

CURRICULUM VITAE

1 Name : Assoc. Prof. NGUYEN TAN TIEN

2 Position:

- *Director of Key Laboratory of Digital Control and System Engineering.*

Institution's email : nttien@dcselab.edu.vn;

- *Lecturer of Faculty of Mechanical Engineering, Ho Chi Minh City University of Technology.*

University's email : nttien@hcmut.edu.vn.



3 Nationality : Vietnamese

4 Education

- PhD, Mechatronics Engineering, Pukyong National Univ., Korea (1999 – 2001)
- MS, Mechatronics Engineering, Pukyong National Univ., Korea (1996 – 1998)
- BE, Mechanical Engineering, HCMC Univ. of Technology, Vietnam (HCMUT) (1985 – 1990)
- Associate Professor, given by *The State Council for Professor Title of Vietnam* (2007)

5 Administrative Experiences

- Director, National Key Lab of Digital Control and System Engineering (12/2018 – present)
- Director, Bach khoa Research Center for Manufacturing Engineering (10/2015 – 4/2019)
- D/Head, Advanced Engineering Design and Manufacturing Lab (9/2014 – 8/2019)
- Vice Director, Pre-Engineering Education Center (2/2014 – 10/2015)
- Vice Dean, Faculty of Mechanical Engineering, HCMUT (9/2010 – 04/2013)
- Head, External Relations Office, HCMUT (12/2007 – 09/2010)
- Head, Department of Mechatronics Engineering, HCMUT (4/2009 – 4/2013)
- D/Head, R&D and International Relations Office, HCMUT (12/2002 – 12/2007)
- D/Head, Academic Affairs Office, HCMUT (2002)

6 Academic Activities

Faculty

- Department of Machine Design, Faculty of Mechanical Engineering, HCMUT (1990 – 2005)
- Department of Mechatronics, Faculty of Mechanical Engineering, HCMUT (from 2005)

Teaching Courses

Undergraduate Courses

- | | |
|--------------------------------------|-------------------------------------|
| 1. Theory of Machines and Mechanisms | 6. Engineering Mechanics – Dynamics |
| 2. Finite Element Method | 7. Mechanics of Solids |
| 3. Engineering Vibration | 8. Automatic Control System |
| 4. Manufacturing Engineering | 9. Control Systems Engineering |
| 5. Engineering Mechanics – Statics | 10. Machine Design |

Graduate Courses

- | | |
|-----------------------------|---|
| 1. Nonlinear Control System | 1. Advanced Nonlinear Control |
| 2. Linear Control System | 2. Digital Control Systems |
| 3. System Dynamics | 3. Advanced Design of Robust Control System |
| 4. Industrial Robotics | |

7 Co-Research Projects

1. with Kaihatsu Management Consulting, Inc., Japan
Project on Business Development Services (BDS) Enhancement for Enterprises Growth in the Federal Democratic Republic of Ethiopia", 2018-2020
2. with Korea Gas Corporation (KOGAS), Korea
"Analysis of Current Status of Energy Industry and Strategy for In-Line Inspection Market Entry in Vietnam", 2016-2017
3. with EatMe Team, Germany
"Study on Design of Restaurant Service Robot System", 2014
4. with Korea Automotive Technology Institute (KATECH), Korea
"Pitch 50 micrometers Plastic Component Development for the Automobile Speaker Applying the Injection Mold Process Technology", 2013-2015
5. with Kreg Therapeutics, Inc. and Kreg Medical, Inc., Illinois, USA
"Prototype Manufacture and Evaluate the Design of Special Purpose Hospital Bed", 2012-2013
6. with Nidec-Tosok Co., Japan
"Study on the Influence of Physical Parameters to the Hysteresis of Linear Solenoid Valve", 2012-2013
7. with TT Electronics Co., Korea
"Design and Control of Intelligent Pet Dog Robot", 2010-2012
8. with Korea Institute of Industrial Technology (KITECH), Korea
"Practical Application of Tandem SAW Process for Welding Productivity", 2010-2012

