

รองศาสตราจารย์ ดร. คมกฤต เล็กสกุล

Associate Professor Dr. Komgrit Leksakul

Department of Industrial Engineer, Faculty of Engineering, Chiang Mai University, Chiang Mai, 50200 Thailand Tel: +66-53-944183 Ext. 306 Fax: +66-53-944185 E-mail: <u>komgrit@eng.cmu.ac.th</u> Website: <u>http://ie.eng.cmu.ac.th/</u>

EDUCATIONAL BACKGROUND

1000-2006	D Eng (Industrial Engineering)
1999-2000	Asian Institute of Technology Thailand
	Asian institute of rechnology, mailand
1997-1998	M.Eng (Industrial Engineering)
	Asian Institute of Technology, Thailand
1992-1995	B.Eng (Industrial Engineering) First Honor
	Chiang Mai University, Chiang Mai, Thailand

MANAGEMENT BACKGROUND

2005	Assistant Dean for Academic Affairs
	Faculty of Engineering, Chiang Mai University, Chiang Mai, Thailand
2006-2008	Assistant Dean for Quality Assurance
	Faculty of Engineering, Chiang Mai University, Chiang Mai, Thailand
2009-2012	Associate Dean for Student Development Affairs and Quality Assurance
	Faculty of Engineering, Chiang Mai University, Chiang Mai, Thailand
2013-2018	Director of Research Administration Center
	Chiang Mai University, Chiang Mai, Thailand
2019	Deputy Director of Budget Allocation Division
	Thailand Science Research and Innovation (TSRI), Thailand

FIELDS OF SPECIALLIZATION

- Micro Electro Mechanical System (MEMS)
- Optimization
- Manufacturing and Rapid Prototyping for Biomedical Application

AWARDS

PUBLICATIONS

K. Leksakul and A Techanitisawad*, "An application of the neural network energy function to machine sequencing", **Computation Management Science**, vol.2, no.4, 309-329 (2005).

U. Smutkupt*, K. Leksakul and A Sopadang, "*Internet-based Supply Chain Management Analysis*", **The 36**th **CIE Conference on Computer&Industrial Engineering**, 2164-2173 (2006).

U. Smutkupt*, K. Leksakul and A Sopadang, "Supply Chain Management Analysis in Northern Thai SMEs", The 36th CIE Conference on Computer&Industrial Engineering, 2164-2173 (2006).

A. Holimchayachotikul, R. Jintawiwat and **K. Leksakul**^{*}, "Wall Angel Control of Reactive Ion Etched Features on a Silicon Substrate", International Conference in Quality and Reliability, 192-197 (2007).

A. Limcharoen, C. Pakpun and K. Leksakul^{*}, "Wall Angel Control of Reactive Ion Etched Features on a Silicon Substrate", IEEE International NanoElectronics Conference (INEC), 523-529 (2010).

A. Limcharoen*, C. Pakpun and K. Leksakul, "*Application of Simulation in Etching Process Parameter Optimization for HDD Slider Fabrication*" **Engineering Journal, Chiang Mai University**, Vol. 17 (2), 10-17 (2010).

P. Holimchayachotikul*, A. Limcharoen, K. Leksakul and G. Guizzi, "*Multi-Objective Optimization based on Robust Design for Etching Process Parameters of Hard Disk Drive Slider Fabrication*", **11th WSEAS International Conference on AUTOMATION & INFORMATION (ICAI)**, 166-170 (2010).

R. Jintawiwat^{*} and K. Leksakul, "Bus Stop Selection for Bus System of Large Industrial Factory", 2nd International Conference on Information and Multimedia Technology (ICIMT), Vol. 1, 467-471 (2010).

P. Holimchayachotikul*, K. Leksakul, D.R. Montella and M. Savino, "*Predictive Collaborative Performance System in B2B Supply Chain Using Neuro_Fuzzy*" **Proceeding of 9th WSEAS International Conference on System Science and Simulation in Engineering**, 348-354 (2010).

P. Holimchayachotikul*, R. Derrouiche, K. Leksakul and G. Guizzi, "*B2B Supply Chain Performance Enhancement Road Map Using Data Mining Techniques*" **Proceeding of 9th WSEAS International Conference on System Science and Simulation in Engineering**. 336-341 (2010).

