Yih-Kuen Jan, PhD

University of Illinois at Urbana-Champaign
Department of Health and Kinesiology
906 S. Goodwin Ave, 288 Freer Hall
Urbana, IL 61801

Lab: 172D DRES (Rehabilitation Engineering Research Lab) & 61 Freer Hall (Graduate Student Office)
E-mail: yjan@illinois.edu

Biography

Dr. Yih-Kuen Jan, PhD is an Associate Professor in the Department of Health and Kinesiology at the University of Illinois at Urbana-Champaign (UIUC). Dr. Jan obtained his PhD in Rehabilitation Science and Technology at the University of Pittsburgh (2004) where he also completed postdoctoral fellow training (2006). Dr. Jan's research focuses on *assistive technology* for people with disabilities and *soft tissue biomechanics* for musculoskeletal rehabilitation and pressure ulcer prevention. He is also interested in adaptive sports and its impact on health and well-being in individuals with disabilities. His research on using blood flow dynamics to assess soft tissue viability has been funded by NIH, NIDILRR, and PVA for over $2 million. His research findings have been contributing to the development of clinical guidelines on using wheelchair seating systems and support surfaces to prevent pressure injury. Dr. Jan serves as an Assistant Editor-in-Chief of Assistive Technology from 2024 and Associate Editor of Journal of NeuroEngineering and Rehabilitation, Frontiers in Bioengineering and Biotechnology, and Frontiers in Physiology as well as on the editorial board of the Journal of Tissue Viability, Scientific Reports, and PLOS ONE. Dr. Jan served as Chair of Scientific Papers of the Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) in 2015-2021. He was a board member of the World Association of Chinese Biomedical Engineers (WACBE) in 2017-2022. Dr. Jan received NIDILRR Mary E Switzer Fellowship award in 2006 and RESNA Distinguished Service Award in 2022. Dr. Jan has published 170+ peer-reviewed journal articles, including 140+ articles indexed by Science Citation Index (SCI) and 30+ articles indexed by Engineering Index (EI). He is a naturalized citizen of the United States.

Education

2004-2006 **Postdoc in Rehabilitation Science & Technology,** University of Pittsburgh
Postdoc Project: A Study of Biophysical and Microvascular Function of Individuals with Spinal Cord Injuries
Mentors: David M. Brienza, PhD and Michael L. Boninger, MD

2000-2004 **Ph.D. in Rehabilitation Science & Technology,** University of Pittsburgh
Dissertation: A Study on Skin Blood Flow Mechanisms Using Wavelet Analysis: Implications for Pressure Ulcer Prevention
Committee: David M. Brienza, PhD (chair), Michael L. Boninger, MD, George E. Carvell, PT, PhD, Mary Jo Geyer, PT, PhD, and David A. Vorp, PhD

1995-1997 **M.S. in Biomedical Engineering,** National Yang Ming Chiao Tung University, Taiwan
Thesis: A Study on Selecting the Right Prosthetic Foot and Socket Alignment in People with Below-Knee Amputation

1991-1995 **B.S. in Physical Therapy,** National Yang Ming Chiao Tung University, Taiwan

Professional Appointments

2012-present **University of Illinois at Urbana-Champaign (UIUC)**
Associate Professor (with tenure), Department of Health and Kinesiology, College of Applied Health Sciences (2012-present)
Director, Rehabilitation Engineering Research Lab, Disability Resources and Educational Services (2012-present)
Coordinator, International Graduate Mentoring Program (IGMP) on Kinesiology, Global Education and Training, Illinois International (2019-present)
Affiliate, Discovery Partners Institute (2021-present)
Affiliate, Neuroscience Program, College of Liberal Arts & Sciences (2024-present)

Affiliate, Computational Science and Engineering Program, Grainger College of Engineering (2012-present)

Affiliate, Center for Health Informatics (2017-present)

Affiliate, Center for East Asian & Pacific Studies (2017-present)

Affiliate, Center for Health, Aging and Disability (2012-present)

Affiliate, Chicago Center for Diabetes Translation Research (NIDDK P30), Department of Medicine, University of Chicago (2016-present)

2008-2012 **University of Oklahoma, Health Sciences Center (OUHSC)**

Assistant Professor (tenure track), Doctor of Physical Therapy program, Department of Rehabilitation Sciences (2008-2012)

Director, Rehabilitation Biomechanics Lab (2008-2012)

Adjunct Assistant Professor, Department of Physiology (2009-2012)

Adjunct Assistant Professor, Department of Aerospace & Mechanical Engineering (Bioengineering) (2010-2012)

Adjunct Assistant Professor, Oklahoma Center for Neuroscience (2010-2012)

Primary Researcher (WOC), OKC Veterans Affairs Medical Center (2008-2012)

2000-2008 **University of Pittsburgh (Pitt)**

Assistant Professor (research track), Department of Rehabilitation Science and Technology (2006-2008)

Task Leader, Rehabilitation Engineering Research Center (RERC) on Spinal Cord Injury, National Institute on Disability, Independent Living and Rehabilitation Research (PI: David Brienza, 2006-2008)

Researcher, Quality of Life Technology Engineering Research Center (NSF ERC), Carnegie Mellon University and Pitt (PI: Takeo Kanade, 2006-2008)

Researcher (WOC), Pittsburgh Veterans Affairs Healthcare System (PI: Rory Cooper, 2006-2008)

Postdoctoral Fellow (2004-2006)

Graduate Research Assistant (2000-2004)

1997-1999 **Clinic of the Combined Service Forces Headquarters, Taipei, Taiwan**

Director of Physical Therapy and Second Lieutenant Medical Officer, Department of Physical Therapy

1995-1997 **National Yang Ming Chiao Tung University, Taipei, Taiwan**

Research Assistant, Rehabilitation Engineering Lab, Department of Biomedical Engineering
Research Assistant, Motion Analysis Lab, Department of Physical Therapy and Assistive Technology

1995 **Chang Gung Memorial Hospital, Taoyuan, Taiwan**

Student Physical Therapist, Division of Rehabilitation

1994 **Shin Kong Memorial Hospital, Taipei, Taiwan**

Student Physical Therapist, Division of Rehabilitation

Licensures

2002-present Physical Therapy License, New York (#024747)

1996-present Physical Therapy License, Taiwan (#186)

Honors and Awards

2025 Top Scholar in Hemodynamics (top 0.36%), ScholarGPS

2025 Springer Nature Editorial Contribution Award (Journal of NeuroEngineering and Rehabilitation)

2025 Top Cited Article in Journal of Biophotonics (Using near-infrared spectroscopy to investigate the effects of pressures and durations of cupping therapy on muscle blood volume and oxygenation)

2025 List of Teachers Ranked as Excellent by Their Students (Fall 2024, HK 302 ON2)

2024 Top Scholar in Hemodynamics (top 0.42%), ScholarGPS

2024 List of Teachers Ranked as Excellent by Their Students (Fall 2023, REHB/CHLH 330 ON2)

2023 List of Teachers Ranked as Excellent by Their Students (Spring 2023, REHB/CHLH 330 ON2)

2023 Long Service Award, PLOS ONE

2022 List of Teachers Ranked as Excellent by Their Students (Spring 2022, REHB/CHLH 330 ON2)

2022 Top Cited Article 2020-2021, Using laser Doppler flowmetry with wavelet analysis to study skin blood flow regulations after cupping therapy, Skin Research and Technology, Wiley

2021 **Distinguished Service Award, Rehabilitation Engineering and Assistive Technology Society of North America (RESNA)**

2021 Outstanding Editor Award, Frontiers in Physiology

2020 List of Teachers Ranked as Excellent by Their Students (Fall 2020, REHB/CHLH 330 ON2), UIUC

2017 **Invited Attendee, Summit on Global Research, Innovation, and Education in Assistive Technology, World Health Organization, Geneva, Switzerland, August 3-4**

- Five position papers were published based on the consensus of this WHO Summit on Assistive Technology. One of the position papers that I involved is: Smith EM, Gowran RJ*, Mannan H, Donnelly B, Alvarez L, Bell D, Contepomi S, Ennion L, Hoogerwerf EJ, Howe T, **Jan YK**, Kagwiza J, Layton N, Legerd R, MacLachlan M, Oggero G, Pettersson C, Pousada T, Scheffler E, Tebbut E, and Wu S (2018). Enabling appropriate skills-mix towards progressive realisation of equitable access to assistive technology. Disability and Rehabilitation: Assistive Technology, 13(5), 445-453.)

2016 Highly Cited Researcher, Elsevier (Skin blood flow dynamics and its role in pressure ulcers, Journal of Tissue Viability)

2016 The 1st Remarkable Alumni Award, Department of Physical Therapy and Assistive Technology, National Yang Ming Chiao Tung University, Taiwan

2015 Best Paper Award, Student Scientific Paper Competition, RESNA International Conference, Denver, CO (Student: Tim Yang, Role: Advisor)

2015 Honorable Mention Award, Student Scientific Paper Competition, RESNA International Conference, Denver, CO (Student: Tim Yang, Role: Advisor)

2014 2nd Place, Best Poster Award, Computational Science and Engineering Annual Meeting, University of Illinois, Urbana, IL (Student: Tim Yang, Role: Advisor)

2014 Honorable Mention Award, Student Scientific Paper Competition, RESNA International Conference, Indianapolis, IN (Student: Tim Yang, Role: Advisor)

2012 Outstanding Faculty in Research Award, Senior Category, College of Allied Health, University of Oklahoma Health Sciences Center

2009 Outstanding Faculty in Research Award, Junior Category, College of Allied Health, University of Oklahoma Health Sciences Center

2008 Faculty Fellow, Faculty Leadership Program, University of Oklahoma Health Sciences Center (Mentors: Marti Ferretti and Robert Foreman)

2007 Member (Nominated), Pepper Scholars Working Group, University of Pittsburgh Claude D. Pepper Older Americans Independence Center (NIH P20)

2007 Finalist, Best Poster Award, Science 2007, University of Pittsburgh, Pittsburgh, PA

2006 **Mary E. Switzer Research Fellow, National Institute on Disability, Independent Living and Rehabilitation Research (NIDILRR)**

2004 Best Post-Doctoral Research Paper Award, Rehabilitation Institute Research Day, University of Pittsburgh Medical Center

2003 Honorable Mention Award, Student Scientific Paper Competition, Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) International Conference, Atlanta, GA

2003 Finalist, Best Poster Award, Science 2003, University of Pittsburgh, Pittsburgh, PA

2002 Pre-Doctoral Research Fellowship Award, Advanced Rehabilitation Research Training (ARRT) program at the University of Pittsburgh, NIDILRR

1997 First Place, Student Thesis Competition: Biomedical Engineering Category, National Yang Ming Chiao Tung University, Taipei, Taiwan

1996 Academic Achievement Award (Highest GPA), Department of Biomedical Engineering, National Yang Ming Chiao Tung University, Taipei, Taiwan (09/1996)

1994 Academic Achievement Awards (Highest GPA), Department of Physical Therapy, National Yang Ming Chiao Tung University, Taipei, Taiwan (02/1994 and 09/1994)

1993-1995 Outstanding College Students Scholarships, The Jans Kindred Association, Taiwan (08/1993, 02/1994, 08/1994, & 02/1995)

RESEARCH AND SCHOLARSHIP

Peer-Reviewed Journal Articles (* indicates corresponding author)

1. Zhu H, Tung KTS, So HK, Siu PM, Wong CK, Yam JC, Tung JYL, **Jan YK**, He L, and Ip P* (in press). The role of active video games in blood pressure management among children and young adults: a systematic review and meta-analysis. Journal of Medical Internet Research, in press.
2. Liao F, Huang L, Mo PC, Samadi M, Kelhofer N, Tu T, and **Jan YK*** (in press). Effects of handgrip contraction modes on intermuscular coordination quantified by wavelet-based EMG-EMG coherence between 2 and 300 Hz. Medical & Biological Engineering & Computing, in press. https://doi.org/10.1007/s11517-025-03350-w
3. Zhang X, Ren W, **Jan YK**, Wang X, Yao J, and Pu F* (in press). Effects of infrapatellar straps on lower limb muscle synergies during running. Medical & Biological Engineering & Computing, in press. https://doi.org/10.1007/s11517-025-03349-3
4. Jankaew A, **Jan YK**, Hwang IS, Kuo LC, and Lin CF* (in press). Hamstring activation deficits in different jumping directions in athletes with a history of hamstring strain injuries: a cross-sectional laboratory study. Sports Biomechanics, in press. https://doi.org/10.1080/14763141.2023.2236074
5. Jankaew A, **Jan YK**, Hwang IS, Kuo LC, and Lin CF* (in press). Hamstring muscle stiffness affects lower extremity muscle recruitment and landing forces during double-legs vertical jump. Sports Biomechanics, in press. http://doi.org/10.1080/14763141.2023.2219670
6. **Jan YK*** and Cheung WC (2026). Muscle oxygenation regulation in physical therapy and rehabilitation. Medical Gas Research, 16(1), 66-75. https://doi.org/10.4103/mgr.MEDGASRES-D-24-00149
7. Liu J, Yu H*, Cheung WC, Bleakney A, and **Jan YK*** (2025). Societal attitudes and structural barriers in coaching Para-athletes: a mixed-methods systematic review. PLOS ONE, 20(6), e0326585. (36 pages) https://doi.org/10.1371/journal.pone.0326585

8. Ramadhan GT, Harris F, **Jan YK**, Liau BY, Shen WC, Bau JG, Lien CM, Tai CC, and Lung CW* (2025). Exploring air insole pressure and walking durations effect on microcirculation in healthy individuals to optimize diabetic foot ulcers prevention. Scientific Reports, 15(1), 10603. https://doi.org/10.1038/s41598-025-94649-z
9. Zhu H, He Li, Guo J, Huang B, Elliott J, and **Jan YK*** (2025). Effects of neuromuscular fatigue induced by various modes of isometric handgrip exercise on post-exercise blood pressure responses. Journal of Sports Medicine and Physical Fitness, 65(4), 571-582. https://doi.org/10.23736/S0022-4707.24.16529-2
10. Samadi M, Huang L, Mo PC, Hernandez M, Hung IYJ and **Jan YK*** (2025). Effects of negative pressure of four-cup cupping therapy on hemodynamic responses of the gastrocnemius. Journal of Bodywork and Movement Therapies, 42, 446-451. https://doi.org/10.1016/j.jbmt.2025.01.024
11. Gong M, Chen W, **Jan YK**, Zhao Y, Yao J, Wang Y, Ren W, and Pu F* (2025). Estimation of Ankle Joint Moment from Plantar Pressure through an Optimized Sensor Layout using Genetic Algorithm and Deep Forest Regression. IEEE Journal of Biomedical and Health Informatics, 29, 1931-1939. https://doi.org/10.1109/JBHI.2024.3512546
12. Pusparani Y, Lin CY, **Jan YK**, Lin FY, Liau BY, Alex JSR, Aparajeeta J, Chao WH, and Lung CW* (2025). Hippocampal volume asymmetry in Alzheimer's disease: a systematic review and meta-analysis. Medicine, 104(10), e41662. https://doi.org/10.1097/MD.0000000000041662
13. **Jan YK***, Hung IYJ, and Cheung WC (2025). Texture analysis in musculoskeletal ultrasonography: a systematic review. Diagnostics, 15(5), 524. (18 pages) https://doi.org/10.3390/diagnostics15050524
14. Liu J, Yu H, Cheung WC, Bleakney A, and **Jan YK*** (2025). A systematic review on pathophysiological and psychosocial measures in adaptive sports and their applications for coaching practice. Heliyon, 11(2), e42081. (22 pages) https://doi.org/10.1016/j.heliyon.2025.e42081
15. Huang L, Mo PC, Samadi M, Shen WC, Yu H, Hernandez M, and **Jan YK*** (2025). Wavelet phase coherence analysis of oxyhemoglobin and deoxyhemoglobin oscillations to investigate the relationship between cups of cupping therapy. Journal of Biophotonics, 18(1), e202400337. (11 pages) https://doi.org/10.1002/jbio.202400337
16. Jankaew A, Wang PC, **Jan YK**, Hwang IS, and Lin CF* (2025). Hamstring activation deficits during double-leg jump-landing tasks in athletes with hamstring strain injuries using EMG time-frequency analysis. Journal of Biomechanics, 179, 112475. (7 pages) https://doi.org/10.1016/j.jbiomech.2024.112475
17. Ren W, Wang Y, Yan z, Chu Z, Yang F, **Jan YK**, Yao J*, and Pu F* (2024). Adaptive changes in longitudinal arch during long-distance running. International Journal of Sports Medicine, 45(14), 1091-1098. https://doi.org/10.1055/a-2362-1267
18. Lin CF, Liao JC, Hernandez MH, Sadruddin R, Pappu S, and **Jan YK*** (2024). Comparison of isometric and dynamic bridging exercises on low back muscle oxygenation. International Journal of Sports Medicine, 45(14), 1084-1090. https://doi.org/10.1055/a-2376-6255
19. **Jan YK***, Kelhofer N, Tu T, Mansuri O, Onyemere K, Dave S, and Pappu S (2024). Diagnosis, Pathophysiology and management of microvascular dysfunction in diabetes mellitus. Diagnostics, 14(24), 2830. (17 pages) https://doi.org/10.3390/diagnostics14242830
20. Duan Y, Ren W, Xu Y, Zhang K, Bai D, Li J, **Jan YK***, and Pu F* (2024). Texture differences of microchambers and macrochambers in heel pads between the elderly with and without diabetes. Journal of Tissue Viability, 33, 584-590. https://doi.org/10.1016/j.jtv.2024.07.016
21. Jankaew A, **Jan YK**, Yang TH, Wu HW, and Lin CF* (2024). Influence of Hamstring Injuries and Vision on Posterior Chain Muscle Activation during Challenging Single-Limb Balance Control among Athletes with Hamstring Strain Injuries. Journal of Musculoskeletal and Neuronal Interactions, 24(4), 343-352. https://www.ismni.org/jmni/article/24/343
22. Chen P, Yu H, Lin CF, Guo J, Elliott J, Bleakney A, and **Jan YK*** (2024). Effect of adaptive sports on quality of life in individuals with disabilities who use wheelchairs: a mixed-methods systematic

review. Disability and Rehabilitation: Assistive Technology, 19(8), 2774-2790. https://doi.org/10.1080/17483107.2024.2313110