8 Research Projects

1. *"Study on Design and Control of CNC Milling Machine Spindle"*, Department of Science and Technology, Hochiminh City – Vietnam, 2019-2021
2. *"Study on Design and Control of Humanoid applied for PR tasks"*, Department of Science and Technology, Hochiminh City – Vietnam, 2016-2018
3. *"Study on Design an Operation Table for Hospital Application"*, Department of Science and Technology, Hochiminh City – Vietnam, 2014-2015
4. *"Design and Control of Pipeline Cleaning Robot for NPK Fertilizer Plant"*, Department of Science and Technology, Hochiminh City – Vietnam, 2013-2014
5. *"Study on Welding Torch Deviation through Rotating Arc Sensor"*, Department of Science and Technology, Hochiminh City – Vietnam, 2010-2011
6. *"Study on Green House Control System Applying for Growing Agricultural Products"*, JICA – Japan, 2009-2010
7. *"Study on Design and Control of Dust Cleaning Robot"*, Department of Science and Technology, Hochiminh City – Vietnam, 2009-2010
8. *"Study on Estimation of Welding Path Tracking Error in Robot Welding"*, Kookmin University Industry – Academic Cooperation Foundation – Korea, 2009
9. *"Study on Control of Latice Type Welding Mobile Robot Using MIG Welder"*, Department of Science and Technology, Hochiminh City – Vietnam, 2007-2008
10. *"Organizing and Management of Intellectual Property"*, Ministry of Science and Technology – Vietnam, 2006-2008
11. *"Study on Control of Planar Welding Mobile Robot"*, Department of Science and Technology, Hochiminh City – Vietnam, 2005-2006
12. *"Control of Welding Mobile Robot - Kinematic and Dynamic Models"*, Hochiminh City University of Technology – Vietnam, 2003-2004

13. “*Real-Time Monitoring of Transmission Pipeline to Detect Third-Party Damage*”, Korea Gas Corporation – Korea, 2001-2002
14. “*Modelling and Control of PIG Flow in Natural Gas Pipeline*”, Korea Gas Corporation – Korea, 2000-2001

9 Publication

1. Nhat Tan Pham, Van Tien Anh Nguyen, Nhat Dang Khoa Nguyen, Tan Tien Nguyen, and Sang Bong Kim, Development of Series Elastics Actuators for Physical Rehabilitation Devices, Springer - Lecture Note in Electrical Engineering, 415, 702-712, 2016
2. Nhat Dang Khoa Nguyen, Ba Long Chu, Thanh Phuong Nguyen, Hoang Long Phan, and Tan Tien Nguyen, Optimal Control Method for Stable Walking Gait of a UXA-90 Light Robot, Springer - Lecture Note in Electrical Engineering , 415, 664-674, 2016
3. Van Tu Duong, Trong Hai Nguyen, Tan Tien Nguyen, Jin Woo Lee, and Sang Bong Kim, Modified Model Reference Adaptive Controller for a Nonlinear SISO System with External Disturbance and Input Constraint, Springer - Lecture Note in Electrical Engineering, 415, 118-128, 2016
4. Van Dong Nguyen, Dinh Khanh Phan, Canh An Tien Pham, Dae Hwan Kim, Viet Tuan Dinh, and Tan Tien Nguy, Study on Determining the Number of Fin-Rays of a Gymnotiform Undulating Fin Robot, Springer - Lecture Note in Electrical Engineering, 465, 745-752, 2017
5. Van Anh Pham, Tan Tien Nguyen, and Tuong Quan Vo, Modeling and Evaluating Motion Performance of Robotic Fish with a Pair of Non-uniform Pectoral Fins, Springer - Lecture Note in Electrical Engineering, 465, 686-695, 2017
6. Van Dong Nguyen, Canh An Tien Pham, Van Hien Nguyen, Thien Phuc Tran, and Tan Tien Nguyen, Modular Design of Gymnotiform Undulating Fin, Lecture notes in electrical engineering - AETA 2018
7. Van Vu Nguyen, Hoang Linh Nguyen, Tan Tien Nguyen, Thien Phuc Tran, and Sang Bong Kim, Study on Effect of Parameters on Friction Stir Welding Process of 6061 Aluminum Alloy Tubes, Lecture notes in electrical engineering - AETA 2018
8. Van Hien Nguyen, Canh An Tien Pham, Van Dong Nguyen, Hoang Long Phan, and Tan Tien Nguyen, Computational Study on Upward Force Generation of Gymnotiform Undulating Fin, Lecture notes in electrical engineering - AETA 2018
9. Tan Tien Nguyen, Quang Dung Le, Thien Phuc Tran, and Sang Bong Kim, Design of Palletizing Robot using Series Elastic Actuators, Springer - Lecture Notes in Electrical Engineering, Vol. 685, 692–702, 2019
10. Van Hien Nguyen, Canh An Tien Pham, Van Dong Nguyen, and Tan Tien Nguyen, Study on Velocity Control of Gymnotiform Undulating Fin Module, Springer - Lecture Notes in Electrical Engineering, Vol. 685, 714-722, 2019
11. Anh Son Nguyen, Van Dong Nguyen, Huy Hung Nguyen, and Tan Tien Nguyen, A Novel Approach for Determining a Hit Point Based on Estimating Target Movement and Ballistic Table, Springer - Lecture Notes in Electrical Engineering, Vol. 685, 703-713, 2019
12. Xuan Tien Nguyen, Huy Hung Nguyen, Trong Hai Nguyen, Tan Tien Nguyen, and Thanh Phuong Nguyen, An Approach on A Balance for A Small Humanoid Robot by using Movable Mass, Springer - Lecture Notes in Electrical Engineering, Vol. 685, 681-691, 2019
13. Van Dong Nguyen, Canh An Tien Pham, Van Hien Nguyen, Thien Phuc Tran, and Tan Tien Nguyen, Modular Design of Gymnotiform Undulating Fin, Springer - Lecture Notes in Electrical Engineering, Vol. 554, 924-931, 2019
14. Van Hien Nguyen, Canh An Tien Pham, Van Dong Nguyen, Hoang Long Phan, and Tan Tien Nguyen, Computational Study on Upward Force Generation of Gymnotiform Undulating Fin, Springer - Lecture Notes in Electrical Engineering, Vol. 554, 914-923, 2019

