

Yu-Ting Lin, M.D., Ph.D.

Taipei Veterans General Hospital
Department of Anesthesiology
No. 201, Shih-Pai Road, sec.2, Shih Lin District,
Taipei, Taiwan

Phone: +886-2-28757549 ext 372
Email: linyuting@hotmail.com.tw

Employment

Taipei Veterans General Hospital, Anesthesiology Department

Attending physician, 2017–
Chief resident physician, 2009–2010
Resident physician, 2005–2010

Duke University, Mathematics Department

Visiting Scholar, 2018–

Shin Kong Wu Ho-Su Memorial Hospital, Anesthesiology Department

Attending physician, 2009–2017

Fu Jen Catholic University, College of Medicine

Assistant Professor, 2016–2017
Clinical instructor, 2011–2016

Education/Training/Military Service

Visiting scholar, Duke University, 2018-2019
Ph.D., Electrical Engineering and Computer Science, National Taiwan University, 2011–2015
Residency of Anesthesiology, Taipei Veteran General Hospital, 2005–2009
Ensign and Navy Doctor, R.O.C Taiwan, 2003–2005
M.D., National Yang Ming University, 1996–2003

Professional Licensure:

Diplomate, Taiwan Board of Anesthesiologists (2009)
Diplomate, Naval Undersea/Diving Medicine Training for Medical Officer, R.O.C. Taiwan (2003)
Diplomate, National Board of Medical Examiners, Taiwan (2003)

Research

Research Director, “Human cardiovascular system modeling for beat-to-beat pulse waveform analysis in clinical anesthesia”, Research grant from Ministry of Science and Technology, R.O.C Taiwan(MOST105-2311-M-341-001-MY2)

Aims: To build a computational model of human cardiovascular system based on basic physical laws.

Research Director, "Performance comparison of time-frequency analysis methods for analysis of the signal similar to electrocardiography in general anesthesia", Research grant from Shin Kong Wu Ho-Su Memorial Hospital (SKH-8302-102-DR-27)

Subject: Modern time-frequency analysis for medical signal in clinical anesthesiology

Research Associate, Department of Anesthesiology, Taipei Veteran General Hospital, 2005–2006

Research Director: Shu-Shya Hseu M.D.

Subject: Cardiac autonomic activity and depth of anesthesia

Research Assistant, Department of Anesthesiology, National Yang Ming University, 2000–2003

Research Director: Huey-wen Yin M.D. Ph.D.

Subject: Respiratory care in critical care medicine

Publications

Journal Publications *co-first author #co-corresponding author

1. C.-H. Chang, Y.-L. Fang, Y.-J. Wang, H.-T. Wu, Y.-T. Lin "Differentiation of skin incision and laparoscopic trocar insertion via quantifying transient bradycardia measured by electrocardiogram", *Journal of Clinical Monitoring and Computing*, published online (DOI:10.1007/s10877-019-00378-w).
2. Y.-T. Lin, Y.-L. Lo, C.-Y. Lin, M. G. Frasch, H.-T. Wu, "Unexpected sawtooth artifact in beat-to-beat pulse transit time measured from patient monitor data", *PLoS One*, In press (DOI:10.1371/journal.pone.0221319).
3. Y.-L. Lo, H.-T. Wu, Y.-T. Lin, H.-P. Kuo, T.-Y. Lin, "Hypoventilation patterns during bronchoscopic sedation and their clinical relevance based on capnographic and respiratory impedance analysis", *Journal of Clinical Monitoring and Computing*, In press.
4. Y.-T. Lin, H.-T. Wu, "ConceFT for time-varying heart rate variability analysis as a measure of noxious stimulation during general anesthesia", *IEEE Transactions on Biomedical Engineering*, 64 (1):145–154, 2017
5. Y.-T. Lin, P. Flandrin, H.-T. Wu, "When interpolation-induced reflection artifact meets time-frequency analysis", *IEEE Transactions on Biomedical Engineering*, 63 (10):2133–2141, 2016
6. C. K. Chui, Y.-T. Lin, H.-T. Wu, "Real-time dynamics acquisition from irregular samples – with application to anesthesia evaluation", *Analysis and Applications*, 14 (4):537–590, 2016. <http://arxiv.org/abs/1406.1276>
7. Y.-T. Lin, H.-T. Wu, J. Tsao, H.-W. Yien, S.-S. Hseu, "Time-varying spectral analysis revealing differential effects of sevoflurane anaesthesia: non-rhythmic-to-rhythmic ratio" *Acta Anaesthesiologica Scandinavica*, 58 (2):157–167, 2014
8. H.-T. Wu, Y.-H. Chan, Y.-T. Lin, Y.-H. Yeh, "Using synchrosqueezing transform to discover breathing dynamics from ECG signals", *Applied and Computational Harmonic Analysis*, 36 (2):354–459, 2014
9. F. Auger, P. Flandrin, Y.-T. Lin, S. McLaughlin, S. Meignen, T. Oberlin, H.-T. Wu, "Recent Advances in Time-Frequency Reassignment and Synchrosqueezing", *IEEE Transactions on Signal Processing*, 30 (6):32–41, 2013
10. Y.-T. Lin, Z. Zuo, P.-H. Lo, Hseu, S.-S. Hseu, W.-K. Chang, K.-H. Chan, Yuan, H.-B. Yuan, "Bilateral tension pneumothorax and tension pneumoperitoneum secondary to tracheal tear in a patient with relapsing polychondritis" *Journal of the Chinese Medical Association*, 72 (9):488–491, 2009

