

DR. SHU CHIEN

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Birth Date: June 23, 1931; Beijing, China. U.S. Citizen (Naturalized May 28, 1971)
Married April 7, 1957. Wife: Kuang-Chung Hu Chien, M.D.
Two daughters: May Chien Busch and Ann Chien Guidera, M.D.

Education

National Peking University (Premed.), 1947 to 1948
National Taiwan University (College of Medicine), 1949 to 1953, M.B.
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, Univ. of California, San Diego, 1988- Present
Founding Chair, Department of Bioengineering, Univ. 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

Blood rheology in health and disease
Effects of mechanical forces on gene expression and signal transduction
Integrative bioengineering and systems physiology
Molecular, cellular and tissue bioengineering
Integration of medical sciences and engineering for technological development
Bioengineering research on stem cells

HONORS AND AWARDS

National Awards

Presidential Prize in Life Sciences, Taiwan, ROC, 2009

National Medal of Science, USA, 2011

Membership in National Academies

Member, Academia Sinica, Taipei, 1976

Member, Institute of Medicine, 1994

Member, National Academy of Engineering, 1997

Member, National Academy of Sciences, 2005

Fellow, American Academy of Arts and Sciences, 2006

Foreign Member, Chinese Academy of Sciences, 2006

Member, National Academy of Inventors, 2015

Fellow Election to Scientific Organizations

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

Fellow, Cardiovascular Section, American Physiological Society, 2001

Fellow, American Society of Mechanical Engineers, 2010

Fellow, Biomedical Engineering Society, 2010

Founding Fellow, American Physiological Society, 2015

Fellow, American Association for the Advancement of Sciences, 2016

Awards from Scientific Organizations

Research Achievement Award, American Chinese Medical Society, 1979

Nanci Medal for Research in Blood Rheology, 1980

The First Fahraeus Medal in Clinical Hemorheology, European Soc. for Hemorheology, 1981

Landis Award, Microcirculatory Society, 1983

Special Creativity Grant Award, NSF, 1985-1988

Research Achievement Award, Chinese American Academic and Professional Association, 1988

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

Best Paper Award in Journal of Biomech. Engineering, Am. Soc. Mech. Engineers, 1989, 1995

Melville Medal, Am. Soc. Mechanical Engineers, with Cheng Dong, Paul Sung, Geert Schmid-Schönbein, and Richard Skalsk), 1990

Zweifach Award, Vth World Congress for Microcirculation, 1991.

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

ALZA Award, Biomedical Engineering Society, 1993

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

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

Melville Medal, Am. Soc. Mechanical Engineers (2nd time, with Yaqi Huang and Sheldon Weinbaum), 1996
Life-time Achievement Award, Chinese-Am. Engineers & Scientists Assoc. So. Calif., 1998
National Health Medal, Department of Health, Taiwan, ROC, 1998
Ray Dags Award, American Physiological Society, 1999
Distinguished Service Award, Biomedical Engineering Society, 2001
Poiseuille Gold Medal, International Congress of Biorheology, 2002
Walter B. Cannon Lecture Award, American Physiological Society, 2003
Pierre Galletti Award, American Institute of Medical and Biological Engineering, 2004
Asian American Engineer of the Year, 2005
Founders' Award, National Academy of Engineering, 2006
Lifetime Achievement Award, Society of Chinese Bioscientists in American (SCBA), 2006
National Inst. of Biomedical Imaging & Bioengineering 5th Anniv. Recognition Award, 2007
San Diego Bio-Pharma Achievement Award, 2008
Asian Heritage Award for Excellence in Health and Medicine, 2011
Outstanding Alumnus, Peking University, 2012
National Inst. of Biomedical Imaging & Bioengineering 10th Anniv. Recognition Award, 2012
Roger Revelle Medal, University of California, San Diego, 2014
Special Guest, American Institute of Medical and Biological Engineering, 2015
AIMBE 25th Anniversary Special Recognition Award, 2016
Benjamin Franklin Medal in Mechanical Engineering, 2016
Outstanding Life Time Achievement Award, Asian Pacific American Coalition, 2016

