary Presidency at universities worldwide

Recent Research Highlights:

- With colleagues, achieved stable superconductivity at 93 K (-180 °C) in YBCO, above the critical temperature of liquid nitrogen (-196 °C) in January 1987.
- Group continues to find new compounds with high transition temperatures.
- Obtained stable superconductivity at the record high temperature of 164 K (-109 °C) in Hg-1223 in 1993.
- Presently actively engaged in the basic and applied research of high temperature superconductivity; research extends beyond superconductivity to magnetism and dielectrics.
- Today, group is regarded as one of the best in the world in searching for and understanding new superconductors.

Lab Facilities/Expertise: Experimental Solid State Physics: Superconductivity, Magnetism and Dielectrics

Selected Publications: Over 690 total publications

- "Superconductivity at 93 K in a New Mixed-Phase Y-Ba-Cu-O Compound System at Ambient Pressure," M. K. Wu, J. R. Ashburn, C. J. Torng, P. H. Hor, R. L. Meng, L. Gao, Z. J. Huang, Y. Q. Wang and C. W. Chu, *Phys. Rev. Lett.* 58, 908 (1987).
- "Superconductivity up to 164 K in $\text{HgBa}_2\text{Ca}_{m-1}\text{Cu}_m\text{O}_{2m+2+\delta}$ ($m = 1, 2, \text{ and } 3$) Under Quasihydrostatic Pressures," L. Gao, Y. Y. Xue, F. Chen, Q. Xiong, R. L. Meng, D. Ramirez, C. W. Chu, J. H. Eggert and H. K. Mao, *Phys. Rev. B, "Rapid Communications"* 50, 4260 (1994).
- "Superconductivity up to 126 Kelvin in Interstitially Doped $\text{Ba}_2\text{Ca}_{n-1}\text{Cu}_n\text{O}_x$ [$02(n-1)n\text{-Ba}$]," C. W. Chu, Y. Y. Xue, Z. L. Du, Y. Y. Sun, L. Gao, N. L. Wu, Y. Cao, I. Rusakova and K. Ross, *Science* 277, 1081 (1997).
- "The Competing Interactions in Multiferroics and Their Possible Implications for HTSs," C. W. Chu, *High T_c Superconductors and Related Transition Metal Oxides: Special Contributions in Honor of K. Alex Müller on the Occasion of his 80th Birthday*, ed. by A. Bussmann-Holder and H. Keller (Berlin: Springer-Verlag, 2007), p. 57.
- "Investigation on the Reported Superconductivity in Intercalated Black Phosphorus," H. M. Yuan, L. Z. Deng, B. Lv, Z. Wu, Z. Yang, S. Li, S. Y. Huan, Y.
- Z. Ni, J. Y. Sun, F. Tian, D. Z. Wang, H. Wang, S. Chen, Z. F. Ren, and C. W. Chu, *Materials Today Physics* 4, 7 (2018).