

## CURRICULUM VITAE

### Petcharatana Bhuanantanondh, Ph.D., PT

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#### EDUCATION

2012	<b>Ph.D.</b>	University of British Columbia, Vancouver, Canada <b>Biomedical Engineering</b>
2009	<b>M.A.Sc.</b>	University of British Columbia, Vancouver, Canada <b>Biomedical Engineering</b>
2004	<b>Ph.D.</b>	University of Minnesota, Minneapolis, MN, USA <b>Kinesiology - Human Factors/Ergonomics</b>
2003	<b>M.A.</b>	University of Minnesota, Minneapolis, MN, USA <b>Kinesiology - Human Factors/Ergonomics</b>
1997	<b>B.Sc.</b>	Mahidol University, Bangkok, Thailand <b>Physical Therapy</b>

#### PROFESSIONAL EXPERIENCE

##### **Mahidol University, Bangkok, Thailand**

2018-present	- Lecturer - Committee member of the Doctor of Philosophy in Physical Therapy Program - Committee Member of the Research and Innovations, Faculty of Physical Therapy - Committee Member of the International Affairs, Faculty of Physical Therapy
2013-2018	- Lecturer - Committee Member of the Master of Science in Physical Therapy Program - Committee Member of the Research Affairs, Faculty of Physical Therapy

##### **University of British Columbia, Vancouver, Canada**

2009-2012	- Research Assistant: Funding from the Worker's Compensation Board of British Columbia (WorkSafe BC) - Teaching Assistant: <ul style="list-style-type: none"><li>• Occupational Health and Safety in Chemical Engineering</li><li>• Biomedical Equipment, Physiology, and Anatomy</li><li>• Clinical and Industrial Biomedical Engineering</li></ul>
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- Biomedical Engineering Technology

2007-2009 - Research Assistant

### **Mahidol University, Bangkok, Thailand**

2007 - Committee Member of Physical Therapy Working Group for the 24<sup>th</sup> Universiade Bangkok, 2007

2006-2007 - Assistant Dean for Student Affairs, Faculty of Physical Therapy Applied Movement Sciences  
 - Committee Member of the Master of Science in Physical Therapy Program  
 - Committee Member of the Academic and Research Affairs, Faculty of Physical Therapy and Applied Movement Sciences  
 - Committee Member of the Student Affairs for the Graduate School

2005-2007 - Lecturer

### **University of Minnesota, Minneapolis, MN, USA**

2000-2004 - Research Assistant

- Human Factors/Ergonomics in Transportation & Safety
- Human Factors/Ergonomics Evaluation of St. Paul Children Hospital and Clinics Neonatal Intensive Care Unit (NICU)

- Teaching Assistant

- Human Anatomy

### **PROFESSIONAL SERVICE**

2019-present - Managing Editor: Thai Journal of Ergonomics  
 2013-present - Committee Member of the Ergonomics Society of Thailand  
 2014-2016 - Working group “Ergonomics for Healthcare Workers”, Raj Pracha Samasai Institute  
 2013-2015 - Working group “Ergonomics in Agriculture” Bureau of Occupational and Environmental Diseases, Ministry of Public Health  
 2007 - Committee Member of the Eighth Pan-Pacific Conference on Occupational Ergonomics (PPCOE 2007)  
 2005-2007 - Committee Member of the Ergonomics Society of Thailand

### **RESEARCH PROJECTS & FUNDINGS**

- Ergonomics Evaluation of Oil Palm Harvesting among Thai oil palm farmers, 2018 Funded by GeoHealth Hub, US National Institute of Health (NIH)
- Post-Doctoral Training at the University of Massachusetts, Lowell, USA, 2017. Funded by GeoHealth Hub, US National Institute of Health (NIH)
- Stress and Fatigue among Workers at PTT Exploration and Production Public Company Limited (PTTEP), 2015-2016. Funded by PTTEP

- The Survey and Guidelines for the Prevention of Work-Related Musculoskeletal Disorders among Workers Performing Manual Material Handling Work at PTT Exploration and Production Public Company Limited (PTTEP) Project, 2014-2015. Funded by PTTEP
- The Survey and Proposed Guidelines for Reducing Work-Related Musculoskeletal Injuries among Computer Office Workers at PTT Exploration and Production Public Company Limited (PTTEP) Project, 2012-2013. Funded by PTTEP
- Surveying and Providing a Guideline for Prevention and Treatment for Musculoskeletal Problems in Flight Attendants of Thai Airways International Public Company Limited, 2005-2007. Funded by Thai Airways International Public Company Limited

