

## Curriculum Vitae

### Kai-Nan An, Ph.D.

**Office:** Biomechanics Laboratory, Division of Orthopedic Research  
 Mayo Clinic  
 200 First Street, S.W.  
 Rochester, MN 55905 USA

**Present Position:** Emeritus, Department of Orthopedic Surgery, Mayo Clinic; Supplemental, Department of Orthopedic Surgery and Department of Physical Medicine and Rehabilitation, Mayo Clinic  
Professor of Bioengineering, Mayo Medical School

<b>Education: Institution and Location</b>	<b>Degree</b>	<b>Year Conferred</b>	<b>Field of Study</b>
National Cheng-Kung University, Taiwan, Republic of China	B.S.	1969	Mechanical Engineering
Lehigh University, Bethlehem, PA	M.S.	1972	Applied Mechanics
Lehigh University, Bethlehem, PA	Ph.D.	1975	Mechanical Engineering and Applied Mechanics

### License:

Engineering-in-Training of Professional Engineers in Pennsylvania

### Patents:

US Patent 6,668,688 - Expandable Screw Apparatus and Method  
 US Patent 7,060,066 - Spinal Fixation Support Device and Methods of Using  
 US Patent 8,211,180 - Temporomandibular Joint Fossa-Eminence Prosthesis  
 US Patent 8,216,148 - Doppler Ultrasound for Identifying Material Properties of a Carpal Tunnel Anatomy  
 US Patent 8,894,707 - Tendon or Ligament Tissue Engineering  
 US Patent 8,900,319 - Acetabular Cup Prosthesis  
 US Patent 8,795,181 - System and Method for Non-Invasive Measurement of Carpal Tunnel Pressure  
 US Patent 9,125,615 B2 – System and Method for Non-Invasive Measurement of Carpal Tunnel Pressure  
 US Patent 9,301,844 B2 – Acetabular Cup Prosthesis  
 US Patent 10,736,621 - System and Method for Monitoring of A Mechanical Force  
 US patent 10,842,915 – Hip implant Excera Orthopedics Inc

### Research and Professional Experience:

	<b>Years</b>
Emeritus Professor, Department of Orthopedic Surgery, Mayo Clinic	2014-Present
Supplemental Staff, Department of Orthopedic Surgery, Mayo Clinic	3/2015-Present
Supplemental Staff, Department of Physical Medicine & Rehabilitation, Mayo Clinic	5/2017-5/2019
John and Posy Krehbiel Professor of Orthopedics, Mayo Medical School	1993-2014
*Consultant, Department of Physiology and Biomedical Engineering	2004-2014
Chair, Division of Orthopedic Research, Department of Orthopedics, Mayo Clinic	1993-1/2005
Director, Biomechanics Laboratory, Department of Orthopedics, Mayo Clinic	1992-2014
Adjunct Professor, Department of Orthopedic Surgery, Texas Tech University Health Sciences Center	1988-1992
Professor of Bioengineering, Mayo Medical School	1988-2014
Associate Professor of Bioengineering, Mayo Medical School	1984-1988
Assistant Professor of Bioengineering, Mayo Medical School	1980-1984
*Consultant, Division of Orthopedic Research, Mayo Clinic	1980-2014
Associate Consultant, Orthopedic Research, Mayo Clinic	1978-1980
Research Associate, Orthopedic Research, Mayo Clinic	1975-1978
*Joint Appointment	

