

Dr. Shu Chien

Address: Department of Bioengineering, 0412, UCSD
9500 Gilman Drive
La Jolla, CA 92093-0412
U.S.A.

Education

National Peking University (Premed.), 1947 to 1948.
National Taiwan University (College of Medicine), 1949 to 1953, M.D.
Columbia University (Physiology), 1954 to 1957, Ph.D.

Oak Ridge Institute of Nuclear Studies, Radioisotope Training Course, Feb. 1958.
Jackson Laboratory, Bar Harbor, Maine, Genetics Training Course, Aug. 1983.

Appointments

Rotating Intern, National Taiwan University Hospital, 1952 to 1953.
Assistant in Physiology, Columbia Univ. Coll. of Physicians & Surgeons, N.Y. City, 1954-56.
Instructor in Physiology, Columbia Univ. College of Physicians & Surgeons, 1956-58.
Assistant Professor of Physiology, Columbia Univ. Coll. of Physicians & Surgeons, 1958-64.
Associate Professor of Physiology, Columbia Univ. Coll. of Physicians & Surgeons, 1964-69.
Professor of Physiology and Director of Laboratory of Hemorheology, Columbia Univ. P&S, 1969-88.
Director, Division of Circulatory Physiology and Biophysics, Columbia Univ. P&S, 1974-88.
Director, Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan, ROC, 1987-88.
Professor of Bioengineering & Medicine, and Member of Center for Molecular Genetics, Univ. of California, San Diego, 1988- Present.
Coordinator, Bioengineering Group, Univ. of California, San Diego, 1989-1994.
Chair, Department of Bioengineering, Univ. of California, San Diego, 1994-1999, 2002-2005.
Director, Whitaker Institute of Biomedical Engineering, Univ. of California, San Diego, 1991-2008.
University Professor, University of California, 2002-present.
Director, Bioengineering Institute of California (Univ. of California System-wide), 2004-present.
Y.C. Fung Professor of Bioengineering, Univ. of California, San Diego, 2006-present.
Director, Institute of Engineering in Medicine, Univ. of California, San Diego, 2008-present.

Areas of Research Interest

Effects of mechanical forces on gene expression and signal transduction
Integrative and systems physiology
Molecular, cellular and tissue bioengineering
Integration of medical sciences and engineering for technological development

Honors and Awards

Li Foundation Fellow, 1954-1956.

Golden Tooth Award, School of Oral and Dental Surgery, Columbia University, 1971.

Teacher of the Year, Columbia Univ. College of Physicians & Surgeons, 1972, 74, 81, 83.

Member, Academia Sinica, Taipei, 1976- .

Research Achievement Award, American Chinese Medical Society, 1979.

Distinguished Visiting Scientist, Albany Medical College, 1980.

Nanci Medal for Research in Blood Rheology, 1980.

The First Fahraeus Medal in Clinical Haemorheology, 1981.

Nathanson Lectureship, University of Southern California, 1983.

Landis Award, Microcirculatory Society, 1983.

NSF Special Creativity Grant Award (with Dr. Sheldon Weinbaum et al.), 1985-1988.

Achievement Award, Chinese-American Engineers & Scientists Association of Southern Calif., 1988.

NIH MERIT Award (National Institute of Heart, Lung, and Blood), 1989-1998.

Best Paper in the Journal of Biomechanical Engineering, Am. Soc. Mech. Engineers, 1989.

Distinguished Visiting Scientist, University of South Alabama, 1990.

Distinguished Achievement Award, The Chinese Hospital, San Francisco, 1990.

Melville Medal (with Dr. Cheng Dong et al.), Am. Soc. Mechanical Engineers, 1990.

Zweifach Award, Vth World Congress for Microcirculation, 1991.

Founding Fellow, American Institute of Medical and Biological Engineering, 1992- .

Vaishnav Lectureship, The Catholic University of America, 1992.

Research Achievement Award, San Diego Chinese Am. Scientists & Engineers Assoc., 1992.

ALZA Award, Biomedical Engineering Society, 1993.

Distinguished Accomplishment Award, Mid-America Chinese Science & Technology Assoc., 1993.

