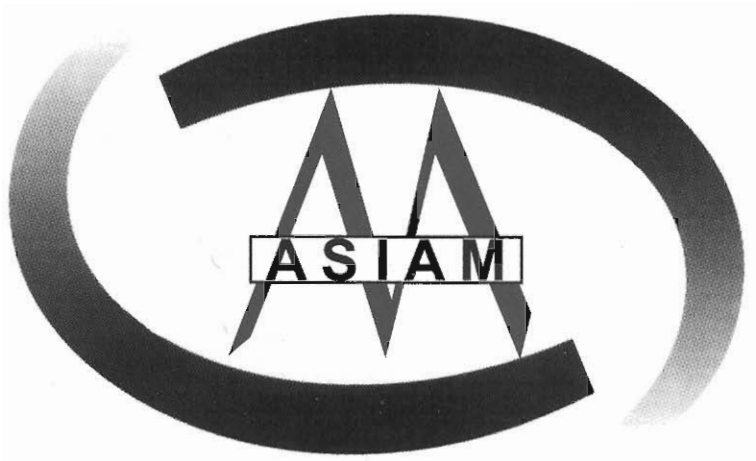



# *Asian ♦ American Institute for Research and Education*

# History

Dr. Savio L-Y. Woo received the International Olympic Committee's 1998 Olympic Prize for Sports Science endowed by Parke-Davis in recognition of the contributions to the science of sports medicine by him and his colleagues. The majority of the $250,000 prize money was donated by Dr. and Mrs. Woo and in combination with the generous donations and support from all board members to establish the Asian♦American Institute for Research and Education, or ASIAM in July 1997.

ASIAM was a way for Dr. Woo and his colleagues, research fellows, residents, students and friends to give something back to the fields of Orthopaedic Surgery and Biomedical Engineering through research and education. We envision the development of young talent through the funding of international research fellows and students. With ASIAM, we hope to accelerate the advancement of the treatment of musculoskeletal injuries and diseases through research in the areas of Orthopaedics and Sports Medicine.

# Mission

To benefit mankind through the funding of research and education and to educate young people in research and clinical management of musculoskeletal injuries & diseases

# Goals

- ASIAM will benefit mankind through the funding of research and education and encourage young investigators to enter the field of musculoskeletal research.
- ASIAM should develop a network amongst the leading investigators around the world in this field so that ASIAM can enhance bright young stars in our field and help to educate them properly.
- ASIAM will pay special attention to recruit international research scholars to come for collaboration with American investigators.
- ASIAM will make special efforts to establish an international exchange program and support research to be done at many institutions.
- ASIAM will play a role in the Bone & Joint Decade (2000 - 2010) as declared by the American Academy of Orthopaedic Surgeons.
- ASIAM will help with the development and identification of key topics for ligament and tendon research.
- ASIAM will continue to work with industry so that it can generate funding for supporting research and education of fellows and students.

# ACTIVITIES

- Funded students to attend National Scientific Conferences
  - 30 students at the 1999 American Society of Biomechanics Meeting
  - Yue Mary Yang, Medical Student, University of Pittsburgh (2001)
  - Sunny Cheung, Medical Student, University of Pittsburgh (2002)

- Funded the International Symposium on Ligaments and Tendons (ISL&T) for 6 consecutive years

- Funded the Asian Pacific American Medical Student Association (2000 - 2005)

- Funded 10 international orthopaedic post-doctoral research fellows

  University of Pittsburgh
  - Dr. Christos Papageorgiou (Greece)
  - Dr. Nobuyoshi Watanabe (Japan)
  - Dr. Yukihisa Fukuda (Japan)
  - Dr. Sinan Karaoglu (Turkey)

  Stanford University
  - Dr. Huang Dong-Sheng
  - Dr. Rolando Angelo Tongson Ochoa
  - Dr. Jose Fernando Syquia
  - Dr. Srihatach George Ngarmukos
  - Dr. Ma Ruo-Fan
  - Dr. Aasis Unnanuntana

- Funded 3 graduate students

  University of Pittsburgh
  - Ms. Xiaoyan Zhang
  - Ms. Erica Xin Guo

  University of California, Irvine
  - Mr. Bong-Jae Jun

- Funded 3 undergraduate students from the University of Pittsburgh
  - Mr. Jorge Gil
  - Mr. Charles Vukotich
  - Mr. Robert Svitek

- Funded the University of Pittsburgh's Orthopaedic Resident Education program (2000 - 2001)

- Funded the symposium entitled "Bioengineering at the Dawn of the 21st Century" in Pittsburgh, PA (2001)

- Supported Tsunami victims through a donation to the Asian Pacific Orthopaedic Association (2005)

- Supported the Orthopaedic Surgery Exchange Program between Stanford University and Hospitals in the People's Republic of China (2002-2005)

- Received Grants from Steadman-Hawkins Research Foundation, Smith & Nephew, Matsumoto Medical Instruments, Aircast, Inc., Depuy Orthopaedics, Inc. and Niarchos Foundation.

# Stanford University Orthopaedic Surgery Exchange Program

The orthopaedic surgery exchange program between Stanford University and hospitals in the Asia Pacific Region officially began in 1995. Through this program, Dr. Christopher Mow brings two bright young orthopaedic surgeons from throughout Asia to Stanford University Medical Center for one year for advanced training and research work.