## **INVITED TALKS/WORKSHOPS**

- 2019:
  - “Ergonomic Training for Office Workers”, Boehringer Ingelheim (Thai) Ltd.
  - “Office Syndrome”, Palliative Care Thailand Foundation
  - “Biomechanics and Workstation Design”, Institute of Public Health, Suranaree University
  - “Muscle Physiology and Fatigue” and “Physical Fitness and Functional Capacity Evaluation”, Institute of Public Health, Suranaree University
  - “Ergonomic Training for Office Workers”, Unithai Shipyard & Engineering Limited
  - “Ergonomics for Office Workers and Manual Material Handling Workers”, PTT Exploration and Production Public Company Limited
  - “Stress and Fatigue”, Physical Therapy Association of Thailand (PTAT) Conference 2019: Reform: Physical Therapy Roles
  - “Muscle Physiology and Fatigue” and “Physical Fitness and Functional Capacity Evaluation”, Institute of Public Health, Suranaree University
  - “Ergonomics and Musculoskeletal System”, Jaspal & Sons Co., Ltd. (Tempur)
- 2018:
  - “Office Syndrome”, Palliative Care Thailand Foundation
  - “Ergonomic Training for Office Workers”, Norton Rose Fullbright (Thai) Ltd.
  - “Ergonomic Training for Office Workers”, Boehringer Ingelheim (Thai) Ltd.
  - “Muscle Physiology and Fatigue” and “Physical Fitness and Functional Capacity Evaluation”, Institute of Public Health, Suranaree University
  - “Office Syndrome”, Faculty of Public Health, Siam University
  - “Work Station Design”, Department of Occupational Health and Safety, Faculty of Public Health, Mahidol University
  - “Ergonomics Risk Assessment”, Department of Occupational Health and Safety, Faculty of Public Health, Mahidol University
- 2017:
  - “Office Syndrome”, PTT Exploration and Production Public Company Limited
  - “Laboratory Ergonomics”, Faculty of Medicine Ramathibodi Hospital, Mahidol University
- 2016:
  - “Reducing Physiological Fatigue in Workers: Case Studies”. Thailand National Ergonomics Conference
  - “Physiological Fatigue Measurement: Subjective and Objective Methods”, Thailand National Ergonomics Conference
  - “Return to Work”, Raj Pracha Samasai Institute
  - “Introduction to Ergonomics and Ergonomics Assessment”, Raj Pracha Samasai Institute

- “Office Syndrome”, Rajavithi Hospital
- “Ergonomic Training for Office Workers”, BG Asia Pacific Pte Limited
- 2015:
  - “Ergonomic Training for Office Workers”, Bank of Thailand
  - “Ergonomic Training for Office Workers”, PepsiCo Services Asia Ltd.
  - “Introduction to Ergonomics and Ergonomics Assessment”, Raj Pracha Samasai Institute
- 2014:
  - "Ergonomic Training for Office Workers", PepsiCo Services Asia Ltd.
  - “Introduction to Ergonomics and Ergonomics Assessment”, Bureau of Occupational and Environmental Diseases, Ministry of Public Health
- 2013:
  - “Ergonomics and Work-Related Musculoskeletal Disorders for Office Workers”, Spansion (Thailand) Limited
- 2005-2007:
  - “Ergonomics and Work-Related Musculoskeletal Disorders for Flight Attendants”, Thai Airways International Public Company Limited, 2006-2007
  - “Ergonomics Evaluation and Intervention”, Annual Conference of the Faculty of Physical Therapy and Applied Movement Science, Mahidol University, 2006
  - “Ergonomics and Work-Related Musculoskeletal Disorders for Office Workers”, Shell Co. Ltd., Thailand, 2006
  - “Ergonomics for Furniture Design Course”, The Faculty of Architecture and Planning, Thammasat University, 2005

## PROFESSIONAL ASSOCIATIONS

- Physical Therapy Association of Thailand, 1997-present
- Ergonomics Society of Thailand, 2005-present
- The Canadian Medical and Biological Engineering Society, 2008-2012
- Human Factors and Ergonomics Society, 2001-2004