P. Holimchayachotikul^{*}, **K. Leksakul**^{*} and S. Nattaradol, "Application of Fuzzy Analytic Hierarchy Process for Supplier Selection of Automobile and Electronics Industries", 2nd International Conference on Information and Multimedia Technology (ICIMT), Vol. 2, 6-9 (2010).

K. Assawakittikawin* and K. Leksakul, "*The Study of Microstructure Production Process by Using X-Ray Lithography from Syncrotron Light*", **Proceeding of Thailand – Japan International Symposium in Industrial Engineering, Mechanical Engineering and Robotics 2010. (TJIEME-CMU-MuroranIT-2010)**. 112-114 (2010).

P. Kerdlapee*, K. Leksakul and A. Wisitsora-at, "*Fabrication of Eletrostatic Actuator for Dual Stage Slider in Hard Disk Drive*", **Proceeding of Thailand – Japan International Symposium in Industrial Engineering, Mechanical Engineering and Robotics 2010. (TJIEME-CMU-MuroranIT-2010)**. 159-165 (2010).

P. Kerdlapee, A. Wisitsoraat, **K. Leksakul*** and D. Phokharatkul, "*Low Cost and High Resolution X-Ray Lithography for Fabrication of Microactuator*", **Advanced Materials Research**. Vol. 254, 66-69 (2011).

P. Holimchayachotikul, K. Leksakul and G. Guizzi^{*}, "*Robust Design for Etching Process Parameters of Hard Disk Drive Slider Fabrication Using Data Mining and Multi Response Optimization*", **WSEAS TRANSACTION on SYSTEMS and CONTROL**. Vol. 6(1), 15-24 (2011).

P. Kerdlapee*, A. Wisitsoraat, K. Leksakul and A. Tuantranont, "*Fabrication of Microactuator based on Low Cost and High Resolution X-Ray Lithography*", International Conference on Materials for Advanced Technologies (ICMAT). 59 (2011).

P. Holimchayachotikul*, K. Leksakul and G. Guizzi, "Holistic Predictive Performance Measurement and Management Framework for Supply Chain Management Using Data Mining Techniques", International Conference on Marketing Studies (ICMS). (2011).

A. Sopadang, K. Leksakul^{*} and C. Kasemset, "Off-Season Supply Forecasting in Thai Longan Supply Chain with Artificial Neural Network", International Conference: The Role of Agriculture and Natural Resources on Global Change (ANGC). 27 (2011).

R. Derrouiche^{*}, P. Holimchayachotikul and K. Leksakul, "*Predictive Performance Model in Collaborative Supply Chian Using Decision Tree and Clustering Technique*", **4th International Conference on Logistics** (LOGISTIQUA). 412-417 (2011).

P. Kerdlapee*, A. Wisitsoraat, D. Phokharatkul, K. Leksakul R. Phatthanakun and A. Tuantranont, *"Fabrication of Microactuator for Dual-Stage Slider in Hard Disk Drive Based on a Low Cost LIGA Process"*, **The 4th International Data Storage Technology Conference (DST-CON)**. 189-192 (2011).

K. Kamano^{*}, U. Smutkupt, K. Leksakul, W. Puttichaem and A. Tokeaw, "*Optimal Parameter in Back Side Pads Slider Bonding*" **Engineering Journal, Chiang Mai University**, Vol. 18(1), 33-38 (2011).

K. Khumchoo and K. Leksakul*, "Genetic Algorithm for Solving Distribution Transformer Replacement Problem" Engineering Journal, Chiang Mai University, Vol. 18(3), 1-10 (2011).

Ch. Maneekat*, K. Siangchaew, R. Phatthanakun and K. Leksakul, "Study of Deep X-ray Lithography Fabricating SU-8 Hard Mask of Burnishing Head Patterns", 7th IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS). 762-763 (2012).

Ch. Maneekat*, R. Phatthanakun, K. Siangchaew and K. Leksakul, "*Patterning of Burnishing Head using SU-8 Hard Mask Fabricated by Deep X-ray Lithography*", **MEMS and nanotechnology** (2012).

Ch. Apiromchaiyakul and K. Leksakul, "Development of Job Assignment Planning for special Cutting Chicken Production by using Mathematical Model", Engineering Journal, Chiang Mai University, Vol. 19(2), 34-44 (2012).

