

CURRICULUM VITAE

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

Address Department of Physical Therapy
Faculty of Associated Medical Sciences
Chiang Mai University
Chiang Mai, 50200
Thailand

Telephone +66-53-94-9291

Fax +66-53-94-6042

E-mail piangkwan.s@cmu.ac.th.

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
2018- Present Instructor 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 8th the Federation of the Asian and Oceanian Physiological Societies (FAOPS) 2015, Bangkok, Thailand

2016 Moderate Poster Presentation Award in the 44th 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 CMU50th Anniversary Grant, Chiang Mai University, Chiang Mai, Thailand (Joint Funding between Faculty of Medicine, Chiang Mai University and Chiang Mai university)

Experience

1-31 Nov 2016 Fellowship from 3rd 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 43th Annual Scientific Meeting of the Physiology Society of Thailand, Chonburi, Thailand

December 2016 Poster presentation in the 44th 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 8th the Federation of the Asian and Oceanian Physiological Societies (FAOPS) 2015, Bangkok, Thailand

April 2016 Oral presentation in ENDO 2016, Boston, Massachusetts, USA

April 2016 Oral presentation in the 14th International Neurological and Cardiac Electrophysiology Symposium (NCES) 2016, Chiang Mai, Thailand

Research of interest

1. Rehabilitation in obesity, insulin resistance and metabolic syndrome
2. Cognitive function
3. Pediatric physical therapy and rehabilitation

Funding

1. 2019-2020 **PI**, Effects of Inspiratory Muscle Training on Pulmonary Function, Inspiratory Muscle Strength and Heart Rate Variability in Obese Young Adults (60,000 Baht)
2. 2019-2020 Co-investigator, Effects of a Home-based Inspiratory muscle training on pulmonary function and Respiratory muscles function in Children and Adolescents with Obstructive Sleep Apnea and Obesity (80,000 Baht)
3. 2020-2021 Co-investigator, Development and Effects of social-related physical activity program on the cognitive function and depression in the individuals with obesity (80,000 Baht)
4. 2020-2021 Co-investigator, ผลของการฝึกการประสานสัมพันธ์ของกล้ามเนื้อลำคอต่อการทำงานของกล้ามเนื้อลำคอ การควบคุมการทรงตัวและความสามารถในการเคลื่อนไหวในเด็กสมองพิการ (80,000 Baht)
5. 2020-2021 Co-investigator, ต้นทุนในการดูแลรักษา และคุณภาพชีวิตของผู้ป่วยเด็กโรคฮีโมฟีเลีย เอ ชนิดมีสารต้าน ในประเทศไทย (350,800 Baht)
6. 2020-2021 Co-investigator, ประสิทธิภาพของการออกกำลังกายและฝึกความจำร่วมกับการควบคุมอาหารต่อกลไก และความสามารถในการเรียนรู้จดจำในสตรีวัยทองที่มีภาวะน้ำหนักเกิน (80,000 Baht)
7. 2021-2022 Co-investigator, The protective effect of dapagliflozin on renal complication in type 2 diabetic rats (100,000 Baht)
8. 2022-2024 **PI**, Effects of prebiotic-based snack from Gros Michel banana (*Musa Sapientum* L.) on metabolic parameters, gut microbiota, cognitive function, and cardiorespiratory fitness in obese-insulin resistant rats (600,000 Baht)
9. 2023-2024 Co-investigator, แบบอุปกรณ์ออกกำลังกายสำหรับผู้มีภาวะข้อเท้าไม่มั่นคง (10,000 Baht)
10. 2023-2026 Co-investigator, ผลของการออกกำลังกายความหนักต่ำต่อความสามารถด้านการรู้คิด และการเปลี่ยนแปลงของสารบ่งชี้ทางชีวภาพและเมตาโบโลมิกส์ในเลือดของผู้สูงอายุที่มีความเสี่ยงต่อการเกิดโรคสมองเสื่อม (2,000,000 Baht)
11. 2023-2024 Co-investigator, ศูนย์ความเป็นเลิศ มหาวิทยาลัยเชียงใหม่ ประจำปี 2566-ศูนย์วิจัยและฝึกอบรมสาขาโรคทางไฟฟ้าของหัวใจ (4,000,000 Baht)

Publications (Peer-reviewed)

International Journals

1. 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)
2. **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)
3. Pratanaphon S, Sonsuwan N, Chaimano S, Chandee S, Autkhruea 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)
4. 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)
5. 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)
6. 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)
7. 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)
8. 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)

9. 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)
10. 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)
11. 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)
12. 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)
13. 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)
14. 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)
15. 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)
16. 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)

17. 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)
18. 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)
19. 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)
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 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)