15. Van Vu Nguyen, Hoang Linh Nguyen, Tan Tien Nguyen, Thien Phuc Tran, and Sang Bong Kim, Study on Effect of Parameters on Friction Stir Welding Process of 6061 Aluminum Alloy Tubes, Springer - Lecture Notes in Electrical Engineering, Vol. 554, 450-460, 2019
16. Xuan Tien Nguyen, Tri Duc Tran, Huy Hung Nguyen, Nhut Phuong Tong, Thanh Phuong Nguyen, and Tan Tien Nguyen, Backstepping based Saturated Sliding Mode Joints Controller for Humanoid Walking Gait, Int'l Journal of Mechanical & Mechatronics Engineering, Vol.20, No.6, 97-103, 2020
17. Van Tu Duong, Duc Tai Nguyen, Quang Linh Luu, Trong Trung Nguyen, Huy Hung Nguyen, and Tan Tien Nguyen, Indoor Virtual Path Tracking for Mobile Robot using Sensor Fusion by Extended Kalman Filter, Int'l Journal of Mechanical & Mechatronics Engineering, Vol.20, No.6, 104-110, 2020
18. Van Hien Nguyen, Van Dong Nguyen, Van Tu Duong, Huy Hung Nguyen, Van Sy Le, and Tan Tien Nguyen, Experimental Study on Kinematic Parameter and Undulating Pattern Influencing Thrust Performance of Biomimetic Underwater Undulating Driven Propulsor, Int'l Journal of Mechanical & Mechatronics Engineering, Vol.20, No.5, 142-148, 2020
19. Van Anh Pham, Tan Tien Nguyen, Tuong Quan Vo, Dynamically Propulsive Model of a Fish Robot with Flexible Non-Uniform Pectoral Fins, Journal of Mechatronic Systems and Control, Vol 49, No.2, 83-91, 2020
20. Van Anh Pham, Tan Tien Nguyen, Byung Ryong Lee, Tuong Quan Vo, Dynamic Analysis of a Robotic Fish Propelled by Flexible Folding Pectoral Fins, Robotica Journal, Vol 38, Part 4, 699-718, 2020
21. Quoc Anh Tran, Hoang Long Phan, Van Sy Le, Van Tu Duong, and Tan Tien Nguyen, Mechanical Design of Drill Pipe Inspection Machine, Mechanisms and Machine Science, volume 113, ASIAN MMS 2021: Advances in Asian Mechanism and Machine Science, 324-334, 2021
22. Cong Nguyen Nguyen, Thi Ngoc Lan Le, Van Dong Nguyen, Thien Phuc Tran, and Tan Tien Nguyen, A Study on Localization of Floating Aquaculture Sludge Collecting Robot, Mechanisms and Machine Science, volume 113, ASIAN MMS 2021: Advances in Asian Mechanism and Machine Science, 512-518, 2021
23. Nguyen Van Dong, Vo Dinh Quoc, Duong Van Tu, Nguyen Huy Hung, Nguyen Tan Tien, Reinforcement learning-based optimization of locomotion controller using multiple coupled CPG oscillators for elongated undulating fin propulsion, Mathematical Biosciences and Engineering, 19, 738-758, 2021
24. Thien Phuc Tran, Truong Thuan Nguyen, Thai Lam Cuong Quoc, Van Tu Duong, Huy Hung Nguyen, and Tan Tien Nguyen, Implement of Dual-Rotors Coaxial DC Motor Equipped for Underwater Vehicle, International Journal of Mechanical and Mechatronics Engineering, Vol.27, Iss.3, 11-17, 2021
25. Cong Toai Truong, Kim Hieu Huynh, Van Tu Duong, Huy Hung Nguyen, Le An Pham, and Tan Tien Nguyen, "Model-free Volume and Pressure Cycled Control of Automatic Bag Valve Mask Ventilator", AIMS Bioengineering, Vol.8, Iss.3, 192-207, 2021
26. Thanh-Long Le, Nguyen Tan Tien, "A CFD Study on Hydraulic and Disinfection Efficiencies of the Body Sterilization Chamber", Annals of the Romanian Society for Cell Biology, Volume 25: Issue 2, 3998-4004, 2021
27. Tan No Nguyen, Thanh Binh Pham, Van Trong Hoang, Tan Tien Nguyen, Viet Long Nguyen, and Nguyen Vu Truong, "Efficient Sensorless Speed Estimation of Electrical Servo Drives using a Full-Order Nonsingular Terminal Sliding Mode Observer", Mathematical Problems in Engineering, Vol.2021, Article ID 8175848, 1-8, 2021
28. Van Dong Nguyen, Quang Duy Tran, Quoc Tuan Vu, Van Tu Duong, Huy Hung Nguyen, Thi Thom Hoang, and Tan Tien Nguyen, "Force Optimization of Elongated Undulating Fin Robot Using Improved PSO-Based CPG", Hindawi, Computational Intelligence and Neuroscience, Volume 2022, Article ID 2763865
29. Tri Duc Tran, Van Tu Duong, Huy Hung Nguyen and Tan Tien Nguyen, "Terminal Super-Twisting Sliding Mode based on High Order Sliding Mode Observer for Two DOFs Lower Limb System",

