

## **Dr. Vorapoj Patanavijit**

St. Thomas Aquinas Award for Research (Second Class)

### **Citation:**

Dr. Vorapoj Patanavijit received his B.Eng., M.Eng., and Ph.D. degrees from the Department of Electrical Engineering, Chulalongkorn University in 1994, 1997 and 2007 respectively. He has served as a full-time lecturer at the Department of Computer and Network Engineering, Faculty of Engineering, Assumption University since 1998. He works in the field of signal processing and multidimensional signal processing, specializing in particular on Image/Video Reconstruction, Super-Resolution Reconstruction, Enhancement, Fusion, Denoising, Inverse Problems, Motion Estimation and Registration.

Dr. Vorapoj Patanavijit has published numerous articles in international proceedings and IEEE Xplore journals. Moreover, he has served as a technical reviewer in many IEEE conferences, IEEE transactions, IET transactions and international journals.

Dr. Vorapoj Patanavijit received the best paper award from two conferences as follows:

- Best Paper Award: Voraoj Patanavijit. "A Robust Iterative Multiframe SRR using Stochastic Regularization Technique Based on German & McClure Estimation," The National Conference on Information Technology, 2008 (NCIT, 2008), Bangkok, Thailand, November, 2008.
- Best Paper Award: V. Patanavijit and S. Jitapunkul. "A Lorentzian Bayesian Approach for Robust Iterative Multiframe Super-Resolution Reconstruction with Lorentzian-Tikhonov Regularization," co-authored with S. Jitapunkul. IEEE International Symposium on Communications and Information Technologies 2006 (ISCT 2006), Bangkok, Thailand, pp. 1-6 (F3 A-4), October, 2006, IEEE Xplore.

A number of his publications issued while employed as a faculty member of Assumption University are as follows:

1. Vorapoj Patanavijit. "Geman&McClure Stochastic Estimation for a Robust Iterative Multiframe SRR with Geman&McClure-Tikhonov Regularization." Proceedings of the IEEE International Conference on Computer and Electrical Engineering (ICCEE 2008), Phuket Island, Thailand, December 2008. (IEEE Xplore)
2. Vorapoj Patanavijit. "A Robust Iterative Multiframe SRR based on Andrew's Sine Stochastic Estimation with Andrew's Sine-Tikhonov Regularization." Proceedings of the IEEE International Symposium on Intelligent Signal Processing and Communication Systems (ISPACS 2008), Bangkok, Thailand, December 2008. (IEEE Xplore)

3. Vorapoj Patanavijit and Somchai Jitapunkul. "General Observation Model for an Iterative Multiframe Regularized Super-Resolution Reconstruction for Video Enhancement." Proceedings of the IEEE International Symposium on Intelligent Signal Processing and Communication Systems (ISPACS 2008), Bangkok, Thailand, December 2008. (IEEE Xplore)
4. Vorapoj Patanavijit. "A Robust Iterative Multiframe SRR based on Hampel Stochastic Estimation with Hampel-Tikhonov Regularization." Proceedings of the IEEE 19<sup>th</sup> International Conference on Pattern Recognition CICPR 2008), Florida, USA, December 2008. (IEEE Xplore)
5. Vorapoj Patanavijit. "A Robust Iterative Multiframe SRR using Stochastic Regularization Technique Based on Geman & McClure Estimation." Proceedings of the National Conference on Information Technology 2008 (NCIT 2008), Bangkok, Thailand, November 2008.
6. Vorapoj Patanavijit. "Andrew's Sine Estimation for a Robust Iterative Multiframe Super-Resolution Reconstruction using Stochastic Regularization Technique." Proceedings of the IEEE Northeast Workshop on Circuits And Systems (IEEE-NEWCAS-TAISA'08), Montreal, Canada, June 2008. (IEEE Xplore)
7. Vorapoj Patanavijit. "A Robust Iterative Multiframe SRR using Stochastic Regularization Technique based on Hampel Estimation." Proceedings of the Fifth Annual International Conference of Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology CECTI-CON 2008), ECTI Association Thailand, Krabi, Thailand, pp. 473-476, May 2008. (IEEE Xplore)
8. V. Patanavijit and S. Jitapunkul. "Video Enhancement Using An Iterative Multiframe SRR Based On A Robust Stochastic Estimation With An Improved Observation Model." Proceedings of the 33<sup>rd</sup> IEEE International Conference on Acoustics, Speech, and Signal Processing ICASSP 2008), Las Vegas, Nevada, USA, pp. 1285-1288, March 2008. (IEEE Xplore)
9. V. Patanavijit and S. Jitapunkul. "A Tukey's Biweight Bayesian Approach for A Robust Iterative SRR of Image Sequences." Proceedings of the Annual International Technical Conference of IEEE Region 10 (IEEE TENCON 2007), Taipei, Taiwan, November 2007. (IEEE Xplore)

