

Digital System Laboratory



Lab Head: Asst.Prof.Dr.Attasit Lasakul **Consultant:** Dr.Keattisak Sripimanwat

Activities: Microprocessor Applications:

Automatic Controllers, Small Robot Applications, FPGA.

Signal processing & Channel Coding:

Image Processing/Recognition, Robot Vision, Data Compression,
Trellis Coded Modulation (TCM), Turbo Codes

Wireless Communications:

Optical Modulation and Coding, Equalization, Wireless Techniques

Information Theory:

Genetic, Chaotic, and Quantum Communications

Present Researchers:

Student (M.Eng): 8

Student (B.Eng) : 10

Pre-Proposal:

“Source and Channel Coding for Data Storage and Wireless Communications”, submitted to the National Electronics and Computer Technology Center, NSTDA, Ministry of Science Technology and Environment (2001).

“Digital moisture meter”.

“Thai coin exchanger machine”

“Turbo Codes for IMT2000: Hardware Implementation”

“Image Watermarking”

Contact:

Asst.Prof.Dr.Attasit Lasakul Email: klattasi@kmitl.ac.th

Dr. Keattisak Sripimanwat Email: keattisak_s@notes.nectec.or.th

E12-1106, Information Engineering Department, Faculty of Engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok, THAILAND 10520

Tel (FAX): ++66 2 737-3000 Ext: 5057 <http://www.kmitl.ac.th/dslabs/>

Publications (Selected):



Sripimanwat, K., Cheersirikul, S., "The Development of Silicon Pressure Transducer for Electronics Scale Application", *The 14th Conference on Electrical Engineering of Thailand*, Nov. 7-8,1991, Prince of Songkha University, Thailand.

Kiyooki A., Lasakul A. , Shoichiro H., Shozo K.,"A Theory of Image Restoration Using 2-D MRA", *JTC-CSCC'94*, kongju National University Korea, July 11-13 ,pp. 1058-1062.

Sripimanwat, K., Breen, D. and Prempanirat, Y., "The designation and implementation of error correcting set for digital data transmission by the convolution code", *The Journal of King Mongkut's Institute of Technology Thonburi (KMUTT)*, Bangkok, Dec.1993-Jun.1994.

Laskul A.,Kiyooki A.,Sanwarasil M.,Shozo K.,"A Theory of Image Restoration for Linear Degraded Images Using MRA ", *IAPR'96*, Vienna, AUSTRIA 1996.

Lasakul A., Kiyooki A.,Shozo K.,"A Restoration of Isotopic Spatial Degraded Images Using MRA",*IEICE General Conference* , Japan 1996.

Lasakul A.,Shozo K., Sanwarasil M.,"Image restoration theory using interconnection of images in MRR", *IEEE(ISPAC 200)*, Sheraton Waikiki, Hawaii, USA , 2000.

Sripimanwat, K., Weinrichter, et al, "Performance of concatenated phase precoding and TCM on frequency selective fading channel", *IEEE CCECE2000*, May 7-10, Halifax, Canada.

Sripimanwat, K., et al, "Improved performance analysis of spiral curve-phase precoding", *IEE Electronics Letters*, April 2000, Vol.36, No.8, pp.729-730.

Sripimanwat, K., et al , "New TCM codes for AWGN and ISI channel by *matched symbol-mapping method*", *IEEE VTC'2000*, Sep.24-28, Boston, USA.

Sripimanwat, K., et al , "Soft-detection of modified phase precoding with new TCM for wireless-ISI channels", *WPMC'00*, Nov.12-15, 2000, Bangkok, Thailand.

Sripimanwat, K., Weinrichter, H., Rajatheva, R.M.A.P. et al, "Soft-detection phase precoding with MPSK-TCM for ISI channel", *IEEE Communications Letters*, April 2001

Sripimanwat, Lasakul A., Thitimajshima P., "Performance Analysis of Binary Phase Precoding with Turbo Codes using Transfer Function", *IEEE (ICICS 2001)*, Mandarin, Singapore, October 15-18, 2001.