30. Thanh-Long Le, Tan Tien Nguyen, and Trung Tin Kieu, "A CFD Study on the Design Optimization of Airborne Infection Isolation Room", Hindawi, Mathematical Problems in Engineering, Volume 2022, Article ID 5419671, Q2
31. Tri Duc Tran, Van Tu Duong, Hung Huy Nguyen, Tan Tien Nguyen, "State Observer-based Model Reference Adaptive Balance Control for One Leg Stance", International Journal of Intelligent Unmanned Systems, Volume 10, Issue 3, ESCI Q3
32. Cong Toai Truong, Kim Hieu Huynh and Van Tu Duong, Huy Hung Nguyen, Le An Pham, Tan Tien Nguyen, "Linear Regression Model and Least Square Method for Experimental Identification of AMBU Bag in Simple Ventilator", International Journal of Intelligent Unmanned Systems, Volume 10, Issue 3, ESCI Q3
33. Tri Duc Tran, Trong Trung Nguyen, Van Tu Duong ,Huy Hung Nguyen and Tan Tien Nguyen, "Parameter-Adaptive Event-Triggered Sliding Mode Control for a Mobile Robot", Robotics (Q1)
34. Tri Duc Tran, Van Tu Duong ,Huy Hung Nguyen and Tan Tien Nguyen, "Backstepping Super-Twisting Based Sliding Mode Controller for a Lower Limb Actuator", Lecture Notes in Networks and Systems, Vol.471, Intelligent Systems and Networks, pp.130-140 (Q4)
35. Anh Khoa Lanh Luu, Van Tu Duong, Huy Hung Nguyen & Tan Tien Nguyen, "Application of Event-Triggered Sliding Mode Control of 2-DOF Humanoid's Lower-Limb Powered by Series Elastic Actuator", Lecture Notes in Networks and Systems, Vol.471, Intelligent Systems and Networks, pp.110-120 (Q4)
36. Lam Cuong Quoc Thai, Van Tu Duong, Huy Hung Nguyen & Tan Tien Nguyen, "Integral Action Finite Set Model Predictive Current Control for BLDC Motor", Lecture Notes in Mechanical Engineering, RCTEMME 2021, pp. 271-285 (Q4)
37. Xuan Quang Ngo, Hoang Long Phan, Van Tu Duong, Huy Hung Nguyen & Tan Tien Nguyen "A Method for Cooling Bearings of Motorized Spindles", Lecture Notes in Mechanical Engineering, RCTEMME 2021, pp. 447-457 (Q4)
38. Luu Anh Khoa Lanh, Van Tu Duong, Huy Hung Nguyen, Sang Bong Kim, Tan Tien Nguyen "Hybrid Adaptive Control for Series Elastic Actuator of Humanoid Robot", International Journal of Intelligent Unmanned Systems, Volume 10, Issue 3, ESCI Q3
39. Quoc Tuan Vu, Minh Huy Pham, Van Tu Duong, Thi Thom Hoang, Huy Hung Nguyen, Tan Tien Nguyen, "Path Planning of elongated undulating fin using Mutant Particle Swarm Optimization", JES (Journal of Electrical System), ESCI Q4
40. