



Taweechai Ouypornkochagorn

taweechai@g.swu.ac.th, taweechai.ouy@gmail.com

Lecturer

Department of Biomedical Engineering, Engineering Faculty
Srinakharinwirot University

Education:

2012-2016

University of Edinburgh

PhD Engineering (Digital Communications)

Research title: Functional Imaging of the Human Brain using Electrical Impedance Tomography

2001-2003

Kasetsart University

Master of Engineering (Computer Engineering)

Dissertation: A Statistic-based Approach for Pertinent Concept Lattice Construction

1994-1998

King Mongkut's Institute of Technology North Bangkok

Bachelor of Engineering in Electrical Engineering

Employment:

2016-Present

Lecturer

Srinakharinwirot University

Department of Biomedical Engineering, Engineering Faculty

Teaching courses:

- Artificial Neural Systems
- Embedded System Design
- Hospital Engineering

Research interests:

- Brain and Lung Function Imaging
- Electrical Impedance Tomography (EIT)
- Image Reconstruction
- Data Mining and Artificial Intelligence (AI)
- Hospital Engineering
- Embedded System
- Field-programmable Gate Array (FPGA) Programming

2009-2012

Lecturer

Kasetsart University Si Racha Campus

Computer Engineering Department, Engineering Faculty

Teaching courses:

- Database System
- Computer Networks
- Network Configuration
- Web Information Retrieval and Mining
- Logic Circuit
- Computers and Programming

Publications/ Proceedings:

- 2018
- **A Development of Low-Cost Devices for Monitoring Indoor Air Quality in a Large-Scale Hospital**, 14th Int. Conference by Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON2018), Chaing Rai, Thailand, July 18-21, 2018.
 - **Preliminary Study to Detect Fetal Movement by using Acceleration sensor and MEMS Microphone**, 14th Int. Conference by Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON2018), Chaing Rai, Thailand, July 18-21, 2018.
 - **Scalp Voltage Response to Conductivity Changes in the Brain in the Application of Electrical Impedance Tomography (EIT)**, 14th Int. Conference by Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON2018), Chaing Rai, Thailand, July 18-21, 2018.
 - **In Vivo Estimation of the Head Tissue Conductivities**, 19th Int. Conference of Biomedical Applications of Electrical Impedance Tomography (EIT2018), Edinburgh, United Kingdom, June 11-13, 2018.
 - **Human Height Measurement by Square Template**, 6th Int. Electrical Engineering Congress (iEECON2018), Krabi, Thailand, March 7-9, 2018.
 - **Development on Raspberry Pi with Python**, Semiconductor Electronics Plus Journal, Vol. 452, February, 2018.
- 2017
- **Towards Parallel, 192 Channel, 40MS/s/chan Data Acquisition for Optical Tomography: A System for Aero-Engine Exhaust Emission Diagnostics**, IEEE Sensors 2017, Glasgow, Scotland, UK, 30 October – 1 November, 2017.
 - **Imaging of Transient Hyperaemic Response (THR) by EIT**, 18th international conference on Biomedical applications of Electrical Impedance tomography (EIT2017), Hanover, New Hampshire, USA, June 21-24, 2017.
 - **Constrained Modeling for Image Reconstruction in the Application of Electrical Impedance Tomography to the Head**, IEEE International Symposium on Biomedical Imaging (ISBI 2017), Melbourne, Australia, 18 – 21 April, 2017.
 - **A Novel Strategy to Guarantee Convergence by Avoiding Divergence in Estimation Process for Evaluating Head Tissue Conductivities**, The 2017 International Electrical Engineering Congress (iEECON2017), Pattaya, Chonburi, Thailand, Vol.2, pp.641-644, 8-10 March, 2017.
 - **In Vivo Estimation of the Head Tissue Conductivities by Electrical Impedance Tomography Technique and Positivity Constraint**, The 2017 International Electrical Engineering Congress (iEECON2017), Pattaya, Chonburi, Thailand, Vol.2, pp.617-620, 8-10 March, 2017.
- 2016
- **A New EIT Instrument for Lung Function Monitoring**, 17th International Conference on Electrical Impedance Tomography, Stockholm, Sweden, 19 – 23 June, 2016.
- 2015
- **Tackling Modelling Error in the Application of Electrical Impedance Tomography to the Head**, 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Milan, Italy, 25-29 August, 2015.
 - **Electrical Impedance Measurement of Cerebral Haemodynamics**, 16th International Conference on Biomedical Applications of Electrical Impedance Tomography, Neuchatel, Switzerland, 2-5 June, 2015.
 - **An approximate gradient for fast nonlinear inversion of the EIT model**, 16th International Conference on Biomedical Applications of Electrical