When in Asia, the program is devoted to the exchange of knowledge and experience between orthopaedic surgeons and nurses through hospital visits, surgical cases and symposiums. This program is supported by generous donations from both industry and private individuals. The program has accelerated the advancement of the treatment of arthritic conditions in the Asia-Pacific region, as well as, much needed direct medical relief aid.

# Funding of Orthopaedic Research Fellows

***Dr. Sinan Karaoglu and Dr. Ozgur Dede***

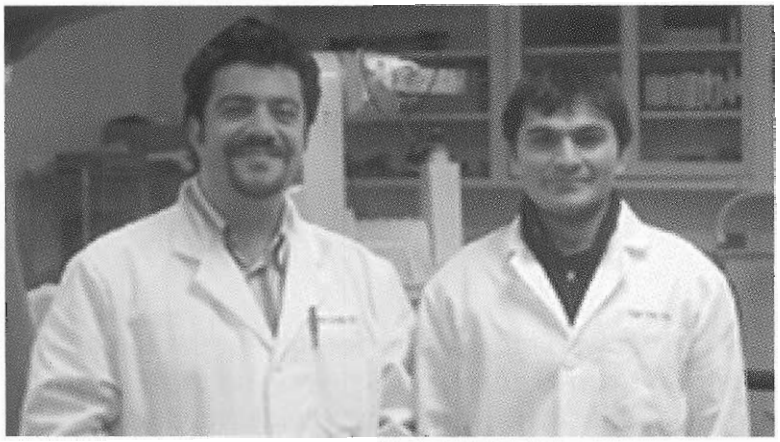
Dear Friends,

After our arrival in Pittsburgh for a two year research-fellowship, we perceived that biomechanics should be more deeply studied in Turkey. With this article (letter), we intend to inform our peers, who wish to get more knowledgeable and do some research on biomechanics.

We have been working at the MSRC (Musculoskeletal Research Center), which is an orthopaedic research laboratory at the University of Pittsburgh since 1990. A variety of projects are going on in collaboration with different departments. The Director is Savio L-Y. Woo, PhD, DSc. The center has 3 full time faculty, 7 staff, 12 graduate and undergraduate students (biomechanics), and 11 research fellows (mostly orthopaedic surgeons and residents). The MSRC also collaborates with several labs within and outside the USA. Because of these factors, the MSRC can be called an international lab. Two of the current fellows are from Turkey, while others are from USA, Italy, Germany, Taiwan, China and Japan.

Savio L-Y. Woo, PhD, DSc is a very good researcher on biomechanics and functional tissue engineering, as well as, he is a very skilled mentor and teacher. Over 100 young orthopaedic surgeons have been educated at the MSRC. Also, many from our country have worked at the MSRC. Nowadays in collaboration with Prof Dr M N Doral, a study group is being formed namely WISYR (Woo's International Society for Young Researchers). With this foundation, the aim is to support and provide both scientific and social communication among the researchers who were educated at the MSRC.

The MSRC has three main study groups: ACL, MCL and Shoulder groups. Each group involves clinicians, biomechanical engineers and computer specialists. Studies are about both the normal and pathological behaviors of musculoskeletal tissues since most of the time



we need to know the normal behavior of a tissue to solve the pathological condition. Studies are in a spectrum of microscopic work to joint level work. For example, while the effects of double bundle ACL reconstruction is being studied with robotic tests on cadaveric human knees, one other group works on techniques to enhance tissue and ligament healing. There are 5 distinct labs in the MSRC set-up: Mechanobiology lab, Tissue Mechanics lab, Shoulder lab, ACL and Robotics lab and Computational lab. One other characteristic of the MSRC, is that the projects and proposals are carefully scrutinized in a number of meetings on a weekly basis. Proposals are criticized harshly before they become projects and the ones which will not have a contribution to Orthopaedic knowledge are cancelled. The ideas and feedbacks from the meetings help the project to be well established and to be with less technical weaknesses. And as a reward the studies make it to important congresses like Orthopaedic Research Society (ORS) and International Society of Arthroscopy, Knee Surgery and Orhopaedic Sports Medicine (ISAKOS), and become journal articles in journals like American Journal of Sports Medicine (AJSM) and Journal of Orthopaedic Research (JOR).

MSRC has nearly 60 papers published in the last 10 years from the studies done using robotic technology. Most of them are about ACL. Nowadays, the interest is on finding the most suitable fixation angles to create the construct which will provide the most near-normal kinematics to the knee. The center owns two robots one of which has been used for over 10 years, and the other being a new robot which can apply higher loads. With the Universal Force Moment Sensor (UFS) added to the system, the robot can detect the force distribution among the structures of the knee joint with a very low error. It has mainly two modes one of which is force control and the other is position control. In a standard study, first force control is applied to collect the kinematics of the joint. After that, a position control is done as a replay and the force in the joint is recorded. With this protocol, the forces in the ligaments of the joint can be recorded after making changes on the ligaments (transection, reconstruction). This method gets the forces and kinematics without touching the structures of the knee and this is a huge advantage since it eliminates the effect of contact on forces. And since it can do as many replays as the researcher needs, the same knee can be used to compare the changes made, and this eliminates the individual variation which increases the statistical power.

