

Siu-Wai Chan

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

As of April 2018

School of Engineering and Applied Science,
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**RESEARCH
INTERESTS**

Crystal-size-dependent Properties of Nano-oxides, Grain Boundaries, Interfaces, and Defects in Films, Super-Ionic & Superconducting Oxides 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,
Prof. of Henry Krumb School of Mines since July 1990,
Co-Chair of the Solid State Program 2001-2010,
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, NJ, 1986-1990. Member of Technical Staff, Surface Treatments, Bell-Labs & Bellcore, Murray Hill, NJ, 1985.

Prof. S.-W. Chan

April 2018

*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 ACerS 1998-2007, MRS
since 1994, and Materials Advantage (ASM, Acers, TMS, AIST)
since 2007 .

ASSOCIATIONS

American Physical Society (APS);
Society of Women Engineers (SWE);
International Committee of Diffraction Data (ICDD);
Materials Research Society (MRS) Faculty Advisor of the CU
Student Chapter over 25 years;
ASM International (ASM);
Association for Iron & Steel Technology (AIST);
The Minerals, Metals, Materials Society (TMS);
The American Ceramic Society (ACerS);
Faculty Advisor of the CU-Student Chapter of Materials
Advantage (student-society for ASM, AIST, TMS, & ACerS).
American Chemical Society (ACS)

*HONORS &
AWARDS*

Presidential Faculty Fellow, from President William Jefferson
Clinton and NSF. Only 30 most promising professors in science
and engineering were honored with the fellowship that year.
Presently, it is called Presidential Early Career Award for
Scientists and Engineers.
Tan Chin Tuan Fellowship (Singapore Nanyang Technological
University),
Advance Fellow of Univ. of Washington and National Science
Foundation (NSF),
John Simon Guggenheim Fellow,
IBM Faculty Award,

*HONORS &
AWARDS* Con't

BASF Catalysis Faculty Award,
Fellow of the American Ceramics Society,
Avenessians Diversity Award
Very Important Parent from Luther Lee Emerson School in Demarest,
NJ
Outstanding Woman Scientist Award, Women in Science NYC,
DuPont Faculty Award,
Tau Beta Pi elected;
Sigma Xi elected;
Columbia Univ. Engr. School, Francis B.F. Rhodes Prize.

PUBLICATIONS

120 + publications with 80+ papers in referred journals.

PRESENTATIONS

Delivered over 100 invited talks.

PATENTS

U. S. patent # 9,199,858 granted in Dec 2015, 'Methods for producing nanoparticles using palladium salt and uses thereof' with 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.