**Honors:**

TSB Life Achievement Award, Taiwan Society of Biomechanics	October 2017
Distinguished Alumni Award, Mayo Clinic	2016
The Muybridge Award, International Society of Biomechanics	July 2015
CORR-ORS Richard A. Brand Award "Engineering Flexor Tendon Repair with Lubricant Cells and Cytokines in a Canine Model" as Coauthor, Orthopedic Research Society	February 2014
The Emanuel Kaplan Award for Anatomical Excellence, The New York Society for Surgery of the Hand, and the American Society for Surgery of the Hand	October 2010
The Ian Kelly Best Paper Award, International Congress on Shoulder & Elbow Surgery	September 2010
Wartenweiler Memorial Lecture, International Society of Biomechanics	July 2007
Aircast Award for Clinical Science Presentation, American Orthopaedic Society of Sports Medicine (AOSSM)	July 2007
Fellow, American Society of Mechanical Engineers	2007
Mayo Distinguished Investigator Award	2005
Borelli Award, American Society of Biomechanics	2005
You-Li Chou Medal, Taiwanese Society of Biomechanics	2003
Distinguished Visiting Professor, National University of Singapore	1998
Distinguished Alumnus Award, National Cheng-Kung University	1996
Fellow, American Society of Biomechanics	1996
Neer Award, American Shoulder and Elbow Surgeons	1992
American Society for Surgery of the Hand, Best Scientific Poster Exhibit Award, 1989 Annual Meeting	1989
American Orthopaedic Society for Sports Medicine, Research Award	1989
American Orthopaedic Society for Sports Medicine, Research Award	1986
American Orthopaedic Society for Sports Medicine, Research Award	1985
Neer Award, American Shoulder and Elbow Surgeons	1985
Kappa Delta Award, American Academy of Orthopaedic Surgeons	1984
Phi-Tau-Phi, Scholastic Honorary Society	

**Societies and Committees:**

Extramural:

Medical Rehabilitation Research Subcommittee member, NICHD	1997-2001
Chinese Speaking Orthopaedic Society, Board of Directors	1997-Present
Orthopaedic Research Education Foundation, Career/Residents Award Peer Review Committee, Co-chairman	1995-2001
American Society of Biomechanics, President	1995-1996
American Institute for Medical and Biological Engineering Founding Fellow	1993-Present
NIH, National Institute of Arthritis, Musculoskeletal, and Skin Diseases, Study Section Member	1991-1995
Orthopaedic Research Society; Board of Directors and Chairman, Membership Committee	1990-1993
American Shoulder and Elbow Surgeons; Affiliate Member	1988-Present
Rocky Mountain Bioengineering Society, Board of Directors	1988-2001
American Shoulder and Elbow Surgeons; Research Committee	1988-1993
American Shoulder and Elbow Surgeons, Research Committee	2002-2004
American Society of Biomechanics; Member	1981-2014
American Society of Biomechanics; Emeritus Member	2015-Present
Sigma Xi Research Society, Member	1978-Present
Orthopaedic Research Society, Member	1976-Present
American Society of Mechanical Engineers, Member	1975-Present
World Association for Chinese Biomedical Engineers, Advisory Board Member	2007-Present
National Health Research Institute, Division of Medical Engineering Research, Advisory Board Member	2008-Present

College of Center for Scientific Reviewers, National Institutes of Health, DHHS Member/Reviewer	2010-Present
Research Grants Council of Hong Kong, Biology & Medicine Research Panel	2010-Present
NIH Director's New Innovator Award Program, Phase 1 Reviewer	2013-Present

Intramural:

International Education Committee, Member	1991-1998
Orthopedic Research Committee, Member	1980-Present
Rochester Career Development Subcommittee, Member	2007-Present

**Journal Responsibilities:**

Journal of Orthopaedic Translation, Advisory Board	2013-Present
Journal of Mechanics in Medicine and Biology, Advisory Board	2011-Present
Journal of Biomechanics, Editorial Advisory Board Member	2009-Present
Journal of Medical and biological Engineering-co-Editors in Chief	2014-2020
Orthopedic Research and Reviews, Honorary Editorial Board Member	2009-2014
Journal of Orthopaedic Surgery and Research, Editorial Board	2006-2013
Journal of Rehabilitation Research and Development, Editorial Board	1999-2006
Journal of Musculoskeletal Research, Editor-in-Chief, North America	1997-2014
Clinical Biomechanics, Editorial Board	1997-2014
Journal of Orthopaedic Research, Associate Editor	1994-2013
Journal of Biomechanical Engineering, Associate Technical Editor	1994-1999
Journal of Biomechanics, Editorial Consultant	1993-1998
Journal of Electromyography & Kinesiology, Editorial Board	1995-1998
Journal of Shoulder and Elbow Surgery, Research Advisory Board	1991-1997

**Publications: Papers/book chapters: 940**