One of the major interests of the MSRC is biomechanics and tissue engineering of ligaments and tendons or called functional tissue engineering. Use of biological scaffolds and cell seeding are being utilized to enhance soft tissue healing. The final aim is, of course, to perfect the healing after ligament-tendon surgeries and ligament reconstructions. The studies with Small Intestinal Submucosa (SIS) seems promising and the MSRC won the Achilles Award at the last ISAKOS congress in Florida for the current study on this field.

We would like to mention Prof Dr Alp Goksan for his studies on biomechanics in Turkey. However, I think it is our duty to move these studies forward. We would like to acknowledge our thanks and appreciation to our Professors who supported and encouraged us to come here for research, and to fellow friends who previously worked in Pittsburgh for giving pointers about the city.

Doç Dr Sinan Karaoglu
Dr. Özgür Dede

# Mr. Sunny Cheung's Report from the Annual Meeting of the International Society of Fracture Repair in Toronto, Canada from October 9-11, 2002

Dear Dr. Woo,

Thank you for providing financial support that allowed me to go to Toronto for the 8th annual ISFR meeting. I presented my project entitled "Non-Unions and Smoking on the Efficacy of Two Demineralized Bone Matrix /Allograft Composites" during the clinical studies podium sessions. It was well-received, and at the end of the talk, there was a 5 minutes of discussion in which other orthopedic surgeons from the UK also agreed with our assessment that various commercial bone graft DBM's may not necessarily share the same efficacy.

The experience of delivering a powerpoint presentation in front of numerous well-known international doctors and basic scientists was both very thrilling and scary. I certainly learned a lot, not only about orthopedics, but also about general scientific principles (such as statistics, controls) as well as the asthetics of making a good slideshow.

Besides delivering the podium presentation, I also had a chance to look at the various posters and spoke with various other scientists in the field of bone healing. It seems that the "hot" trend in research is looking at BMP-7 as a good osteoinductive factor, with a role in facilitating faster fracture and non-union healing. Other current trends in bone healing include an emphasis on VEGF and various angiogenic factors, since a well-vascularized fracture site will heal far faster. From talking with other international surgeons, I also learned about the concept of "dynamism" in external fixation; it seems that controlled instability in rigid ex-fix devices actually promote faster callous formation and hence faster healing during weight-bearing. This is a rather counter-intuitive concept which has only been recently adopted among US surgeons.

Toronto was a fabulous city. Although I only stayed one night, I was able to explore around for a little bit and found it to be a clean, safe, yet cosmopolitan city. The seafood was also quite inexpensive as well.

In summary, I had a very good experience with the ISFR, as giving podium presentation was less stressful and more enjoyable than I had thought. I thank the ASIAM institute for generously providing the funds that defray the cost of attendance and travel expenses.

Yours,

Sunny Cheung MS III
10/12/03

# Ms. Xiaoyan Zhang's Report

## How Happy I Am Working in the MSRC!

I was born in Yichun, a beautiful and quiet city in China in 1975. I went to Tongji University and got my bachelor's and master's degrees in material science and engineering in 1996 and 1999, respectively. After that I worked in a nondestructive testing company as department manager. After five years of hard work, I found that my interest was still in academic research. So I went back to my mother school, Tongji University, for my Ph.D in biomedical engineering in March 2004. That was really a big turning point for me.

Then, Dr. Woo, an honorary professor at Tongji University, and my tutor, Dr. Jiang, met at 26th IEEE/EMBS meeting in California in September 2004. In that meeting, they decided to collaborate. Based on my engineering background and maybe somewhat trust in me, Dr. Jiang selected me to come to MSRC to do research and finish my Ph.D thesis experiment part, then return to China to defend. Tongji University and ASIAM co-sponsor my support. How honored and excited I am to accept this opportunity!

Now, I have been a member in MSRC for more than two months. Here the warm-hearted people, rigorous research attitude, free and open academic communication, and advanced instruments impress me deeply. Everything is well organized. Everyone takes his responsibility and shares with each other. I am interested in tissue mechanics and joint kinematics. I am very happy that Dr. Woo arranged for me to be involved in one of the detail research projects rapidly. Yet I need to read more relative literature and get familiar with experiment protocols. Little by little, I will learn more and be able to contribute. I am eagerly waiting for that day!

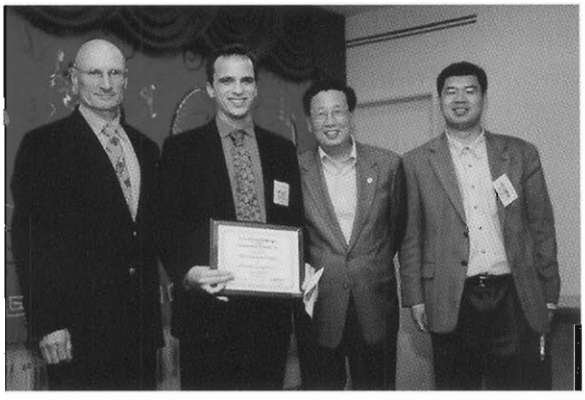
I am so happy to be working here! Many thanks toTongji University, MSRC and ASIAM!

