



**Assoc. Prof. Dr. Pudith (Sathaporn)
LAKSANACHAROEN**

รศ.ดร. ปุฒิส ลิขณะเจริญ

Director: Biorobotics Group

Mechanical Engineering Department

King Mongkut's University of Technology North Bangkok (KMUTNB)

Bangsue, Bangkok 10800 THAILAND

Tel: 66-2-913-2500x8312 Fax: 66-2-586-9541

Email: STL@kmutnb.ac.th

URL: <http://biobot.kmutnb.ac.th>

Last updated: October 2009

WORK EXPERIENCES

- 2009- present Adjunct Faculty in the Computer Science & Information Management,
Asian Institute of Technology (AIT), Thailand
- 2008 Visiting Research Scientist, National University of Singapore
- 2008 WiMAX committee, The National Telecommunications Commission (กทช.)
- 2008 Visiting Jet Propulsion Lab (JPL) NASA, Pasadena, California, USA
- 2007-2008 Part-time Instructor, Sirindhorn International Institute of Technology, Thailand
- 2007- present Researcher หน่วยร่วมวิจัยและพัฒนาหุ่นยนต์เก็บก๊วตถูระเบิด
สำนักวิทยาศาสตร์และเทคโนโลยีกลาโหม สำนักงานปลัดกระทรวงกลาโหม
- 2007- present Secretary, Thai Robotics Society
เลขานุการ สมาคมวิชาการหุ่นยนต์ไทย <http://www.tr.s.or.th>
- 2004-2005 Visiting Researcher at Hirose's Robotics Laboratory at
Tokyo Institute of Technology, O-okayama, Tokyo, JAPAN
-Design and construction of A New Type Leg-Wheel Hybrid robot for search and
rescue operations
- 2002-2006 Research Scientist at The Institute of Field robotics (FIBO),
มหาวิทยาลัยเทคโนโลยีพระจอมเกล้าธนบุรี (KMUTT), Thailand
-Conducting research on the humanoid robot arm
- 2002-2006 Robot contest committee of Thai Robotics Society, Thailand
- 1996-2001 Research Assistant at Biorobotics Laboratory at CWRU
-Simulation & Modeling a cricket like robot
-Study the locomotion of insects to implement movement into the robot
-Design and control of a microrobot
- 1998-2000 Assistant Resident Director: Housing & Residence Life at CWRU
-Provided leadership in the planning & social programs within residence hall
-Completed administrative task: checking in/out, room inventory.
- 1993-1995 Maintenance Engineer: Electricity Generating Authority of Thailand
-Maintained and overhaul stem turbine power plant throughout Thailand
- 1992-1993 Commissioning Engineer: TPI cement plant, Thailand
-Inspected and commissioned two new raw material grinding plants

EDUCATION

- Ph.D. Mechanical Engineering, 2001
Dissertation: Models and Simulation for design and control of Legged Robots
- M.Sc. Mechanical Engineering, 1998
Thesis: Symbolic Manipulation of the equation of motion for multi-body systems to improve computational efficiency
Advisor: Roger D. Quinn, Professor of Mechanical and Aerospace Engineering, Case Western Reserve University (CWRU), Cleveland, Ohio, USA
- B.Eng. Mechanical Engineering 1992
King Mongkut's University of Technology Thonburi (KMUTT), Thailand

TEACHING EXPERIENCES

- 2009-present Adjunct Faculty in the Computer Science & Information Management
Asian Institute of Technology (AIT), Thailand
- 2008-present Associate Professor
- 2004-present Assistant Professor in Department of Mechanical Engineering
King Mongkut's Institute of Technology North Bangkok (KMITNB)
Undergraduate courses; Introduction to Robotics, Mechanics of Machinery, Engineering Dynamics
Graduate courses; Engineering Vibrations, Intermediate dynamics
- 2001-2004 Lecturer in Department of Mechanical Engineering, KMITNB
- 1998-2001 Mentor Teaching Assistant: Educational Support Services at CWRU
-Responsible for holding a series of seminars for new TA
-Emphasize the importance of the instructional role and the value of teaching
- 1997-1998 Teaching Assistant (TA): Mechanical Engineering Department at CWRU
-Taught review session once a week for Dynamics and Engineering Vibrations
-Graded homework

LEADERSHIP/AWARDS/ACTIVITIES

- Advisor of the 1st place team winner in the ABU robot contest in Thailand 2006
Final participant of the Thailand Invention Awards 2006
Advisor of the final team in the Thailand Rescue Robot Championship 2005
Graduate Dean's Instructional Excellence Award at CWRU 1998
President of the Organization of Thai Students at CWRU 1996

BOOK PUBLICATION

- Sathaporn Laksanacharoen, "Robotics Engineering", The Technology Promotion Association Thailand-Japan, December, 2005 (in Thai) ISBN: 974-443-151-2

PUBLICATIONS

Petch Jearanaisilawong, Sathaporn Laksanacharoen, Veeradate Piriya Wong and Khatathap Swatdipisal, "Design of A Three-Legged Reconfigurable Spherical Shape Robot", International Conference on Advanced Intelligent Mechatronics (AIM), Singapore, July 14-17, 2009