## PUBLICATIONS

- **Bhuanantanondh P**, Buchholz B, Arphorn S, Kongtip P, Woskie S. The prevalence of and risk factors associated with musculoskeletal disorders in Thai oil palm harvesting workers: A cross-sectional study. *International Journal of Environmental Research and Public Health* 2021;18(10): 5474.
- **Bhuanantanondh P**, Bandidcharoenlert P, Jalayondeja W, Jalayondeja C, Mekhora, K. Fatigue assessment among onshore oil rig shift workers in Thailand. *International Journal of Industrial Ergonomics* 2021; 83: 103137.
- Raktrakul P, **Bhuanantanondh P**, Sujirarat D, Chaikittiporn C, Kongtawelert A. Related Factors of Musculoskeletal Disorders among Large-Scale Manufacturing Ceramic Workers in Lampang Province. *Thai Journal of Health Education* 2021; 44(1):152-161.
- Pinupong C, Jalayondeja W, Mekhora K, **Bhuanantanondh P** and Jalayondeja C. The effects of ramp gradients and pushing-pulling techniques on lumbar spinal load in healthy workers. *Safety and Health at Work* 2020;11(3):307-313.
- Chauychoocherd T, Kongtawelert A, Sujirarat D, **Bhuanantanondh P**. Factors Associated with Work-Related Musculoskeletal Disorders among Wood Furniture Informal Workers in Sukhothai Province. *Thai Journal of Health Education* 2020;43(2):54-65.

- Tewtow S, **Bhuanantanondh P**, Mekhora K. Prevalence of Work-Related Musculoskeletal Disorders among Thai Oil Palm Workers in Khao Phanom District, Krabi Province, Thailand. *Industrial Engineering & Management Systems* 2019;(18)4:630-7.
- Tarmperm J, Kontawelert A, Sujirarat D, **Bhuanantanondh P**. Prevalence and Factors Affecting Musculoskeletal Disorders among Thai Ancient Goldsmith Workers in Sukhothai Province. *Srinagarind Medical Journal* 2019; 34(5): 475-481
- Rongthong M, Kongtawelert A, Sujirarat D, **Bhuanantanondh P**. Prevalence of musculoskeletal disorders among new oil palm harvesting workers. *HCU Journal*. 2019; 23(1): 77-92. (in Thai)
- Kentawai W, Kongtawelert A, Sujirarat D, **Bhuanantanondh P**. Prevalence of musculoskeletal disorders among female pottery workers in Khiri Mat, Sukhothai province, Thailand. *Journal of Science and Technology Mahasarakham University*. 2019;38(3): 282-291. (in Thai)
- Phuaphonthep S, Kongtawelert A, Sujirarat D, **Bhuanantanondh P**. Musculoskeletal disorders among backpack pesticide sprayers in less than 10 years experience workers. *Journal of Health Education*. 2019;42(1): 106-118. (in Thai)
- **Bhuanantanondh P**, Nanta P, Mekhora K. Determining Sincerity of Effort based on Grip Strength Test in Three Wrist Positions. *Safety and Health at Work*. 2018; 9(1): 59-62
- Chongaonoy N, **Bhuanantanondh P**, Mekhora K, Jalayondeja W. Validity of an android application for reaction time test. *Journal of Public Health*. 2017; 47(2): 142-152. (in Thai)
- Bandidcharoenlert P, **Bhuanantanondh P**, Jalayondeja W, Jalayondeja C. D8-4 Sleepiness and performance among oil rig onshore shift workers in Thailand. *The Japanese Journal of Ergonomics*. 2017; 53 Suppl 2:S660-S663.
- Khaengkun P, **Bhuanantanondh P**, Mekhora K, Jalayondeja C. D8-2 Association between subjective and objective assessment of fatigue. *The Japanese Journal of Ergonomics*. 2017; 53 Suppl 2:S652-S655.
- Siriworakunsuk K, Mekhora K, Jalayondeja C, **Bhuanantanondh P**. D3-1 Content validity of Online Self-report Questionnaire on Work-related Exposure (OSCWE). *The Japanese Journal of Ergonomics*. 2017; 53 Suppl 2:S426-S429.
- Jalayondeja C, Jalayondeja W, Mekhora K, **Bhuanantanondh P**, Dusadi-Isariyavong A, Upiriyasakul R. Break in sedentary behavior reduces the risk of noncommunicable diseases and cardiometabolic risk factors among workers in a petroleum company. *International Journal of Environmental Research and Public Health*. 2017; May 9;14(5). pii: E501. doi: 10.3390/ijerph14050501
- Suwande P, Mekhora K, Jalayondeja C, **Bhuanantanondh P**. Self-screening test for upper extremity musculoskeletal disorders in computer users. In: Yamamoto S, editor. *New ergonomics perspective*. Boca Raton: CRC Press; 2015. p. 79-84.
- Mekhora K, Jalayondeja W, Jalayondeja C, **Bhuanantanondh P**, Dusadiisariyavong A, Upiriyasakul R, Anuraktam K. Online Self-Report Questionnaire on Computer Work-Related Exposure (OSCWE): Validity and Internal Consistency. *Journal of the Medical Association of Thailand*. 2014; 97 Suppl 7: S80-S83.
- **Bhuanantanondh P**, Grecov D, Kwok E. Rheological Study of Viscosupplements and Synovial Fluid in Patients with Osteoarthritis. *Journal of Medical and Biological Engineering*. 2012; 32(1): 12-16.
- Chan A, Kwok E, **Bhuanantanondh P**. Performance Assessment of Upper Limb Myoelectric Prostheses Using a Programmable Assessment Platform. *Journal of Medical and Biological Engineering*. 2012; 32(4): 259-264.
- **Bhuanantanondh P**, Grecov D, Kwok E, Guy P. Rheology of Osteoarthritic Synovial Fluid Mixed with Viscosupplements: A Pilot Study. *Biomedical Engineering Letters*. 2011; 1: 213-219.