23. Zhang K, **Jan YK**, Zhang D, and Cao C* (2024). Exploring visuospatial function neuroplasticity in elite speed skaters: a resting-state fMRI independent component analysis. Journal of Sports Medicine and Physical Fitness, 64(11), 1133-1139. https://doi.org/10.23736/S0022-4707.24.15947-6
24. Yeh SJ, Lung CW, **Jan YK**, Lee LL, Wang YC, and Liau BY* (2024). The relationship between cardiovagal baroreflex and cerebral autoregulation in postural orthostatic tachycardia disorder using advanced cross-correlation function. Scientific Reports, 14, 25158. (13 pages) https://doi.org/10.1038/s41598-024-77065-7
25. Guo J, Lin S, Hong IYJ, Lin CF, Mo PC, Sun P, and **Jan YK*** (2024). Using wavelet analysis of blood flow oscillations to investigate differences in skin blood flow regulations between the upper and lower limbs. Skin Research and Technology, 30(10), 70089. https://doi.org/10.1111/srt.70089
26. Liu J, Yu H, Bleakney A, and **Jan YK*** (2024). Factors influencing the relationship between coaches and athletes with disabilities: a systematic review. Frontiers in Sports and Active Living, 6, 1461512. (13 pages) https://doi.org/10.3389/fspor.2024.1461512
27. Ramadhan GT, Haris F, **Jan YK**, Liau BY, Chang WT, Tai CC, and Lung CW* (2024). Effect of different inner pressures of air insoles and walking durations on plantar pressure time integral. Scientific Reports, 14(1), 19272. https://doi.org/10.1038/s41598-024-70312-x
28. Li YC, Lin CY, Hsiao CC, Mo PC, Guo J, and **Jan YK*** (2024). Using deep learning-based methods for automated segmentation of soft tissues from shoulder ultrasound images. IEEE Access, 12, 111481-111492. https://doi.org/10.1109/ACCESS.2024.3432691
29. Pusparani Y, Lin CY, **Jan YK**, Lin FY, Liau BY, Ardhianto P, Furqon EN, Rani Alex JS, Aparajeeta J, and Lung CW* (2024). Deep Learning Applications in MRI-Based Detection of the Hippocampal Region for Alzheimer's Diagnosis. IEEE Access, 12, 103830-103838. https://doi.org/10.1109/ACCESS.2024.3426085
30. Lin S, Sun P*, Huang L, Hernandez ME, Yu H, and **Jan YK*** (2024). Effects of the intensity, duration and muscle mass factors of isometric exercise on acute local muscle hemodynamic responses and systematic blood pressure regulation. Frontiers in Bioengineering and Biotechnology, 12, 1444598. https://doi.org/10.3389/fbioe.2024.1444598
31. Jankaew A, **Jan YK**, and Lin CF* (2024). Frequency domain analysis of hamstring activation during jump-landing performance by athletes with diverse training regimens. Journal of Medical and Biological and Medical Engineering, 44(2), 255-265. https://doi.org/10.1007/s40846-024-00857-9
32. Liao F, Li Y, Lyu S, Chen P, Hung IYJ, Pappu S, and **Jan YK*** (2024). Using wavelet phase coherence of heart rate variability and blood flow oscillations to compare mechanisms of action between Tai Chi mind-body exercise and brisk walking aerobic exercise. Biomedical Signal Processing and Control, 95, 106385. https://doi.org/10.1016/j.bspc.2024.106385
33. Mo PC, Lin CF, Li Y, Liao JC, Hernandez MH, Hung I*, and **Jan YK*** (2024). Application of multi-channel near-infrared spectroscopy to assess the effect of cupping size on the spatial hemodynamic response of the biceps, PLOS ONE, 19(5), e0302828. https://doi.org/10.1371/journal.pone.0302828
34. Shen WC, Cheng HT, **Jan YK**, Liau BY, Hsieh CW, Bau JG, Tai CC, and Lung CW* (2024). Effect of negative pressure therapy on the treatment response to thickness and viscoelasticity of scar. Frontiers in Bioengineering and Biotechnology, 12, 1353418. https://doi.org/10.3389/fbioe.2024.1353418
35. Farady I, Furqon EN, Kuo CC, **Jan YK** and Lin CY* (2024). Pseudo skin image generator (PSIG-Net): ambiguity-free sample generation and outlier control for skin lesion classification. Biomedical Signals Processing and Control, 93, 106112. (11 pages) https://doi.org/10.1016/j.bspc.2024.106112

36. Hung IYJ and **Jan YK*** (2024). Using texture analysis of ultrasound images to assess the effect of cupping therapy on muscle quality of the triceps. PLOS ONE, 19(3), e0301221. https://doi.org/10.1371/journal.pone.0301221
37. Li Y, Mo PC, Peng F, Guo J, Sheng Z, Lyu S and **Jan YK*** (2024). Using multi-channel near-infrared spectroscopy to assess the effect of cupping therapy on spatial hemodynamic response of the biceps muscle: a preliminary study. Journal of Back and Musculoskeletal Rehabilitation, 37, 459-471. https://doi.org/10.3233/BMR-230158
38. Mohamed AA*, Abdalla AA, and **Jan YK** (2024). Role of enhancing aerobic capacity in countering COVID-19-induced liver injury in elderlies. Endocrine, Metabolic & Immune Disorders – Drug Targets, 24(4), 418-429. https://doi.org/10.2174/0118715303250788231018080821
39. Haris F, **Jan YK**, Liau BY, Hsieh CW, Shen WC, Tai CC, Shih YH, and Lung CW* (2024). Plantar pressure gradient and pressure gradient angle are affected by inner pressure of air insole. Frontiers in Bioengineering and Biotechnology, 12, 1353888. (14 pages) https://doi.org/10.3389/fbioe.2024.1353888
40. Song Z, Zhang X, Xu X, Dong J, Li W, **Jan YK***, and Pu F* (2024). The effects of immersion and visuo-tactile stimulation on motor imagery in stroke patients are related to the sense of ownership. IEEE Transactions on Neural Systems & Rehabilitation Engineering, 32, 895-904. https://doi.org/10.1109/TNSRE.2024.3364505
41. Pauly S, Mo PC, Elliott J, Bleakney A, Pappu S, and **Jan YK*** (2024). Effects of alternating pressure patterns on sacral skin blood flow responses in people with spinal cord injury. International Wound Journal, 21(2), e14792. (9 pages) https://doi.org/10.1111/iwj.14792
42. Haris F, **Jan YK**, Liau BY, Hsieh CW, Shen WC, Tai CC, Shih YH, and Lung CW* (2023). The effects of different inner pressures of air insoles and walking durations on peak plantar pressure. Medicine, 102(43), e35704. (7 pages) https://doi.org/10.1097/MD.0000000000035704
43. Wei W, Zhu JX, Ren S, **Jan YK**, Zhang W, Su R, and He L* (2023). Effects of progressive body-weight versus barbell squat training on strength, hypertrophy and body fat among sedentary young women. Scientific Reports, 13(1), 13505. (13 pages) https://doi.org/10.1038/s41598-023-40319-x
44. Prisilla AA, Guo YL, **Jan YK**, Lin CY, Lin FY, Liau BY, Tsai JY, Ardhianto P, Pusparani Y, and Lung CW* (2023). An approach to the diagnosis of lumbar disc herniation using deep learning models. Frontiers in Bioengineering and Biotechnology, 11, 1247112. (14 pages) https://doi.org/10.3389/fbioe.2023.1247112
45. Liau BY, Lung CW, Hernandez ME, Mo PC, Li Y, Guo J, and **Jan YK*** (2023). Using cross-correlation analysis of multi-channel near infrared spectroscopy to assess the hemodynamic response to cupping therapy. Biomedical Optics Express, 14(9), 4455-4467. https://doi.org/10.1364/BOE.493897
46. Pusparani Y, Lin CY, **Jan YK**, Lin FY, Liau BY, Ardhianto P, Farady I, Alex JSR Aparajeeta J, Chao WH, and Lung CW (2023). Diagnosis of Alzheimer's Disease using Convolutional Neural Network with Select Slices by Landmark on Hippocampus in MRI Images. IEEE Access, 11, 61688-61697. https://doi.org/10.1109/ACCESS.2023.3285115
47. Liao F, Zhao H, Lin CF, Chen P, Chen P, Onyemere K, and **Jan YK*** (2023). Application of multiscale sample entropy in assessing the effect of exercise on skin blood flow oscillations in people with spinal cord injury. Entropy, 25, 690. (12 pages) https://doi.org/10.3390/e25040690
48. Li Y, Mo PC, Lin CF, Pauly S, Kundal N, Hernandez ME and **Jan YK*** (2023). Using near-infrared spectroscopy to investigate the effect of durations and pressures of cupping therapy on muscle blood volume and oxygenation of the biceps. Journal of Biophotonics, 16(7), e202200342. (9 pages) https://doi.org/10.1002/jbio.202200342
49. Liao F and **Jan YK*** (2023). Assessing skin blood flow function in people with spinal cord injury using the time domain, time-frequency domain and deep learning approaches. Biomedical Signal Processing and Control, 84, 104790. (11 pages) https://doi.org/10.1016/j.bspc.2023.104790

50. Zhu Y, Li H, Lyu S*, Shan X*, **Jan YK**, and Ma F (2023). Stair-climbing wheelchair proven to maintain user's body stability based on AnyBody musculoskeletal model and finite element analysis. PLOS One, 18(1), E0279478. (14 pages) https://doi.org/10.1371/journal.pone.0279478

51. Mohamed AA*, Zhang X, and **Jan YK** (2023). Evidence-based and adverse-effects of cupping therapy in musculoskeletal and sports rehabilitation: a systematic and evidence-based review. Journal of Back and Musculoskeletal Rehabilitation, 36(1), 3-19. https://doi.org/10.3233/BMR-210242

52. Shen WC, **Jan YK**, Liau BY, Lin Q, Wang S, Tai CC, and Lung CW* (2022). Effectiveness of self-management of dry and wet cupping therapy for low back pain: a systematic review and meta-analysis. Medicine, 101(51), e32325. (13 pages) https://doi.org/10.1097/MD.0000000000032325

53. Wu FL, Lung CW, Wang WTJ, Elliott J, Jain S, and **Jan YK*** (2022). Effects of walking speeds and durations on peak plantar pressures. Journal of the American Podiatric Medical Association, 112(6), 20-043. https://doi.org/10.7547/20-043

54. Li Y, Mo PC, Jain S, Elliott J, Bleakney A, Lyu S*, and **Jan YK*** (2022). Effect of pressures and durations of cupping therapy on muscle stiffness of triceps. Frontiers in Bioengineering and Biotechnology, 10, 996589. (10 pages) https://doi.org/10.3389/fbioe.2022.996589

55. Ardhianto P, Liau BY, **Jan YK**, Tsai JY, Akhyar F, Lin CY, Subiakto RBR, and Lung CW* (2022). Deep learning in left and right footprint image detection based on plantar pressure. Applied Sciences, 12, 8885. (13 pages) https://doi.org/10.3390/app12178885

56. Lung CW, Mo PC, Cao C, Zhang K, Wu FL, Liau BY, and **Jan YK*** (2022). Effects of walking speeds and durations on the plantar pressure gradient and pressure gradient angle. BMC Musculoskeletal Disorders, 23, 823. (15 pages) https://doi.org/10.1186/s12891-022-05771-2

57. Ren W, Duan Y, **Jan YK**, Li J, Liu W, Pu F*, and Fan Y* (2022). Effect of intermittent pneumatic compression with different inflation pressures on the distal microvascular responses of the foot in people with type 2 diabetes mellitus. International Wound Journal, 19(5), 968-977. https://doi.org/10.1111/iwj.13693

58. Mohamed AA*, **Jan YK**, Kattabei O, Abed Al Raof N, Moustafa I, and Hosony H (2022). Effect of biofeedback corrective exercise on reaction time and central somatosensory conduction time in patients with forward head posture and radiculopathy: a randomized controlled study. Journal of Chiropractic Medicine, 21(1), 39-50. https://doi.org/10.1016/j.jcm.2022.01.001

59. Yeh SJ, Lung CW, **Jan YK**, and Liau BY* (2022). Advanced cross-correlation function application to identify arterial baroreflex sensitivity variations from healthy to diabetes mellitus. Frontiers in Neuroscience, 16, 812302. (10 pages) https://doi.org/10.3389/fnins.2022.812302

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24. Liao F, Brooks I, Hsieh CW, Rice IM, Jankowska MM, and **Jan YK** (2014). Assessing complexity of heart rate variability in people with spinal cord injury using local scale exponents. Proceedings of the Annual International Conference of IEEE Engineering in Medicine and Biology Society, 2014, 6381-6384. https://doi.org/10.1109/EMBC.2014.6945088
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Books and eBooks

1. **Jan YK**, Lung CW, Liau BY, and Hernandez ME, eds (in press). Sensors and wearable technologies in sports biomechanics. Multidisciplinary Digital Publishing Institute, Basel, Switzerland. (ISBN pending)
2. Fan L, He G, Wang L, and **Jan YK** (2025). *Computational and Experimental Approaches on Soft Tissues Biomechanics and Mechanobiology*. Frontiers Publisher, Lausanne, Switzerland. (ISBN: 978-2-8325-6460-8)
3. Cimolin V and **Jan YK**, eds (2024). *Individual's Mechanics, Movement and Kinematics Post-Stroke*. Frontiers Publisher, Lausanne, Switzerland. (ISBN: 978-2-8325-5027-4)
4. **Jan YK**, Lin CF, Liao F, and Singh NB, eds (2024). *Nonlinear Dynamics and Complex Patterns in the Human Musculoskeletal System and Movement*. Frontiers Publisher, Lausanne, Switzerland. (ISBN: 978-2-8325-4222-4)

5. Santulli G, Pabelick CM, **Jan YK**, Denise P, and de Lucia C, eds (2023). *Methods and Applications in Clinical and Translational Physiology*. Frontiers Publisher, Lausanne, Switzerland. (ISBN: 978-2-8325-2043-7)
6. **Jan YK**, Major MJ, Pu F, and Sonenblum SE, eds (2022). *Soft Tissue Biomechanics in Wound Healing and Prevention*. Frontiers Publisher, Lausanne, Switzerland. (ISBN: 978-2-88976-028-2)

Book Chapters

1. Mohamed AA, **Jan YK**, Rice IM, Pu F, and Cheng CK (2020). Chapter 14: Biomechanics of Orthopedic Rehabilitation. In: Cheng CK and Woo SLY, eds. *Frontiers in Orthopedic Biomechanics*. Springer Nature, 357-396. (ISBN: 978-981-15-3158-3) https://doi.org/10.1007/978-981-15-3159-0_14
2. Ennis WJ, Koh T, Urao N, **Jan YK**, Sui A, Brown K, and Borhani M (2015). Chapter 2: Ischemia/Reperfusion: A potential cause for tissue necrosis. In: Téot L, Meaume S, Akita S, Ennis WJ, and del Marmol V, eds. *Skin Necrosis*. Springer, New York, NY, pp 9-17. (ISBN: 978-3-7091-1962-4) https://doi.org/10.1007/978-3-7091-1241-0_2
3. Liao F and **Jan YK** (2015). Chapter 1: Heart rate variability and cardiovascular disease in people with spinal cord injury. In: Walters S, ed. *Heart Rate Variability (HRV): Prognostic Significance, Risk Factors and Clinical Applications*. Nova Science Publishers, Hauppauge, NY, pp 1-15. (ISBN: 978-1-63463-772-5)
4. Lung CW and **Jan YK** (2012). Chapter 1: Soft tissue biomechanics of diabetic foot ulcers. In: Ruiz AJC and Mendoza JMA, eds. *Soft Tissue: Composition, Mechanisms of Injury and Repair*. Nova Science Publishers, Hauppauge, NY, pp 1-32. (ISBN: 978-16-225-7363-9)
5. Burns S and **Jan YK** (2012). Chapter 1: Diabetic foot ulceration and amputation. In: Kim CT, ed. *Rehabilitation Medicine*. InTech Publisher, Croatia, pp 1-20. (ISBN: 979-95-330-7517-3)
6. **Jan YK**, Liao F, and Foreman RD (2011). Subject: EEG/EKG. In: Greenwald SJ and Thomley JE, eds. *Encyclopedia of Mathematics and Society*. Salem Press, Pasadena, CA, pp 329-330. (ISBN: 978-15-876-5844-0)
7. **Jan YK** and Brienza DM (2009). Chapter 9: Tissue mechanics and blood flow factors in pressure ulcers of individuals with spinal cord injury. In: Gefen A, ed. *The Pathomechanics of Tissue Injury and Disease, and the Mechanophysiology of Healing*. Research Signpost, India, pp 241-259. (ISBN: 978-81-308-0314-2)
8. Brienza DM, **Jan YK**, and Zanca JM (2007). Chapter 7: Tissue Integrity Management. In: Cooper RA, Ohnabe H, and Hobson DA, eds. *An Introduction to Rehabilitation Engineering*. CRC Press, Taylor and Francis Group**,** Boca Raton, FL, pp 182-198. (ISBN: 978-08-493-7222-3)

