

# Benjamas Panomruttanarug, PhD

## Associate Professor

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CONTACT INFORMATION	King Mongkut's University of Technology Thonburi Dept. of Control systems and Instrumentation Eng. Bangkok, Thailand 10140	<i>E-mail:</i> benjamas.pan@kmutt.ac.th <i>Tel:</i> 02.470.9096 <i>Web:</i> www.inc.eng.kmutt.ac.th/~yoodyui
RESEARCH INTERESTS	Iterative learning control, repetitive control, tracking control in robotic manipulators, autonomous vehicles	
EDUCATION	<b>Columbia University</b> New York, NY Ph.D., Electrical Engineering, October 2006 M.S., Electrical Engineering, May 2002  <b>Mahidol University</b> Nakornprathom, Thailand B.Eng., Electrical Engineering, May 1999 (2nd class honor)	
PROFESSIONAL HONORS	<b>Ernst Mach Follow-up Grant</b> from OEAD One-month research scholarship at TU Graz, Austria	<b>Apr 2023</b>
	<b>Skill Development Grant</b> from KMUTT One-month research fellowship at Heidelberg University, Germany	<b>Jun 2018</b>
	<b>ASEA-UNINET staff exchange</b> from OHEC and OEAD One-month research scholarship at TU Graz, Austria	<b>Apr 2018</b>
	<b>Junior research fellowship</b> from French Embassy in Thailand Two-month research scholarship at Ecole Nationale de l'Aviation Civile (ENAC), France	<b>Apr 2011 - May 2011</b>
	<b>Visiting research fellowship</b> from University of Electro-Communications (UEC) One-month research scholarship at UEC, Japan	<b>Oct 2010</b>
	<b>Scholarship</b> from The Royal Thai Government Master-PhD scholarship at Columbia University, USA	<b>Jan 2001 - Oct 2006</b>
SCOPUS INDEX JOURNALS (LAST 5 YEARS)	P. Areerob and B. Panomruttanarug, " <b>Iterative Learning Control for Lateral Tracking with Repeated Path in Autonomous Vehicles for Dynamic Environments</b> ," <i>International Journal of Control, Automation, and Systems</i> , vol. 21, no. 11, pp. 3712–3723, Sep. 2023. P. Chotikunanan, T. Puttasakul, R. Chotikunanan, B. Panomruttanarug, M. Sangworasil, and A. Srisirawat, " <b>Evaluation of Single and Dual image Object Detection through Image Segmentation Using ResNet18 in Robotic Vision Applications</b> ," <i>Journal of Robotics and Control</i> , Vol. 4, No.3, pp. 263–277, May 2023. B. Panomruttanarug, " <b>The optimal design of repetitive controllers based on inverse frequency response</b> ," <i>Optimal Control Applications and Methods</i> , pp. 1–18, Jan 2023. P. Chotikunanan, B. Panomruttanarug, and P. Manoonpong, " <b>Dual Design Iterative Learning Controller for Robotic Manipulator Application</b> ," <i>Journal of Control Engineering and Applied Informatics</i> , Vol. 24, No.3, pp. 76–85, 2022. P. Chotikunanan, and B. Panomruttanarug, " <b>Practical Design of a Time-Varying Iterative Learning Control Law Using Fuzzy Logic</b> ," <i>Journal of Intelligent &amp; Fuzzy Systems</i> , Vol. 43,	

No. 3, pp. 2419-2434, Jul 2022.

B. Panomruttanarug, “**Position Control of Robotic Manipulator Using Repetitive Control Based-on Inverse Frequency Response Design**,” *International Journal of Control, Automation, and Systems* (2020), Vol. 18, No. 11, pp. 2830–2841, May 2020.

B. Panomruttanarug, R. W. Longman, and M. Q. Phan, “**Steady State Frequency Response Design of Finite Time Iterative Learning Control**,” *Journal of Astronautical Sciences* (2020), Vol. 67, No. 2, pp. 571–594, Dec. 2019.

#### PROFESSIONAL ACTIVITIES

Team advisor for Team Andaman (KMUTT) to join racing car robot competitions, 2017 - present  
Treasurer for IEEE Control Systems Society Thailand Chapter, 2016 - 2019  
Young leader selected to participate the Isuzu’s young leadership camp, 1999  
Department assistant and treasurer for Mahidol Student Engineers Association, 1996 - 1999

#### RACING CAR ROBOT COMPETITION AWARDS

Fun driving award in F1tenth, Korea, Dec 2022  
2nd runner up in Turtlebot3 AutoRace (Thailand), Nov 2019  
2nd runner up in International Autonomous Racing Robot Competition (IARRC), University of Waterloo, Canada (2 successive years), Jul 2018-2019

#### PROFESSIONAL EXPERIENCE

**King Mongkut’s University of Technology Thonburi (KMUTT)**, Bangkok, Thailand  
*Lecturer* **Nov 2006 - Present**  
Teach graduate and undergraduate courses in control systems, robotics, and mathematics. Conduct research in tracking control and robotics. Advise graduate and undergraduate thesis projects and manage academic grants.

**Connected and Autonomous Vehicles (CAVs)**, supported by KMUTT, Thailand  
*Head* **May 2023 - Present**  
Lead research in autonomous vehicle technologies and knowledge base development. Enhance student capabilities in autonomous systems through education and hands-on experience. Build global partnerships to advance technology and commercialize vehicle solutions.

**Advanced Technology center for Manufacturing (@M)**, supported by KMUTT, Thailand  
*Deputy Director* **Jan 2012 - Sep 2014**  
Oversaw internship programs and academic staff funding. Facilitated practical industry experiences for students.

**I/U CRC Advanced Manufacturing**, supported by NECTEC, Thailand  
*Deputy Director* **Feb 2008 - Sep 2011**  
Managed research grants for university-industry collaboration in hard disk drive manufacturing. Liaised with industry partners to address manufacturing challenges.

**Asian Institute of Technology (AIT)**, Pathumthani, Thailand  
*Adjunct Faculty* **Jun 2009 - Jul 2009**  
Co-taught the graduate course “**Robust and Adaptive Control**”.

**Thai Engineering & Business Co., Ltd.**, Bangkok, Thailand  
*Design/Sales Engineer* **May 1999 - Jan 2000**  
Designed ventilation devices for Matsushita Electric Industrial Co., Ltd. Led sales initiatives and provided technical support to clients.