10. V. Patanavijit, S. Tae-O-Sot and S. Jitapunkul. "A Robust Iterative Super-Resolution Reconstruction of Image Sequences using a Lorentzian Bayesian Approach with Fast Affine Block-Based Registration." Proceedings of the IEEE International Conference on Image Processing (ICIP 2007), San Antonio, Texas, USA, pp. V393-V396, September 2007. (IEEE Xplore)
11. V. Patanavijit, P. Sermwuthisarn and S. Jitapunkul. "A Robust Iterative Super-Resolution Reconstruction of Image Sequences using a Tukey's Biweight Bayesian Approach with Fast Affine Block-Based Registration." Proceedings of the IEEE International Conference on Multimedia & Expo (ICME 2007), Beijing, China, pp. 480-483, July 2007. (IEEE Xplore)
12. V. Patanavijit and S. Jitapunkul. "A Lorentzian Stochastic Estimation for A Robust Iterative Multiframe Super-Resolution Reconstruction with Lorentzian-Tikhonov Regularization." Proceedings of the EURASIP Journal on Applied Signal Processing (EURASIP JASP) : Special Issue on Super-Resolution Enhancement of Digital Video, Hindawi Publishing Corporation, Article ID 34821, May 2007, pp. 1-21. (*ISI Impact Factor=0.463* according to 2006 Journal Citation Reports released by Thomson Scientific (ISI) in 2006)
13. V. Patanavijit and S. Jitapunkul. "A Lorentzian Stochastic Estimation for an Robust and Iterative Multiframe Super-Resolution Reconstruction." Proceedings of the Annual International Technical Conference of IEEE Region 10 (IEEE TENCON 2006), Wan Chai, Hong Kong, November 2006. (IEEE Xplore)
14. V. Patanavijit and S. Jitapunkul. "An Iterative Super-Resolution Reconstruction of Image Sequences using a Bayesian Approach with BTV Prior and Affine Block- Based Registration." Proceedings of the IEEE Canadian Conference on Computer and Robot Vision 2006 (CRV 2006), Quebec City, Canada, June 2006. (IEEE Xplore)

While employed as a full-time faculty member at Assumption University, Dr. Vorapoj Patanavijit served as a technical reviewer as follows:

#### Technical Reviews of International Transactions or Journals

November 2008	Journals of the Institution of Engineering and Technology (IET) in Image Processing (IEEE Xplore)
October 2008	Journals of the Institution of Engineering and Technology (IET) in Image Processing (IEEE Xplore)
June 2008	Journals of the Institution of Engineering and Technology (IET) in Image Processing (IEEE Xplore)
February 2008	IEEE Transactions on Image Processing (IEEE Xplore) (ISI Impact Factor=2.428 in 2006)
September 2006 - Present	EURASIP Journal on Applied Signal Processing (EURASIP JASP), Hindawi Publishing Corporation. (ISI Impact Factor=0.463 in 2006)

#### Technical Reviewer of International Conferences

September 2008	The National Conference on Information Technology 2008 (NCIT 2008), Bangkok, Thailand.
August 2008	IEEE International Symposium on Intelligent Signal Processing and Communication System (ISPACS 2008), Bangkok, Thailand, December 2006. (IEEE Xplore)
June 2008	The 14 <sup>th</sup> Asia-Pacific Conference on Communications (APCC 2008), Tokyo, Japan, October 2008. (IEEE Xplore)
February 2008	The Fifth Annual International Electrical Engineering/ Electronics, Computer, Telecommunications and Information Technology Conference (ECTI-CON 2008), ECTI Association, Thailand, May 2008. (IEEE Xplore)

Dr. Vorapoj Patanavijit received the Research Grant from TRF while employed as faculty member of Assumption University as given below:

Title: Video Enhancement Using an Iterative SRR Based on a Robust Stochastic Estimation with an Improved Observation Model

Role:	Project Director & Researcher
Spent time:	1 man-month/year
Date and duration:	2008 – 2010 (24 months)
Total Budget:	360,000 Bath
Agency:	Thailand Research Fund (TRF) and Commission on Higher Education (CHE): Research Grant for New Scholar

With all his distinguished research and contributions to the field of engineering and enhancement of the reputation of the University, Assumption University is pleased to award Dr. Vorapoj Patanavijit the St. Thomas Aquinas Award for Research (Second Class) on the auspicious date of December 24, 2008.