## PRESENTATION AND PROCEEDINGS

- Samsang P, **Bhuanantanondh P**, Jalayondeja C, Mekhora K. Development and content validity of break and exercise reminder application for computer users. Proceedings of the International Physical Therapy Research Symposium 2019 (IPTRS 2019), June 5-7, 2019, Nakhon Pathom, Thailand.
- Tewtow S, **Bhuanantanondh P**, Mekhora K. Prevalence of work-related musculoskeletal disorders among Thai oil palm workers in Khao Phanom district, Krabi province Thailand. Proceedings of the 5<sup>th</sup> Southeast Asian Ergonomics Conference (SEANES 2018), December 12-14, 2018, Bangkok, Thailand.
- Bandidcharoenlert P, **Bhuanantanondh P**, Jalayondeja W, Jalayondeja C. Sleepiness and performance among oil rig onshore shift workers in Thailand. Proceedings of the 2<sup>nd</sup> Asian Conference on Ergonomics and Design 2017, June 1-4, 2017, Chiba, Japan.
- Khaengkun P, **Bhuanantanondh P**, Mekhora K, Jalayondeja C. Association between subjective and objective assessment of fatigue. Proceedings of the 2<sup>nd</sup> Asian Conference on Ergonomics and Design 2017, June 1-4, 2017, Chiba, Japan.
- Siriworakunsuk K, Mekhora K, Jalayondeja C, **Bhuanantanondh P**. Content validity of Online Self-report Questionnaire on Work-related Exposure (OSCWE). Proceedings of the 2<sup>nd</sup> Asian Conference on Ergonomics and Design 2017, June 1-4, 2017, Chiba, Japan.
- Chongaonoy N, **Bhuanantanondh P**, Mekhora K, Jalayondeja W. Development of an android application for reaction time test and finger tapping test. Proceedings of the 3<sup>rd</sup> International Physical Therapy Conference and the 4<sup>th</sup> Physical Therapy Mahidol University Research Symposium 2016, December 14-16, 2016, Bangkok, Thailand.
- Juntongsee M, Mekhora K, **Bhuanantanondh P**. Comparison of neurodynamic response and pain in experienced and non-experienced Thai dancers. Proceedings of the 3<sup>rd</sup> International Physical Therapy Conference and the 4<sup>th</sup> Physical Therapy Mahidol University Research Symposium 2016, December 14-16, 2016, Bangkok, Thailand.
- Chusan W, Kongtawelert A, Yoosuk W, Sujurarat D, **Bhuanantanondh P**. Suitability of library furniture and student body dimensions. The 41<sup>st</sup> National and 5<sup>th</sup> International Graduate Research Conference, December 8-9, 2016, Pathum Thani, Thailand.
- Youngpreeda W, Kongtawelert A, Yoosuk W, Sujurarat D, **Bhuanantanondh P**. An assessment and modification of classroom chairs for reduce fatigue. The 41<sup>st</sup> National and 5<sup>th</sup> International Graduate Research Conference, December 8-9, 2016, Pathum Thani, Thailand.
- Thongpradit A, Dusadi-Isariyavong A, Jongpaiboonkit A, Kim J, Jalayondeja W, Mekhora K, Jalayondeja C, **Bhuanantanondh P**, Upiriyasakul R. The survey for prevention of work-related musculoskeletal disorders among workers performing manual material handling work. International Petroleum Technology Conference, November 14-16, 2016, Bangkok, Thailand.
- Nanta P, **Bhuanantanondh P**, Mekhora K. Sincerity of effort test by using grip strength test in Thai healthy people. The 11<sup>th</sup> World Congress of the International Society for Adaptive Medicine (ISAM 2015), May 27-30, 2015, Yonago, Japan.
- Charoenphon K, **Bhuanantanondh P**, Mekhora K. Effects of ergonomic training on musculoskeletal symptoms and postural risk factors in computer users. The 29<sup>th</sup> Annual Conference of Asia Pacific Occupational Safety & Health Organization, July 2-6, 2014, Bangkok, Thailand.

- **Bhuanantanondh P**, Kwok E, Chan A. A Biomedical Engineering Approach to Select an Appropriate Upper Limb Prosthesis. The 34<sup>th</sup> Conference of the Canadian Medical and Biological Engineering Society/FICCDAT, June 5-8, 2011, Toronto, ON Canada.
- **Bhuanantanondh P**, Grecov, D, Kwok, E. Rheological Behavior of Synovial Fluid with and without Viscosupplements in Patients with Osteoarthritis. The 6<sup>th</sup> World Congress in Biomechanics, August 1-6, 2010, Suntec Convention Center, Singapore.
- **Bhuanantanondh P**, Grecov D, Kwok E. Rheology of Synovial Fluid in Patients with Osteoarthritis and the Effects of Viscosupplements on the Rheology of Synovial Fluid. The ASME 2010 Summer Bioengineering Conference, June 16-19, 2010, Naples, Florida, USA.
- **Bhuanantanondh P**, Grecov D, Kwok E. Rheological Study of Viscosupplements and Synovial Fluid in Patients with Osteoarthritis. The 33<sup>rd</sup> Conference of the Canadian Medical and Biological Engineering Society, June 15-18, 2010, Vancouver, BC, Canada.
- **Bhuanantanondh P**, Grecov D, Kwok E, Guy P. Rheological Characterization of Synovial Fluid in Patients with Osteoarthritis. Biomedical Engineering Research Symposium, 2009, University of British Columbia, Faculty of Applied Science, Vancouver, BC, Canada.
- **Bhuanantanondh P**. Occupancy Design and the Older Worker: Age-Dependent Effects of Occupancy Quality on Office Employee Perceptions of Their Workplace Environment. 2004, University of Minnesota, College of Education and Human Development, Minneapolis, MN.
- **Bhuanantanondh P**, Wade MG. Perceiving Direction of Self Motion via Optic Flow in Alzheimer's Disease. 2004, University of Minnesota, College of Education and Human Development, Minneapolis, MN.
- Wade MG, **Bhuanantanondh P**. Detecting Direction of Heading from Optical Flow in Patients with Alzheimer's Disease. 2002, ACAPS, Toulouse, France.
- Wade MG, Hammond C, Kim C, **Bhuanantanondh P**. Eliminating Driver Blindspots at Rural Intersections: Effects of Signage and Vehicle Velocity. ITS Institute Annual Report 2002.
- Smith TJ, Racine S, **Bhuanantanondh P**. Human Factors/Ergonomics Issues with Online and Distance Education. In Virtual Conference Proceedings, 'Home on the Web: The Challenges and Opportunities of Online Learning Communities.' 2001, Minneapolis, MN: The Collaboration for the Advancement of College Teaching & Learning.