- Impedance Tomography, Neuchatel, Switzerland, 2-5 June, 2015.
- 2014 - **In Vivo Estimation of the Scalp and Skull Conductivity**, 15th International Conference on Biomedical Applications of Electrical Impedance Tomography, Gananoque, Ontario, Canada, 24-26 April, 2014.
- **Inequality Constrained EIT Modelling and Inversion**, 15th International Conference on Biomedical Applications of Electrical Impedance Tomography, Gananoque, Ontario, Canada, 24-26 April, 2014.
- 2012 - **Mining Rare Association Rules on Banpheo Hospital (Public Organization) via Apriori_MSG-P Algorithm**, The ECTI Transactions on Computer Engineering, Computer and Information Technology (ECTI-CIT), bi-annually by the Electrical Engineering/Electronics, Computer, Communications and Information Technology Association (ECTI), Thailand, ISDN 1905-050X, 6(2).
- **Mining Rare Itemsets on Multi-Level Hierarchies Database**, The 2012 IAENG International Conference on Data Mining and Applications (ICDMA'12), Hong Kong, 14-16 March, 2012.
- **Building Automation System and Energy Management System in High-rise Building**, Large-scale Construction Technique, unit 10, learning resource of distance learning, Suknothai Thammathirat Open University, Thailand, ISBN: 9786161602208.
- **Spy OEE: Novel Method for Overall Equipment Effectiveness Evaluation by Time Pattern**, Romphruk Journal, Krirk University, Thailand, 30(1), 1-24.
- 2011 - **Apriori_MSG-P: A Statistic-Based Multiple Minimum Support Approach to Mine Rare Association Rules**, The 3rd International Conference on Knowledge and Smart Technologies (KST-2011), Chonburi, Thailand, 8-10 July, 2011, 39-43.
- **CNC-PRO: The CNC Productivity Management System**, Products and Innovation Inventions List book of Engineering Faculty, Kasetsart University Si Racha Campus, Chonburi, Thailand.
- 2010 - **Negative Association Rule Mining for Apriori Algorithm**, The 14th National Computer Science and Engineering Conference: NCSEC 2010, Chiangmai, Thailand.
- **A Novel Approach: Mining Association Rules with Entropy Technique**, The 14th National Computer Science and Engineering Conference: NCSEC 2010, Chiangmai, Thailand.
- **Embedded Electronic Key for Service Apartment Security: EEKSA**, The 14th National Computer Science and Engineering Conference: NCSEC 2010, Chiangmai, Thailand.
- **Mining Hospital Service with Apriori and Apriori Prune Algorithm**, The 3rd National Conference on Information Technology: NCIT 2010, Bangkok, Thailand.
- **Image Importing System**, The 3rd National Conference on Information Technology: NCIT 2010, Bangkok, Thailand.
- 2005 - **Domain Ontology Development and Maintenance using Pertinent Concept Lattice**, GESTS International Transactions on Computer Science, Volume 4, Number 1, 2005.
- 2004 - **Formal Concept Mining: A Statistic-based Approach for Pertinent Concept Lattice Construction**, ASIAN 2004, LNCS, 3321, 195-211.
- 2002 - **Data mining: A Lattice-based Approach for Semi-automatic Ontology Maintenance**, the 6th National Computer Science and Engineering Conference (NCSEC 2002), Pattaya City, Chonburi.

Awards:

- 2010 - **Best 50 Ideas for Thailand**, By The Prime Minister's Office, Thailand.
- 2010 - **Best 60 Thailand Embedded Product Award: TEPA2010**, By Thai Embedded Systems Association (TESA), Product: One Sensor TPM on CNC Network.
- 2009 - **Best 60 Thailand Embedded Product Award: TEPA2009**, By Thai Embedded Systems Association (TESA), Product: CNC Productivity Management System.

Important Trainings:

- 2012 - **Certificate of "DB2 9 Database and Application Fundamentals"**, IBM, June, 2012.
- 2011 - **Certificate of "e-Learning Professional"**, By Thailand Cyber University, Office of Higher Education Commission, Thailand, Mar, 2010 – Aug, 2011.
- 2011 - **Certificate of "CCNA 3-4: Cisco Certified Network Associate Routing & Switching"**, By Cisco Networking Academy, Oct, 2011.
- 2010 - **Certificate of "CCNA 1-2: Cisco Certified Network Associate Routing & Switching"**, By Cisco Networking Academy, Oct, 2010.