K. Leksakul and A. Sopadang, "Off-season Supply Forecasting in Thai Longan Supply Chain with Artificial Neural Network" Chiang Mai University Journal of Natural Sciences, Vol. 11 (1), 117-122 (2012)

N. Siwarakrangsun, N. Atthi, S. Porntheeraphat, J. Jantawong, K. Leksakul and A. Poyai, "*Fabrication of Multi-Level Photoresist Patterns in One-Step Lithography by Using Cr/Ni Multi-Film Thickness Mask*" Advanced Materials Research, Vol. 658, 93-96 (2013)

P. Premphet and K. Leksakul, "*Production Scheduling of Electronic Assemblies Factory Using Ant Colony Optimization*" **Engineering Journal, Chiang Mai University**, Vol 20 (1), 31-39 (2013)

K. Janma and K. Leksakul, "Application of Topsis and Fuzzy Topsis in OEE Evaluation in Substrate Polishing Process" Proceeding of the 2nd International Conference on Production and Supply Chain Management (2013)

E. Jaiyen and K. Leksakul, "Optimization for Stochastic Traveling Salesman Problem" **Proceedings of Operation Research Network Conference**, 557-563 (2013)

Kh. Warndee and K. Leksakul, "*Mathematical Approach for Solving Three-Dimensional Knapsack Problem*" **13**th **Proceedings of Thai Value Chain Management and Logistics: Thai VCML**, 529-537 (2013)

Bh. Srivichainant and K. Leksakul, "*Mathematical Model for Solving Helecopter Routing Problem for High Voltage Transmission Line Inspection*" **13**th **Proceedings of Thai Value Chain Management and Logistics: Thai VCML**, 538-543 (2013)

K. Khamsuk and K. Leksakul, "*Determination of Vehicle Routing for Reducing Carbon Dioxide Emission*" **13th Proceedings of Thai Value Chain Management and Logistics: Thai VCML**, 544-551 (2013)

S. Phetsawat and K. Leksakul, "Solving Nurse Scheduling Problem by Using Mathematical Modeling" Engineering Journal, Chiang Mai University, Vol 21 (1), 62-74 (2014)

P. Kerdlapee, A. Wisitsoraat, D. Phokaratkul, K. Leksakul, R. Phatthanakun and A. Tuantranont, "Fabrication of Electrostatic MEMs Microactuator Based on X-ray Mask and Dry-film-transfer-to-PCB Process" **Microsystem Technologies**, Vol. 20, 127-135 (2014)

P. Holimchayachotikul, R. Derrouiche, D. Damand and K. Leksakul, "Value Creation through Collaborative Supply Chain: Holistic Performance Enhancement Road Map" **Production Planning & Control**, Vol. 25, 912 (2014)

K. Leksakul, Ch. Maneekat and R. Phatthanakun, "*Patterning of Burnishing Head for Hard Disk Platters by Synchrotron Radiation Lithography*" **Microsystem Technologies**, Vol. 20, 2203-2211 (2014)

K. Leksakul, and A. Limcharoen, "*Central Composite Designs Coupled with Simulation Techniques for Optimizing RIE Process*" **The International Journal of Advanced Manufacturing Technology**, Vol. 70, 1219-1225 (2014)

K. Leksakul, and S. Phetsawat, "*Nurse Scheduling Using Genetic Algorithm*" Mathematical Problems in Engineering, Vol. 2014, 16 (2014)

J.B. Kim, S.B. Jin, L. Wen, P. Premphet, K. Leksakul and J.G. Han^{*}, "*Low Temperature, High Conductivity Al-doped ZnO Film Fabrication Using Modified Facing Target Sputtering*" **Thin Solid Films**, Vol. 587, 88-93 (2015)

J.S. Lee, S.B. Jin, N. Vichiansan, J.G.Han, M. Hori and K. Leksakul, "*SiC_xH_y*-based hydrophobic thin films with good chemical and mechanical properties synthesized by PECVD at various substrate temperatures" **Current Applied Physics**, Vol. 15, 1342-1347 (2015)

K. Leksakul, P. Holimchayachotikul and A. Sopadang, "*Forecast of off-season longan supply using fuzzy support vector regression and fuzzy artificial neural network*" **Computers and Electronics in Agriculture**, Vol. 118, 259-269 (2015)

K.S. Shin, B.B. Sahu, M. Kumar, K. Leksakul and J.G. Han, "*Tailoring of microstructure in hydrogenated nanocrystalline Si thin films by ICP-assisted RF magnetron sputtering*" **Journal of Physics D: Applied Physics**, Vol. 48, 475303 (2015)

L. Wen, M. Kumar, B.B. Sahu, S.B. Jin, C. Sawangrat, K. Leksakul and J.G. Han, "Advantage of dualconfined plasmas over conventional and facing-target plasmas for improving transparent-conductive properties in Al doped ZnO thin films" **Surface and Coatings Technology**, Vol. 284, 85-89 (2015)

P. Holimchayachotikul and K. Leksakul "Predictive Performance Measurement System for the Retail Industry Using a Neuro-fuzzy System Based on Swam Intelligence" **Soft Computing**, Vol. 21 (7), 1895-1912 (2017)

P. Premphet, M. Prasoetsri, D. Boonyawan, R. Supruangnet, S. Udomsom and K. Leksakul "*Optimization* of DC magnetron sputtering deposition process and surface properties of HA-TiO₂ film" **Materials Today: Proceedings**, Vol 4, 6372–6380 (2017)

L. Wen, M. Kumar, H.J. Cho, K. Leksakul and J.G. Han, "*Low-bandgap, highly c-axis-oriented Al-doped ZnO thin films*" Journal of Physics D: Applied Physics, Vol. 50, 185206 (2017)

K. Leksakul, U. Smutkupt, R. Jintawiwat and S. Phongmoo, "*Heuristic approach for solving employee bus routes in a large-scale industrial factory*" Advanced Engineering Informatics, Vol. 32, 176-187 (2017)

C. Sawangrat and K. Leksakul, "Improving mechanical properties of Co-Cr-W alloys by powder metallurgy" Materials Science Forum: 5th International Conference on Material Science and Engineering Technology (ICMSET 2016), Vol. 890, 348-351 (2017)

J. Sroykaew, K. Leksakul, D. Boonyawan and A. Akarapisan, "*Treating White Leaf Disease in Sugarcane Cuttings Using Solution Plasma*" Chiang Mai University Journal of Natural Sciences, Vol. 17(1), 61-72 (2018)

P. Premphet, K. Leksakul, J.X. Piao, S.B. Jin, P. Pothacharoen, R. Supruangnet, and D. Boonyawan, "Effect of SW-1353 Chondrocyte Cell Cultivation on Pulsed Magnetron Nanocrystalline Carbon Thin Film" Journal of Biomaterials and Tissue Engineering, Vol. 8, 824-828 (2018)

N. Vichiansan, N. Kaai, K. Leksakul, S. Lumyong and J.G. Han, "Sterilization of medical equipment by plasma technology" Chiang Mai Journal of Science, Vol. 45 (4), 1811-1826 (2018)

E. Jaiyen and K. Leksakul, "Application of element decomposing method for solving integer problems" MATEC Web of Conferences: 4th International Conference on Engineering, Applied Sciences and Technology (ICEAST 2018), Vol. 192, 01022 (2018)

K. Leksakul and M. Phuendee, "*Development of hydroxyapatite-polylactic acid composite bone fixation plate*" **IEEE Journal of Selected Topics in Quantum Electronics**, Vol. 25 (5), 903-914 (2018)

P. Tinarut and K. Leksakul, *"Hybrid Self-Organizing Map Approach for Traveling Salesman Problem"* Chiang Mai University Journal of Natural Sciences, Vol. 18(1), 27-37 (2019)

PATENTS AND PETTY PATENTS

RESEARCH GRANTS

Research Topic	Improvement of Dental Porcelain Production by Rapid Prototyping Technique
Sources of Funding	IPUS, Thailand Research Fund (TRF)
Time Duration	6 Months (July 2007 - Feb 2008)
Budget	90,000 baht
Status of Participation	Principal Investigator
Research Topic	Improvement of Dental Porcelain Production by Response Surface Technique
Sources of Funding	IPUS, Thailand Research Fund (TRF)
Time Duration	6 Months (July 2007 - Feb 2008)
Budget	90,000 baht
Status of Participation	Principal Investigator
Research Topic	Development of Motorcycle Parts Using Carbon Fiber
Sources of Funding	IPUS, Thailand Research Fund (TRF)
Time Duration	6 Months (July 2007 - Feb 2008)
Budget	100,000 baht
Status of Participation	Principal Investigator
Research Topic	Development of Plastic Vacuum Forming Machine for Medical Application
Sources of Funding	MTEC, National Science and Technology Development Agency (NSTDA)
Time Duration	6 Months (July 2007 - Feb 2008)
Budget	150,000 baht
Status of Participation	Principal Investigator
Research Topic	Application of Rapid Prototyping Technology for Biomedical Engineering
Sources of Funding	IPUS, Thailand Research Fund (TRF)
Time Duration	6 Months (July 2008 - Feb 2009)
Budget	90,000 baht
Status of Participation	Principal Investigator
Research Topic	Heat Sink Conductivity Improvement by Nano-Technology
Sources of Funding	IPUS, Thailand Research Fund (TRF)
Time Duration	6 Months (July 2008 - Feb 2009)
Budget	20,000 baht
Status of Participation	Principal Investigator
Research Topic Sources of Funding Time Duration Budget Status of Participation	Development of Knee Femoral Component by Applied Rapid Prototyping Technology IPUS, Thailand Research Fund (TRF) 6 Months (July 2009 - Feb 2010) 90,000 baht Principal Investigator
Research Topic Sources of Funding	A Study of Logistic System of Thailand-China Trade in the Contest of Asian-China Free Trade: Agreement; A case study of Border and Transit Trade Thailand Research Fund (TRF)

Time Duration Budget Status of Participation	1 Year 6 Months (February 2006 - August 2007) 3,842,200 baht Co-principal Investigator
Research Topic Sources of Funding Time Duration Budget Status of Participation	A Study of Longan's Supply Chain Management in Thailand Thailand Research Fund (TRF) 9 Months (December 2006 – August 2007) 772,560 baht Co-principal Investigator
Research Topic Sources of Funding Time Duration Budget Status of Participation	The Network Creation of Farmers and Communities Information Connectivity Case Study: Off Season Longan's Supply Chain Thailand Research Fund (TRF) 1 Years (January 2008 - December 2009) 1,294,335 baht Co-principal Investigator
Research Topic Sources of Funding Time Duration Budget Status of Participation	Application of Multivariate Statistical Analysis in Etching Process Parameter Optimization for HHD Slider and MEMs Fabrication National Science and Technology Development Agency (NSTDA) 1 Years (October 2008 - September 2009) 392,000 baht Principal Investigator
Research Topic Sources of Funding Time Duration Budget Status of Participation	Common Fixture Design for V-Bending Inspection in Hard Disk Drive Industry National Science and Technology Development Agency (NSTDA) 1 Years (October 2008 - September 2009) 90,000 baht Principal Investigator
Research Topic Sources of Funding Time Duration Budget Status of Participation	Optimization of Workers' Transportation Routing Industry/University Cooperative Research Center in HDD Component National Science and Technology Development Agency (NSTDA) 1 Years (October 2009 - September 2010) 626,000 baht Co-principal Investigator
Research Topic Sources of Funding Time Duration Budget Status of Participation	Patterning of Burnishing Head for Hard disk Platters by Synchrotron Radiation NSTDA University Industry Research Collaboration (NUI-RC) National Science and Technology Development Agency (NSTDA) 1 Years (June 2011 - May 2012) 327,000 baht Principal Investigator

6

JOURNAL EDITORIAL BOARD

1. Chief editor of Chiang Mai University Journal of Natural Sciences (2013 - 2018)

OVERSEAS LINKS

- 2. Professor Susumu Sugiyama, Micro Nano Integrated Devices Laboratory, Graduate School of Science and Engineering, Ritsumeikan University, Japan
- 3. Associate Professor Miao Jianmin, Micromachines (MEMS) Centre, School of Mechanical & Aerospace Engineering, Nanyang Technological University, Singapore

INDUSTRIAL LINKAGES

1. Western Digital Company Limited, Thailand