Position Papers, Editorials and Reports

1. **Jan YK***, Lung CW, Liau BY, and Hernandez ME (2024). Editorial for the special issue on sensors and wearable technologies in sports biomechanics, Sensors, 24(19), 6219. https://doi.org/10.3390/s24196219
2. Cimolin V* and **Jan YK** (2024). Editorial: Individual's Mechanics, Movement and Kinematics Post-Stroke. Frontiers in Bioengineering and Biotechnology, 12, 1430588. https://doi.org/10.3389/fbioe.2024.1430588
3. **Jan YK***, Lin CF, Liao F, and Singh NB (2023). Editorial: Nonlinear dynamics and complex patterns in the human musculoskeletal system and movement. Frontiers in Bioengineering and Biotechnology, 11, 1339376. https://doi.org/10.3389/fbioe.2023.1339376
4. Santulli G*, Pabelick CM, **Jan YK**, Denise P, and de Lucia C (2023). Editorial: Methods and applications in clinical and translational physiology. Frontiers in Physiology, 14, 1169544. https://doi.org/10.3389/fphys.2023.1169544

5. **Jan YK***, Major MJ, Pu F, and Sonenblum SE (2022). Editorial: Soft tissue biomechanics in wound healing and prevention. Frontiers in Bioengineering and Biotechnology, 10, 897860. https://doi.org/10.3389/fbioe.2022.897860
6. **Jan YK*** (2022). Advances in diagnosis and pathophysiology of microvascular dysfunction. Diagnostics, 12, 620. https://doi.org/10.3390/diagnostics12030620
7. Koontz AM*, Ding D, **Jan YK**, de Groot S, and Hansen A (2015). Editorial – wheeled mobility. Biomed Research International, 2015, 138176. https://doi.org/10.1155/2015/138176
8. **World Health Organization GREAT Summit (2017). Global Research, Innovation and Research in Assistive Technology Summit Report, WHO GATE, Geneva, Switzerland. (I was an invited expert for the panel of the Summit.)** https://iris.who.int/handle/10665/259746
9. Dicianno BE*, Lieberman J, Schmeler MR, Schuler AE, Cooper R, Lange M, Liu H, and **Jan YK** (2015). **RESNA position on the application of tilt, recline, and elevating legrests for wheelchairs: 2015 current state of the literature.** RESNA Press, Arlington, VA. https://www.resna.org/Portals/0/Documents/Position%20Papers/RESNA%20PP%20on%20Tilt%20Recline_2017.pdf
10. Brienza DM*, Geyer MJ, Karg P, and **Jan YK** (2001). State of the science white paper on tissue integrity management. In: Brubaker C and Brienza DM, eds. Wheelchair Seating. University of Pittsburgh Rehabilitation Engineering Research Center on Wheeled Mobility, Pittsburgh, PA, pp 3-9.

Peer-Reviewed Articles in Chinese (* indicates corresponding author)

1. Hou X, Ren H, Wang RH, and **Jan YK*** (2023). Clinical applications and evidence of ultrasound imaging in musculoskeletal rehabilitation. Chinese Journal of Rehabilitation Medicine, 38(6), 863-867. (in Chinese)
2. Ren W, Pu F, Fan Y, and **Jan YK** (2018). Chapter 7: Diabetic Foot Biomechanics. In: Fan Y and Zhang M, eds. *Rehabilitation Engineering and Biomechanics*. Shanghai Jiaotong University Publisher, Shanghai, China, pp 119-146. (In Chinese) (ISBN: 9787-3-1317-993-7)
3. **Jan YK**, Lee SJ*, Yang SW, Chao LY, Lin CC, and Cheung W (1997). Foot pressure analysis in normal young Chinese adults. Formosan Journal of Physical Therapy, 22(2), 81-90. (In Chinese)
4. Chang MK, Yang SW*, and **Jan YK** (1995). Gait analysis of below-knee amputees. Journal of Medical and Biological Engineering; 15, 315-328. (In Chinese)

Theses

1. **Jan YK** (2004). *A study on skin blood flow mechanisms using wavelet analysis: implications for pressure ulcer prevention*. PhD Dissertation, University of Pittsburgh, Pittsburgh, PA.
2. **Jan YK** (1997). *A study of selecting the right prosthetic foot and socket alignment in people with below-knee amputation*. Master's Thesis, National Yang Ming University, Taiwan.

Invited Presentations

1. **Jan YK** (2025). Potential roles of soft tissue biomechanics in martial arts research. Department of Physical Education, Tsinghua University, Beijing, May 29.
2. **Jan YK** (2024). Soft tissue biomechanics in physical therapy and rehabilitation. Department of Physical Therapy, National Taiwan University, Taipei, May 15.
3. **Jan YK** (2023). Rehabilitation Biomechanics Education. School of Biological Science and Medical Engineering, Beihang University, Beijing, June 13.
4. **Jan YK** (2023). Kinesiology Research at UIUC and Soft Tissue Biomechanics in Kinesiology Research. College of Physical Education and Sports, Beijing Normal University, Beijing, June 7.

5. **Jan YK** (2023). Advances in Rehabilitation Research. School of Biological Science and Medical Engineering, Beihang University, Beijing, June 6.
6. **Jan YK** (2022). Disability in American Society. School of Biological Science and Medical Engineering, Beihang University, Beijing, August 5.
7. **Jan YK** (2022). Soft Tissue Biomechanics in Wound Development and Prevention. School of Biological Science and Medical Engineering, Beihang University, July 29.
8. **Jan YK** (2022). Soft Tissue Biomechanics in Rehabilitation. School of Biological Science and Medical Engineering, Beihang University, July 15.
9. **Jan YK** (2022). Soft Tissue Biomechanics in the Dose-Response Relationships of Rehabilitation. School of Biological Science and Medical Engineering, Beihang University, July 8.
10. **Jan YK** (2022). Global Report on Assistive Technology. School of Biological Science and Medical Engineering, Beihang University, July 1.
11. **Jan YK** (2022). Soft Tissue Biomechanics in Rehabilitation: from Bulk Tissues and Blood Vessels to Optimal Dose-Response Relationships of Interventions. International Webinar Series on Smart Healthcare Science and Technology, June 16.
12. **Jan YK** (2019). Microvascular biomechanics and its applications in assistive device development. International Conference on Medicine in Novel Technology and Devices, Beijing, China, August 11-12.
13. **Jan YK** (2019). Topic 1: Review of rehabilitation professions in the United States. Topic 2: Assistive technology development and practice: perspectives from RESNA. Department of Physical Therapy, National Cheng Kung University, Tainan, Taiwan, June 6.
14. **Jan YK** (2019). Review of Doctor of Physical Therapy Application Process and Physical Therapist Career in the United States. Student Physical Therapist Association, National Cheng Kung University, Tainan, Taiwan, May 30.
15. **Jan YK** (2019). Topic 1: Review of the University of Illinois at Urbana-Champaign (UIUC). Topic 2: Microvascular dynamics and its applications in physical therapy. Department of Physical Therapy, National Cheng Kung University, Tainan, Taiwan, May 30.
16. **Jan YK** (2018). Evaluations of the National Institutes of Health research plan on rehabilitation. 2018 International Symposium on Rehabilitation Engineering, Qinhuangdao, China, September 9.
17. **Jan YK** (2017). Applying a problem-based learning (PBL) approach to research the needs of assistive device designs. College of Creative Design, Asia University, Taichung, Taiwan, December 12.
18. **Jan YK** (2017). Applying a problem-based learning (PBL) approach to design assistive devices. College of Creative Design, Asia University, Taichung, Taiwan, December 11.
19. **Jan YK** (2017). Microvascular biomechanics and its applications on injury prevention and rehabilitation. Rehabilitation Engineering Conference and Expo, Beijing, China, November 1.
20. **Jan YK** (2017). Using American experience on developing assistive technology industry to guide the development of rehabilitation engineering in China. Beihang University, School of Biological Science and Biomedical Engineering, Beijing, China, June 5.
21. **Jan YK** (2017). Rehabilitation Engineering and Assistive Technology for improving the quality of life in people with disabilities. A special lecture for the Technology and Industry seminar, Beihang University, Beijing, China, June 2.
22. **Jan YK** (2017). Evaluations of research plan on rehabilitation of the National Institutes of Health to develop strategies to advance rehabilitation research in China. Beihang University, School of Biological Science and Biomedical Engineering, Beijing, China, May 31.
23. **Jan YK** (2017). Biomechanical analyses of risks for diabetic foot ulcers. Beihang University, School of Biological Science and Biomedical Engineering, Beijing, China, May 22.
24. **Jan YK** (2017). Biomechanical analyses of risks for diabetic foot ulcers. University of Chicago, Chicago Center for Diabetes Translation Research, Chicago, IL, March 24.

25. **Jan YK** (2016). Global Disability and Rehabilitation Engineering Initiatives. Xi'an Jiaotong University, Institute of Biomedical Engineering, Xi'an, China, May 23.
26. **Jan YK** (2016). Rehabilitation Engineering and Assistive Technology for improving the quality of life in people with disabilities. A special lecture for the Technology and Industry seminar, Beihang University, Beijing, China, May 18.
27. **Jan YK** (2016). Soft tissue biomechanics and its applications on injury prevention and rehabilitation. Beihang University, School of Biological Science and Biomedical Engineering, Beijing, China, May 17.
28. **Jan YK** (2016). Global Disability and Rehabilitation Engineering Initiatives. National Research Center for Rehabilitation Technical Aids (NRCRTA), National Department of Civil Affairs, Beijing, China, May 16.
29. **Jan YK** (2016). Microvascular biomechanics and its applications on injury prevention and rehabilitation. Beihang University, School of Biological Science and Biomedical Engineering, Beijing, China, May 11.
30. **Jan YK** (2016). Wheelchair and seating research for people with disabilities. Beihang University, School of Biological Science and Biomedical Engineering, Beijing, China, May 9.
31. **Jan YK** (2016). Microvascular physiology and soft tissue biomechanics of pressure ulcers/injury. Carle Foundation Hospital Wound Healing Clinic, April 29.
32. **Jan YK** (2015). Development of wheelchair driving and seating systems for people with disabilities. University of Illinois at Urbana-Champaign, Department of Industrial and Enterprise Systems Engineering, IL, November 19.
33. **Jan YK** (2015). Development of methods for assessing wheelchair driving and seating performance. Technology Center for Innovative Medicine & Division of Biomedical Engineering, Chinese University of Hong Kong, Hong Kong, July 3.
34. **Jan YK** (2015). Development of methods for assessing wheelchair driving and seating performance. National Changhua University of Education, Department of Electrical Engineering, Changhua, Taiwan, June 24.
35. **Jan YK** (2015). Adaptive sports and cardiovascular function in wheelchair users. Kaohsiung Medical University, Department of Sports Medicine, Kaohsiung, Taiwan, June 18.
36. **Jan YK** (2015). Soft tissue biomechanics and injury prevention. Department of Sports Medicine, Kaohsiung Medical University, Department of Sports Medicine, Kaohsiung, Taiwan, June 18.
37. **Jan YK** (2015). Microvascular remodeling to physical activity and inactivity. Kaohsiung Medical University, Department of Sports Medicine, Kaohsiung, Taiwan, June 17.
38. **Jan YK** (2015). Assistive technology and rehabilitation engineering research at the University of Illinois at Urbana-Champaign. Kaohsiung Medical University, Department of Sports Medicine, Kaohsiung, Taiwan, June 16.
39. **Jan YK** (2015). Kinesiology and community health research at the University of Illinois at Urbana-Champaign. Kaohsiung Medical University, Department of Sports Medicine, Kaohsiung, Taiwan, June 16.
40. **Jan YK** (2015). Wheeled mobility and seating research in Rehabilitation Engineering Lab at UIUC. International Medical Device Summit and Beihang University Biomedical Engineering Research Symposium, Beijing, China, May 14.
41. **Jan YK** and lab students (2015). Wheeled mobility and seating research in Dr. Jan's lab. Division of Disability Resources and Educational Services, UIUC. March 6.
42. **Jan YK** (2015)**.** Wheeled mobility and seating research at Rehabilitation Engineering Lab, UIUC. The Chittenden Symposium on Mobility, Technology and the Future of Health. University of Illinois at Urbana-Champaign, Champaign, IL January 29.
43. **Jan YK** (2013). Soft tissue biomechanics of diabetic foot ulcers. Bio-Interest Group Seminars, University of Illinois at Urbana-Champaign Department of Mechanical Science and Engineering, October 28.

44. **Jan YK** (2013). The role of microvascular and tissue mechanic factors on the development of pressure ulcers. University of Illinois at Chicago, Center for Wound Healing and Tissue Regeneration, Chicago, IL, January 17.
45. **Jan YK** (2012). Research program in Dr. Jan's research lab. Surgery Research Roundtable, Department of Surgery, School of Community Medicine, University of Oklahoma, Tulsa, OK, March 7.
46. **Jan YK** (2011). Effect of spinal cord injury on autonomic and microvascular dysfunction. Neuroscience Seminars, Oklahoma Center for Neuroscience, College of Medicine, University of Oklahoma Health Sciences Center, Oklahoma City, OK, November 4.
47. **Jan YK** (2011). Effect of spinal cord injury on nonlinear complexity of skin blood flow oscillations. 2011 Human Computer Interaction International Conference, Orlando, FL, July 9-14.
48. **Jan YK** (2011). Development of the Oklahoma Assistive Technology Research Center: Journey through Biomedical Engineering to Rehabilitation Research. Rehabilitation Sciences Research Roundtable, Department of Rehabilitation Sciences, College of Allied Health, OUHSC, April.
49. **Jan YK** (2010). Soft tissue biomechanics and pressure ulcer prevention. Neuroscience Postdoc/Junior Faculty meetings, Oklahoma Center for Neuroscience, College of Medicine, OUHSC, September.
50. **Jan YK** (2009). The role of biomechanics in diabetic foot ulcers. Endocrinology Grand Rounds, Department of Medicine-Endocrinology and Diabetes, College of Medicine, OUHSC, September 22.
51. **Jan YK** (2009). Blood flow and tissue mechanics factors in pressure ulcers of people with disabilities. Physiology Research Seminars, Department of Physiology, OUHSC, April.
52. **Jan YK** (2009). The promise of translational physiology in rehabilitation research. Rehabilitation Sciences Research Seminars, D.Sc. program, Department of Rehabilitation Sciences, College of Allied Health, OUHSC, March.
53. **Jan YK** (2008). Effectiveness of local cooling on enhancing tissue tolerance to loading pressure in SCI: a preliminary report. Spinal Cord Symposium, Christopher and Dana Reeve Foundation, Atlanta, GA, May 9-11.
54. **Jan YK** (2007). Skin blood flow oscillation and pressure ulcer risk in older adults with disabilities. Mary E. Switzer Research Fellow Seminar, National Institute on Disability and Rehabilitation Research (NIDRR), Washington, DC, May 3-4.

Peer-Reviewed Proceeding Abstracts

1. **Jan YK** and Cheung WC (2025). Diagnosis and management of microvascular dysfunction in diabetes mellitus. American Congress of Rehabilitation Medicine (ACRM) RehabWeek 2025 Conference, Chicago, IL, May 12-16, 2025.
2. Pauly S and **Jan YK** (2025). Effects of alternating pressure patterns on sacral skin blood flow responses in people with spinal cord injury. American Congress of Rehabilitation Medicine (ACRM) RehabWeek 2025 Conference, Chicago, IL, May 12-16, 2025.
3. Babaniamansour A and **Jan YK** (2025). Spatial distributions of forearm hemodynamic responses during different modes of isometric handgrip exercise. American Congress of Rehabilitation Medicine (ACRM) RehabWeek 2025 Conference, Chicago, IL, May 12-16, 2025
4. Tim Yang, Laura Rice, Seth Hutchinson, and **Yih-Kuen Jan** (2025). Robotic individualized driving evaluation (RIDE): design and preliminary evaluation. 2025 International Conference on Rehabilitation Robotics (ICORR), May 12-16, 2025.
5. Ben-Yi Liau, Chi-Wen Lung, **Yih-Kuen Jan**, AND Chih-Cheng Chen (2025). Evaluate the effect of cupping therapy on the complexity of hemodynamic response using multiscale entropy. IEEE International Conference on Applied System Innovation, Tokyo, Japan, April 22-25.
6. Yori Pusparani, Benny Muhdaliha, Peter Ardhianto, Gilang Titah, Ardha Prisilla, Ben-Yi Liau, **Yih-Kuen Jan**, Wen-Hung Chao, Chi-Wen Lung (2025). The Classification of Food Logos Using

Convolutional Neural Networks. 2025 International Conference on Consumer Electronics (IEEE ICCE-Taiwan), July 16-18.

