

CURRICULUM VITAE

Piangkwan Sa-nguanmoo, Ph.D., P.T.

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Academic positions	Assistant Professor Department of Physical Therapy, Chiang Mai University, Chiang Mai, Thailand
Education	2011 B.Sc.(Physical Therapy), Chiang Mai University, Thailand 2014 M.Sc.(Physiology), Chiang Mai University, Thailand 2017 Ph.D.(Physiology), Chiang Mai University, Thailand
Positions and appointments	
2025-present	Head of pediatric physical therapy division, Department of Physical Therapy, Chiang Mai University, Chiang Mai, Thailand
2025-present	Assistant Professor, Department of Physical Therapy, Chiang Mai University, Chiang Mai, Thailand
2023-Present	Assistant Head of Department for Research and Innovation
2021-Present	Committee of postgraduate course, Movement and Exercise Sciences (International program), Faculty of Associated Medical Sciences, Chiang Mai University
2018- Present	Lecturer at the Department of Physical Therapy, Faculty of Associated Medical Sciences, Chiang Mai University, Thailand
Professional license	
2011 – Present	Physical therapy, Thailand
Honors and awards	
2011	Outstanding Academic Achievement Award, Faculty of Associate Medical Sciences, Chiang Mai University, Chiang Mai, Thailand
2013	Best Poster Award in International Brain Research Organization- asia Pacific Regional Committee (IBRO-APRC) Neuroscience Associate School 2013 and the 17th Thai Neuroscience Society Conference, Bangkok, Thailand

2015	Young Scientist Award Winner for Poster Presentation in 8 th the Federation of the Asian and Oceanian Physiological Societies (FAOPS) 2015, Bangkok, Thailand
2016	Moderate Poster Presentation Award in the 44 th Physiological Society of Thailand Annual Meeting (2016), Chiang Mai, Thailand
2019	Very Good Doctoral Thesis Award for the Academic Year 2018, Chiang Mai University, Chiang Mai, Thailand
2020	National Research Council of Thailand (NRCT) Research Award: Good Doctoral Thesis Award, Thailand Investigator Day' 2020, Bangkok, Thailand

Scholarship

2014 - 2017	CMU50 th Anniversary Grant, Chiang Mai University, Chiang Mai, Thailand (Joint Funding between Faculty of Medicine, Chiang Mai University and Chiang Mai university)
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Experience

1-31 Nov 2016	Fellowship from 3 rd IBRO-APRC Advanced School of Neuroscience at Monash University, Malaysia.
1 Feb – 31 Jul 2017	Research trainee, Department of Physiology of Energy Metabolism, German Institute of Human Nutrition, Potsdam, Germany (Prof. Dr. Susanne Klaus, Mentor)

Presentation at national meetings

April 2014	Oral presentation in 43 th Annual Scientific Meeting of the Physiology Society of Thailand, Chonburi, Thailand
December 2016	Poster presentation in the 44 th Annual Scientific Meeting of the Physiology Society of Thailand, Chiang Mai, Thailand

Presentations at international meetings

July 2013	Poster presentation in international brain research organization-asia pacific regional committee (IBRO-APRC) neuroscience associate school 2013 and the 17th thai neuroscience society conference, Bangkok, Thailand
June 2014	Poster presentation in ICE/ENDO 2014, Chicago, Illinois, USA
November 2015	Poster presentation in 8 th the Federation of the Asian and Oceanian Physiological Societies (FAOPS) 2015, Bangkok, Thailand
April 2016	Oral presentation in ENDO 2016, Boston, Massachusetts, USA

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April 2016	Oral presentation in the 14 th International Neurological and Cardiac Electrophysiology Symposium (NCES) 2016, Chiang Mai, Thailand
November 2023	Poster presentation in The 13 th PPCR on rehabilitation advances in research and practice, Chiang Mai, Thailand
November 2024	Poster presentation in TSRI Research and Development Personnel Network Forum 2024: Preparing Today for Tomorrow's Challenges, Phetchaburi, Thailand

Research of interest

1. Obesity and Metabolic Health
2. Exercise Physiology
3. Metabolic Biomarkers
4. Pediatric Rehabilitation

Publications (Peer-reviewed)