Teaching Awards

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

Naming by Academic Organizations

Chien-Fung Award for Young Investigators, International Society for Biorheology, 1995
Shu Chien Class for Undergraduate students in College of Life Sciences and Technology, Huazhong Univ. Sci. Tech., Wuhan, China, 2010
Chien Journal for Bioengineering Undergraduate Students, 2013
Shu Chien Achievement Award, Cellular and Molecular Biomedical Engineering Group, Biomedical Engineering Society, 2014
Shu Chien Institute of Biomedical Engineering, Chongqing University of Science & Technology, 2014
Shu Chien Experimental Class, Chongqing University of Science & Technology, 2014
Shu Chien Class for students in 25th High School of Beijing, 2014

Honorary Doctor Degree

Honorary Doctor of Engineering, Chung-Yuan Christian University, Chung-li, Taiwan, 2006
Honorary Doctor of Science, National Taiwan University, Taipei, Taiwan, 2006
Honorary Doctor of Science, National Chiao Tung University, HsinChu, Taiwan, 2009
Honorary Doctor of Engineering, National Yang-Ming University, Taipei, Taiwan, 2009
Honorary Doctor of Engineering, Huazhong Univ. Science & Technology, Wuhan, China, 2011
Honorary Doctor of Science, Columbia University, New York, NY, USA, 2012

Honorary Professorship

Honorary Professor, Peking Medical University, 1995
Honorary Professor, Chongqing University, 1995
Honorary Professor, Microcirculation Laboratory, Chinese Academy of Medical Sciences, 1997
Honorary Professor, Peking University, 2005
Honorary Professor, JiaoTung University, Shanghai, China, 2006
Honorary Chair Professor, National Yang Ming Univ., Taipei, Taiwan, 2006
Honorary Chair Professor, Chung Yuan Christian Univ., Taipei, Taiwan, 2006
Honorary Chair Professor, National Chiao Tung Univ., HsinChu, Taiwan, 2006
Honorary Professor, China Medical University, Tai-chung, Taiwan, 2007
Honorary Professor, Beihan University, Beijing, China 2009
Honorary Professor, Yunyang Medical University, Shiyan, Hubei, China, 2009
Honorary Professor, Wuhan University, Wuhan, China, 2009
Honorary Professor, Huazhong Univ. of Science and Technology, Wuhan, China, 2009
Honorary Professor, Tsinghua University, Beijing, China, 2012
Honorary Professor, Xi' An Jiaotong University, Xi-An, China, 2012
Honorary Professor, Ching Hua University, HsinChu, Taiwan, 2013

Honorary Membership

Honorary Member, Shanghai Biophysical Society, 1995
Honorary Member, Sino-American Biotechnology and Pharmaceutical Association, 2002.
Honorary Member, Chinese Assoc. of Physiological Sci. (Beijing), 2003 (First in 60 years)
Honorary Member, Chinese Physiological Society (Taipei), 2004
Honorary Member, IEEE Engineering in Medicine and Biology Society, 2012

Named Lectureships and Visiting Scholarships

Distinguished Visiting Scientist, Albany Medical College, 1980
Nathanson Lectureship, University of Southern California, 1983
Distinguished Visiting Scientist, University of South Alabama, 1990
Vaishnav Lectureship, The Catholic University of America, 1992
SCBA Lecturer, Fifth International SCBA Symposium and Workshops, 1993
Distinguished Faculty Lecturer, University of California, San Diego, 1994
Merck Distinguished Lecturer, Rutgers University, 1994

