Europass Curriculum Vitae

Personal information

First name(s)/Surname(s)	**Tung-Wu Lu**
Address	No1, Sec. 1, Jen - Ai Rd., Taipei 100, Taiwan
Telephone(s)	+886-2-33653335
Fax(es)	+886-2-33653335
E-mail(s)	twlu@ntu.edu.tw
Nationality	Taiwan
Date of birth	05 November 1965
Gender	Male

Desire employment/ Occupational field

University Professor

Work experience

Dates	1991 – 1992
Occupation or position held	Systems Engineer
Main Activities and responsibilities	MRT system design and evaluation
Name and address of employer	Department of Rapid Transit System, Taipei City Government, Taiwan
Dates	1997 - 1998
Occupation or position held	Research Fellow
Main Activities and responsibilities	Research
Name and address of employer	Oxford Orthopaedic Engineering Centre, University of Oxford, U.K
Dates	1998 – 1999
Occupation or position held	Assistant Professor
Main Activities and responsibilities	Teaching and research
Name and address of employer	School of Physical Therapy, China Medical College, Taiwan
Dates	1999 - 2001
Occupation or position held	Assistant Professor
Main Activities and responsibilities	Teaching and research
Name and address of employer	Institute of Biomedical Engineering, National Taiwan University, Taiwan

Dates	2001 – 2007
Occupation or position held	Associate Professor
Main Activities and responsibilities	Teaching and research
Name and address of employer	Institute of Biomedical Engineering, National Taiwan University, Taiwan
Dates	2007 - present
Occupation or position held	Professor
Main Activities and responsibilities	Teaching and research
Name and address of employer	Institute of Biomedical Engineering, National Taiwan University, Taiwan
Dates	2007 - present
Occupation or position held	Joint Professor
Main Activities and responsibilities	Teaching and research
Name and address of employer	Department of Occupational Therapy, National Taiwan University, Taiwan
Dates	2012 – present
Occupation or position held	Joint Professor
Main Activities and responsibilities	Research
Name and address of employer	Department of Orthopaedic Surgery, School of Medicine, National Taiwan University, Taiwan

Education and training

Dates	1983 – 1987
Title of qualification awarded	B.S.
Principal subjects/occupational skills covered	Civil Engineering
Name and type of organization providing education and training	Civil Engineering, Tamkang University, Taiwan, R.O.C.
Dates	1987 – 1989
Title of qualification awarded	M.S.
Principal subjects/occupational skills covered	Mechanical Engineering
Name and type of organization providing education and training	Mechanical Engineering, National Chiao-Tung University, Taiwan, R.O.C.

Dates	1993 – 1997
Title of qualification awarded	D.Phil. (Ph.D.)
Principal subjects/occupational skills covered	Orthopaedic Engineering
Name and type of organization providing education and training	Orthopaedic Engineering, University of Oxford, England, U.K.

Personal skills and competences

Mother tongue(s)	**Mandarin**
Other language(s)	**English**
Specialties	Orthopaedic Biomechanics, Movement & Gait Analysis, Imaging Biomechanics, Rehabilitation Engineering, Sports Biomechanics, Biomedical Engineering
Research interests	Biomechanics and control of the neuromusculoskeletal system, Joint replacement design, analysis and evaluation, Gait analysis theory and clinical applications, Integration of medical images and computer graphics assisted motion analysis, Computer assisted surgical planning, simulation and analysis, Mechanics of rehabilitation exercises, Assistive technology and design of rehabilitative devices.

Additional information

ADMINISTRATION

2007 – 2011: Director, Rehabilitation Engineering Research Center, National Taiwan University, Taiwan

OTHER HELD IN PROFESSIONAL SOCIETIES

President-Elect of the 3D Analysis of Human Movement, ISB Technical Group

Board Member of the Taiwanese Society of Biomechanics

Member of the International Society of Biomechanics

Member of the International Society of Posture and Gait Research

Member of the International Foot and Ankle Biomechanics Community

Member of the Formosan Orthopaedic Research Society

Member of the World Association for Chinese Biomedical Engineers

Member of the Society of Theoretical and Applied Mechanics of

the Republic of China

EDITORIAL WORK
Associate Editor of the Biomedical Engineering- Applications, Basis and Communications
Editorial board member of The Open Sport Medicine Journal
Editorial board member of Biomedical Engineering-Applications, Basis and Communications
Editorial board member of International Journal of Experimental and Computational Biomechanics