International Journals

1. Keawtep P, Boripuntakul S, **Sa-nguanmoo P**, Jearjaroen P, Sittichoke C, Kamnardsiri T, Sinthamrongruk T, Sungkarat S. Effects of Web-Based Physical–Cognitive Telerehabilitation Exergaming on Physical and Cognitive Performance in Chronic Stroke Survivors: Protocol for a Randomized Controlled Trial. *Journal of Clinical Medicine*. 2026; 15(8):2945. (Q1)
2. **Sa-Nguanmoo P**, Apaijai N, Pintana H, Chunchai T. *et al*. Prebiotic-based banana snacks (*Musa sapientum* L.) alleviate cognitive impairment by reducing brain inflammation, apoptosis, microglial activation, and dendritic spine loss in obese rats. *Nutritional Neuroscience*. 2026; 1–17. (Q1)
3. Aeimlapa R, Panmanee J, Teerapornpuntakit J, Wongdee, K, Thongbunchoo J, Panupinthu N, Svasti S, Apaijai N, **Sa-Nguanmoo P**, Chattipakorn S, Chattipakorn N, Charoenphandhu N. Vildagliptin and Omarigliptin Differentially Bind to DPP-4 Homodimers and Modulate Osteoclast-Mediated Bone Resorption. *Comprehensive Physiology*. 2026; 16(1): e70103 (Q1)
4. **Sa-Nguanmoo P**, Chuatrakoon B, Keawtep P, Thummasorn S, Thongsukdee T, Homjan P, Phetcharat P. Differential effects of physical activity on cognitive and motor performance in obese young adults. *PeerJ*. 2025; 13:e20481(Q1)
5. **Sa-Nguanmoo P**, Pratanaphon S, Parameyong A, Chawawisuttikool J, Shinlapawittayatorn

- K, Chattipakorn N, Chattipakorn SC. Inspiratory muscle training improves heart rate variability and respiratory muscle strength in obese young adults. PLoS One. 2025;20(8):e0329623. (Q1)
6. Thummasorn S, **Sa-Nguanmoo P**, Sirisattayawong P, Ingding A, Kumkun C, Pittayaporn N, Tupsai P, Morthin S, Phithakleelanon O. Social support-based physical activity that exerts beneficial effects for obese older adults with cognitive impairment via increasing participation in leisure-time physical activity. PloS one. 2025;20(6), e0325516. (Q1)
 7. Kumfu S, Sungkarat S, Boripantakul S, **Sa-Nguanmoo P**, Chattipakorn SC. Effects of home based, low-intensity exergaming on cognitive function of individuals with mild cognitive impairment: a study protocol for a randomized controlled trial. BMC Geriatr. 2025;25(1):408. (Q1)
 8. Keawtep P, Sungkarat S, Boripantakul S, **Sa-nguanmoo P**, Wichayanrat W, Chattipakorn, SC. Effects of combined dietary intervention and physical-cognitive exercise on cognitive function and cardiometabolic health of postmenopausal women with obesity: a randomized controlled trial. International Journal of Behavioral Nutrition and Physical Activity. 2024; 21(1), 1-13. (Q1)
 9. Nantakool S, **Sa-nguanmoo P**, Konghakote S, Chuatrakoon B. Effects of Exercise Rehabilitation on Cardiorespiratory Fitness in Long-COVID-19 Survivors: A Meta-Analysis. J. Clin. Med. 2024; 13(2), 3621. (Q1)
 10. **Sa-nguanmoo P**, Chuatrakoon B, Paramayong A, Jaisamer K, Panyakum M, Suriyawong, W. Comparing the 6-minute Walk Test Performance and Estimated Maximal Oxygen Consumption Between Physically Active and Inactive Obese Young Adults. Physical Activity and Health. 2024; 8(1), 20 – 28. (Q2)
 11. Chuatrakoon B, Konghakote S, **Sa-nguanmoo P**, Nantakool S. Long-term impact of SARS-CoV-2 infection on cardiorespiratory fitness: a meta-analysis. Front. Public Health. 2023; 11:1215486 (IF:6.4, Q1)
 12. **Sa-nguanmoo P**, Chuatrakoon B, Pratanaphon S, Thanagosai J, Sriarpon J. Impact of Physical Activity on Pulmonary Function and Respiratory Muscle Strength in Obese Young Adults. Trends in Sciences. 2023;20(11), 6802. (Q3)
 13. Pratanaphon S, Sonswan N, Chaimano S, Chandee S, Autkhrua K, **Sa-Nguanmoo P**, Wainganga K. Obstructive Sleep Apnea Effects on Pulmonary and Respiratory Muscle Function of Obese Children and Adolescents: A Preliminary Study. Turk Thorac J. 2022 Mar;23(2):104-108. (Q3)