Xiaoyan Zhang
18 Oct., 2005

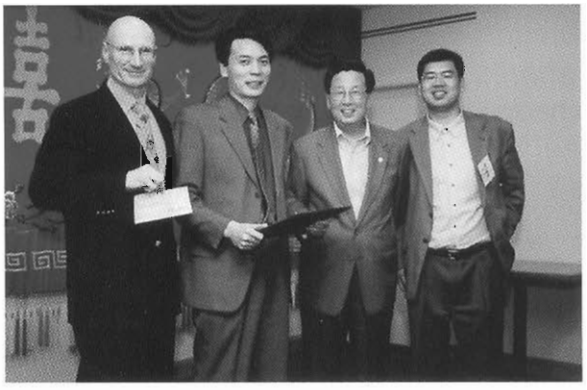
# International Symposium on Ligaments & Tendons

The 4th International Symposium on Ligaments & Tendons took place in San Francisco, CA, in March 2004.

Sitting: Dr Steve Arnocsky, Mr Michael Lavagnino, Dr Lars Engebretsen, Dr Zong-Ming Li
Standing: Dr Kevin Armstrong, Dr Woo, Dr David Butler, Dr Giuliano Cerulli



"Best Student Paper Award"
Dr Al Banes, Mr Michael Lavagnino, Dr Woo, Dr Zong-Ming Li



"Best Research Fellow Paper Award"
Dr Al Banes, Dr Chungfeng Zhao, Dr Woo, Dr Zong-Ming Li

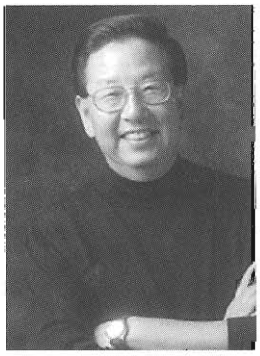

Dr Woo and Dr Ejnar Eriksson

The 5th International Symposium on Ligaments & Tendons took place in Washington D.C., in February 2005

Sitting: Dr Steve Abramowitch, Dr Thay Lee, Dr Christos Papageorgiou
Standing: Dr Fabio Vercillo, Dr Kazutomo Miura

Sitting: Dr Toru Fukubayashi, Ms Yukiko Makihara
Standing: Dr Woo, Dr Guoan Li

# Board Members



## Savio L-Y. Woo, Ph.D., D.Sc.

*President*

W.K. Whiteford Professor and Director
Musculoskeletal Research Center
Department of Bioengineering
University of Pittsburgh

Dr. Woo is the W.K. Whiteford Professor of Bioengineering and the Founder and Director of the Musculoskeletal Research Center (MSRC), a diverse multidisciplinary research and educational center in the Department of Bioengineering at the University of Pittsburgh where over 450 orthopaedic surgeons, bioengineering students and staff have studied and worked. Dr. Woo's research interests include biomechanics; experimental, theoretical and numerical analyses of the nonlinear material properties of biological tissues and new viscoelastic analysis and theories for soft tissue; homeostasis of ligaments and tendons secondary to decreased as well as increased levels of applied stress and motion, and the effects of stress and motion on healing and repair of the tendon, ligament and meniscus. In the last 35 years, Dr. Woo's research has focused on knee ligament healing and repair, MCL and ACL in particular. More recently, his work centers on functional tissue engineering of ligament healing and regeneration by examining the processes from molecular to cellular to tissue levels, as well as the use of robotic technology to examine the function of ACL and MCL replacement grafts. Dr. Woo has been elected to the Institute of Medicine, the National Academy of Engineering and Academia Sinica. In 1998, he was the winner of the IOC Olympic Prize for Sports Medicine and the first Olympic Gold Medal in Nagano, Japan. Dr. Woo has been awarded several other high honors in his field of biomechanics, including the H.R. Lissner Award (ASME), the Giovanni Borelli Award (ASB), the Muybridge Medal (ISB), and the Robert Henry Thurston Award (ASME). Additionally, Dr. Woo has received many honorary professorships at such international universities as Tongji University, Sichuan University and Fudan University, all in China. He has presented several keynote lectures at such prestigious events as the 2003 Opening Ceremonies of the VII International Olympic Committee World Congress in Athens, Greece, 250th Anniversary Lecture at Columbia University in 2004, the BMES Distinguished Lecturer at the Summer Bioengineering Meeting in 2005 and the Distinguished Guest Lecturer at the Herodicus Society Annual Meeting in 2005.

## Gregory J. Carlin, M.S., J.D.

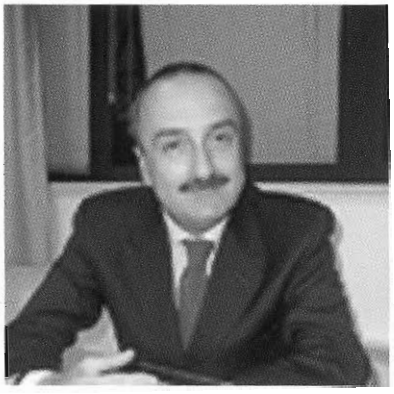
Associate Attorney
Alston & Bird LLP

Mr. Carlin is now a senior associate with Alston & Bird in Charlotte, North Carolina. Greg is licensed to practice before the U.S. Patent and Trademark Office and concentrates his practice on mechanical, business method, and biomedical device patent solicitation. To this end, Mr. Carlin has successfully filed and prosecuted dozens of patents in each of these areas. More specific examples within these areas include securities trading systems, package delivery systems, medical devices for controlling limb ischemia, orthopaedic braces, high-throughput biological testing machinery, aerospace propulsion systems and turbo compressors for automotive applications. Beyond prosecuting patent applications, Greg also has extensive experience advising clients on validity and infringement issues.

Greg is preparing an article for *MX Magazine* (formerly *Medical Device Executive Portfolio*) on solutions to common problems with inventorship and ownership of patents encountered in the medical device area. In particular, the article addresses the scenario in which an independent physician sells an invention to a corporation and later improvements are made to the invention by the corporation's employees. The article should be completed and published by the 2005 ASIAM meeting.

In other news, Greg continues as the Chairperson for Community Services of the Young Lawyer's Section of the Meckleburg County Bar Association. So far this year, he has coordinated a clothing drive to help a local shelter, an end of grade testing pep rally for a local grade school having a largely disadvantaged student body and the Holiday Giving Tree which provides holiday gifts for several hundred poor children and the elderly.

On a personal note, Greg has expanded his horizons in the past year by traveling on holiday to Reykjavik, London, Munich and Verona. Notably, all of these places are pretty exotic for a guy who did not know how to book a plane flight until he worked with Dr. Woo.



## Giuliano Cerulli, M.D.

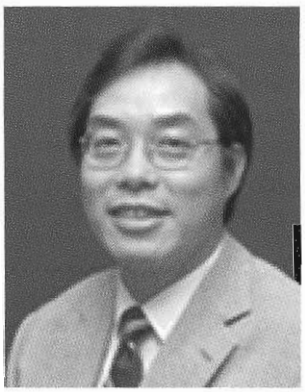
President, Let People Move
Professor and Director of Orthopaedic and
Traumatologic Departments
University of Perugia

Dr. Cerulli received his M.D. at the University of Perugia in 1971, followed by a Residency in Orthopaedics and Traumatology in Physical Medicine and Rehabilitation and in Sports Medicine, achieved at the Catholic University of Rome in 1974. Since January 1, 2004, he is Director of the Orthopaedic and Traumatologic Dept. of the University of Perugia. He is also Chief of the Orthopaedics and Traumatology Residency Program and of the Physical Medicine and Rehabilitation Residency Program.

He is an expert in clinical biomechanics of the locomotor apparatus and has carried out many studies, in particular for the analysis of some sport specific gestures such as football, basketball, and volleyball. Dr. Cerulli has been one of the first, on an international basis, to support the importance of a not only clinical-morphological-instrumental evaluation, but also a functional, dynamic one of the locomotor apparatus. He developed innovative arthroscopic surgical techniques (knee, shoulder, ankle) and was the first to support the utility of an arthroscopic surgical treatment (through a personal technique) for the acute anterior traumatic shoulder dislocations. He has recently developed the "all-inside" technique for the ACL reconstruction and was the first in Italy to make arthroscopic operations for the lumbar hernia

Dr. Cerulli cooperates in scientific researches of sport movements' biomechanics analysis with Professor S.E. Eriksson (Sweden) and M. Lamontagne (Canada), with whom he created "Let People Move", one of the most appreciated Biomechanical Laboratories in Italy. He is busy in basic and clinical researches of cartilage lesions in cooperation with the University of Umeå, Sweden and with the Clinical Surgical Veterinary Institute, University of Perugia. Dr. Cerulli is also currently busy in basic researches of gene therapy and growth factors in the knee ligaments and in studies to develop a bioactive ligament.

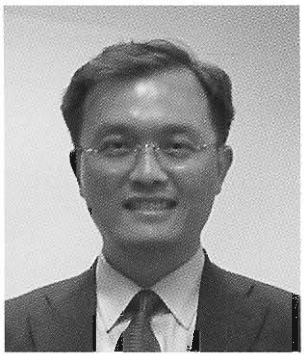
Dr.Cerulli is President of SIGASCOT (Italian Society of Knee Surgery, Arthroscopy, Sports Traumatology, Cartilage and New Orthopaedic Technologies) and former President of EFOST (European Federation of Sports Orthopaedics and Traumatology National Societies) and SI.TRA.S (Italian Society of Sports Traumatology). Up to today, Dr. Cerulli has performed more than 18,340 surgical operations, has participated in 825 congresses, and has published over 295 scientific papers.



## Kai-Ming Chan, M.D., Ph.D.

Chair Professor and Chief of Service
Department of Orthopaedics and Traumatology
Prince of Wales Hospital
The Chinese University of Hong Kong

Dr. Chan is the Chair Professor and Chief of Service in the Department of Orthopaedics and Traumatology, Prince of Wales Hospital, The Chinese University of Hong Kong. He is also presently the Director of the WHO Collaborating Centre for Sports Medicine and Health Promotion. He received his medical degree from the University of Hong Kong in 1975. Professor Chan is internationally recognized for his expertise in orthopaedic sports medicine. He has published over 110 articles in peer review journals, edited 46 books and monographs and more than 300 abstracts. His main research areas are sports injuries and rehabilitation, arthroscopic surgery, basic science research in muscle and tendon injuries. Currently, he is the Vice-President of the International Federation of Sports Medicine (FIMS), Treasurer of International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS), and Secretary-General of the Chinese Speaking Orthopaedic Society. He was also the Past President of the Asian Federation of Sports Medicine (AFSM) and the Asian Pacific Orthopaedic Society of Sports Medicine (APOSSM), and Past President of the Hong Kong College of Orthopaedic Surgeons and the Hong Kong Orthopaedic Association. He was honored with the OBE in 1995 for his contributions in sports medicine.



## Chih-Hwa Chen, M.D., MBA

Chairman, Department of Surgery
Chairman, Department of Medical Research
Chang Gung Memorial Hospital - Keelung
Keelung, Taiwan

Dr. Chen is an Associate Professor in the Department of Orthopaedic Surgery in Chang Gung Memorial Hospital in Keelung Taiwan. He is Chairman of Department of Surgery and Department of Medical Research. Dr. Chen is major in orthopaedic sports medicine, arthroscopic surgery, knee and shoulder surgery. He is the President of the Taiwan Arthroscopic and Knee Society and second Vice President of Taiwan Shoulder and Elbow Society. His research fields include biomechanics of knee and shoulder, tissue engineering of bone, rotator cuff tear and healing, and artificial knee ligament.

Besides being a busy orthopaedic surgeon, Dr. Chen is an excellent clinical scientist with many important publications in the area of biomechanics of sports medicine. He has published a classic book entitled Orthopaedic Sports Medicine which covers all anatomical joints that concern orthopaedic sports medicine specialists.

Dr. Chen was also the A.B. Ferguson Visiting Professor at the Musculoskeletal Research Center (MSRC) at the University of Pittsburgh in March 2003.

## James C-Y. Chow, M.D.

Director & Founder,
Orthopaedic Center of Southern Illinois
Clinical Professor,
School of Medicine, Southern Illinois University

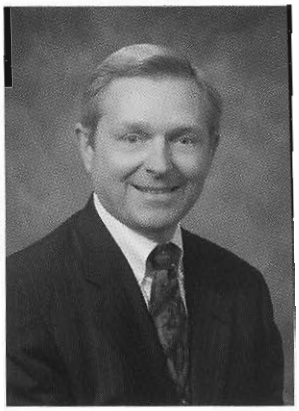
Dr. Chow is an active member of the American Orthopaedic Association and a diplomat and fellow of the American Academy of Orthopaedic Surgeons. He is also the 24th president of the Arthroscopy Association of North America (2005-2006), and a member of the International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine.

Nationally, Dr. Chow has served on the editorial board of the Journal of Arthroscopic Surgery of North America, the Board of Trustees of the Journal of Arthroscopic and Related Surgery and is on the editorial board of the Journal of Clinical Orthopaedics. Currently, he is a clinical assistant professor at SIU School of Medicine in Springfield and Director of Orthopaedics at St. Mary's Good Samaritan, Inc. Internationally, he is a member of the Canadian Orthopaedic Association, the Orthopaedic Association of China, and an honorary member of La Sociedad Argentina de Arthroscopic.

In a teaching capacity, he is a master instructor in arthroscopy at the Learning Center of the American Academy of Orthopaedic Surgeons in Chicago. He has also been responsible for more than 100 presentations world wide including lectures, video tape productions, exhibit preparation and slide show development. Dr. Chow has authored, co-authored, and contributed to many articles and books. He is also active in both clinical and laboratory research. His book, Advanced Arthroscopy was published in November of 2001.

Dr. Chow's other board of director appointments include: Arthroscopy Association of North America and Chinese Speaking Orthopaedic Society . He is president and founder of the Orthopaedic Research Foundation of Southern Illinois. In September 2000, he was awarded "Outstanding Alumni of the Year" by his medical school during its 100 Years Centennial Celebration.

Dr. Chow has many United States patents and is considered a pioneer in the development of Endoscopic Carpal Tunnel Release surgery of the wrist and Osteochondral Transplantation for chondral defect of the knee.



## Ron Dieck, Ph.D.

Managing Director,
Magic Venture Capital LLC,
Funding for Healthcare Ventures

Ronald Dieck is Founder and Managing Director of Magic Venture Capital, LLC. In addition to Magic Venture Capital, he is a Founder of Tenaxis Medical, PneumRx, Spinal Concepts and founder, President and CEO of Micro Interventional Systems. He has held executive positions at American Hospital Supply, Baxter Healthcare, Dow Corning Wright and American Medical Electronics.

Dr. Dieck has served as Chairman of the Board or a Director with numerous companies including Micro Interventional Systems, Spinal Concepts, Dynamic Spine, OrthoRadix and Tenaxis Medical. He has extensive experience in general management, research and development, marketing, manufacturing and equity financing.

Dr. Dieck holds a B.A. in chemistry from Ripon College and a Ph.D. in Chemistry from Arizona State University. He is the inventor of over fifty United States patents and has authored over forty technical papers.

## Robert Wen-Wei Hsu, M.D.

Chairman, Sports Injury & Knee Section,
Dept of Orthopaedic Surgery,
Chang Gung Medical College,
Chang Gung Memorial Hospital

Robert Wen-Wei Hsu graduated from Medical School at the National Taiwan University in 1971, finished his clinical fellowship at National Taiwan University in 1982 and research fellowship at the Department of Orthopedics, at the University of Illinosis and the Department of Orthopedics, Biomechanics Laboratory, Mayo Clinic/Mayo Foundation in Rochester in 1988. Currently, he is a Professor in the Department of Orthopaedic Surgery at Chang Gung Memorial Hospital and serves as the Vice Superintendent of the Chang Gung Memorial Hospital at Chia-Yi, Taiwan.

Professor Hsu majors in the field of sports medicine and total joint arthroplasty. He was elected as the first president of the Society of Sports Medicine of Taiwan, 1994-1997. Professor Hsu recently concentrated on minimal invasive surgery/ computer assisted orthopedic surgery in the knee surgery. In addition to the clinical achievement, he was also devoted to the research of shockwave treatment of soft tissue.

## G.W. Jim Johnson, III

Chairman Emeritus, Aircast LLC
Founder and President, Aircast Foundation

Mr. Johnson currently serves as Chairman Emeritus of Aircast, LLC. He is the Founder and President of the Aircast Foundation, which is a non-profit organization devoted to promoting excellence in scientific research and education in the area of orthopaedic medicine and science. In addition, he is the Chief Executive Officer of Coanda Effect, Inc.

Mr. Johnson serves as the treasurer for the Magellan Society and is on the Corporate Board for the Foundation of the American Medical Society for Sports Medicine. He was the first president of the National Orthotics Manufacturers Association and the first honorary member of the Asian Federation of Sports Medicine.

## Thay Q. Lee, Ph.D.

Director, Orthopaedic Biomechanics Laboratory /
Research Career Scientist
VA Long Beach Healthcare System
Professor and Vice Chairman for Research
Department of Orthopaedic Surgery
Professor, Department of Biomedical Engineering
University of California, Irvine

Dr. Lee received his BS in Bioengineering and MS in Applied Mechanics at the University of California, San Diego. He received Ph.D. in Biomaterials from Gothenburg University in Sweden. The main focus of Dr. Lee's research is identifying and developing biomechanical models to quantify injury mechanisms and surgical reconstruction methods. He has published over 70 full length manuscripts, 200 abstracts and several book chapters. He gives invited lectures both nationally and internationally on shoulder and knee biomechanics. Dr. Lee also has been working as a forensic biomechanics expert for civil cases.

Dr. Lee has been honored by many professional organizations for his accomplishments. He was electedas "Fellow" for the American Society of Mechanical Engineers (ASME), which is the highest distinction that is awarded by the society. He also was elected as Fellow in the American Institute for Medical and Biological Engineering (AIMBE), which recognizes individuals who made significant contribution to the field of Biomedical Engineering. He is an elected member of American Shoulder and Elbow Surgeons, American Society of Mechanical Engineers, Orthopaedic Research Society, American Society of Biomechanics, California Orthopaedic Association, Society for Biomaterials, and Biomedical Engineering Society. Dr. Lee also received numerous awards and recognitions at the VA Long Beach Healthcare System and University of California, Irvine.

Dr. Lee has a significant public service record. He serves as a member of the Board of Scientific Advisors for the Aircast Foundation, and also serves as a member of the Board of Directors for California Orthopaedic Research Institute. In addition, he serves on multiple committees for the American Shoulder and Elbow Surgeons. He also serves as a grant review member for many national and international organizations and reviews for high quality journals in his field of expertise.

## Christopher S. Mow, M.D.

Adjunct Clinical Assistant Professor
Department of Orthopaedic Surgery
Stanford University Medical Center

Dr. Mow is an Adjunct Clinical Associate Professor of Orthopaedic Surgery in the Department of Orthopaedic Surgery at Stanford University Medical Center. His practice and research interests are in the area of total joint arthroplasty of the hip, knee, shoulder, and elbow. He serves on the Board of Directors of the Chinese Speaking Orthopaedic Society, the Research Committee of the American Association of Hip and Knee Surgeons, and the Hip and Knee Evaluation Committee of the American Academy of Orthopaedic Surgeons.

Dr. Mow is the Director of International Programs for the Department of Orthopaedic Surgery at Stanford University Medical Center. Through this program, Dr. Mow brings several bright young orthopaedic surgeons from throughout Asia to Stanford University Medical Center per year for advanced training and research work. Through this work, Dr. Mow has been appointed as an Honorary Professor by institutions in China, Hong Kong, Malaysia and the Philippines. Supported by generous donations from both industry and private individuals to ASIAM, Dr. Mow's program is able to accelerate the advancement of the treatment of arthritic conditions in Asia-Pacific region, as well as bring in much needed direct medical relief aid.

Recent News

Dr. Mow was appointed as the Malaysian Orthopaedic Association's Visiting Honorary Professor for 2005, which involved a two week stay in Kuala Lumpur rotating through their teaching hospitals. The activities included demonstration surgeries, lectures, teaching ward rounds, staffing outpatient clinics and serving as an External Examiner for their Orthopaedic Board Certification Examinations. In June of this year, through ASIAM's support, Dr. Mow brought the Chief Nurse of Stanford University Medical Center's Operating Room, Ms. Shelly Reynolds, to China and Thailand. Together they visited Zhongshan University Hospital in Guangzhou, China, and Siriraj Mahidol University Hospital in Bangkok, Thailand, among others. Ms. Reynolds was the keynote speaker at the National Thailand Nursing Association Annual Meeting.