Wellcome Professorship, Federation of American Societies for Experimental Biology, 1995
Honorable Visiting Scientist, National Science Council, ROC, 1995
Donald M. Nelson Lectureship, University of Missouri-Columbia, 1995
Borun Lecturer, University of California, Los Angeles, 1996
Molecular, Cellular and Physiological Biology Distinguished Lecturer, Univ. of Illinois, 1997.
Whitaker Distinguished Lecturer, University of Pennsylvania, 2000
Yehia Habib Honor Lecturer, Internat. Congr. of African Assoc. Physiological Sci., 2000
Distinguished Inauguration Lecturer, Dept. Biomed. Engineering, Columbia Univ., 2000
Distinguished Lecturer in Biomedical Engineering, Stanford University, 2001
Zweifach Memorial Lecturer, City College of New York, 2001
Llewellyn Thomas Lecturer, University of Toronto, 2004
Shapiro Lecturer, Massachusetts Institute of Technology, 2005
Zhu Kezhen Distinguished Lecturer, Zhejiang University, Hangzhou, China, 2005
Distinguished Cardiovascular Lecturer, UCLA, 2006
President Award Lecturer, National Yang Ming Univ., Taipei, Taiwan, 2006
Hugh Sinclair Lectureship, British Atherosclerosis Soc. & British Soc. Cardiovasc. Research, 2006
Leonard Share Distinguished Lecturer, University of Tennessee Health Science Center, 2006
National Health Research Institutes Special Award Lectureship, Taiwan, 2007
Inaugural Distinguished Speaker Series, University of California, Riverside, 2007
Petit Distinguished Lecturer, Inst. 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, Wash., DC, 2008
Medtronic Lectureship, Inauguration of Oxford Institute of Biomedical Engineering, UK, 2008
LEE Kwan Yew Distinguished Lectureship, Singapore, 2008
PRISM Lecture, Department of Medicine, UCSD, 2009
Vollmer Fries Lecture, Rensselaer Polytechnic Institute, 2010
Fred S. Grodins Keynote Lecture, University of Southern California, 2010
Distinguished Speaker, University of Miami College of Engineering, 2011
Franklin Lecture, University of Missouri, Columbia, Missouri, 2011
Richard Skalac Memorial Lecture, University of California, San Diego, 2012
Herman Schwan Lecturer, University of Pennsylvania, 2013
Distinguished Visiting Scholar of United College, Chinese University of Hong Kong, 2013
Christie Lecture, Johns Hopkins University, 2014
Ka Ping TIN Lecture, National Chiao Tung University, 2015
Zhu Kezhen Distinguished Lecturer, Zhejiang University, Hangzhou, China, 2015 (2nd time)

Keynote and Plenary Lectures (since 2007)

Keynote Lecturer, Federation Meeting, Taiwan, 2007
Plenary Speaker, Shanghai Bio-Forum, Shanghai, China 2008
Keynote Lecturer, Am. Society of Engineering Education, Pacific Southwest Conf., 2009

Keynote Lecturer, Carnegie Mellon Univ. Biomed. Eng'g. Biotec. Research Symposium, 2009
 Keynote Lecturer, Chinese Am. Faculty Assoc. of Southern Calif., 39th Convention, 2010
 Keynote Speaker, Wellcome Trust/Oxford Inst. Biomed. Engineering, Oxford, UK 2010
 Keynote Speaker, Ohio Physiol. Soc. & Dept. Physiol., Case Western Reserve Univ., 2010
 Plenary Lecturer, International Conf. Cellular and Molecular Engineering, Singapore, 2010
 Plenary Lecturer, 5th Frontiers in Medical Devices Conference, ASME, 2010
 Plenary Speaker, Internat. Forum on Sci. & Tech. Coop., Hangzhou, Zhejiang, China, 2010
 Plenary Lecturer, 5th Conf. Chongqing Biomed. Engineering Soc., Chongqing, China 2010
 Plenary Lecturer, 30th Anniv. of Chinese Biomed. Engineering Soc., Beijing, China 2010
 Plenary Speaker, 5th World Congress on Bioengineering, 2011
 Plenary Lecturer, 7th Congress of Federation of Asian & Oceanian Physiol. Societies, 2011
 Keynote speaker, ROC Annual Symposium of Biomedical Engineering, 2012
 Keynote speaker, Southern California Chinese Scholars Association, 2013
 Keynote Lecturer, Atlanta Clinical & Translational Science Institute, 2012
 Plenary speaker, San Diego Chinese American Science and Engineering Association, 2012
 Keynote Lecturer, Don Giddens Symposium, 2012
 Plenary Lecturer, International Conference Physiological Sciences 2012
 Plenary Speaker, 9th World Congress on Biomaterials, 2012
 Keynote Speaker, Georgia Regents University Annual Graduate Research Day, 2013
 Featured Speaker, Taiwan Society of Cardiology, 2013
 Keynote Speaker, 6th WACBE World Congress on BioEngineering 2013
 Plenary Speaker, Formosan Medical Association, 2013
 Plenary Lecturer, BMES Cellular & Molecular Biomedical Engineering Conference, 2014
 Plenary speaker, 29th Joint Association of Biomedical Science Symposium (Taipei), 2014
 Keynote speaker, Frontiers in Bioengineering Symposium, University of Illinois, 2014
 Keynote speaker, Asian Pacific Medical Student Symposium (Taipei), 2015
 Keynote Speaker, Lim-Wang Symposium (Taipei), 2015
 Plenary Speaker, **Peking Univ. Alumni Assoc. Southern Calif. 30th Anniversary (LA), 2015**
 Plenary **Speaker**, Scholars in BioMedical Scis Symp, State Univ. NY, Stony Brook, 2015
 Master Lecturer, The Investigator: Biosciences Honor Society Taiwan (Taipei), 2006
 Commencement Speaker, Pennsylvania State University College of Engineering, 2016
 Keynote Speaker, Taiwan Biomedical Technology Summit Forum, Taipei, 2006