HONORS AND AWARDS (since 2009)
2012: 1st Oral Presentation Prize, 2012 International Symposium on Biomechanics combined with the Annual Scientific Meeting of Taiwanese Society of Biomechanics.
2012: 3rd Oral Presentation Prize, 2012 International Symposium on Biomechanics combined with the Annual Scientific Meeting of Taiwanese Society of Biomechanics.
2012: The Best Poster Prize, 2012 International Symposium on Biomechanics combined with the Annual Scientific Meeting of Taiwanese Society of Biomechanics.
2012: Poster Prize, 2012 International Symposium on Biomechanics combined with the Annual Scientific Meeting of Taiwanese Society of Biomechanics.
2011: Oral Presentation Prize, Taiwanese Society of Biomechanics Annual Meeting.
2011: Best Oral Presentation Prize, Taiwanese Society of Biomechanics Annual Meeting.
2011: Best Poster Prize, Taiwanese Society of Biomechanics Annual Meeting.
2011: ISB Best Paper Award, Taiwanese Society of Biomechanics Annual Meeting.
2010: Outstanding Paper Award, The First Asia-Pacific Conference on Ankle-Foot Footwear Biomechanics.
2010: Best Poster Prize, Annual International Conference on Preventive Medicine.
2009: Poster Prize, Taiwanese Society of Biomechanics Annual Meeting.
2009: Poster Prize, Taiwanese Society of Biomechanics Annual Meeting.
2009: Silver Medal of National Invention Award, Intellectual Property Office, Ministry of Economic Affairs, Taiwan.

CONFERENCE CHAIR AND MEMBER OF ORGANIZING COMMITTEE (since 2009)

2010: 4th International Symposium & Workshop on Virtual Interactive Musculoskeletal System

2010: Second Congress of the international Foot and Ankle Biomechanics Community

2009: International Symposium on Biomechanics combined with the Annual Scientific Meeting of Taiwanese Society of Biomechanics

SELECTED PUBLICATIONS IN ARCHIVE JOURNALS

Lu, T.-W.* and O'Connor, J.J. (1999) Bone position estimation from skin marker co-ordinates using global optimisation with joint constraints, Journal of Biomechanics. 32:129-134.

Lu, T.-W.*, Taylor, S.J.G., O'Connor, J.J. and Walker, P.S. (1997) Influence of muscle activity on the forces in the femur: an in vivo study, Journal of Biomechanics. 30: 1101-1106.

Lu, T.-W.*, O'Connor, J.J., Taylor, S.J.G. and Walker, P.S. (1998) Validation of a lower limb model with in vivo femoral forces telemetered from two subjects, Journal of Biomechanics. 31: 63-69

Lu, T.-W.* and O'Connor, J.J. (1996) Lines of action and moment arms of the major force-bearing structures crossing the human knee joint: comparison between theory and experiment, Journal of Anatomy. 189: 575-585.

Lu, T.-W.*, Chen, H.-L., and Chen, S.-C. (2006) Comparisons of the lower limb kinematics between young and older adults when crossing obstacles of different heights, Gait & Posture.23:471-479.

Tsai, T.Y.[+], Lu, T.W.*[,+], Chen, C.M., Kuo, M.Y. and Hsu, H.C. (2010) A volumetric model-based 2D to 3D registration method for measuring kinematics of natural knees with single-plane fluoroscopy. Medical Physics. 37(3): 1273-1284.

Lu, T.-W.*, Chen, H.-L., and Wang, T.-M. (2007) Obstacle crossing in older adults with medical compartment knee osteoarthritis, Gait & Posture.26:553-559.

Lu, T.-W.*, Yen, H.-C., and Chen, H.-L. (2008) Comparisons of the inter-joint coordination between leading and trailing limbs when crossing obstacles of different heights, Gait & Posture. 27:309-315.

Lu, T.-W.*, Chien, H.-L., and Chen, H.-L. (2007) Joint loadings in

the lower extremities during elliptical exercise, Medicine & Science in Sports & Exercise. 39:1651-1658.
Lu, T.-W.*, Hsu, H.-C. Chang, L.-Y., and Chen, H.-L. (2007) Enhancing the examiner's resisting force improves the reliability of manual muscle strength measurements: Comparison of a new device with hand-held dynamometry, Journal of Rehabilitation Medicine. 39:679-684.
Lu, T.-W.*, Tsai, T.-Y., Kuo, M.-Y., Hsu, H.-C. and Chen, H.-L. (2008) In vivo three-dimensional kinematics of the normal knee during active extension under unloaded and loaded conditions using single-plane fluoroscopy. Medical Engineering and Physics. 30(8): 1004-1012.
Huang, S.-C., Wei, I-P., Chien, H.-L., Wang, T.-M., Liu, Y.-H., Chen, H.-L., Lu, T.-W.* and Lin, J.-G. (2008) Effects of severity of degeneration on gait patterns in patients with medial knee osteoarthritis. Medical Engineering and Physics. 30(8): 997-1003.
Yen, H.-C., Chen, H.-L., Liu, M.-W., Liu, H.-C. and Lu, T.-W.* (2009) Age effects on the inter-joint coordination during obstacle-crossing. Journal of Biomechanics. 42(15): 2501-2506.
Toutoungi, D.E., Lu, T.-W., Leardini, A., Catani, F. and O'Connor, J.J. (2000) Cruciate ligament forces in the human knee during rehabilitation exercises. Clinical Biomechanics. 15(3): 176-187.
Chen, H.L., Lu, T.W.*, Wang, T.M. and Huang, S.C. (2008) Biomechanical strategies for successful obstacle crossing with the trailing limb in older adults with medial compartment knee osteoarthritis. Journal of Biomechanics. 41(4): 753-761.
Chien, H.-L., Lu, T.-W.* and Liu, M.-W. (2013). Control of the motion of the body's center of mass in relation to the center of pressure during high-heeled gait. Gait and Posture, 38(3): 391-396.
Hong, S.-W., Wang, T.-M., Lu, T.-W.*, Li, J.-D., Leu, T.-H. and Ho, W.-P. (2013). Redistribution of Intra- and Inter-limb Support Moments During Downhill Walking on Different Slopes. Journal of Biomechanics, DOI: 10.1016/j.jbiomech.2013.11.028. (Accepted).
Lin, C.-C., Lu, T.-W.*, Shih, T.-F., Tsai, T.-Y., Wang, T.-M. and Hsu, S.-J. (2013). Intervertebral anti-collision constraints improve out-of-plane translation accuracy of a single-plane fluoroscopy-to-CT registration method for measuring spinal motion. Medical Physics, 40(3): 031912.
Lin, C.-C., Lu, T.-W.*, Wang, T.-M., Hsu, C.-Y. and Shih, T.-F.

(2013). Comparisons of Surface vs. Volumetric Model-Based Registration Methods Using Single-Plane vs. Bi-Plane Fluoroscopy in Measuring Spinal Kinematics. Medical Engineering & Physics, DOI: 10.1016/j.medengphy.2013.08.011. (Accepted).

Lin, C.-C., Zhang, S., Jens F., Lu, T.-W.*, Hsu, C.-Y. and Shih, T.-F. (2013). A Slice-to-Volume Registration Method Based on Real-Time Magnetic Resonance Imaging for Measuring Three-Dimensional Kinematics of the Knee. Medical Physics, 40(10):102302-7.

Liu, Y.-H., Wang, T.-M., Wei, I P., Lu, T.-W.*, Hong, S.-W., and Kuo, C.-C. (2013). Effects of Bilateral Medial Knee Osteoarthritis on Intra- and Inter-Limb Contributions to Body Support During Gait. Journal of Biomechanics, DOI: 10.1016/j.jbiomech.2013.11.001. (Accepted).

Wang, T.-H., Peng, Y.-C., Chen, Y.-L., Lu, T.-W., Liao, H.-F., Tang, P.-F. and Shieh, J.-Y. (2013). A Home-based Program Using Patterned Sensory Enhancement Improves Resistance Exercise Effects for Children with Cerebral Palsy: A Randomized Controlled Trial. Neurorehabilitation and Neural Repair, 27(8): 684-694.

BIBLIOMETRIC ANALYSIS

From Scopus:

Based on documents published between 1996 and present:

h index = 16, citation = 984