Dr.scient.med. Weerayot Aramphianlert (Biomedical Engineering)

Place of Birth: Bangkok (Thailand)
Nationality: Thai

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Education

2019   Medical University of Vienna, Vienna, Republic of Austria
Doctoral Program of Applied Medical Science – Biomedical Engineering
Thesis: Adaptive control for countering muscle fatigue related instabilities in myoelectric control systems.

2012   Mahidol University, Nakhon Pathom, Thailand
Master of Engineering Program in Biomedical Engineering
Thesis: Robot-assisted therapy for children with autism spectrum disorder.

2007   Mahidol University, Nakhon Pathom, Thailand
Bachelor of Engineering Program in Computer Engineering
Senior Project: Allele frequency estimation from pooled microarray data using artificial neural network technique.

Research Interests

- Myoelectric Control System
- Neuromuscular Electrical Stimulation
- Rehabilitation Technology and Assistive Devices
- Medical Data Analytics
- Software Development

Technical Exchange

Sep 2010 – Aug 2011   **Seoul National University, Seoul, South Korea**
Exchange Program: Electrical Engineering and Computer Science
SNU- Woongjin Global Multi-Cultural Scholarship Program

Professional Experience

Jun 2020 – Current   **iQMed Innovation, Co., Ltd. (Startup company), Bangkok, Thailand**
Position: Project Manager, Software & Programming Consultant

Dec 2019 – Current	**Department of Biomedical Engineering, Faculty of Engineering, Srinakharinwirot University, Ongkharak, Nakhon Nayok, Thailand**

Position: Lecturer
Teaching:
- Engineering Mathematics
- Neural Engineering & Artificial Organs
- Programming and Software Development

June – Oct 2013	**Nawaminthrarachinutit Satwiwittaya Putthamonthon School**

Position: Instructor
Teaching in three computer related courses:
- Basic Computer Programming
- Computer Programming Project
- Mathematics for Computer Science.

Jan 2012 – May 2013	**Artificial Intelligence in Medicine Laboratory, Mahidol University, Nakhon Pathom, Thailand**

Position: Research Assistance
- Research and develop a rehabilitation system for stroke patients: hands and arms.
- Research and develop nasopharyngeal carcinoma classification and 3D model reconstruction software.

Jun – Nov 2009	**Modular Lab, Institute of Field Robotics (FIBO), King Moungkut's University of Technology Thonburi, Thailand**

Position: Research Trainee
- Research and develop a prototype robot for child's development (by the condition of University – Industry Research Collaboration Program (U-IRC)).

Mar – May 2006	**Planet Communication Asia Co., Ltd., Thailand**

Position: Engineering Trainee
- Computer networking service engineer (by the condition of Bachelor of Engineering in Computer Engineering, Mahidol University).

Awards

2021	**First Runner-up, 3-Minute Thesis Competition (Team Advisor)** (Walkaholic: IoT-based 6-minute walk test platform), Health Challenge Thailand by the Royal Thai Embassy, London, Office of Civil Service Commission, Thailand and Office of Educational Affairs, London.
2018	**The Most Outstanding Oral Presentation** (Development of the modularly designed myoelectric-control bionic upper limb prosthesis), *The 7th Thai Student Academic Conference, Brussels, Belgium*.
2013	**Gold Medal with the Congratulations of the Jury** (Robot–assisted development Stimulation for children with autism spectrum disorders), *41st International Exhibition of Inventions of Geneva, Switzerland.*

Special Award of Taiwan Invention Association (Robot–assisted development Stimulation for children with autism spectrum disorders), *41st International Exhibition of Inventions of Geneva, Switzerland.*

Bronze Medal (IM-AIM: Software for cancer diagnosis),
41st International Exhibition of Inventions of Geneva, Switzerland.

The CII glory medal, the 3rd world cup of computer implemented inventions by International Federation of Inventors' Associations. (IM-AIM: Software for cancer diagnosis),
41st International Exhibition of Inventions of Geneva, Switzerland.

2012   **Winner of Thai IT Tycoon 2012.** (IM-AIM: Image and Artificial Intelligence in Medicine software),
Software Industry Promotion Agency (SIPA), Thailand.

2011   **Invention award – Good Level in medical science**, "Telemedicine System for Nasopharyngeal Carcinoma Diagnosis and Treatment", *Invention's Day 2011, National Research Council of Thailand.*

Scholarship

Nov 2014 – Apr 2019   **Thai Royal Government Scholarship**
National Science and Technology Development Agency (NSTDA), Thailand (by the requirement of Department of Biomedical Engineering, Faculty of Engineering, Srinakharinwirot University, Thailand)

Sep 2010 – Aug 2011   **SNU- Woongjin Global Multi-Cultural Scholarship Program,**
Seoul National University, South Korea.