SCBA Lecturer, Fifth International SCBA Symposium and Workshops, 1993.

Distinguished Faculty Lecturer, University of California, San Diego, 1994.

Merck Distinguished Lecturer, Rutgers University, 1994.

Member, Institute of Medicine, National Academy of Sciences, 1994.

Wellcome Professorship, Federation of American Societies for Experimental Biology, 1995.

Honorable Visiting Scientist, National Science Council, ROC, 1995.

Honorary Professor, Peking Medical University, 1995.

Honorary Member, Shanghai Biophysical Society, 1995.

Honorary Professor, Chongqing University, 1995.

Best Paper in the Journal of Biomechanical Engineering, Am. Soc. Mech. Engineers, 1995.

Donald M. Nelson Lectureship, University of Missouri-Columbia, 1995.

Joseph Mather Smith Prize for Distinguished Alumni Research, Columbia University, 1996.

Borun Lecturer, University of California, Los Angeles, 1996.

Melville Medal (with Dr. Yaqi Huang et al.), Am. Soc. Mechanical Engineers, 1996.

Molecular, Cellular and Physiological Biology Distinguished Lecturer, Univ. of Illinois, 1997.

Honorary Professor, Microcirculation Laboratory, Chinese Academy of Medical Sciences, 1997.

Member, National Academy of Engineering, 1997.

Life-time Achievement Award, Chinese-American Engineers & Scientists Assoc. of So. Calif., 1998.

National Health Medal, Department of Health, Taiwan, ROC, 1998.

Ray Daggs Award, American Physiological Society, 1999.

Whitaker Distinguished Lecturer, University of Pennsylvania, 2000

Yehia Habib Honor Lecturer, Internat. Congress of African Assoc. Physiological Sciences, 2000

Distinguished Keynote Lecturer, Inauguration of Dept. Biomed. Engineering, Columbia Univ., 2000

Distinguished Lecturer in Biomedical Engineering, Stanford University, 2001

Distinguished Service Award, Biomedical Engineering Society, 2001

Zweifach Memorial Lecturer, City College of New York, 2001

Honorary Member, Sino-American Biotechnology and Pharmaceutical Association, 2002

University Professor, University of California, 2002

Poiseuille Gold Medal, International Congress of Biorheology, 2002

Honorary Member, Chinese Association of Physiological Science, 2003

Walter B. Cannon Lecturer, American Physiological Society. 2003

Pierre Galletti Award, American Institute of Medical and Biological Engineering, 2004

Llewellyn Thomas Lecturer, University of Toronto, 2004

Asian American Engineer of the Year, 2005

Shapiro Lecturer, Massachusetts Institute of Technology, 2005

Zhu Kezhen Distinguished Lecturer, Zhejiang University, Hangzhou, China, 2005

Phi Beta Tau Professor of the Year, UCSD Jacobs School of Engineering, 2005

Member, National Academy of Sciences, 2005

Fellow, American Academy of Arts and Sciences, 2006

Distinguished Cardiovascular Lecturer, UCLA, 2006

Honorary Doctor of Engineering, Chung-Yuan Christian University, Chung-li, Taiwan, 2006

President Award Lecture and Chair Professor, National Yang Ming Univ., Taipei, Taiwan, 2006

Honorary Professor, JiaoTung University, Shanghai, China, 2006

Foreign Member, Chinese Academy of Sciences, 2006

Founders' Award, National Academy of Engineering, 2006

Lifetime Achievement Award, Society of Chinese Bioscientists in American (SCBA), 2006

Hugh Sinclair Lectureship, British Atherosclerosis Soc. & British Soc. Cardiovascular Research, 2006

Leonard Share Distinguished Lecturer, University of Tennessee Health Science Center, 2006

Doctor Degree, *Honoris Causa*, National Taiwan University, Taipei, Taiwan, 2006

Keynote Lecturer, Federation Meeting, Taiwan, 2007

National Health Research Institutes Lectureship Special Award, Taiwan, 2007

National Inst. of Biomedical Imaging & Bioengineering 5th Anniversary Recognition Award, 2007

Inaugural Distinguished Speaker Series, University of California, Riverside, 2007

