

# Curriculum Vitae

## Nantawachara Jirakittayakorn, Ph.D. (Biomedical Engineering), D.D.S.

Lecturer at Institute for Innovative Learning, Mahidol University

### Contact Information

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- Address 1: Institute for Innovative Learning, Mahidol University, Thailand
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### Education

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D.D.S. (2010 – 2023)	Doctor of Dental Surgery	Mahidol University, Thailand (Second class honors)
Ph.D. (2014 – 2019)	Biomedical Engineering	Mahidol University, Thailand Dissertation: Brain modulation during sleep
B.Sc. (2010 – 2014)	Medical Science	Mahidol University, Thailand (Second class honors)

### Research Experience

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- Project manager (2015 – Present):
  - Medical device development,
  - Face recognition application development,
  - Data analysis and model training
- Researcher (2019 – Present): Faculty of Dentistry, Mahidol University
- Ph.D. student (2015 – 2019): Brain-Computer Interface Lab
  - Sleep quality improvement
  - Sound and sleep behavior
- Researcher (2015 – present): Brain-Computer Interface Lab
  - Brain activities and cognition improvement
  - Sleep technology development
- Researcher assistance (2013 – 2015): Brain-Computer Interface Lab
  - Auditory stimulation and brain responses
  - Cognition responses to stimuli

### Research Interests

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- Cognition and behavior
- Sleep analysis and sleep improvement
- Sleep technology and medical device
- Auditory stimulation using binaural beat technology.
- Brain responses to stimuli

## International Proceedings

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- P. Thanungkul, N. **Jirakittayakorn** and Y. Wongsawat, "Stress Classification During Dental Procedure," 2022 19th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON), 2022, pp. 1-4, doi: 10.1109/ECTI-CON54298.2022.9795647.
- Soontreekulpong N., **Jirakittayakorn, N.**, and Wongsawat, Y., 2018. Investigation of various manipulated music tempo for reducing negative emotion using beta EEG index. *2018 International Electrical Engineering Congress (iEECON)*, Krabi, Thailand, 2018, pp. 1-4, doi: 10.1109/IEECON.2018.8712229.
- **Jirakittayakorn, N.**, and Wongsawat, Y., 2015. The brain responses to different frequencies of binaural beat sounds on QEEG at cortical level. *Conf Proc IEEE Eng Med Biol Soc*, 2015, 4687-91.
- **Jirakittayakorn N**, Wongsawat Y., 2014. An EMG instrument designed for bruxism detection on masseter muscle *Bmeicon 2014 - 7th Biomedical Engineering International Conference*. DOI: 10.1109/BMEiCON.2014.7017403

## Journal Publications

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- **Jirakittayakorn, N.**, Tamboon, E., and Mitrirattanakul S., 2024. Effect of 1% H<sub>2</sub>O<sub>2</sub> on Three Salivary Stress Biomarkers, Cortisol, Alpha-Amylase, and sIgA. *Int Dent J*. 74(2): 343-351.
- **Jirakittayakorn, N.**, and Wongsawat, Y., 2018. A novel insight of effects of a3-Hz binaural beat on sleep stages during sleep. *Front Human Neurosci*, 12, 387.
- **Jirakittayakorn, N.**, and Wongsawat, Y., 2017b. Brain Responses to a 6-Hz Binaural Beat: Effects on General Theta Rhythm and Frontal Midline Theta Activity. *Front Neurosci*, 11, 365.
- **Jirakittayakorn, N.**, and Wongsawat, Y., 2017a. Brain responses to 40-Hz binaural beat and effects on emotion and memory. *Int J Psychophysiol*, 120, 96-107.

## Certificates, Training, and Conferences

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- 2023 31<sup>st</sup> Aug to 1<sup>st</sup> Sep Attend "Sleep is Essential for Health" by Thai Academy of Sleep Medicine
- 2017 Basic sleep technician certificate from Sleep Society of Thailand
- 2014 Human ethic for biomedical research

## Courses Taught

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- 2024 Teach Polysomnography (PSG) for sleep study at King Mongkut's Institute of Technology Ladkrabang.
  - Plan, preparation materials and demonstration case for sleep study.
  - Deliver interactive learning to students.
- 2023 Teach Clinical Correlation of Swallowing and Chewing at King Mongkut's Institute of Technology Ladkrabang.
  - Plan, preparation materials for discussion.
  - Deliver interactive discussion to students.
- 2023 Teach Cardiopulmonary Exercise Test Laboratory in Basic Cardiovascular System and Hemostasis at King Mongkut's Institute of Technology Ladkrabang.
  - Preparation laboratory instruments and materials.
  - Deliver interactive learning to students.
- 2023 Teach Medical Materials at Nawamindradhiraj University. (3 credits)
  - Plan, evaluate and revise course content and course materials.
  - Develop and deliver engaging lectures to students.
  - Write course materials such as syllabus, homework assignments and handouts.

## **Supervision experiences**

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- Patarapong Limvipaveeana. 2023. Noise Cancelling System. B.Eng. (Computer Engineering). Rangsit University.
- Nontakorn Lertwachirapiboon. 2023. Sound Prediction using Recurrent Neural Network. B.Eng. (Computer Engineering). Sripatum University. (The 1<sup>st</sup> prize award)