14. Pipatpiboon N, Sripetchwandee J, **Sa-nguanmoo P**, Tachaudomdach C, Jomgeow T, Phrommintikul A, Chattipakorn N, Chattipakorn SC. Neutrophil-Lymphocyte Ratio (NLR) is Positively Associated with Impaired Cognitive Performance in Patients with Metabolic Syndrome. *CMU J. Nat. Sci.* 2022 Jan;21(1): e2022013 (Q3)
15. Sripetchwandee J, Pintana H, **Sa-nguanmoo P**, Boonnag C, Pratchayasakul W, Chattipakorn N, Chattipakorn SC. Comparative Effects of Sex Hormone Deprivation on the Brain of Insulin-Resistant Rats. *J Endocrinol.* 2019 Jan;241(1):1-15 (IF: 4.041, Q1)
16. Charoenphandhu N, Suntornsaratoon P, **Sa-Nguanmoo P**, Tanajak P, Teerapornpuntakit J, Aeimlapa R, Chattipakorn N, Chattipakorn S. Dipeptidyl Peptidase-4 Inhibitor, Vildagliptin, Improves Trabecular Bone Mineral Density and Microstructure in Obese Insulin-Resistant Pre-diabetic Rats. *Can J Diabetes.* 2018 Oct;42(5):545-552 (IF: 2.4, Q2)
17. Coleman V, **Sa-Nguanmoo P**, Koenig J, Schulz TJ, Grune T, Klaus S, Kipp AP, Ost M. Partial involvement of Nrf2 in skeletal muscle mitohormesis as an adaptive response to mitochondrial uncoupling. *Sci Rep.* 2018 Feb;8(1):1-12 (IF: 4.011, Q1)
18. Tanajak P, **Sa-Nguanmoo P**, Sivasinprasasn S, Thummasorn S, Siri-Angkul N, Chattipakorn SC, Chattipakorn N. Cardioprotection of dapagliflozin and vildagliptin in rats with cardiac ischemia-reperfusion injury. *J Endocrinol.* 2018 Feb;236 (2):69-84 (IF: 4.381, Q1)
19. Ittichaicharoen J, Apaijai N, Tanajak P, **Sa-Nguanmoo P**, Chattipakorn N, Chattipakorn S. Dipeptidyl peptidase-4 inhibitor enhances restoration of salivary glands impaired by obese-insulin resistance. *Archives of oral biology.* 2018 Jan; 85:148-153 (IF: 1.739, Q1)
20. Tanajak P, **Sa-Nguanmoo P**, Apaijai N, Wang X, Liang G, Li X, Jiang C, Chattipakorn SC, Chattipakorn N. Comparisons of cardioprotective efficacy between fibroblast growth factor 21 and dipeptidyl peptidase-4 inhibitor in prediabetic rats. *Cardiovascular therapeutic.* 2017 Aug;35(4) (IF: 2.349, Q2)
21. Pratchayasakul W, Sivasinprasasn S, **Sa-Nguanmoo P**, Proctor C, Kerdphoo S, Chattipakorn N, Chattipakorn SC. Estrogen and DPP-4 inhibitor share similar efficacy in reducing brain pathology caused by cardiac ischemia-reperfusion injury in both lean and obese estrogen-deprived rats. *Menopause.* 2017 Jul;24(7):850-858 (IF: 2.635, Q1)
22. Ittichaicharoen J, Apaijai N, Tanajak P, **Sa-nguanmoo P**, Chattipakorn N, Chattipakorn SC. Impaired mitochondria, and intracellular calcium transients in the salivary glands of obese rats. *Appl Physiol Nutr Metab.* 2017; 42(4):420-429 (IF: 2.522, Q1)
23. Pintana H, Tanajak P, Pratchayasakul W, **Sa-nguanmoo P**, Chunchai T, Satjaritanun P, Leelarphat L, Chattipakorn N, Chattipakorn SC. Energy restriction combined with

dipeptidyl peptidase-4 inhibitor exerts neuroprotection in obese male rats. *British Journal of Nutrition*. 2016 Nov; 65:54-67 (IF:4.223, Q1)

24. Sivasinprasasn S, **Sa-Nguanmoo P**, Pongkan W, Pratchayasakul W, Chattipakorn SC, Chattipakorn N. Estrogen and DPP4 inhibitor, but not metformin, exert cardioprotection via attenuating cardiac mitochondrial dysfunction in obese insulin-resistant and estrogen-deprived female rats. *Menopause* 2016 Aug;23(8):894-902 (IF: 2.733)
25. Tanajak P, **Sa-nguanmoo P**, Wang X, Liang G, Li X, Jiang C, Chattipakorn SC, Chattipakorn N. FGF21 therapy attenuates left ventricular dysfunction and metabolic disturbance by improving FGF21 sensitivity, cardiac mitochondrial redox homeostasis and structural changes in pre-diabetic rats. *Acta physiol (Oxf.)*. 2016 Aug;217(4):287-299 (IF: 4.867)
26. Charoenphandhu N, Suntornsaratoon P, Krishnamra N, **Sa-Nguanmoo P**, Tanajak P, Wang X, Liang G, Li X, Jiang C, Chattipakorn N, Chattipakorn SC. Fibroblast growth factor-21 restores insulin sensitivity but induces aberrant bone microstructure in obese insulin-resistant rats. *J Bone Miner Metab*. 2016 Mar;35(2):142-149 (IF: 2.423)
27. Pintana H, Pratchayasakul W, **Sa-Nguanmoo P**, Pongkan W, Tawinvisan R, Chattipakorn N, Chattipakorn SC. Testosterone deprivation has neither additive nor synergistic effects with obesity on the cognitive impairment in orchietomized and/or obese male rats. *Metabolism*. 2016 Feb;65(2):54-67 (IF: 5.777)
28. Semaming Y, Sripetchwandee J, **Sa-Nguanmoo P**, Pintana H, Pannangpetch P, Chattipakorn N, Chattipakorn SC. Protocatechuic acid protects brain mitochondrial function in streptozotocin-induced diabetic rats. *Appl Physiol Nutr Metab*. 2015 Oct;40(10):1078-81 (IF: 2.023)
29. Sivasinprasasn S, **Sa-Nguanmoo P**, Pratchayasakul W, Kumfu S, Chattipakorn SC, Chattipakorn N. Obese-insulin resistance accelerates and aggravates cardiometabolic disorders and cardiac mitochondrial dysfunction in estrogen-deprived female rats. *Age (Dordr)*. 2015 Apr; 37(2):28. (IF: 2.123)

Publications for the Ph.D. degree (Peer-reviewed)

International Journals

1. Phrommintikul A, **Sa-Nguanmoo P**, Sripetchwandee J, Vathesatogkit P, Chattipakorn N, Chattipakorn SC. Factors associated with cognitive impairment in elderly versus nonelderly patients with metabolic syndrome: the different roles of FGF21. *Sci Rep*. 2018 Mar; 26;8(1):1-9 (IF: 4.011, Q1)

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2. **Sa-nguanmoo P**, Tanajak P, Kerdphoo S, Jaiwongkam T, Wang X, Liang G, Li X, Jiang C, Pratchayasakul W, Chattipakorn N, Chattipakorn SC. FGF21 and DPP-4 inhibitor equally prevents cognitive decline in obese rats. *Biomedicine and Pharmacotherapy*. 2018 Jan; 97:1663-1672 (IF: 3.83, Q1)
3. **Sa-nguanmoo P**, Tanajak P, Kerdphoo S, Jaiwongkam T, Pratchayasakul W, Chattipakorn N, Chattipakorn SC. SGLT2-inhibitor and DPP-4 inhibitor improve brain function via attenuating mitochondrial dysfunction, insulin resistance, inflammation, and apoptosis in HFD-induced obese rats. *Toxicology and Applied Pharmacology*. 2017 Aug; 333:43-45 (IF: 3.616, Q1)
4. **Sa-Nguanmoo P**, Tanajak P, Kerdphoo S, Satjaritanun P, Wang X, Liang G, Li X, Jiang C, Pratchayasakul W, Chattipakorn N, Chattipakorn SC. FGF21 improves cognition by restored synaptic plasticity, dendritic spine density, brain mitochondrial function and cell apoptosis in obese-insulin resistant male rats. *Horm Behav*. 2016 Sep; 85:86-95 (IF: 3.378, Q1)
5. **Sa-nguanmoo P**, Chattipakorn N, Chattipakorn SC. Potential roles of fibroblast growth factor 21 in the brain. *Metab Brain Dis*. 2016 Jan;31(2):239-248 (IF: 2.485, Q2)

Publications for the master's degree (Peer-reviewed)

1. Pratchayasakul W, **Sa-Nguanmoo P**, Sivasinprasasn S, Pintana H, Tawinvisan R, Sripetchwandee J, Kumfu S, Chattipakorn N, Chattipakorn SC. Obesity accelerates cognitive decline by aggravating mitochondrial dysfunction, insulin resistance and synaptic dysfunction under estrogen-deprived conditions. *Horm Behav*. 2015 Jun; 72:77-68 (IF: 3.34, Q2)