Jun 2008 – Jun 2010   **University – Industry Research Collaboration Program (U-IRC),**
National Science and Technology Development Agency (NSTDA), Thailand.

Extra-Curricular Activities

Oct 2013   **Competitor in Thailand Humanoid Robot Soccer Championship 2013**
- Organized by: Thai Robotics Society and Thammasat University.

Dec 2011   **Competitor in Thailand Robot @home Championship 2011**
- Organized by: Thai Robotics Society and Siam Cement Group (SCG).

Mar 2010   **Competitor in Thailand Humanoid Robot Soccer Championship 2010**
- Organized by: Thai Robotics Society and Institute of Field Robotics (FIBO).

Oct 2009   **Competitor in Thailand Rescue Robot Championship 2009**
- Organized by: Thai Robotics Society and Siam Cement Group (SCG).

Publications & Presentations

- S. Khunakornpattanakarn, T. Suesatsakul, S. Poonjiranit, <u>W. Aramphianlert</u>, "Walkaholic: An Internet-of-thing-based 6-Minute Walk Test Platform", The 2021 Biomedical Engineering International Conference (BMEiCON-2021), Ayuthaya, Thailand, 2021

- <u>W. Aramphianlert</u>, O.C. Aszmann, W. Mayr, *"Surface EMG based muscle fatigue level estimation model towards adaptive myoelectric control of mechanical upper-limb prosthesis or neuroprostheses."*, 13th Vienna International Workshop on Functional Electrical Stimulation, Vienna, Austria, 2019.

- M. Baumgartner, <u>W. Aramphianlert</u>, W. Mayr, *"Effects of muscle fatigue on classification accuracy of Pattern recognition in a myoelectric control system"*, 13th Vienna International Workshop on Functional Electrical Stimulation, Vienna, Austria, 2019.

- <u>W. Aramphianlert</u>, C. Kast, C. Hofer, O. C. Aszmann, W.Mayr, *"An investigation of changes in myoelectric features during muscle fatigue based on surface electromyography signal."*, World Congress on Medical Physics & Biomedical Engineering, Prague, Czech Republic, 2018.

- C. Kast, B. Rosenauer, H. Meisner, W. Aramphianlert, M. Krenn, C. Hofer, O. C. Aszmann, W. Mayr, *"Development of a modular bionic prototype arm prosthesis integrating a closed-loop control system."*, World Congress on Medical Physics & Biomedical Engineering, Prague, Czech Republic, 2018.

- <u>W. Aramphianlert</u>, C. Kast, B. Rosenauer, H. Meisner, M. Krenn, C. Hofer, O. C. Aszmann, W. Mayr, *"Development of the modularly designed myoelectric control bionic upper limb prosthesis."*, Thai Student Academic Conference (TSAC2018), Brussels, Belgium, 2018

- <u>W. Aramphianlert</u>, C. Kast, M. Krenn, W. Mayr, *"An adaptive learning agent to improve myoelectric-controlled prosthesis: concept and ideas."*, "Dreiländertagung" Swiss, Austria, and German Societies for Biomedical Engineering (BMT2016), Basel, Switzerland, 2016.

- C. Kast, W. Aramphianlert, M. Krenn, C. Hofer, O. C. Aszmann, W. Mayr, *"Development of a closed-loop control system for upper limb prosthesis integrating electromyographic inputs and position feedback."*, "Dreiländertagung" Swiss, Austria, and German Societies for Biomedical Engineering (BMT2016), Basel, Switzerland, 2016.

- <u>W. Aramphianlert</u>, O. Kumdee, P.Ritthipravat, *"Vision-based Gesture Imitation System for Robot-assisted Autism Spectrum Disorder Therapy: Chang-Tam Robo.t"* in Proc. TRS Conference on Robotics and Industrial Technology (CRIT 2012), Nakhon Pathom, Thailand, 2012.

- <u>W. Aramphianlert</u>, O. Kumdee, P. Ritthipravat, *"Markerless Tracking Framework for Real-time Robot Imitation."* in Proc. The 7th Asian Conference on Computer Aided Surgery (ACCAS 2011), Bangkok, Thailand, 2011.

- <u>W. Aramphianlert</u>, P. Ritthipravat, *"Real-time Hand Gesture Recognition for Control Signal Generation."* in Proc. Towards Autonomous Robotics System 2010 (TAROS 2010), University of Plymouth, United Kingdom, 2010.