



Taweechai Ouypornkochagorn

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Lecturer, Assistant Professor

Department of Biomedical Engineering, Engineering Faculty
Srinakharinwirot University

Education:

2012-2016

University of Edinburgh

PhD Engineering

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, Thailand

Department of Biomedical Engineering, Engineering Faculty

Teaching courses:

- Embedded System Design
- Artificial Neural Systems
- Hospital Engineering

Research interests:

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

2009-2012

Lecturer

Kasetsart University Si Racha Campus, Thailand

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:

- 2019
- **Ouypornkochagorn T.**, Misinterpretation of Scalp Voltage Response in the Application of Electrical Impedance Tomography to the Head, 2019 (In Press).
 - **Ouypornkochagorn T.** and Ouypornkochagorn S., In Vivo Estimation of Head Tissue Conductivities Using Bound Constrained Optimization, *Annals of Biomedical Engineering*, 2019, Vol 47(7), p. 1575-1583, <https://doi.org/10.1007/s10439-019-02254-9>.
 - Siwadamrongpong W., Rianthong T., Pongrayar P., Promphakorn M., **Ouypornkochagorn T.**, and Chanwimalueang T., Stress Awareness through a Cognition based ECG Biofeedback System, The 7th International Symposium on Frontier Technology (ISFT2019), Pattaya, Thailand, 24-25 August, 2019.
 - **Ouypornkochagorn T.**, Sillaparaya A., Piyapongjarat P., A Study of Using Tetrapolar and Eight-polar Electrode System to Detect Fat by Bioelectrical Impedance Analysis (BIA) Technique, 9th International Conference on Biomedical Engineering and Technology (ICBET 2019), ACM International Conference Proceeding Series, Meiji University, Tokyo, Japan, 28-30 2019, p. 248-252.
 - **Ouypornkochagorn T.** Influence of Electrode Placement Error and Contact Impedance Error to Scalp Voltage in Electrical Impedance Tomography Application, The 2019 International Electrical Engineering Congress (iEECON2019), Hua Hin, Thailand, 6-8 March 2019.
- 2018
- Kohlhase A, Kohlhase M, **Ouypornkochagorn T.** Discourse Phenomena in Mathematical Documents. *Lecture Notes in Artificial Intelligence (LNAI)*. 2018;11006, 11th International Conference (CICM 2018), Hagenberg, Austria, August 13-17, 2018, p. 147-163.
 - Lasomsri P, Yanbuaban P, Kerdpoca O, **Ouypornkochagorn T.** 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); July 18-21, 2018; Chaing Rai, Thailand2018, p.282-285.
 - Yusenas N, Intaravichai J, Tirasuwannarat P, **Ouypornkochagorn T.** 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); July 18-21, 2018; Chaing Rai, Thailand2018, p.290-292.
 - Suksawang S, Niamsri K, **Ouypornkochagorn T.** 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); July 18-21, 2018; Chaing Rai, Thailand2018, p.233-236.
 - **Ouypornkochagorn T.** In Vivo Estimation of the Head Tissue Conductivities. 19th Int Conference of Biomedical Applications of Electrical Impedance Tomography (EIT2018); June 11-13, 2018; Edinburgh, UK, 2018.
 - Suwatkitiwong N, Charoenpong T, Sukjamsri C, **Ouypornkochagorn T.** Human Height Measurement by Square Template. 6th Int Electrical

