

**Professor  
Siu-Wai Chan**

Professor of Materials Science and Engineering  
Dept. of Applied Physics and Applied Mathematics

*CV as of April 2016*

Henry Krumb School of Mines since July 1990,  
School of Engineering and Applied Science,  
Columbia University, New York, NY 10027  
212-854-8519(tel), 212-854-8257(fax),  
email: [sc174@columbia.edu](mailto:sc174@columbia.edu)

**RESEARCH  
INTERESTS**

Size-dependent Properties of Nano-Oxides, Grain Boundaries,  
Interfaces, and Defects in Thin Films, Super-Ionic and  
Superconducting Oxides as well as Materials for Energy and  
Environment .

**EDUCATION**

Massachusetts Institute of Technology, 1985, Sc.D. in Materials  
Science and Engineering;  
Columbia University, 1980, B.S. in Metallurgy & Materials Sc.  
Francis B.F. Rhodes Prize

**PROFESSIONAL  
EXPERIENCE**

Full Professor since 2002,  
Co-Chair of the Solid State Program since Jan 2001,  
Co-chair of Materials Science and Engineering Program and  
Committee from July 1997 to Jan 1999.  
Executive Committee Member and Outreach Director of Materials  
Research Science & Engineering Center 1998-2009,  
Associate Professor Columbia University, 1990-2002,  
1990-1993 Metallurgy and Mining, 1993-1998 Chemical Engineering  
and Materials, 1998-present Applied Physics and Applied  
Mathematics.  
Visiting Professor, as the *Tan Fellow* at Nanyang Technological  
Univ., Materials Dept., Singapore 2004 ;  
Visiting Professor, as NSF 2004 *Advanced Fellow*, Univ. of  
Washington, Dept. of Materials Sc. and Engr., Seattle, WA;  
2004 Visiting Professor, as the *Guggenheim Fellow* Univ. of  
California San Diego, Physics Dept. of Physics, San Diego,  
California (host Prof. Robert Dynes, Chancellor of UCSD 2003 &  
President of Univ. of California 2004-2008);  
Visiting Scientist, (full-salary support from IBM Microelectronics)  
IBM Watson Research Lab., 1999.  
Visiting Scientist, Bitter Magnet Lab, 1993-1995.  
Member of Technical Staff, Superconductors, Bellcore, Red Bank,  
INJ, 1986-1990. Member of Technical Staff, Surface Treatments, Bell-  
Labs & Bellcore, Murray Hill, NJ, 1985.

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*PROFESSIONAL  
ACTIVITIES*

Member of the American Ceramic Society (Acers)  
Strategic Planning Committee 2009-2010,  
Chair of the Electronics Division of Acers 2006-2007,  
Chair Symposia at different Acers Meetings,  
Chair Symposia on High Temperature Superconductors at 1998 &  
91 Materials Research Society (MRS) Fall Meetings;  
Chair for various sessions at different MRS and Acers Meetings,  
President 1994 & Secretary 1993 of the Materials Science Club;  
Panelist for National Science Foundation's program on Materials  
Research Science and Engineering Centers,  
Reviewer on Materials Science Projects for NSF,  
Reviewer on Materials Science Projects for Hong Kong University  
Research Council;  
Reviewer for Philosophical Magazine, Applied Physics Letters,  
Journal of Applied Physics and Journal of Materials Research.  
Faculty Advisor of student Chapters of MRS since 1994 and  
Materials Advantage (ASM, Acers, TMS, AIST) since 2007 .

*ASSOCIATIONS*

American Physical Society (APS) member since 1985;  
Society of Women Engineers (SWE) member since 1992;  
International Committee of Diffraction Data (ICDD) elected  
member 2005;  
Materials Research Society (MRS) Faculty Advisor of the CU  
Student Chapter since 1993;  
ASM International (ASM);  
Association for Iron & Steel Technology (AIST);  
The Minerals, Metals, Materials Society (TMS) member since 1992.  
The American Ceramic Society (Acers) member since 1995;  
Faculty Advisor of the CU Student Chapter of Materials  
Advantage since 1998;

*HONORS &  
AWARDS*

American Chemical Society (ACS)  
BASF Catalysis Research Award 2008-2011,  
Fellow of the American Ceramics Society 2008,  
Tan Chin Tuan Fellowship (Singapore Nanyang Technological  
University) 2004,  
Advance Fellow of Univ. of Washington and National Science  
Foundation 2004,  
John Simon Guggenheim Fellowship 2003,  
IBM Faculty Award 1998,  
Outstanding Woman Scientist Award (Women in Science NY City)  
1997,  
Presidential Faculty Fellow from the White House and National  
Science Foundation (NSF) 1993,

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*HONORS &*

Very Important Parent from Luther Lee Emerson School in Demarest,

*AWARDS*  
Con't

NJ 1992

DuPont Faculty Award 1991 & 1992,  
Tau Beta Pi elected 1979;  
Sigma Xi elected 1982;  
Columbia Univ. SEAS Francis B.F. Rhodes Prize 1980.

*PUBLICATIONS*

114 publications with 77 papers in referred journals.

*PRESENTATIONS*

Delivered over 90 invited talks.

*PATENTS*

U. S. patent # 9,199,858 granted in Dec 2015, '[Methods for producing nanoparticles using palladium salt and uses thereof](#)'  
Siu-Wai Chan and Hong Liang.

U.S. #7,820,596B2 awarded Oct 26, 2010, 'Thick Film High Temperature Superconducting Device Supporting High Critical Currents and Method for Fabricating Same.'

U.S. # 7,449,163 awarded Nov 11, 2008, 'Method for Preparing Nanoparticles comprising Cerium Oxide and Zirconium' With Feng Zhang.

U.S. # 7,320,732 awarded Jan. 22, 2008, 'Method for Preparing Atomistically Straight Boundary Junctions in High Temperature Superconducting Oxides.'

U.S. # 7,141,227 awarded Nov 28, 2006, 'Apparatus and Method for Preparing Cerium Oxide Nanoparticles.'

U.S. # 5,087,608 awarded Feb. 11, 1992, 'Environmental Protection and Patterning of Superconducting Perovskites' with L.A. Farrow.