Honorary Professor, China Medical University, Tai-chung, Taiwan, 2007

Petit Distinguished Lecturer, Institute of Biosciences & Bioengineering, Georgia Inst. Tech., 2007

Chao-Hao Li Lectureship, Academia Sinica and National Taiwan University, Taiwan, 2008

Earl Bakkan Lectureship, Am. Inst. for Medical & Biological Engineering, Washington, DC, 2008
Medtronic Lectureship, Inauguration of Oxford Institute of Biomedical Engineering, UK, 2008
Plenary Speaker, Shanghai Bio-Forum 2008
LEE Kwan Yew Distinguished Lectureship, Singapore, 2008
Honorary Degree of Doctor of Science, National Chiao Tung University, 2009
Honorary Degree of Doctor of Engineering, National Yang-Ming University, 2009
Presidential Price in Life Sciences, Taiwan, ROC, 2009

Services in Scientific Organizations

European Society for Microcirculation: Executive Committee, 1971-1989.
The **Microcirculatory Society**: Councillor, 1975-1978; **President**, 1980-1981.
National Institutes of Health: NHLBI Program Project Grant Review Committee B, 1977-1981; Hypertension Task Force, 1977-1979; Co-chair, Panel on Functional Genomics, BECON, 1998. Member, Center for Scientific Review Advisory Committee, 1998- . Search Committee, Director of National Institute of Biomedical Imaging and Bioengineering, 2001-2002. Search Committee, Scientific Director of National Institute of Biomedical Imaging and Bioengineering, 2005.
American Chinese Medical Society: President, 1978-1979.
Society for Experimental Biology and Medicine: Membership Committee, 1978-1981.
Chinese Academic and Professional Association: President, 1979-1980.
International Society of Biorheology: Councillor, 1981-1983, Vice President, 1983-1989, **President**, 2005-2008
National Committee on Biomechanics: Executive Committee, 1982-1986.
North American Society of Biorheology: Chairman, Steering Committee, 1985-1986.
American Physiological Society: Councillor, 1985-1989; **President**, 1990-1991; Chairman, Long Range Planning Committee, 1994-1996, International Physiology Committee, 1998-2001.
Federation of American Societies for Experimental Biology (FASEB): Board Member, 1989-1993, **President**, 1992-1993, Chair, Public Affairs Executive Committee, 1993-1994.
The First World Congress of Biomechanics, Co-chair with Richard Skalak, 1990.
Institute of Biomedical Sciences, Academia Sinica, Taiwan, ROC: Chair, Advisory Comm., 1991-
National Health Research Institute (Analogous to N.I.H.), Department of Health, Taiwan, ROC: Chairman, Advisory Committee, 1991- .
Biomedical Engineering Society: Publications Committee, 1994-2000 (Chair 1998-2000). Chair, Annual Fall Meeting, 1997. Board Member 2003-2009. President-elect, 2005. **President** 2006-2008.
San Diego Chinese Historical Museum, Chair of the Board, 1995-1996.
Chinese Journal of Physiology, Taipei, Honorary Editor-in-Chief, 1998- .
Member, Advisory Board, National Institute of Advanced Interdisciplinary Research, Japan, 1998-2000.
International Union of Physiological Sciences: Treasurer, 1998-2001.
American Institute for Medical and Biological Engineering (AIMBE): Chair, College of Fellows, 1998-1999; **President**, 2000-2001.
National Academy of Engineering, Chair, Section 2 Peer Committee, 2001-2002.

International Congress of Physiological Sciences: Chair, Organizing Committee, 2001-2005.
Member, Advisory Board, National University of Singapore (Tissue Engineering Program,, 2004-2006.

Chair, International Congress of Biorheology, Chungqing, China, 2005.

Acta Physiologica Sinica, International Advisory Board, 2006- .

Chair, Advisory Board, Institute of Digital Medicine, Jiao Tung Univ., Shanghai, China, 2006- .

Chair, Review Committee, National Yang-Ming University, Taipei, Taiwan, 2006.

Chair, Review Committee, National Health Research Institutes, Zhunan, Taiwan, 2007.

Publications: See List of Publications. (11 books and ~500 peer-reviewed full-length papers in peer-reviewed scientific journals)