7. Muhammad Talaf, Yori Pusparani, Elvin Nur Furgon, Ben-Yi Liau, **Yih-Kuen Jan**, Congo Tak Ching, Wen-Thong Chang, Chih-Yang Lin, and Chi-Wen Lung (2025). Double UNet based two-shot inference for robust hippocampal segmentation in brain MRI scans. 2025 International Conference on Consumer Electronics (IEEE ICCE-Taiwan), July 16-18.
8. Ardha Prisilla, Mariya Nissar, Gilang Ramadhan, Wei-Cheng Shen, Hsu-Tang Cheng, Ben-Yi Liau, **Yih-Kuen Jan**, Wen-Hung Chao, and Chi-Wen Lung (2025). The intelligent systems of skin thickness in measured by optical coherence tomography. 2025 International Conference on Consumer Electronics (IEEE ICCE-Taiwan), July 16-18.
9. Gilang Ramadhan, Yori Pusparani, Ardha Prislla, Wei-Cheng Shen, Hsu-Tang Cheng, Ben-Yi Liau, **Yih-Kuen Jan**, Wen-Thong Chang, and Chi-Wen Lung (2025). Artificial intelligence based segmentation for skin layer visualization from optical coherence tomography images. 2025 International Conference on Consumer Electronics (IEEE ICCE-Taiwan), July 16-18.
10. Zhu H, He L, and **Jan YK** (2024). The effect of flexor digitorum superficialis fatigue on blood pressure responses during isometric contraction. The 11th WACBE World Congress on Bioengineering. Kowloon, Hong Kong, August 4-7, 2024.
11. Zhang X, Wang X, Ren W, **Jan YK**, Yao J, and Pu F (2024). Effect of different soft knee braces on quadriceps and hamstring activity during running. 2024 17th International Convention on Rehabilitation Engineering and Assistive Technology (i-CREATe), Shanghai, China, August 23-26, 2024.
12. Tan HC, Titah G, Shen WC, Chang WT, Lin CY, Liau BY, **Jan YK**, Pusparani Y, and Lung CW (2024). Segmenting Alzheimer's disease MRI slices for hippocampal volume calculation. International Conference on Consumer Electronics – Taiwan (ICCE Taiwan), July 9-11.
13. Ramadan R, Ramadhan GT, Shen WC, Chang WT, Cheng HT, Liau BY, **Jan YK**, Prisilla AA, and Lung CW (2004). Influence of negative pressure and duration on skin thickness in scar healing. International Conference on Consumer Electronics – Taiwan (ICCE - Taiwan), July 9-11.
14. Chih-Yang Lin, Yan-Zhang Wang, Shou-Kuan Lin, Isack Farady, **Yih-Kuen Jan** and Wei-Yang Lin (2024). Effective Adversarial Sample Detection for Securing Automatic Speech Recognition. 2024 IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS). Niagara Falls, Canada, July 15-16, 2024.
15. Prisilla AA, Pusparani Y, Chang WT, Liau BY, **Jan YK**, Ardhianto P, Lin CY, Lien CM, and Lung CW (2023). Automatic detection of lumbar disc herniation using YOLOv7. 2023 International Conference on Consumer Electronics (IEEE ICCE-Taiwan). Pingtung, Taiwan, July 17-19, 2023.
16. Lin CF, Mo PC, and **Jan YK** (2023). Differences of blood flow responses in two hand exercise types between healthy adults and individuals with diabetes mellitus. ACRM Progress in Rehabilitation Research, Atlanta, GA, October 28-November 2. (*Archives of Physical Medicine and Rehabilitation 105(4), e102.*)
17. Jankaew A, **Jan YK**, and Lin CF (2023). Hamstring activation deficits during challenging balance control in athletes with hamstring strain injuries. American Physical Therapy Association Combined Sections Meeting (CSM), San Diego, CA, February 23-25, 2023.
18. Zhang K, Cao C, **Jan YK,** and Ding Y (2022). Characteristics of executive-related brain networks in male college students undergoing long-term aerobic exercise. American College of Sports Medicine annual conference, San Diego, CA, May 31-June 4, 2022. (*Medicine & Science in Sports & Exercise 54(9S), 593-594.*)
19. Pusparani Y, Liau BY, **Jan YK**, Cheng HT, Ardhianto P, Akhyar F, Lung CW, and Lin CY (2022). Plantar soft tissue stiffness automatic estimation in ultrasound imaging on deep learning. International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences, New York, NY, July 24-28, 2022.
20. Ardhianto P, Subiakto RBR, Tsai JY, Lin CY, **Jan YK**, Liau BY, Akbari VBH, Lien CM, and Lung CW (2021). Optimizing object detection of foot profiles position based on plantar pressure images

labeling. The 3rd International Symposium on Engineering and Technology (ISET 2021), Taichung, Taiwan, November 19-20, 2021

21. Lung CW, **Jan YK**, Wang S, and Liau BY (2021). Evaluation of EMG complexity in response to different walking regulations by using multiscale entropy analysis. Taiwanese Society of Biomedical Engineering annual conference, Taichung, Taiwan, November 19-20, 2021.
22. Shen, W.-C., Liau, B.-Y., Cheng, H.-T., Wang, S., **Jan, Y.K**., & Lung, C.-W. (2021). Repeatability Analysis of Plantar Soft Tissue Stiffness Test. Paper presented at the 2021 Annual Meeting of Taiwanese Society of Biomechanics and Annual Report of Ministry of Science and Technology, Taipei, Taiwan, October 16, 2021.
23. Chen HC, Sunardi, **Jan YK**, Liau BY, Lin CY, Li CT, and Lung CW (2021). Using deep learning methods to predict walking intensity from foot plantar pressure. International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences, Manhattan, New York, July 25-29, 2021.
24. Shen WC, **Jan YK**, Lung CW, Chen HC, Li CT, Bau JG, and Liau BY (2021). Using ultrasound to assess microchambers and macrochambers tissue properties after walking at different speeds and durations. International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences, Manhattan, New York, July 25-29, 2021.
25. Zhang K, Cao C, and **Jan YK** (2020). Characteristics of resting state networks of elite skating athletes: An ICA analysis. American College of Sports Medicine annual conference, San Francisco, CA, May 26-30, 2020. (*Medicine & Science in Sports & Exercise 52(7S), 363*.)
26. Cheng YC, Lung CW, **Jan YK**, and Liau BY (2020). Evaluate the effect of far infrared rays with carbon fiber on sleep quality. The 4th Global Conference on Biomedical Engineering & Annual Meeting of TSBME, Taipei, Taiwan, November 12-14, 2020.
27. Lin CY, Huang HY, Lin WY, Chang CY, Chang WT and **Jan YK** (2020). Limited-anchor deep neural network for moving object detection. IEEE International Conference on Consumer Electronics – TW (ICCE-TW), Taoyuan, Taiwan, September 28-30.
28. Shen WC, **Jan YK**, Lung CW, Anastian A, Hsieh CW, Cheng HT, Liao YY, and Liau BY (2020). Analysis of moisture and sebum of the skin for monitoring wound healing in older nursing home residents. International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences, San Diego, CA, July 16-20.
29. Tsai JY, **Jan YK**, Liau BY, Subiakto RBR, Hendradi R, Hsu YC, Chang HT, and Lung CW (2020). A convolutional neural network model to clarify the effects of vibrations on biceps muscles. International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences, San Diego, CA, July 16-20.
30. Lung CW, **Jan YK**, and Liau BY (2019). EMG analysis of cupping therapy effect on muscle fatigue by applying Lyapunov Exponent. WACBE World Congress on Bioengineering, Taipei, Taiwan, August 16-19.
31. Lung CW, **Jan YK**, Lu JH, Chen CL, Kuo FC, and Liau BY (2019). The evaluation of mechanical properties of soft tissue on pressure ulcers among bedridden elderly patients. International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences, Washington, DC, July 24-28.
32. Tsai JY, Liau BY, **Jan YK**, Chen CL, Chen PJ, Lung CW (2019). Deep learning model to recognize the different progression condition patterns of manual wheelchair users for prevention of shoulder pain. International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences, Washington, DC, July 24-28.
33. Yang TD, Rice LA, and **Jan YK** (2018). Typifying power wheelchair joystick control using EMG feature and channel selection. RESNA Annual Conference, Arlington, VA, July 13-15.
34. Liau BY, Chen CL, **Jan YK**, Chiu HY, Huang YW, and Lung CW (2018). Three-dimensional elastography gradient of the plantar soft tissue: methodology and preliminary study. International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences, Orlando, FL, July 22-26.

35. Lung CW, Lin YS, **Jan YK**, Lo YC, Chen CL, and Liau BY (2018). Effect of far infrared radiation therapy on improving microcirculation of the diabetic foot. International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences, Orlando, FL, July 22-26.
36. Mohamed AA, **Jan YK,** El Sayed WH, El Wanis ME, and Mohammed AA (2017). Effect of dynamic scapular recognition on the shoulder range of motion in patients with adhesive capsulitis. American Congress on Rehabilitation Medicine, Atlanta, GA, October 26-28. (*Archives of Physical Medicine and Rehabilitation, 2017, 98(10), e58-e59.*)
37. Chen CL, Lung CW, **Jan YK**, Liau BY, and Tang JS (2017). The recovery effects of dry cupping treatment between repeated arm cranking tests - a pilot study. International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences, Los Angeles, CA, July 17-21.
38. Liau BY, Chen CL, **Jan YK**, Chiu HY, He PS, and Lung CW (2017). A comparative study of the effects of electrical stimulation and intermittent compressive forces on soft tissue mechanical properties. International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences, Los Angeles, CA, July 17-21.
39. Lung CW, Chao LF, Chen WF, Chen CL, **Jan YK**, and Liau BY (2017). Activation sequences patterns of forearm muscles for driving power wheelchair. International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences, Los Angeles, CA, July 17-21.
40. Mohamed AA and **Jan YK** (2017). Effect of dynamic scapular recognition on the shoulder range of motion in patients with adhesive capsulitis. The Chittenden Symposium on Assistive Technology, UIUC, Champaign, IL, March 31.
41. Mohamed AA and **Jan YK** (2017). Effect of dynamic scapular recognition on the shoulder range of motion in patients with adhesive capsulitis. KCH Honors and Awards Program, UIUC, Champaign, IL, March 31.
42. **Jan YK**, Lung CW, Yang TD, Cheung W, and Jain S (2016). Seating pressure gradient vectors in response to the changes of wheelchair tilt and recline in people with spinal cord injury. American Congress on Rehabilitation Medicine, Chicago, IL, October 30-November 4. (*Archives of Physical Medicine and Rehabilitation 2016, 97(10), e93.*)
43. Lung CW, Cheng TY, Li YJ, Liau BY, and **Jan YK** (2016). Development of an intermittent pneumatic compression system to manage soft tissue mechanical properties. International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences, Orlando, FL, July 27-31.
44. Lung CW, Cheng TY, **Jan YK**, Chen HC, and Liau BY (2016). Assessment of muscle activation pattern by electromyography while wheelchair driving with joystick. International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences, Orlando, FL, July 27-31.
45. Yang TD, Rice LA, David A, Hutchinson S, and **Jan YK** (2015). Myoelectric modeling of joystick control for an adaptive smart wheelchair. RESNA Annual Conference, Denver, CO, June 11-14.
46. Yang TD, Kibler K, Lung CW, and **Jan YK** (2015). Development and evaluation of a programmable alternating pressure seat cushion. RESNA Annual Conference, Denver, CO, June 11-14.
47. Zhuge C, Lung CW, Chen D, and **Jan YK** (2015). Development of the feedback controlled indentation system for assessing risk of pressure ulcers. RESNA Annual Conference, Denver, CO, June 11-14.
48. Liao F, Brooks I, Hsieh CW, Rice IM, Jankowska MM, and **Jan YK** (2014). Assessing complexity of heart rate variability in people with spinal cord injury using local scale exponents. IEEE International Conference on Engineering in Medicine and Biology Society, Chicago, IL, August 26-30.
49. Fu J, Liu T, Jones M, Qin G, and **Jan YK** (2014). Characterization of wheelchair maneuvers based on noisy inertial sensor data: A preliminary study. IEEE International Conference on Engineering in Medicine and Biology Society, Chicago, IL, August 26-30.

50. Liao F and **Jan YK** (2014). Assessing skin blood flow dynamics in older adults using a modified sample entropy approach. IEEE International Conference on Engineering in Medicine and Biology Society, Chicago, IL, August 26-30.
51. Yang TD, Patel A, and **Jan YK** (2014). Individualized performance quantification of wheelchair driving. RESNA Annual Conference, Indianapolis, IN, June 11-15.
52. Xie LQ, Zhan ZH, Yang TD (Advisors: Lung CW and **Jan YK)** (2014). Development of a rapid prototyping wheelchair cushion for preventing pressure ulcers. (Student Design Competition) RESNA Annual Conference, Indianapolis, IN, June 11-15.
53. Yang TD, Hutchinson S, and **Jan YK** (2014). Markov modeling of power wheelchair driving. Computational Science and Engineering Annual Meeting, UIUC, April 10-11.
54. Fu J, Hao W, White T, Yan Y, Jones M, and **Jan YK** (2013). Capturing and analyzing wheelchair maneuvering patterns with mobile cloud computing. IEEE International Conference on Engineering in Medicine and Biology Society, Osaka, Japan, July 3-7.
55. **Jan YK**, Crane BA, Rice LA, and Ennis WJ (2013). Muscle and skin perfusion over the ischial tuberosities in response to wheelchair tilt and recline in people with spinal cord injury. RESNA Annual Conference, Bellevue, WA, June 20-24.
56. **Jan YK**, Liao F, Rice LA, and Woods JA (2013). Using reactive hyperemia to assess the efficacy of local cooling on reducing skin ischemia under surface pressure in people with spinal cord injury. American Spinal Injury Association annual conference, Chicago, IL, May 6-8. (*Topics in Spinal Cord Injury Rehabilitation 2013; 19(S1): 23*.)
57. Fu J, Wiechmann P, **Jan YK**, and Jones M (2012). Towards an intelligent system for clinical guidance on wheelchair tilt and recline usage. IEEE International Conference on Engineering in Medicine and Biology Society, San Diego, CA, August 28-September 1.
58. Liao F and **Jan YK** (2012). Using recurrence network approach to quantify nonlinear dynamics of skin blood flow in response to pressure loading. IEEE International Conference on Engineering in Medicine and Biology Society, San Diego, CA, August 28-September 1.
59. **Jan YK**, Anderson M, and Foreman RD (2012). Changes in heart rate variability and sacral skin perfusion in response to postural changes in people with spinal cord injury. South Central American Society of Biomechanics Annual Conference, Dallas, TX, April 13-14.
60. Rong D, Lung C, Burns S, and **Jan YK** (2012)**.** Biomechanical analysis of the risks of diabetic foot ulcers. Southern Biomedical Engineering Conference, Houston, TX, May 4-6.
61. Liao F and **Jan YK** (2012)**.** Effects of local cooling on nonlinear dynamics of skin blood flow response to pressure loading. Southern Biomedical Engineering Conference, Houston, TX, May 4-6.
62. Yang T, Liao F, Jones M and **Jan YK** (2012). Effects of wheelchair tilt and recline angles on peak seating interface pressure in wheelchair users with spinal cord injury. Southern Biomedical Engineering Conference, Houston, TX, May 4-6.
63. Yang T, Liao F, Jones M and **Jan YK** (2012). Sitting-induced pressure ulcer risks may be reduced at specific tilt and recline angles. Oklahoma INBRE research program, July 20.
64. Rong D, Lung C, Burns S, and **Jan YK** (2012)**.** Biomechanical analysis of the risks of diabetic foot ulcers. College of Allied Health Research Day, OUHSC, OK, April 6.
65. Liao F and **Jan YK** (2012)**.** Effects of local cooling on nonlinear dynamics of skin blood flow response to pressure loading. College of Allied Health Research Day, OUHSC, OK, April 6.
66. Yang T, Liao F, Jones M and **Jan YK** (2012). Effects of wheelchair tilt and recline angles on peak seating interface pressure in wheelchair users with spinal cord injury. College of Allied Health Research Day, OUHSC, OK, April 6.
67. Starbuck G, Liao F, Rong D, and **Jan YK** (2012). Effects of local cooling on the risk of pressure ulcers. College of Allied Health Research Day, OUHSC, OK, April 6.
68. Rong D, Lung C, Burns S, and **Jan YK** (2012)**.** Biomechanical analysis of the risks of diabetic foot ulcers. GREAT, OUHSC, OK, April 2-5.

69. Liao F and **Jan YK** (2012)**.** Effects of local cooling on nonlinear dynamics of skin blood flow response to pressure loading. GREAT, OUHSC, OK, April 2-5.
70. Yang T, Liao F, Jones M, and **Jan YK** (2012). Effects of wheelchair tilt and recline angles on peak seating interface pressure in wheelchair users with spinal cord injury. GREAT, OUHSC, OK, April 2-5.
71. Fu J, Genson J, **Jan YK**, and Jones M (2011). Using artificial neural network to determine favorable wheelchair tilt and recline usage in people with spinal cord injury. IEEE International Conference on Tools with Artificial Intelligence, Boca Ranton, FL, November 7-9.
72. Fu J, **Jan YK** and Jones M (2011). Development of intelligent model to determine favorable wheelchair tilt and recline angles for people with spinal cord injury. IEEE International Conference on Engineering in Medicine and Biology Society, Boston, MA, August 30-September 3.
73. **Jan YK** and Liao F (2011). Synchronization of sacral skin blood flow oscillations in response to local heating. IEEE International Conference on Engineering in Medicine and Biology Society, Boston, MA, August 30-September 3.
74. **Jan YK**, Anderson M, James S, Soltani J, and Foreman R (2011). Relationship between heart rate variability and sacral skin perfusion in people with spinal cord injury. International Conference on Spinal Cord Medicine and Rehabilitation, Washington, DC, June 6-8. (*Topics in Spinal Cord Injury Rehabilitation 2011; 16(S1): 45*.)
75. Lee B, Foreman R, and **Jan YK** (2011). Local cooling on enhancing tissue viability in people with spinal cord injury. Southern Biomedical Engineering annual conference, Arlington, TX, April 29-May 1. (International Journal of Medical Implants and Devices, supplement)
76. Rong D, Liao F, Jones M, and **Jan YK** (2011). Performance of wavelet transform and Fourier transform in heart rate variability analysis. Southern Biomedical Engineering annual conference, Arlington, TX, April 29-May 1. (International Journal of Medical Implants and Devices, supplement)
77. **Jan YK**, Brienza DM, Brenes G, and Boninger ML (2011). Comparison of skin perfusion response with alternating and constant pressures in people with spinal cord injury. The Symposium on Advanced Wound Care, Dallas, TX, April 14-17.
78. Rabadi MH, **Jan YK**, Jones MA, Foreman RD, and Thiessen A (2011). Effect of wheelchair tilt-in-space and recline angles on skin perfusion over the ischial tuberosity in people with spinal cord injury. American Academy of Neurology annual conference, Honolulu, Hawaii, April 9-16. (*Neurology 2011; 76: A160*.)
79. **Jan YK**, Liao F, Struck BD, and MacRobert M (2011). Effect of aging on complexity of sacral skin blood flow oscillations. 2011 South Central American Society of Biomechanics conference, Dallas, TX, February 25-26. (International Journal of Exercise Science, supplement)
80. Rong D, Lung C, Burns S, and **Jan YK** (2011). Biomechanical analysis of risk for diabetic foot ulcers. Oklahoma Diabetes Research Symposium, Oklahoma City, OK, November 12.
81. Yang T, Fu J, Jones M, and **Jan YK** (2011). Using accelerometry to quantify power wheelchair usage in children with cerebral palsy. Oklahoma Research Day, Lawton, OK, November 4.
82. **Jan YK** (2011). Biomechanical analysis of risk for diabetic foot ulcers. Oklahoma Health Research Conference, Oklahoma Center for the Advancement of Science and Technology (OCAST), Oklahoma City, OK, April 6.
83. Lee B, Foreman R, and **Jan YK** (2011). The effects of local cooling on pressure ulcer development. GREAT, OUHSC, March 28-31.
84. Rong D, Liao F, Jones M, and **Jan YK** (2011). Performance of wavelet transform and Fourier transform in heart rate variability analysis. GREAT, OUHSC, March 28-31.
85. Akbaran M, Burns S, and **Jan YK** (2011). Biomechanical analysis of diabetic foot. GREAT, OUHSC, March 28-31.
86. Clagg L, Garrison DW, and **Jan YK** (2010). Effect of sympathovagal balance on posturally-induced vasoconstrictive responses in people with spinal cord injury. Annual Biomedical Research Conference for Minority Students, Charlotte, NC, November 10-13.

87. **Jan YK**, Liao F, Garrison DW, and Anderson MA (2010). Relationship between sacral skin blood flow oscillations and vasodilatory functions in people at risk for pressure ulcers. American Society of Biomechanics scientific conference, Providence, RI, August 18-21.
88. Clagg L, Garrison DW, and **Jan YK** (2010). Effect of sympathovagal balance on posturally-induced vasoconstrictive responses in people with spinal cord injury. Oklahoma INBRE research program, July 23.
89. **Jan YK,** Curtis DD, Foreman RD, and Lyons TJ (2010). Biomechanical analysis of risk for diabetic foot ulcers. 2010 Oklahoma Health Research Conference, Oklahoma Center for the Advancement of Science and Technology (OCAST), Midwest City, OK, April 22.
90. Lee B, Rabadi M, Foreman RD, and **Jan YK** (2010). Exploring the affect of cooling on the development of pressure ulcers. Graduate Research and Education Technology Symposium, OUHSC, March 30-April 1.
91. **Jan YK**, Struck BD, Foreman RD, and Robinson C (2009). Wavelet analysis of blood flow oscillations to assess pressure ulcer risk in older adults. RESNA Annual Conference, New Orleans, LA, June 23-27.
92. **Jan YK**, Brienza DM, Brenes G, and Boninger ML (2009). Effects of alternating and constant pressures on soft tissue viability and pressure ulcer risk in people with spinal cord injury. Congress on Spinal Cord Medicine and Rehabilitation, Dallas, TX, September 23-26. (*Journal of Spinal Cord Medicine 2009; 32(4): 457*.)
93. Tzen Y, **Jan YK**, Porach EA, Karg PE, and Brienza DM (2009). Effects of local cooling on sacral skin perfusion response to pressure: implications for pressure ulcer prevention. National Pressure Ulcer Advisory Panel (NPUAP) Biannual Conference, Washington, DC, February.
94. Tzen Y, **Jan YK**, and Brienza DM (2008). Development of a system to study the effect of local cooling on skin blood flow response to interface pressure. RESNA Annual Conference, Arlington, VA, June 26-30.
95. **Jan YK**, Brienza DM, and Brenes G (2008). Assessment of endothelial function using wavelet analysis of skin blood flow oscillations in older people. International Conference on Mechanics in Medicine and Biology, Pittsburgh, PA, July 23-25.
96. **Jan YK,** Day JD, Foreman RD, and Bryer-Ash M (2008). The roles of biomechanical property and microvascular function on diabetic foot ulcer development. Fifth Oklahoma Diabetes Research Retreat, Oklahoma City, OK, November 22.
97. **Jan YK**, Brienza DM, and Porach EA (2007). Noninvasive assessment of endothelial nitric oxide function using wavelet-based spectrum analysis of laser Doppler blood flow oscillations in elderly people. Science 2007: Collaborate, Innovate, Transform, University of Pittsburgh, PA, October 11-12.
98. **Jan YK,** Brienza DM, and Boninger ML (2005). Analysis of skin blood flow responses to mechanical stresses with implications to alternating pressure support surfaces. RESNA Annual Conference, Atlanta, GA.
99. **Jan YK**, Brienza DM, and Boninger ML (2005). A time-frequency approach using wavelets to study week-to-week variability in blood flow oscillations. XXth Congress of the International Society of Biomechanics and 29th Annual Meeting of the American Society of Biomechanics, Cleveland, OH.
100. **Jan YK** and Brienza DM (2005). Using wavelet-based spectrum analysis of skin blood flow oscillations to investigate the physiologic mechanisms associated with alternating pressure. Clinical Symposium on Advances in Skin and Wound Care, Las Vegas, Nevada, October.
101. **Jan YK**, Brienza DM, and Boninger ML (2005). A time-frequency approach using wavelets to study week-to-week variability in blood flow oscillations. Department of Physical Medicine and Rehabilitation's Annual Resident Research Day, University of Pittsburgh, Pittsburgh, PA.
102. **Jan YK**, Brienza DM, and Geyer MJ (2004). Using wavelet analysis to investigate skin blood flow control mechanisms: Implications for skin thermoregulatory mechanisms. RESNA Annual Conference, Orlando, FL.

103. **Jan YK,** Brienza DM, and Geyer MJ (2004). A comparison of skin blood flow responses to alternating pressure and constant loading. 2nd World Union of Wound Healing Societies' Meeting, Paris, France.
104. **Jan YK**, Brienza DM, and Geyer MJ (2004). A comparison of changes in rhythms of sacral skin blood flow in response to heating and indentation. American Physical Therapy Association Annual Conference, Chicago, IL.
105. **Jan YK**, Brienza DM, and Geyer MJ (2004). A comparison of changes in rhythms of sacral skin blood flow in response to heating and indentation. McGowan Institute for Regenerative Medicine 2004 Scientific Retreat, Farmington, PA.
106. **Jan YK**, Brienza DM, and Geyer MJ (2004). A time-frequency approach using wavelets to study week-to-week variability in blood flow oscillations. Science 2004: No Boundaries, University of Pittsburgh, Pittsburgh, PA, October 6-8.
107. **Jan YK**, Brienza DM, and Geyer MJ (2004). A comparison of skin blood flow responses to alternating pressure and constant loading. Department of Physical Medicine and Rehabilitation's Annual Resident Research Day, University of Pittsburgh, Pittsburgh, PA.
108. **Jan YK**, Geyer MJ, Brienza DM, and Boninger ML (2003). Using wavelet analysis to characterize thermoregulatory mechanisms of sacral skin blood flow. Science 2003: Improving the Human Condition, University of Pittsburgh, Pittsburgh, PA, September 24-26.
109. Lung CW, Yang SW, and **Jan YK** (2003). Functional evaluation of below-knee prosthetic feet. World Congress on Medical Physics and Biomedical Engineering Conference, Australia.
110. **Jan YK**, Geyer MJ, and Brienza DM (2003). Development of a system to study the effect of alternating pressure loading on skin perfusion. RESNA Annual Conference, Atlanta, GA.
111. Wang J, Brienza DM, and **Jan YK** (2001). Review of etiology of pressure ulcers and development of pressure-relieving products. The 3rd National Conference in Rehabilitation Medicine, Beijing, China.
112. **Jan YK**, Lee SJ, and Yang SW (1997). The effects of walking speed on plantar pressure. Annual Symposium of the Chinese Biomedical Engineering Society, Taoyuan, Taiwan.
113. **Jan YK**, Huang YC, and Yang SW (1997). Foot pressure analysis of below-knee amputees. Annual Symposium of the Chinese Biomedical Engineering Society, Taoyuan, Taiwan.
114. **Jan YK**, Lee SJ, and Yang SW (1997). Comparison of overground and treadmill foot pressure. Annual Symposium of the Chinese Biomedical Engineering Society, Taoyuan, Taiwan.
115. **Jan YK**, Yang SW, and Cheung W (1996). Gait analysis of different prosthetic feet. Annual Meeting of Chinese Prosthetics and Orthotics Society, Taipei, Taiwan.
116. Chang MK, **Jan YK**, and Yang SW (1995). Gait analysis of alignment and foot prosthesis of below-knee prosthesis. Joint Conference of the International Society of Biomechanics and the Formosan Society of Biomechanics, Tainan, Taiwan.

Poster Presentations in Symposiums

1. Ravi Shah, Harsh Patel, Akash Patel, Jack Guo and Yih-Kuen Jan. Biomechanical assessments of the shoulder in wheelchair athletes. Undergraduate Research Symposium, University of Illinois at Urbana-Champaign, April 24, 2025.
2. Elisabeth Paskali and **Yih-Kuen Jan** (2024). Effects of modes and intensities of handgrip exercise on neuromuscular fatigue in individuals with cerebral palsy. Undergraduate Research Symposium, University of Illinois at Urbana-Champaign, April 25, 2024.
3. Boston J, **Jan YK**, and Mo P (2022). Comparison of different intensities of handgrip exercise on cardiovascular responses in people with cerebral palsy. Molecular and Cellular Biology Undergraduate Research Symposium, UIUC, November 4.
4. Yang TD, Hutchinson SA, Rice LA, Watkin KL, and **Jan YK** (2013). Pressure ulcer prevention with the Raspberry Pi and Python. Center for Health, Aging, and Disability symposium, UIUC, March 29.

5. Rong D, Liao F, and **Jan YK** (2013). Wavelet ridge analysis of interactions of skin blood control mechanisms in response to pressure. Center for Health, Aging, and Disability symposium, UIUC, March 29.
6. Thiessen A, Jones MA, Rabadi MH, Foreman RD, and **Jan YK** (2010). Effect of wheelchair tilt-in-space and recline angles on skin perfusion over the ischial tuberosity in people with spinal cord injury. College of Allied Health Research Day, OUHSC, November 12.
7. Lee B, Foreman RD, Ma JX, Garrison DW, Rabadi MH, and **Jan YK** (2010). The effects of cooling on pressure ulcer development. College of Allied Health Research Day, OUHSC, November 12.
8. Liao F, Garrison DW, Anderson MA, and **Jan YK** (2010). Nonlinear complexity of sacral skin blood flow oscillations in people with spinal cord injury. College of Allied Health Research Day, OUHSC, November 12.
9. **Jan YK,** Akbaran M, Burns S, James S, and Soltani J (2010). Effect of sympathovagal balance on posturally-induced vasoconstrictive responses in people with spinal cord injury. College of Allied Health Research Day, OUHSC, November 12.
10. **Jan YK**, Struck BD, Foreman RD, Robinson C, and MacRobert M (2010). Wavelet analysis of skin blood flow oscillations to assess soft tissue viability in older adults. College of Allied Health Research Day, OUHSC, November 12.

Patents and Invention Disclosure

1. Wearable electrical stimulation to improve distal limb use during and after active device use. Invention disclosure submitted by Lisa Griffin, Yih-Kuen Jan and Ayman Mohamed through University of Texas at Austin (8242 GRI, August 31, 2023).

Research Grant Awards – Funded

1. **National Yang Ming Chiao Tung University – University of Illinois at Urbana-Champaign Seed Grants**. 2024-2025, Utilizing real world data to optimize happiness by community sampling. Total Cost: NT$ 950,000 (~$30,000). Role: Co-PI (PI: Shannon HH Tung)

2. **University of Texas at Austin Seed Grant**, 2024, Wearable electrical stimulation to improve distal limb use during and after active device use. Total Cost: $25,000, Project title: Development of a subthreshold vibrator for improving balance. Role: Co-I (PI: Lisa Griffin)

3. **VinUniversity – University of Illinois Smart Health Center** (VISHC), 2024-2032, Total Cost: Financial support for 5 5-year PhD positions and 1 2-year Postdoc position. Project title: The future of rehabilitation robotics: A framework for human-robot interaction for complete training and assessment, Role: PI (VinUni PI: Linh Nguyen)

4. **National Taiwan University – University of Illinois Seed Grants**. 2023-2024, Total Cost $5,000, Project title: Promoting bilateral collaborations on using vibration to reduce osteoarthritis pain and improve functioning from lab to community, Role: PI (NTU PI: Wei-Li Hsu)

5. **Paralyzed Veterans of America Education Foundation** (PVA817), 2017-2019, Total Cost $47,709, Project title: Pressure management in adaptive sports (PI: Ian Rice), Role: Co-I

6. **Egyptian Cultural & Educational Bureau**, 2016-2018, Total Cost: $5,000, Project title: Rehabilitation research development, Role: PI

7. **Department of Veterans Affairs**, 2015-2017, Total Cost $40,000, Project title: Sustainable sports science instructional program for VA athletes and coaches (PI: Ian Rice), Role: Co-I

8. **University of Illinois at Urbana-Champaign**, Office of Vice Chancellor for Research, Campus Research Board (#13288), 2013-2014, Total Cost $25,000, Project title: Wheelchair tilt and recline

for preventing pressure ulcers in people with spinal cord injury: a pilot study, Role: Principal Investigator

9. **Paralyzed Veterans of America Research Foundation** (PVA2827), 2012-2014, Total Cost $100,000, Project title: Effects of obesity on soft tissue mechanical properties in people with SCI (postdoctoral fellowship for Fuyuan Liao), Role: Mentor and Co-PI

10. **National Institutes of Health**, INBRE Junior Scholar Award (P20GM103447), 2011-2013, Total Cost $293,000 (Oklahoma INBRE PI: Darrin Akins), Project title: Autonomic and microvascular functions and pressure ulcers in spinal cord injury, Role: Principal Investigator

11. **National Institutes of Health**, INBRE Program Grant (P20GM103447) (PI: Jicheng Fu, PhD, University of Central Oklahoma), 2011-2014, Total Cost $308,791 (Oklahoma INBRE PI: Darrin Akins), Project title: An intelligent system for clinical guidance on power seat function usage to reduce pressure ulcers risk, Role: Co-PI

12. **National Institutes of Health** (R21HD065073), 2010-2012, Total Cost $205,152, Project title: Blood flow oscillations and early detection of pressure ulcers in older adults, Role: Principal Investigator

13. **National Institutes of Health,** Oklahoma Institutional Development Award (IDeA) Network of Biomedical Research Excellence (INBRE), Summer Research Program, Total Cost $6,600.00; Role: Mentor (2010-2012)

14. **National Institutes of Health** (R03HD060751), 2009-2012, Total Cost $146,500, Project title: Effects of power seat function usage on tissue viability in wheelchair users with spinal cord injury, Role: Principal Investigator

15. **National Institutes of Health** (R03HD060751-01S1), 2009-2010, Total Cost $20,000, Project title: Administrative supplement for a near infrared spectroscopy, Role: Principal Investigator

16. **Oklahoma Center for the Advancement of Science and Technology** (HR09-048), 2009-2012, Total Cost $135,000, Project title: Biomechanical analysis of risk for diabetic foot ulcers: a pilot study, Role: Principal Investigator

17. **University of Oklahoma Health Sciences Center**, College of Allied Health Seed Grants Program, 2009, Total Cost $2,000, Project title: Physical activity, ANS function, and pressure ulcer risk in the elderly: a pilot study, Role: Principal Investigator

18. **Christopher and Dana Reeve Foundation** (JA2-0701-2), 2008-2011, Total Cost $150,000, Project title: Effectiveness of local cooling on enhancing tissue tolerance to pressure loading, Role: Principal Investigator

19. **Presbyterian Health Foundation** (PHF1545), 2008-2010, Total Cost $25,868, Project title: Effects of power seat function usage on tissue viability in wheelchair users with SCI: a pilot study, Role: Principal Investigator

20. **National Institute on Disability, Independent Living and Rehabilitation Research,** Center for International Rehabilitation Research Information and Exchange (CIRRIE), International Exchange Program Grant, 2008-2009, Direct Cost $2,500.00; Project title: Research collaboration between a NIDRR-funded grant and Xi'an Children Hospital, Xi'an, China. Role: Principal Investigator

21. **Paralyzed Veterans of America Research Foundation** (PVA2480), 2007-2009, Total Cost $150,000, Project title: Remodeling ANS and endothelium with exercise for preventing pressure ulcers: a pilot study, Role: Principal Investigator

22. **National Institute on Disability, Independent Living and Rehabilitation Research**, Mary E. Switzer Research Fellowship (H133F060025), 2006-2008, Total Cost $65,000, Project title: Skin blood flow oscillations and pressure ulcer risk in older adults with disabilities, Role: Principal Investigator

23. **National Institute on Disability, Independent Living and Rehabilitation Research**, Rehabilitation Engineering Research Center on Spinal Cord Injury (H133E070024) (Center Director: David Brienza), 2007-2012, Total Cost $4.7 million, Project title: R1- Skin cooling and tissue viability (10/1/2007-4/30/2008), Role: Project Principal Investigator

24. **National Institute on Disability, Independent Living and Rehabilitation Research**, Rehabilitation Engineering Research Center on Spinal Cord Injury (H133E070024) (Center Director: David Brienza), 2007-2012, Total Cost $4.7 million, Project title: R2- Effects of weight shifting on pressure ulcer risk status (10/1/2007-4/30/2008), Role: Co-investigator

25. **National Science Foundation**, Quality of Life Technology Engineering Research Center (EEC-0540865) (Center Directors: Takeo Kanade and Rory Cooper), 2006-2011, Total Cost $18 million, Project title: SmartSeat, Role: Co-Investigator & Center Researcher

26. **National Institute on Disability, Independent Living and Rehabilitation Research**, Field Initiated Program (H133G040222), 2004-2007, Total Cost $450,000 (PI: David Brienza), Project title: A study of biophysical and microvascular function of individuals with spinal cord injuries: implications for alternating pressure support surfaces, Role: Co-PI

27. **National Institute on Disability, Independent Living and Rehabilitation Research**, Advanced Rehabilitation Research Training Program (ARRT, H133P970013), Total Cost $727,308 (PIs: Cliff Brubaker and David Brienza), Project title: Research Training in Rehabilitation Science with Special Emphasis on Disability Studies, Role: Graduate Student Researcher (2002-2004)

28. **Department of Veterans Affairs**, Center of Excellence on Wheelchairs and Related Technology (F2181C) (Center directors: Rory Cooper and Michael Boninger), 2000-2005, Total Cost $3.5 million, Project title: A comparison of the effects of static and dynamic low-level sacral loading on blood flow in spinal cord injured subjects, Role: Graduate Student Researcher (2000-2002)

TEACHING EXPERIENCE

University of Illinois at Urbana-Champaign (2012-present)

- **HK 458 (KIN 449) Rehabilitation Biomechanics (spring)**
- **HK 484 Psychosocial Aspects of Health and Rehabilitation (spring)**
- **HK 302 ON2 (REHB/CHLH 330) Disability in American Society (fall)**
- HK 590 Independent Study (Fall 79159, Spring 76437)
- HK 599 (KIN/CHLH 599) Thesis Research (Fall 79039, Spring 76407)
- HK 390 (KIN 385) Research Exp in Health and Kinesiology (Fall 78964, Spring 76502)
- HK 391 Undergraduate Independent Study (Fall 78929, Spring 76480)
- CHLH 545 Grant Writing for Health Professionals
- KIN/CHLH 494 Rehabilitation Professions
- KIN/CHLH 199 Introduction to Rehabilitation
- REHB 501 Rehabilitation Research (2013-2015)
- REHB 594 Advances in Rehabilitation Technology (2013-2015)
- KIN 565 Teaching in the Professoriate, Mentor (Fall 2016, Fall 2019)
- CHLH/REHB 407 Disability, Culture, and Society, Co-Professor (with Laura Rice, Spring 2016)

- KIN 457 Motor Learning and Control, Co-Professor (with Jake Sosnoff, Spring 2014)

University of Oklahoma Health Sciences Center (2008-2012)

- RS 5153 **Biomechanics**, Professor
- PHTH 8132 **Cardiopulmonary Rehabilitation**, Co-Professor (with Jane Soltani)
- PHTH 8133/OCTH 7143 **Principles of Human Movement**, Lab Faculty
- PHTH/OCTH 9391 Interprofessional Case Management, Faculty Facilitator
- PHTH 8271 Clinical Reasoning in Physical Therapy I, Faculty Facilitator
- PHTH 9152 Clinical Reasoning in Physical Therapy II, Faculty Facilitator
- PHTH 8362 Clinical Education I, Faculty Interviewer
- PHTH 8383 Clinical Education II, Faculty Interviewer
- PHYO 5980 Research Master's Thesis, Professor
- PHYO 5990 Special Studies, Professor
- ECE 5973 Biomedical Signals and Systems (Instructor: Lei Ding), Guest Lecturer on microcirculation and its signal analysis (2011)

University of Pittsburgh (2002-2008)

- HRS 2706 **Rehabilitation Biomechanics**, from TA for Gina Bertocci in 2002-2003 to Co-Professor with David Brienza in 2004-2008

International Student Exchange and Research Collaboration Programs

- International Graduate Mentors Program (IGMP) on Kinesiology, Global Education and Training, Illinois International, University of Illinois at Urbana-Champaign; Role: Coordinator (2019-present) & mentor (2018-present)
- Research collaboration and student exchange agreement between University of Pittsburgh Department of Rehabilitation Science and Technology and Korean Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea (approved by the University Center for International Studies and Senior Vice President of Health Sciences); Role: Coordinator and Initiator (2007 - 2008)
- Research collaboration and student exchange agreement between University of Pittsburgh Department of Rehabilitation Science and Technology and Xi'an Jiaotong University Institute of Biomedical Engineering, Xi'an, China (approved by the University Center for International Studies and Senior Vice President of Health Sciences); Role: Coordinator and Initiator (2006 - 2008)

Postdoctoral Fellows & Visiting Scholars Supervised

- Chunai Zhao, Shanghai Institute of Tourism (2025)
- Na Li, College of Physical Education, Shandong University of Science and Technology (2025)
- Chia-Wei Lin, Department of Physical Therapy, National Cheng Kung University, Taiwan (MOST predoctoral fellowship, 2025-present)
- Lingyue Meng, School of Science of Physical Culture and Sports, Suzhou University (2025-present)
- Jen-Chieh Liao, Department of Biomedical Engineering, National Cheng Kung University, Taiwan (MOST predoctoral fellowship, 2023)
- Cheng-Feng Lin, Department of Physical Therapy, National Cheng Kung University, Taiwan (MOST Dragon Gate, Summer 2022, 2023-present)
- Panpan Chen, Division of Sports Science and Physical Education, Tsinghua University, China (CSC fellowship, 2022-2023)
- Chih-Yang Lin, Department of Electrical Engineering, National Central University (former affiliation: Yuan Ze University), Taiwan (Summer 2022, 2023)

- Yameng Li, College of Kinesiology and Physical Education, Beijing Normal University, China (CSC fellowship, 2022-2023)
- Pu-Chun Mo, Department of Biomedical Engineering, National Cheng Kung University, Taiwan (MOST Dragon Gate, 2021-2023)
- Keying Zhang, Department of Sports Science and Physical Education, Tsinghua University, China (CSC fellowship, 2020-2021)
- Xiao Hou, Department of Sports Science and Physical Education, Tsinghua University, China (CSC fellowship, 2020-2021)
- Wen-Wen Yang, Department of Athletic Performance, National Taiwan Normal University, Taiwan (MOST postdoctoral fellowship, 2019)
- Xiaoling Wang, College of Rehabilitation Medicine, Fujian University of Traditional Chinese Medicine, Fujian, China (2019-2020)
- Fu-Lien Wu, Department of Physical Therapy and Assistive Technology, National Yang-Ming University, Taiwan (MOST predoctoral fellowship, 2018-2019)
- Xueyan Zhang, Beijing Changping Hospital of Integrated Chinese and Western Medicine, Beijing, China (2017-2018)
- Ayman A. Mohamed, Faculty of Physical Therapy, Cairo University and Beni Suef University, Egypt (Egypt fellowship, 2016-2018)
- Jicheng Fu, Department of Computer Science, University of Central Oklahoma, Edmond, OK (Summer 2013)
- Chi-Wen Lung, Department of Creative Product Design, Asia University, Taiwan (Summer of 2011, 2013, 2014, 2016, 2017, and 2018)
- Stephanie Burns, Department of Physical Therapy, Oklahoma City VA Medical Center, Oklahoma City, OK (2011-2012)
- Fuyuan Liao, Institute of Biomedical Engineering, Xi'an Jiaotong University, Xi'an, China (PVA postdoctoral fellowship, 2009-2013)
- Yanni Chen, Department of Pediatric Rehabilitation, Xi'an Children's Hospital, Xi'an Jiaotong University, Xi'an, China (2008-2009)

Doctoral Students Supervised (Dr. Jan can advise PhD students in Kinesiology, Neuroscience and Community Health)

- Junyan Liu, PhD student in Kinesiology, UIUC (CSC 4-year fellowship, Fall 2025)
- Than Tra My, PhD student in Kinesiology, UIUC, Role: Advisor (VinUni-UIUC scholarship, Fall 2025)
- Yuwei Li, PhD student in Kinesiology, UIUC, Role: Advisor (Fall 2024)
- Amirmohammad Babaniamansour, PhD student in Kinesiology, UIUC, Role: Advisor (Fall 2024-present)
- Mansoureh Samadi, PhD student in Kinesiology, UIUC, Role: Advisor (Fall 2023-present)
- Liwan (Perry) Huang, PhD student in Kinesiology, University of Illinois at Urbana-Champaign, Role: Advisor and Committee Chair (Fall 2023-present)
- Jiaqi (Jack) Guo, PhD student in Kinesiology, University of Illinois at Urbana-Champaign, Role: Advisor and Committee Chair (Fall 2023-present)
- Amornthep (Tong) Jankaew, PhD student "Hamstring contractile function and activation during postural control and jumping performance in athletes with and without hamstring injuries, Department of Physical Therapy, National Cheng Kung University, Taiwan, Role: Committee Member (2022-2023, Advisor: Cheng-Feng Lin)
- Serah Pauly, PhD in Kinesiology, University of Illinois at Urbana-Champaign, Role: Advisor and Committee Chair (Spring 2022-present)

- Saad Alqahtani, PhD in Community Health, University of Illinois at Urbana-Champaign, Role: Advisor (Fall 2021-Spring 2022)
- Qitao Tan, PhD in Biomedical Engineering, Hong Kong Polytechnic University, Role: External Examiner (2021, Advisor: Ming Zhang)
- Libak Abou, PhD in Kinesiology, University of Illinois at Urbana-Champaign, Role: Committee Member (2020-2021, Advisor: Laura Rice)
- Runnell Townsend, PhD in Community Health, University of Illinois at Urbana-Champaign, Role: Advisor and Committee Chair (2019-2022)
- Mengmeng Ji, PhD in Community Health, University of Illinois at Urbana-Champaign, Role: Co-Advisor (2019-2021, Advisor: Ruopeng An)
- Yang Hu, PhD in Kinesiology, University of Illinois at Urbana-Champaign, Role: 2nd year review committee member (2019, Advisor: Manuel Hernandez)
- Rachel Dargatz, PhD in Community Health, University of Illinois at Urbana-Champaign, Role: Committee Member (2018, Advisor: Hillary Klonoff-Cohen)
- Weiyan Ren, PhD in Biomedical Engineering, Beihang University, Role: Expert Group Member (2018, Advisor: Fang Pu)
- Mingzheng Zhang, PhD in Biomedical Engineering, Beihang University, Role: Expert Group Member (2018, Advisor: Fang Pu)
- Annmarie Chizewski, PhD in Kinesiology, University of Illinois at Urbana-Champaign, Role: Committee Member (2018-2019, Advisor: Steve Petruzzello)
- Sicong Ren, PhD in Kinesiology, University of Illinois at Urbana-Champaign, Role: Advisor (2017-2018)
- Andrew Hua, MD and PhD in Kinesiology, University of Illinois at Urbana-Champaign, Role: Committee Member (2017-2019, Advisors: David Buchner and Manuel Hernandez)
- Kate Rougeau, PhD in Kinesiology, University of Illinois at Urbana-Champaign, Role: Committee Member (2016-2017, Advisor: Steve Petruzzello)
- Harry Ming Chun Choi, PhD in Rehabilitation Science, Hong Kong Polytechnic University, Hong Kong, Role: External Examiner (2016-2017, Advisor: Gladys Cheing)
- Jennifer Dysterheft, PhD in Kinesiology, University of Illinois at Urbana-Champaign, Role: Committee Member (2015-2016, Advisor: Ian Rice)
- Jian Jiao, PhD in Kinesiology, University of Illinois at Urbana-Champaign, Role: Advisor (2014)
- Tim D. Yang, PhD in Kinesiology, University of Illinois at Urbana-Champaign, Role: Advisor (2012-2022)
- Xiangming Zhang, PhD in Bioengineering, University of Oklahoma, Role: Committee Member (2011-2012, Advisor: Rong Gan)

Masters' & Honors Students Supervised

- Shiuan Lin, MS in Physical Therapy, National Taiwan University, Role: Committee Member (2025, Chair: Wei-Li Hsu)
- Nikeeta Kundal, MS in Kinesiology, UIUC, Role: Advisor (2021-2023)
- David Pochinka, MS in Kinesiology, UIUC, Role: Advisor (2021-2023)
- Daqian Rong, MS in Kinesiology, UIUC, Role: Advisor (2012-2015)
- Bernard Lee, MS in Physiology, University of Oklahoma Health Sciences Center, Role: Advisor (2009-2012)
- Jonathan S. Akins, MS in Bioengineering, University of Pittsburgh, Pittsburgh, Role: Committee Member (2006-2008, Chair: David Brienza)
- Yi-Ting Tzen, MS in Rehabilitation Science and Technology, University of Pittsburgh, Role: Committee Member (2005-2008, Chair: David Brienza)

- Gregory Meloy, Bachelor of Philosophy (B.Phil.) Student, University Honors College, University of Pittsburgh, Role: Committee Member (2005-2007, Chair: David Brienza)

Medical Student Research Interns Supervised

- Tony Tu, Carle Illinois College of Medicine (Fall 2024-present)
- Nick Kelhofer, Carle Illinois College of Medicine (Fall 2024-present)

International Graduate Mentors Program (IGMP) interns Supervised (1 semester training)

- Jiawei Wang, Beijing Normal University (UIUC IGMP, Fall 2024, 6th cohort)
- Huarui Li, Beijing Normal University (UIUC IGMP, Fall 2024, 6th cohort)
- Binfeng Huang, Beijing Normal University (Spring 2024, 5th cohort)
  - Zhu H, He Li, Guo J, **Huang B**, Elliott J, and Jan YK* (2025). Effects of neuromuscular fatigue induced by various modes of isometric handgrip exercise on post-exercise blood pressure responses. Journal of Sports Medicine and Physical Fitness, 65(4), 571-582.
- Songmei Lin, Beijing Normal University (Spring 2024, 5th cohort)
  - **Lin S**, Sun P*, Huang L, Hernandez ME, Yu H, and Jan YK* (2024). Effects of the intensity, duration and muscle mass factors of isometric exercise on acute local muscle hemodynamic responses and systematic blood pressure regulation. Frontiers in Bioengineering and Biotechnology, 12, 1444598.
  - Guo J, **Lin S**, Hong IYJ, Lin CF, Mo PC, Sun P, and Jan YK* (2024). Using wavelet analysis of blood flow oscillations to investigate differences in skin blood flow regulations between the upper and lower limbs. Skin Research and Technology, 30(10), 70089.
- Hao Zhu, Beijing Normal University (Spring 2024, 5th cohort)
  - **Zhu H**, He Li, Guo J, Huang B, Elliott J, and Jan YK* (2025). Effects of neuromuscular fatigue induced by various modes of isometric handgrip exercise on post-exercise blood pressure responses. Journal of Sports Medicine and Physical Fitness, 65(4), 571-582.
- Lingling Zhou, Shenyang Sports University (UIUC IGMP, Spring 2020, 4th cohort)
  - Liao F, Zhang K, **Zhou L**, Chen Y, Elliott J, and Jan YK* (2020). Effect of different frequencies of local vibration on multiscale regularity of plantar skin blood flow, Entropy, 22(11), 1288.
- Chunming Guo, Shenyang Sports University (UIUC IGMP, Spring 2020, 4th cohort)
  - Jan YK*, Hou X, He X, **Guo C**, Jain S, and Bleakney A (2021). Using elastographic ultrasound to assess the effect of cupping size of cupping therapy on stiffness of triceps muscle. American Journal of Physical Medicine and Rehabilitation, 100(7), 694-699.
- Xiaotong Zhu, Beijing Normal University, China (UIUC IGMP, Fall 2019, 3rd cohort)
  - **Zhu X**, Zhang K, He L, Liao F, Ren Y, and Jan YK* (2021). Spectral analysis of blood flow oscillations to assess the plantar skin blood flow regulation in response to preconditioning local vibrations. Biorheology, 58, 39-49.
  - **Zhu X**, Wu FL, Zhu T, Liao F, Ren Y, and Jan YK* (2021). Effects of preconditioning local vibrations on subsequent plantar skin blood flow response to walking. International Journal of Lower Extremity Wounds, 20(2), 143-149
- Xiangfeng He, Shanghai University of Sport, China (UIUC IGMP, Fall 2019, 3rd cohort)
  - **He X**, Zhang X, Liao F, He L, Xu X, and Jan YK* (2021). Using reactive hyperemia to investigate the effect of cupping sizes of cupping therapy on skin blood flow responses. Journal of Back and Musculoskeletal Rehabilitation, 34(2), 327-333.
  - Hou X#, **He X**#, Zhang X, Liao F, Hung YJ, and Jan YK* (2021). Using laser Doppler flowmetry with wavelet analysis to study microvascular regulations after cupping therapy. Skin Research and Technology, 27(3), 393-399.

- Jan YK*, Hou X, **He X**, Guo C, Jain S, and Bleakney A (2021). Using elastographic ultrasound to assess the effect of cupping size of cupping therapy on stiffness of triceps muscle. American Journal of Physical Medicine and Rehabilitation, 100(7), 694-699.

- Ting Zhu, Shanghai University of Sport, China (UIUC IGMP, Fall 2019, 3rd cohort)
  - **Zhu T**, Wang Y, Yang J, Liao F, Wang S, and Jan YK* (2020). Wavelet-based analysis of plantar skin blood flow response to different frequencies of local vibrations. Physiological Measurement, 41(2), 025004.
  - **Zhu T**, Wang Y, Wang X, Liao F, Liu Y, and Jan YK* (2020). Effect of local vibrations on plantar skin blood flow responses during weight-bearing standing in healthy volunteers. Wound Management and Prevention, 66(8), 7-14.
  - Zhu X, Wu FL, **Zhu T**, Liao F, Ren Y, and Jan YK* (2021). Effects of preconditioning local vibrations on subsequent plantar skin blood flow response to walking. International Journal of Lower Extremity Wounds, 20(2), 143-149
- Yinyin Ma, BS, Beijing Normal University, Beijing, China (UIUC IGMP, Spring 2019, 2nd cohort)
  - Wu FL#, Zheng Z#, **Ma Y**, Weng K, Liao F, and Jan YK* (2020). Effects of cycle periods and pressure amplitudes of alternating pressure on sacral skin blood flow responses. Journal of Tissue Viability, 29(4), 264-268
- Yang Liu, BS, Shenyang Sport University, China (UIUC IGMP, Spring 2019, 2nd cohort)
  - Wu FL, Wang W, Liao F, **Liu Y**, Li J, and Jan YK* (2021). Microvascular control mechanism of the plantar foot in response to different walking speeds and durations: implication for the prevention of foot ulcers. International Journal of Lower Extremity Wounds, 20(4), 327-336
- Jieying Yang, BS, Shenyang Sport University, China (UIUC IGMP, Spring 2019, 2nd cohort)
  - Zhu T, Wang Y, **Yang J**, Liao F, Wang S, and Jan YK* (2020). Wavelet-based analysis of plantar skin blood flow response to different frequencies of local vibrations. Physiological Measurement, 41(2), 025004.
- Jiacong Li, BS, Shanghai University of Sport, Shanghai, China (UIUC IGMP, Fall 2018, 1st cohort)
  - Wu FL, Wang W, Liao F, Liu Y, **Li J**, and Jan YK* (2021). Microvascular control mechanism of the plantar foot in response to different walking speeds and durations: implication for the prevention of foot ulcers. International Journal of Lower Extremity Wounds, 20(4), 327-336.
- Yana Wang, BS, Shanghai University of Sport, Shanghai, China (UIUC IGMP, Fall 2018, 1st cohort)
  - Zhu T, **Wang Y**, Yang J, Liao F, Wang S, and Jan YK* (2020). Wavelet-based analysis of plantar skin blood flow response to different frequencies of local vibrations. Physiological Measurement, 41(2), 025004.
  - Zhu T, **Wang Y**, Wang X, Liao F, Liu Y, and Jan YK* (2020). Effect of local vibrations on plantar skin blood flow responses during weight-bearing standing in healthy volunteers. Wound Management and Prevention, 66(8), 7-14.
- Zhi Zheng, BS, Shanghai University of Sport, Shanghai, China (UIUC IGMP, Fall 2018, 1st cohort)
  - Wu FL#, **Zheng Z#**, Ma Y, Weng K, Liao F, and Jan YK* (2020). Effects of cycle periods and pressure amplitudes of alternating pressure on sacral skin blood flow responses. Journal of Tissue Viability, 29(4), 264-268

Research Interns Supervised (from more than 15 different universities)

- Chun-Yu Lin, YuanZe University (Summer 2024)
- 3 Students, Asia University (Summer 2024)
- Josh Gordy, Department of Kinesiology and Community Health (Fall 2023-2024)
- Rahil Sadruddin, Department of Kinesiology and Community Health (Fall 2023-present)
- 16 Students, Department of Creative Product Design, Asia University (Summer 2023)
- 4 Students, Department of Electrical Engineering, Yuan Ze University (Summer 2023)

- 3 Students, Department of Electrical Engineering, Asia University (Summer 2023)
- Justine Asperga, Kinesiology, UIUC (Fall 2022-Spring 2023)
- **Elisabeth Paskali, BS in Molecular and Cellular Biology, UIUC (Graduation with Thesis/High Distinction, Fall 2022-2024)**
- George Tawfic, Kinesiology, UIUC (Fall 2022-Spring 2023)
- Joe Boston, Biochemistry, UIUC (Fall 2022-2024)
- Jack Guo, Department of Kinesiology and Community Health, UIUC (Summer 2022-Summer 2023)
- Yu-Wei Chen, Department of Electrical Engineering, Yuan Ze University, Taiwan (Summer 2022)
- Chih-Yun Chiang, Department of Electrical Engineering, Yuan Ze University, Taiwan (Summer 2022)
- Chia-Chun Hsiao, Department of Electrical Engineering, Yuan Ze University, Taiwan (Summer 2022)
- Ying-Chun Lee, Department of Electrical Engineering, Yuan Ze University, Taiwan (Summer 2022)
- Amar Suljic, Department of Kinesiology and Community Health, UIUC (Spring 2022)
- Kevin Baek, Department of Bioengineering, UIUC (Fall 2021)
- Peichi Hung, Department of Creative Product Design, Asia University, Taiwan (Summer 2019)
- Yi-Xuan Lee, Department of Creative Product Design, Asia University, Taiwan (Summer 2019)
- Chen-Hao Liao, Department of Creative Product Design, Asia University, Taiwan (Summer 2019)
- Quanxin Lin, Department of Creative Product Design, Asia University, Taiwan (Summer 2019)
- Mona Jawad, Centennial High School, Champaign, IL (Spring 2019-Fall 2019)
- Jamiu Odunsi, Department of Kinesiology and Community Health, UIUC (Fall 2018-present)
- Wei-Cheng Shen, MS, Asia University, Taiwan (MOST's Overseas Research Internship, Taiwan, Summer 2018)
- Edward TH Lee, Chinese University of Hong Kong, Hong Kong SAR, China (Summer 2018)
- Zaki Naqvi, Department of Kinesiology and Community Health, UIUC (Spring 2018)
- Hema Patel, Department of Kinesiology and Community Health, UIUC (Spring 2018)
- Claudia Kolach, i-Health Program, UIUC (Fall 2017, Spring 2018, Fall 2018)
- Hsin-Ying Chiu, Asia University, Taiwan (MOST's Overseas Research Internship, Taiwan, Summer 2017)
- Pei-Syuan He, Asia University, Taiwan (MOST's Overseas Research Internship, Taiwan, Summer 2017)
- Ariel Huang, Asia University, Taiwan (MOST's Overseas Research Internship, Taiwan, Summer 2017)
- Brandon Leung, Department of Mechanical Engineering, UIUC (Spring 2017)
- Karan Trikha, Department of Mechanical Engineering, UIUC (Fall 2016 - Spring 2017)
- Shashwat Gupta, Department of Mechanical Engineering, UIUC (Fall 2016 - Spring 2017)
- Weiyan Ren, School of Biological Science and Medical Engineering, Beihang University, Beijing, China (Fall 2016)
- Hoi-Ching Ko, Hungkuang University, Taiwan (MOST's Overseas Research Internship, Taiwan, Summer 2016)
- Li-Wen Zhang, Hungkuang University, Taiwan (MOST's Overseas Research Internship, Taiwan, Summer 2016)
- Yu-Ting Jiang, Hungkuang University, Taiwan (MOST's Overseas Research Internship, Summer 2016)
- Ryan Juguan, Department of Recreation, Sport and Tourism, UIUC (Fall 2014 - Spring 2015)

- Chuanhao Zhuge, Department of Electrical and Computer Engineering, UIUC (with Deming Chen, Summer 2014 - Summer 2015)
- Kevin Kibler, Department of Mechanical Science and Engineering, UIUC (with Liz Hsiao-Wecksler, Summer 2014 - Spring 2015)
- Ann David, BS, Department of Bioengineering, Christian Medical College, India (Khorana program administered by the University of Wisconsin-Madison, the Government of India, and Indo-US Science and Technology Forum) (Summer 2014)
- Yu-Chen Fa, Hungkuang University, Taiwan (Summer 2014)
- Yu-Xuan Huang, Hungkuang University, Taiwan (Summer 2014)
- Ling-Yi Wang, Hungkuang University, Taiwan (Summer 2014)
- Ameya D. Patil, Department of Electrical Engineering, Indian Institute of Technology, Hyderabad, India (Khorana program administered by the University of Wisconsin-Madison, the Government of India, and Indo-US Science and Technology Forum), Summer 2013)
- Tiffany Varughese, Department of Bioengineering, Rice University, Houston, TX (Summer 2012)
- Sam Howard, Oral Roberts University, Tulsa, OK (Summer 2012)
- Grayson Starbuck, BS, Doctor of Physical Therapy program, OUHSC (01/2012 – 08/2012)
  - Grayson was the first physical therapy student to give an oral presentation in the College of Allied Health Research Day in April 2012.
- Tim D. Yang, Department of Computer Science, University of Central Oklahoma, Edmond, Oklahoma (NIH INBRE, 05/2011 – 08/2012)
  - Selected into the 2012 Oklahoma IDeA Network of Biomedical Research Excellence (INBRE) summer research program and continued his research training in my lab
- Alexandra Tran, Cell and Molecular Biology program, Oklahoma City University, Oklahoma City, Oklahoma (Summer 2011)
- Zachary A. Yokell, Department of Chemical Engineering program, University of Oklahoma (Summer 2011)
- Hem R. Gurung, Department of Biological Sciences, Cameron University, Lawton, OK (NIH INBRE, Summer 2011)
  - First job placement: OUHSC GPiBS PhD program in 2012
- Tiwei Zhu, BS, Department of Mathematics and Statistics, University of Central Oklahoma, Edmond, OK (with Maria Jones, Spring 2011)
- Daqian Rong, BS, Department of Mathematics and Statistics, University of Central Oklahoma, Edmond, OK (with Maria Jones, Spring 2011)
  - First job placement: PhD program in Bioengineering, OU in 2011
- Lena J. Clagg, Program in Agriculture Equine Science, Redlands Community College, El Reno, OK (NIH INBRE, Summer 2010)
  - First job placement: Oklahoma State University College of Veterinary Medicine in 2012
- Elizabeth A. Copenhaver, Department of Biomedical Engineering, Vanderbilt University, Nashville, TN (with David Brienza, NSF REU, Summer 2006)
- Justin L. Kassie, Department of Mechanical Engineering, Carnegie Mellon University (CMU), Pittsburgh, PA (Graduate Student Mentor for David Brienza, Summer 2002)

Research Staff Supervised

- Denisse Lopez, Research Coordinator, Rehabilitation Biomechanics Lab, Department of Rehabilitation Sciences, OUHSC (2011-2012)
- Eym-Soon Chong, BS, Research Coordinator, Rehabilitation Biomechanics Lab, Department of Rehabilitation Sciences, OUHSC (2011-2012)
- Mandip Aryal, MS, Research Technician, Rehabilitation Biomechanics Lab, Department of Rehabilitation Sciences, OUHSC (2009-2010)

- Miziana Abyad, BBA, Research Technician, Rehabilitation Biomechanics Lab, Department of Rehabilitation Sciences, OUHSC (2009)

PROFESSIONAL SERVICE

Editor and Associate Editor of Journals (independently handle the review and decision of the manuscripts)

- **Assistant Editor-in-Chief, Assistive Technology** (the official journal of the Rehabilitation Engineering and Assistive Technology Society of North America (**RESNA**); 2014-2020: editorial board; 2021-2024: associate editor; 2024-present: Assistant Editor-in-Chief)
- **Associate Editor, Journal of NeuroEngineering and Rehabilitation** (2018-present)
- **Associate Editor, Frontiers in Bioengineering and Biotechnology** (2015-present)
- **Associate Editor, Frontiers in Physiology** (2015-present)
- **Editor, Scientific Reports** (2022-present)
- **Academic Editor, PLOS ONE** (2016-present)

Editorial Board of Journals – selected list

- **Editorial Board, Journal of Tissue Viability** (the official journal of the **Tissue Viability Society** (2014-present)
- **Editorial Board, Medicine in Novel Technology and Devices** (2019-present)
- **Editorial Board, Advances in Rehabilitation** (2018-present)
- **Editorial Board, BMC Sports Science, Medicine and Rehabilitation** (2022-2024)
- **Editorial Board, Journal of Rehabilitation Research and Development** (the official journal of the **US Department of Veterans Affairs**, JRRD was transferred to PLOS Veterans Disability & Rehabilitation Research Channel, 2015-2016.)

Guest Editor of Journals

- **Guest Editor**, Diagnostics, Special Issue on **Medical Imaging in Diagnosis, Prevention and Rehabilitation of Musculoskeletal Injuries** (edited by Yih-Kuen Jan, W Catherine Cheung, and Suguna Pappu, 2024-present)
- **Guest Editor**, Frontiers in Neuroscience, Special Issue on **Exercise-Induced Neuroplasticity in Neurodegeneration Diseases (Volume II)** (led by Laikang Yu, Lingxiao He, and Yih-Kuen Jan, 2024-present)
- **Guest Editor**, Frontiers in Bioengineering and Biotechnology, Special Issue on **Biomechanics in Orthopaedic Diseases and Surgery (Volume II)** (led by Jingwei Zhang, Cheng-Kung Cheng, and Yih-Kuen Jan, 2024-present)
- **Guest Editor**, Frontiers in Bioengineering and Biotechnology, Special Issue on **Computational and Experimental Approaches on Soft Tissues Biomechanics and Mechanobiology** (led by Lei Fan, Ge He, Lei Wang, and Yih-Kuen Jan, 2023-2024)
- **Guest Editor**, Scientific Reports, special issue on **Bionic Humans** Collection (2023-2024)
- **Guest Editor**, Frontiers in Bioengineering and Biotechnology, Special Issue on **Nonlinear Dynamics and Complex Patterns in the Human Musculoskeletal System and Movement** (edited by Yih-Kuen Jan, Navrag Singh, Cheng-Feng Lin, and Fuyuan Liao, 2022-2023)
- **Guest Editor**, Sensors, Special Issue on **Sensors and Wearable Technologies in Sport Biomechanics** (edited by Yih-Kuen Jan, Chi-Wen Lung, Ben-Yi Liau, and Manuel Hernandez, 2022-2024)

- **Guest Editor**, Frontiers in Bioengineering and Biotechnology, Special Issue on **Individual's Mechanics, Movement and Kinematics Post-Stroke** (edited by Yih-Kuen Jan and Veronica Cimolin, 2022-2023)
- **Guest Editor**, Frontiers in Physiology, Special Issue on **Methods and Applications in Clinical and Translational Physiology** (edited by Claudio de Lucia, Christina Pabelick, Yih-Kuen Jan, Gaetano Santulli, and Pierre Denise, 2021-2023)
- **Guest Editor**, Diagnostics, Special Issue on **Advances in Diagnosis and Pathophysiology of Microvascular Dysfunction** (edited by Yih-Kuen Jan, 2021-2022)
- **Guest Editor**, Frontiers in Bioengineering and Biotechnology, Special Issue on **Soft Tissue Biomechanics in Wound Healing and Prevention** (edited by Yih-Kuen Jan, Matthew Major, Fang Pu, and Sharon Sonenblum, 2020-2021)
- **Channel Editor**, PLOS **Veterans Disability & Rehabilitation Research Channel** (edited by Noam Harel, Alicia Koontz, Mary Elizabeth Bowen, and Yih-Kuen Jan, formerly Journal of Rehabilitation Research and Development (VA RR&D official journal), 2017-2020)
- **Guest Editor**, Frontiers in Bioengineering and Biotechnology, Special Issue on **Injury Prevention and Rehabilitation** (edited by In-Ju Kim, Ravindra Goonetilleke, and Yih-Kuen Jan, 2015-2016)
- **Guest Editor**, Biomed Research International, Special Issue on **Wheeled Mobility** (edited by Alicia Koontz, Dan Ding, Yih-Kuen Jan, Sonja de Groot and Andrew Hansen, 2014-2015)

Reviewer of Journals – selected list

- American Journal of Physical Medicine and Rehabilitation
- Archives of Physical Medicine and Rehabilitation
- Assistive Technology
- Australian Occupational Therapy Journal
- Biomedical Signal Processing and Control
- Cardiopulmonary Physical Therapy Journal
- Clinical Biomechanics
- Computers in Biology and Medicine
- Diabetes Technology and Therapeutics
- Disability and Rehabilitation: Assistive Technology
- European Journal of Physical and Rehabilitation Medicine
- Frontiers in Physiology
- IEEE Transactions on Biomedical Engineering
- IEEE Transactions on Neural Systems and Rehabilitation Engineering
- Journal of American Geriatric Society
- Journal of Applied Physiology
- Journal of Bioinformatics and Diabetes
- Journal of Medical Devices
- Journal of Spinal Cord Medicine
- Journal of Sports Medicine and Physical Fitness
- Journal of Tissue Viability
- Medical & Biological Engineering & Computing
- Medical Engineering and Physics
- Medicine & Science in Sports & Exercise
- Microvascular Research
- Neuromodulation
- Physiological Measurement
- Science Robotics

Reviewer for Funding Agencies

2025 Grant Reviewer, National Health Research Institute, Taiwan

2025 Grant Reviewer, RERC, NIDILRR

2025 Grant Reviewer, SBIR Phase II, NIDILRR
2025 Grant Reviewer, Research Grants Council, Hong Kong SAR
2025 Grant Reviewer, SBIR Phase I, NIDILRR
2024 Grant Reviewer, Paralyzed Veterans of America Research Foundation
2024 Grant Reviewer, National Health Research Institutes, Taiwan
2024 Grant Reviewer, RERC, NIDILRR
2024 Grant Reviewer, SBIR Phase I, NIDILRR
2024 Grant Reviewer, Research Grants Council, Hong Kong SAR
2023 Grant Reviewer, Paralyzed Veterans of America Research Foundation
2023 Grant Reviewer, National Health Research Institute, Taiwan
2023 Grant Reviewer, Research Grants Council, Hong Kong SAR
2022 Grant Reviewer, Medical Research Council, UK Research and Innovation, UK
2022 Grant Reviewer, Canada First Research Excellence Fund, Canada
2022 Grant Reviewer, National Health Research Institute, Taiwan
2022 Grant Reviewer, SBIR Phase I, NIDILRR
2022 Grant Reviewer, Research Grants Council, Hong Kong SAR
2002 Grant Reviewer, Campus Review Board, UIUC
2021 Grant Reviewer, National Natural Science Foundation of China / Research Grants Council, Joint Research Scheme, Hong Kong SAR
2021 Grant Reviewer, National Health Research Institute, Taiwan
2021 Grant Reviewer, SBIR Phase 1, NIDILRR
2021 Grant Reviewer, Research Grants Council, Hong Kong SAR
2020 Grant Reviewer, DRRP, NIDILRR
2020 Grant Reviewer, SBIR Phase 1, NIDILRR
2019 Grant Reviewer (phone), Musculoskeletal Rehabilitation Sciences, CSR, NIH
2019 Grant Reviewer, SBIR Phase 1, NIDILRR
2018 Grant Reviewer, Merit Awards, Rehabilitation Research and Development, US Department of Veterans Affairs (VA)
2018 Participant/Grant Reviewer, Center for Scientific Review Anonymization Study, National Institutes of Health (NIH)
2018 Grant Reviewer, SBIR Phase 1, NIDILRR
2018 Hong Kong Food and Health Bureau, Health and Medicine Research Fund, Hong Kong SAR
2017 Grant Reviewer, Paralyzed Veterans of America Research Foundation (PVA)
2017 Grant Reviewer, SBIR Phase 1, NIDILRR
2017 Hong Kong Food and Health Bureau, Health and Medicine Research Fund, Hong Kong SAR
2016 Grant Reviewer, SBIR Phase 2, NIDILRR
2016 Grant Reviewer, Merit Awards (2nd cycle), Rehabilitation Research and Development, US Department of Veterans Affairs (VA)
2016 Grant Reviewer, SBIR Phase 1, NIDILRR
2016 Grant Reviewer, Musculoskeletal Rehabilitation Study Section (MRS), National Institutes of Health

2016 Grant Reviewer, Merit Awards (1st cycle), Rehabilitation Research and Development, US Department of Veterans Affairs (VA)

2016 Judge, Conquer Paralysis Now Grand Challenge (formerly Sam Schmidt Paralysis Foundation)

2016 Hong Kong Food and Health Bureau, Health and Medicine Research Fund, Hong Kong SAR

2015 Hong Kong Food and Health Bureau, Health and Medicine Research Fund, Hong Kong SAR

2015 Early Career Reviewer program, Center for Scientific Review, National Institutes of Health (NIH)

2015 Grant Reviewer, Spinal Cord Injury Research Program (SCIRP), CDMRP, Department of Defense

2015 Grant Reviewer, Merit Awards, Rehabilitation Research and Development, US Department of Veterans Affairs (VA)

2015 Grant Reviewer, SPiRE awards, Rehabilitation Research and Development, US Department of Veterans Affairs (VA)

2015 Alternate Grant Reviewer, Disability and Rehabilitation Research Projects (DRRP), National Institute of Disability, Independent Living and Rehabilitation Research (NIDILRR)

2015 Grant Reviewer, Peer Reviewed Medical Research Program (PRMRP), Congressionally Directed Medical Research Programs (CDMRP), US Department of Defense (DOD)

2015 Judge, Conquer Paralysis Now Grand Challenge (formerly Sam Schmidt Paralysis Foundation)

2014 Hong Kong Food and Health Bureau, Health and Medicine Research Fund, Hong Kong SAR

2014 Grant Reviewer, SPiRE awards, Rehabilitation Research and Development, US Department of Veterans Affairs (VA)

2014 Alternate Grant Reviewer, Disability and Rehabilitation Research Projects (DRRP), National Institute of Disability, Independent Living and Rehabilitation Research (NIDILRR)

2014 Grant Reviewer, Peer Reviewed Orthopaedic Research Program (PRORP), Congressionally Directed Medical Research Programs (CDMRP), Department of Defense (DOD)

2013 Grant Reviewer, Spinal Cord Injury Research Program (SCIRP), Congressionally Directed Medical Research Programs (CDMRP), Department of Defense (DOD)

2011 Grant Reviewer, Field Initiated Program, National Institute on Disability, Independent Living and Rehabilitation Research

2011 Grant Reviewer (mail), Study Section (Dermatology, Rheumatology, and Inflammation), National Institutes of Health (NIH)

2010 Grant Reviewer, Field Initiated Program, National Institute on Disability, Independent Living and Rehabilitation Research

2009 Grant Reviewer, Field Initiated Program, National Institute on Disability, Independent Living and Rehabilitation Research

International Committees and Services

2015-present World Health Organization (WHO), Global Cooperation on Assistive Technology (GATE), Geneva, Switzerland (Director: Chapal Khasnabis)
- Co-author, position paper on the personnel (2017-2018)
- Invited participant, Global Research, Innovation, and Education in Assistive Technology (GREAT) Summit (2017)

- Member (2015-present)

2015-present Taiwan Ministry of Science and Technology, New Partnership Program for the Connection to the Top Labs in the World, Taiwan
- Host lab director

2013-present India Khorana Program & Bose Program, India
- Host lab director

2012-present International Compression Club (ICC)
- Member, compression therapy guideline development

2018-2023 School of Biological Science and Medical Engineering, Beihang University, Beijing, China (Yubo Fan and Fang Pu)
- Summer visiting professor

2015-2020 National Research Center for Rehabilitation Technical Aids, Ministry of Civil Affairs, Beijing, China (Director: Yubo Fan)
- Academic committee member

2016-2017 International Convention on Rehabilitation Engineering and Assistive Technology (i-CREATe), Coalition on Rehabilitation Engineering and Assistive Technology of Asia
- Advisory committee member

Professional Organizations

Active

2001-present **Rehabilitation Engineering and Assistive Technology Society of North America (RESNA)** (2001-2004: student member, 2004-present: member)
- Chair, Scientific Papers of annual conferences (2014-2021 (conference chairs Alisa Brownlee, John Anschutz, Doug Gayton)) (2021 RESNA Distinguished Service Award)
- Member, Research Committee (2013-present; chairs Rich Simpson, Heidi Koester, Sajay Arthanat)
- Member, Conference Committee (2013-2021)
- Vice Chair, International Special Interest Group (2017-2020)
- Member, Assistive Technology Standards Board (2014-present)
- Member, Assistive Technology Journal Board (2014-present)
- Co-author, RESNA Position Paper on Power Seat Function Usage in 2015
- Member, Student Development Committee (2012-2013; chair Sharon Sonenblum)
- Reviewer, Scientific Papers (2009-2014, 2021-present)
- Reviewer, Instructional Courses and Workshops (2009-2017)
- Reviewer, Student Scientific Paper Competition (2009-2017)

2013-present **World Association for Chinese Biomedical Engineers (WACBE)**
- **Councilor (board of directors) (2017-2022)**
- **Editor, Newsletters (2017-2021)**
- **Member, Scientific Program Committee**

Inactive

2005-2009 American Diabetes Association (ADA)

2012-2016 American Spinal Injury Association (ASIA)
- Member, Rehabilitation Standards Committee (2014-2016)
- Special Guest, Board of Directors Strategic Planning Retreat (2015)

2004-2012 American Physical Therapy Association (APTA)
- Clinical Electrophysiology and Wound Management Section
- Cardiovascular and Pulmonary Rehabilitation Section
- Cardiopulmonary Physical Therapy Journal Reviewer (2010-2012)

2008-2014 American Society of Biomechanics (ASB)

- Reviewer, ASB annual scientific conference (2009, 2013)

2010-2017 IEEE Engineering in Medicine and Biology Society (EMBS)
- Reviewer, Student Scientific Paper Competition (2010)

1996-1999 Physical Therapist Association of Republic of China (PTAROC) (#927)

Consulting Work

2023 Consultant, Stryker Medical

P&T Reviewer for Peer Universities

2023 Reviewer, Peer Review Expert Committee on Sports Science, Tsinghua University, China
2021 Reviewer, promotion and tenure, University of Oklahoma Health Sciences Center
2021 Reviewer, promotion and tenure, Tianjin University, China
2021 Reviewer, promotion and tenure, University of Oklahoma
2020 Reviewer, promotion and tenure, Tianjin University, China
2020 Reviewer, promotion and tenure, University of Oklahoma Health Sciences Center
2019 Reviewer, promotion and tenure, Tianjin University, China
2019 Reviewer, promotion and tenure, Georgia State University
2018 Reviewer, promotion and tenure, Tianjin University, China

University Committees and Services (at UIUC, OUHSC, and Pitt)

2024 Judge, Undergraduate Research Symposium
2023 Reviewer, Campus Research Board
2016-2022 **Member, Senate Committee on Diversity, Equity and Inclusion** (formerly Equal Opportunity and Inclusion, Chair: JJ Pionke)
2019 Grant Reviewer, Campus Research Board, UIUC
2017 Co-Facilitator, Social Equity and Access session, Illinois-National Taiwan University Global Forum (with Andi Schwingel)
2017 Reviewer, Fulbright applications, UIUC
2017 Judge, Poster Competitions, Undergraduate Research Symposium, UIUC
2017-2020 Member, IRB Committee on Bio-Medical Research, UIUC (Chair: Ken Wilund)
2016-2018 Faculty Senate, The Senate of the Urbana-Champaign Campus, University of Illinois
2016 Member, Program Committee, Design Center Inaugural Symposium, UIUC (Chair: Madhu Viswanathan)
2015-2016 Member, Design Center Program Working Group Committee, Provost's ad-hoc committee, UIUC (Chair: Andy Singer)
2013-2015 Grant Reviewer, Campus Research Board, UIUC
2012 Member, Admission Committee, Graduate Program in Biomedical Science (GPiBS), OUHSC (Chair: Eric Howard)
2010-2012 Member, Program Evaluation Committee, Graduate College, OUHSC
2010-2012 Member, Outstanding Thesis/Dissertation Committee, Graduate College, OUHSC
2009 Grant Reviewer, College of Medicine Alumni Association research grant program, University of Oklahoma Health Sciences Center (OUHSC)
2009-2012 Judge, Poster Competitions, Graduate Research, Education, and Technology (GREAT) Annual Scientific Symposium, Graduate College, OUHSC
2009-2012 Mentor, Graduate Program in Biomedical Science, Graduate College, OUHSC

Department & College Committees and Services (at UIUC, OUHSC, and Pitt)

2021-2022	Member, Website and Communications Committee, KCH
2020-present	Member, Diversity, Equity, and Inclusion Committee, KCH
2019-present	Director, International Graduate Mentors Program (IGMP), Global Education & Training, Illinois International
2018-present	Mentor, International Graduate Mentors Program on Kinesiology and Community Health, Global Education & Training, Illinois International
2018-2020	Member, Educational Policy Committee, KCH (Chair: Kim Graber)
2018-2019	Member, Search Committee for a tenure track faculty on Rehabilitation Counseling, KCH (Chair: Chung-Yi Chiu)
2018-2019	Member, KCH Framework Development Committee (Chair: Sean Mullen)
2017-2018	Member, Search Committee for an open rank faculty on Health, Aging and Technology, AHS (Chair: Jake Sosnoff)
2017-2018	Member, Search Committee for an assistant/associate professor on Exercise Psychology, KCH (Chair: Steve Petruzzello)
2017	Member, Committee on Community Health Graduate Specializations and Concentrations (Chair: Steve Notaro)
2016-2020	Representative, KCH Representative to the IRB Committee, UIUC
2016-2018	Representative, KCH Representative to the UIUC Faculty Senate, UIUC
2016-present	Peer Evaluator, Peer Evaluation of Teaching, Department of Kinesiology and Community Health, UIUC
2016-2017	Member, Search Committee for an Associate/Full Professor on Rehabilitation Counseling, Department of Kinesiology and Community Health, UIUC (Chair: David Strauser)
2014	Member, Rehabilitation Engineering White Paper Committee, AHS (Chair: Jake Sosnoff)
2013-2014	Member, Search Committee, 2 open rank faculty positions in Disability and Rehabilitation Sciences, College of Applied Health Sciences (AHS), UIUC (Chair: Ken Watkin)
2012-present	Graduate Faculty, Department of Kinesiology and Community Health, UIUC
2011-2012	Member, Program Evaluation Committee, Department of Rehabilitation Sciences, OUHSC (Chair: Denise Bender)
2010-2012	Member, Task Group for Departmental Strategy Plan on Research in 2010-2015, Department of Rehabilitation Sciences, OUHSC (Chair: Thubi Kolobe)
2010-2012	Member, Task Group for Departmental Strategy Plan on Post-Professional Program in 2010-2015, Department of Rehabilitation Sciences, OUHSC (Chair: Irene McEwen)
2010	Member, Faculty Search Committee, Occupational Therapy Program, Department of Rehabilitation Sciences, OUHSC
2010-2012	Chair, Elections Committee, College of Allied Health, OUHSC (Chair-Elect in 2010-2011)
2010-2012	Member, Graduate Council, Graduate College, OUHSC
2009-2011	Grant Reviewer, Seed Grant Program, College of Allied Health, OUHSC
2009-2012	Member, Academic Advisory Committee, PhD in Allied Health Sciences program, College of Allied Health, OUHSC (Chair: Irene McEwen)
2009-2011	Member, Research Committee, College of Allied Health, OUHSC (Chair: Thubi Kolobe)

2008-2012	Graduate Faculty (level 4), Allied Health Sciences, Neuroscience, Physiology, Rehabilitation Sciences, and Aerospace and Mechanical Engineering, OUHSC
2007-2008	Graduate Faculty, Department of Rehabilitation Science & Technology, Pitt
2007-2008	Member, Nominating Committee, School of Health and Rehabilitation Sciences (SHRS), Pitt
2007-2008	Member, Safety Committee, SHRS, Pitt
2004-2008	Member, PhD Preliminary Exam Committee on Biomechanics, PhD Program in Rehabilitation Science, SHRS, Pitt (Chair: Gina Bertocci)