## David B. Root, Jr., CFP

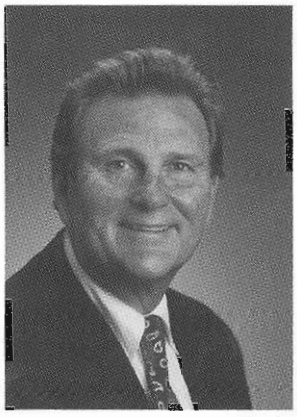
CEO, D.B. Root & Company
FInancing and Investments

Certified Financial Planner, David B. Root, Jr., is the CEO of D.B. Root & Company. The company, a Pittsburgh-based financial planning firm, was founded in 1994 by Mr. Root and his partner, Carrie Coghill.

Root's distinguished career in financial planning has brought him considerable recognition. He was the co-host of the financial TV talk shows "Wealthy & Wise" and "Financial Planning" on WPXI and cable station, PCNC. Mr. Root is an active participant in local and national forums designed to educate the public on the broad spectrum of investment possibilities and the overall importance of sound financial planning. He is quoted extensively in prominent financial publications such as the Wall Street Journal, Investors Business Daily, Fortune Magazine, USA Today and the Pittsburgh Post Gazette.

Prior to establishing D.B. Root & Company, Mr. Root was President and Chief Operating Officer of Bill Few Associates, an investment and financial advisory firm. He also held management positions with Muhlenkamp and Company, a money management firm, after graduating from the University of Michigan.

David is the President of the Pittsburgh Hornets - AAA Hockey Association and a member of the President's Council for the Pittsburgh Theological Seminary. David currently serves as the Chairman of D.B. Root's Investment Policy Committee and is a registered representative with Commonwealth Financial Network member NASD and SIPC.



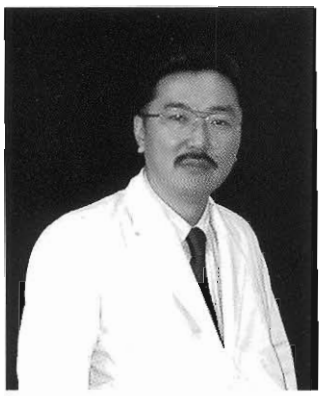
## J. Richard Steadman, M.D.

Founder, Steadman◆Hawkins Clinic,
Founder & President, Steadman◆Hawkins
Research Foundation

Dr. Richard Steadman, a Texas native, is an orthopaedic surgeon who practiced in South Lake Tahoe, California for 20 years before moving to Vail, Colorado in 1990. It is in Vail that he joined together with Dr. Richard J. Hawkins to form the Steadman◆ Hawkins Clinic. The clinic focuses primarily on sports medicine injuries and rehabilitation.

Dr. Steadman founded the Steadman Sports Medicine Foundation in 1988 - a foundation created to help solve the sports medicine problems that confront athletes and active people attempting to return to a high level of performance and recreation. The Foundation is now located in Vail, Colorado and has been renamed The Steadman Hawkins Research Foundation to incorporate his partner.

Dr. Steadman has published over 70 articles and book chapters, and has presented his work at over 100 national and international meetings. He has been Chair of the Medical Group for the U.S. Ski Team since 1976, and is also a member of the Sports Medicine Committee of the U.S. Alpine Ski Team. He is the recipient of the 12th annual AT&T Skiing award, a lifetime achievement award recognizing commitment to excellence and dedication to skiing.



## Shinro Takai, M.D., Ph.D.

Professor
Department of Orthopaedic Surgery
Teiko University

Dr. Takai is a Professor in the Department of Orthopaedic Surgery at Teikyo University, Tokyo, Japan. Dr. Takai is one of the pioneers in the field of total knee arthroplasty for Asian people. His research focuses on knee kinematics after total knee arthroplasty. His recent work centers on kneeling and deep knee flexion after total knee arthroplasty.

Dr. Takai was also the A.B. Ferguson Visiting Professor at the Musculoskeletal Research Center (MSRC) at the University of Pittsburgh in September 2001.

## Taek-Rim Yoon, M.D.

Professor
Center for Joint Disease
Chonnan National University, Hwasun Hospital

Dr. Taek-Rim Yoon is an internationally reknowned joint replacement surgeon. He has practiced exclusively in the field of joint replacement in Korea for more than 15 years and has performed more than 2,000 joint replacements. He is an author of more than 100 scientific manuscripts and textbook chapters on joint replacement. His international reputation and expertise in the field of joint replacement led to his current appointment as Professor of Orthopaedic Surgery at Chonnam University School of Medicine in Korea.

Dr. Yoon completed his MD degree, Internship, Orthopaedic Residency and Orthopaedic Fellowship in Joint Replacement at Chonnam University Medical School, Gwang-ju, Korea. He then received further training at Kurume University Hospital, Japan in hip reconstruction and also at Johns Hopkins University Hospital (USA) in Research. He also served in the Korean Army for 3 years.

Dr. Yoon is an internationally recognized joint arthroplasty surgeon and has received numerous awards in joint arthroplasty. He also is a member of an extensive list of Korean and International professional societies.

## Young-Kyun Woo, M.D., Ph.D.

Professor and Head
Department of Orthopaedic Surgery
St. Mary's Hospital
Catholic University Medical College

Dr. Woo is currently a Professor and Head of the Department of Orthopaedic Surgery at St. Mary's Hospital, of the Catholic University Medical College.

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