- Engineering Congress (iEECON2018); 7-9 March 2018; Krabi, Thailand 2018.
- **Ouypornkochagorn T.**, Development on Raspberry Pi with Python, Semiconductor Electronics Plus Journal, Vol. 452, February, 2018.
- 2017
- Fisher E, Tsekenis A, Yang Y, **Ouypornkochagorn T**, Chighine A, Polydorides N, Wright P, McCann H, 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, p.1-3.
 - **Ouypornkochagorn T**, McCann H, Polydorides N. Imaging of Transient Hyperaemic Response (THR) by EIT. 18th International Conference on Biomedical Applications of Electrical Impedance Tomography 21-24 June 2017; Hanover, New Hampshire, USA 2017. p. 77.
 - **Ouypornkochagorn T**, 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.
 - **Ouypornkochagorn T**, 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.
 - **Ouypornkochagorn T**, 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
- Wright P, Green P, Crabb M, **Ouypornkochagorn T**, McCann H, Lionheart W. A New EIT Instrument for Lung Function Monitoring. 16th International Conference on Electrical Bio-Impedance (ICEBI 2016); 19–23 June 2016; Stockholm, Sweden, 2016.
- 2015
- **Ouypornkochagorn T**, McCann H, Polydorides N. 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); 25-29 August, 2015; Milan, Italy, 2015.
 - **Ouypornkochagorn T**, McCann H, Terzija N, Parry-Jones A, Polydorides N. Electrical Impedance Measurement of Cerebral Haemodynamics. 16th International Conference on Biomedical Applications of Electrical Impedance Tomography; 2-5 June, 2015; Neuchatel, Switzerland, 2015.
 - Polydorides N, **Ouypornkochagorn T**, McCann H. An approximate gradient for fast nonlinear inversion of the EIT model. 16th International Conference on Biomedical Applications of Electrical Impedance Tomography; 2-5 June, 2015; Neuchatel, Switzerland, 2015.
- 2014
- **Ouypornkochagorn T**, Polydorides N, McCann H. In Vivo Estimation of the Scalp and Skull Conductivity. 15th International Conference on Biomedical Applications of Electrical Impedance Tomography; 24-26 April, 2014; Gananoque, Ontario, Canada, 2014.
 - Polydorides N, **Ouypornkochagorn T**, McCann H. Inequality Constrained EIT Modelling and Inversion. 15th International Conference on Biomedical Applications of Electrical Impedance Tomography; 24-26 April, 2014; Gananoque, Ontario, Canada, 2014.
- 2012
- **Ouypornkochagorn T**. Mining Rare Association Rules on Banpheo Hospital (Public Organization) via Apriori MSG-P Algorithm. ECTI Transactions on

- Computer and Information Technology, 2012.
- **Ouypornkochagorn T**, Mining Rare Itemsets on Multi-Level Hierarchies Database. Proceeding of the International MultiConference of Engineers and Computer Scientists (IMECS 2012); 2012 14-16 March, 2012; Hong Kong.
 - **Ouypornkochagorn T**, 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.
 - **Ouypornkochagorn T**, Spy OEE: Novel Method for Overall Equipment Effectiveness Evaluation by Time Pattern, Romphruk Journal, Krirk University, Thailand, 30(1), 1-24, 2012.
- 2011
- **Ouypornkochagorn T**, Waiyamai K. Apriori_MSG-P: A Statistic-Based Multiple Minimum Support Approach to Mine Rare Association Rule. Proceedings of the Third International Conference on Knowledge and Smart Technologies (KST2011); 2011 8-10 July, 2011; Chonburi, Thailand.
 - **Ouypornkochagorn T**, CNC-PRO: The CNC Productivity Management System, Products and Innovation Inventions List book of Engineering Faculty, Kasetsart University Si Racha Campus, Chonburi, Thailand.
- 2005
- **Ouypornkochagorn, T.** and K. Waiyamai, Domain Ontology Development and Maintenance using Pertinent Concept Lattice, GESTS International Transactions on Computer Science, Volume 4, Number 1, 2005.
- 2004
- **Ouypornkochagorn, T.** and K. Waiyamai (2004). Formal Concept Mining: A Statistic-Based Approach for Pertinent Concept Lattice Construction, ASIAN 2004, LNCS 3321: 195–211.
- 2002
- **Ouypornkochagorn, T.** and K. Waiyamai, 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.
 - **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.
 - **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.