Services in Scientific Organizations

The Microcirculatory Society: President, 1980-1981.
 National Institutes of Health: NHLBI Program Project Grant Review Committee B, 1977-1981;
 Member, Center for Scientific Review Advisory Committee, 1998- .
 American Chinese Medical Society: President, 1978-1979
 Chinese American Academic and Professional Society: President, 1979-1980
 International Society of Biorheology: President, 2005-2008

North American Society of Biorheology: Chairman, Steering Committee, 1985-1986
American Physiological Society: President, 1990-1991
Federation of American Societies for Experimental Biology (FASEB): President, 1992-1993.
The First World Congress of Biomechanics, Co-chair with Richard Skalak, 1990
Inst. of Biomedical Sci., Academia Sinica, Taiwan, ROC: Chair, Advisory Comm., 1991-2009
National Health Research Institute, Taiwan, ROC: Chairman, Advisory Committee, 1991- .
Biomedical Engineering Society: 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 Inst. Advanced Interdisciplinary Research, Japan, 1998-2000
International Union of Physiological Sciences: Treasurer, 1998-2001
American Institute for Medical and Biological Engineering (AIMBE) President, 2000-2001
National Academy of Engineering, Chair, Section 2 Peer Committee, 2001-2002
International Congress of Physiological Sciences: Chair, Organizing Committee, 2001-2005
National Univ. Singapore (Tissue Engineering Program, Member, Advisory Board, 2004-2006.
Chair, International Congress of Biorheology, Chongqing, China, 2005
Chair, International Congress of Physiological Sciences, San Diego, CA, 2005
Chair, Advisory Board, Institute of Digital Medicine, Jiao Tung Univ., Shanghai, China, 2006-
Chair, Review Committee, National Taiwan University Institute of Physiology, Taipei, 2006
Chair, Review Committee, National Yang-Ming University, Taipei, Taiwan, 2006
Chair, Review Committee, National Health Research Institutes, Zhunan, Taiwan, 2007-
Biomedical Engineering Society: President, 2006-2008.
Member, Advisory Comm., Oxford Univ. Institute of Biomedical Engineering, 2009-
Member, Advisory Committee, University of Carlos III, Madrid, Spain, 2010-
Member, Advisory Committee, Brain and Mind Institute, National Taiwan Univ., 2010-
Co-Chair Academic Technical Program, Wireless Health 2010 Congress, 2010- 2012
Honorary Chairperson, 7th Congr. Federation of Asian & Oceanian Physiol. Societies, 2011
Chief Engineer, San Diego Science and Engineering Festival, 2012-
Chair and Moderator, Tang Prize Bio-Pharmaceutical Prize Lecture, EB 2015, 2016

Publications: See List of Publications. (14 books and over 580 full-length papers in peer-reviewed scientific journals, as well as other articles on public affairs, etc.) H-index:113.