Petch Jearanaisilawong and Sathaporn Laksanacharoen, "Dynamic Simulation of a Reconfigurable Spherical Robot", 2008 IEEE International Conference on Robotics and Biomimetics (ROBIO) February 21-26, 2009, Thailand

Junya Tanaka, Shuntrou Chigisaki, Shegeo Hirose and Sathaporn Laksanacharoen, " Study of an Amphibious Leg-Wheel Hybrid Mobile Robot "Ferret" (Development of a Butterfly Walking First Prototype)", The Society of Instrument and Control Engineers SI 2007, December 20-22, 2007, Hiroshima, Japan (in Japanese)

Pattaramon Tantichattanont, Szathys Songschon and Sathaporn Laksanacharoen, "Quasi-Static Analysis of a Leg-Wheel Hybrid Vehicle for Enhancing Stair Climbing Ability", 2007 IEEE International Conference Robotics and Biomimetics (ROBIO), Yaong Bay, Sanya, China , December 15-18, 2007

Kritsana Sripanomwan, Benchaporn Limtammakorn and Sathaporn Laksanacharoen, "Control of a Four-Legged Robot Model Using a Back-Propogation Neural Networks", The 20th Conference of Mechanical Engineering Network of Thailand (MENETT), Nakornratchasima, Thailand, October 19-21, 2005 (in Thai)

Sathys Songschon and Sathaporn Laksanacharoen, "Rubber muscle for humanoid arm", The 19th Conference of Mechanical Engineering Network of Thailand, Phuket, Thailand, October 19-21, 2005 (in Thai)

Saksiri Sirisampan and Sathaporn Laksanacharoen, "Human arm motion analysis using image processing under linux", The 19th Conference of Mechanical Engineering Network of Thailand, Phuket, Thailand, October 19-21, 2005 (in Thai)

Sunton Wongsiri and Sathaporn Laksanacharoen, "Design of An Intelligent Prosthetic Arm", International Symposium on Biomedical Engineering 2004 (ISBME2004), Bangkok, Thailand, November 16-18, 2004

Kawee Suwannasit and Sathaporn Laksanacharoen, "A Bio-Inspired Hybrid Leg-Wheel Robot", IEEE Tencon2004, Chiangmai, Thailand, November 21-24, 2004

Kawee Suwannasit and Sathaporn Laksanacharoen, " A Hybrid Leg-Wheel Robot", The 18th Conference of Mechanical Engineering Network of Thailand, KhonKan, Thailand, October 18-20, 2004 (in Thai)

Sathaporn Laksanacharoen, "Artificial Muscle Construction Using Natural Rubber Latex in Thailand", The 3rd Thailand and Material Science and Technology Conference, Miracle Grand Hotel, Bangkok, Thailand, August 10-11, 2004

S. Wongsiri and S. Laksanacharoen, "Design and Construction of An Artificial Limb Driven by Artificial Muscles for Amputees", PSU-UNS International Conference 2003: Energy and the Environment, Prince of Songkla University, Hat Yai, Songkla, Thailand, December 11-12, 2003

S. Laksanacharoen and S. Wongsiri, "Design of Apparatus to Study Human Elbow Joint Motion", The IEEE EMBS Asian-Pacific Conference on Biomedical Engineering 2003, Kyoto-Osaka-Nara, Japan, October 20-22, 2003

S. Laksanacharoen and S. Wongsiri, "Design and Construction of Rubber Pneumatic Artificial Muscles", The 17th Conference of Mechanical Engineering Network of Thailand, Prachinburi, October 15-17, 2003

S. Wongsiri and S. Laksanacharoen, "The Design of Medical Equipments through Computer Modeling", 19th Annual Academic Meeting, Faculty of Medicine, Prince of Songkla University, Vol. 21, August 13-15, 2003

S. Laksanacharoen, R.D. Quinn, and R.E. Ritzmann, "Modeling of Insect's Legs by Inverse Kinematics Analysis", International Symposium on Adaptive Motion of Animals and Machines, Kyoto, Japan, March 4-8, 2003

Birch, M.C.; Quinn, R.D.; Hahm, G.; Phillips, S.M.; Drennan, B.T.; Fife, A.J.; Beer, R.D.; Xinyu Yu; Garverick, S.L.; Laksanacharoen, S.; Pollack, A.J.; Ritzmann, R.E." Cricket-based robots"; Robotics & Automation Magazine, IEEE Volume 9, Issue 4, Dec. 2002 Page(s):20 – 30

A. Fife, S. Laksanacharoen, R. D. Quinn, R. D. Beer, and R. E. Ritzmann "The Evolution of Neural Network Controllers for the Targeted Swing of Cockroach-like Robot ", IEEE 2002 World Congress on Computational Intelligence, Hawaii, USA, May 12-17, 2002

S. Laksanacharoen, A.J. Pollack, G.M. Nelson, R.D. Quinn and R. E. Ritzmann " Biomechanics and Simulations of Cricket for Microrobot Design ", IEEE International Conference on Robotics and Automation, San Francisco, USA, April 24-28, 2000

M.C. Birch, S. Laksanacharoen, R.D. Quinn, A.J. Pollack, and R.E. Ritzmann. " Development of a Microrobot based on Cricket Biomechanics ", Society for Neuroscience Abstracts Vol 25 Part 1, 29th Annual Meeting, Miami Beach, FLorida, USA. October 23-28, 1999