11. M.-Y. Bien, S.-S. Hseu, H.-W. Yien, B.-I.-T. Kuo, Y.-T. Lin, J.-H. Wang, Y.-R. Kou, "Breathing pattern variability: a weaning predictor in postoperative patients recovering from systemic inflammatory response syndrome" *Intensive care medicine*, 30(2):241– 247, 2004

Conference Papers

1. Y.-T. Lin, T.-S. Lin, H.-T. Wu, C.-H Chang, S.-C. Wang, C.-K. Ting. "Tracking Dynamic Arterial Pressure Waveform on Vasoactive Medication via Manifold Learning Method" 2019 Annual Meeting of *Society of Technology in Anesthesia*, 2019
2. Y.-T. Lin, C.-H. Chang, H.-T. Wu. "Measuring Transient Heart Rate Changes during Noxious Stimulation in Laparoscopic Surgery" 2018 Annual Meeting of *Society of Technology in Anesthesia*, 2018
3. Y.-T. Lin, et al. "Transient heart rate changes differentiate noxious stimulation during general anesthesia " 2017 Annual Meeting of *Canadian Anesthesiologists' Society*, 2017
4. Y.-T. Lin, S.-S. Hseu, H.-W. Yien, J. Tsao "Analyzing autonomic activity in electrocardiography about general anesthesia by spectrogram with multitaper time-frequency reassignment" *IEEE 4th International Conference on Biomedical Engineering and Informatics (BMEI)*, 2:630634, 2011

Thesis

1. Y.-T. Lin, "The Modeling and Quantification of Rhythmic to Non-rhythmic Phenomenon in Electrocardiography during Anesthesia" <http://arxiv.org/abs/1502.02764>

Selected Invited Talks and Lectures

1. Invited speech for the seminar of "When data science meets electrical and electronic engineering artificial intelligence for clinical application" held by Linkou Chang Gung Memorial Hospital, Taoyuan, Taiwan, "Manifold learning tools for pharmacodynamics analysis in general surgery", 7/27/2019
2. Invited speech for the seminar of "Big data in health sciences: innovations for health care, medical product development and regulatory science" held by National Health Research Institutes, Taipei, Taiwan, "Intelligent medicine for clinical anesthesiology and patient monitoring", 6/27/2018
3. Invited speech for the seminar of the Division of Chest Medicine of Linkou Chang Gung Memorial Hospital, "Intelligent medicine for clinical anesthesiology and patient monitoring", Linkou Chang Gung Memorial Hospital, 2/27/2018
4. Invited lecture for the refresh course of the Taiwan Association of Nurse Anesthetists in 2017 Annual Meeting and International Conference of Taiwan Society of Cardiothoracic and Vascular Anesthesia (TSCVA), "Clinical practice of brain oximeter", Taipei Veteran General Hospital, 7/26/2017
5. Invited speech for the mini symposium of "data science" in 5th TWSIAM annual meeting, "When manifold learning meets human circulation system", National Chengchi University, 5/7/2017
6. Invited speech for Workshop "Frontiers in massive data analysis and medical applications", "Phenomenological Modeling and Quantification of the Three Physiological Phenomena in Electrocardiography during General Anesthesia", Center for Theoretical Science, National Cheng Kung University, 12/23/2016
7. Lecture for graduate course of data science, "Biomedical Time-Frequency Analysis", National Taiwan University, 24/11/2016
8. Lecture for specialist nurse education, "The risks of anesthesia and pre-operative management", Shin Kong Wu Ho-Su Memorial Hospital, 14/11/2016

9. Invited speech for the Data Seminar in NCTS, "Time-frequency analysis in clinical anesthesia", National Taiwan University, 28/7/2016
10. Invited speech for the mini symposium in 4th TWSIAM annual meeting, "Time-frequency Analysis for Time-varying Heart Rate Variability Analysis Revealing New Merit and Artifact in Clinical Anesthesia", National Chung Hsing University, 28/5/2016
11. Invited speech for latest progress update in NCTS/CMMSC Seminars on Probability and Statistics, "Phenomenological Modeling and Quantification of the Three Physiological Phenomena in Electrocardiography during General Anesthesia", National Chiao Tung University, 1/7/2016
12. Invited speech for Workshop on Current Progress in Time Frequency Analysis and Its Applications, "Phenomenological Modeling and Quantification of the Three Physiological Phenomena in Electrocardiography during General Anesthesia", Center for Theoretical Science, National Cheng Kung University, 12/28/2015
13. Invited speech for a summer school course "Phenomenological Modeling and Quantification of Physiological Phenomena in Electrocardiography during Anesthesia", Academic Sinica, 7/21/2015
14. Invited speech for the NCTS/CMMSC Seminar on Probability and Statistics with Applications, "The Modeling and Quantification of Rhythmic to Non-rhythmic Phenomenon", National Chiao Tung University, 6/1/2015
15. Invited speech for a summer school course "Quantification of the Rhythmicity as a New Indicator in Anesthesia: Nonrhythmic to Rhythmic Ratio", Academic Sinica, 7/31/2014
16. Speech for Hospital Morning Meeting of Shin Kong Wu Ho-Su Memorial Hospital "Perioperative management of the obese patient", Shin Kong Wu Ho-Su Memorial Hospital, 7/11/2014
17. Keynote speech for Upstate Monthly Meeting of Taiwan Society of Anesthesiologists "Reading hidden information about anesthesia in ECG by modern time-frequency analysis", Shin Kong Wu Ho-Su Memorial Hospital, 12/25/2012
18. Speech for Critical Care Medicine Education Course "Hypersensitivity Reactions During Anesthesia and Critical Care", Shin Kong Wu Ho-Su Memorial Hospital, 6/9/2011

Theses defense committees membership

1. Lin, Fong-Jheng. 2017. "Using three-dimensional refractive-index microscopy and backscattering spectroscopy to classify white blood cells". M. Sc. thesis. Faculty of Graduate Studies. National Taiwan University
2. He, Chiu-Yao. 2016. "Pulse transit time of pressure waves in blood vessels". M. Sc. thesis. Faculty of Graduate Studies. National Chiao Tung University
3. Chen, Ming-Huang. 2016. "The Optimization of the Acoustic Response of Ultrasound Contrast Agent". Doctoral Thesis. National Taiwan University

Services

reviewed articles for

1. Medicine (1/year)
2. Signal Processing (1/year)
3. Respiratory Physiology & Neurobiology (1/year)

4. Circuits, Systems, and Signal Processing (1/year)
5. PLoS ONE (1/year)
6. Asian Journal of Anesthesiology (1/year)

Honor

1. 2018 LEAP@Duke program supported by the Science and Technology Policy Research and Information Center of the National Applied Research Laboratories, Taipei, Taiwan.
2. Second Award, Young Investigator Award Competition in The 59th Annual Meeting of Taiwan Society of Anesthesiologists, Taiwan, 2015

Skill

Software development using Microsoft Visual Studio™

Last updated: August 26, 2019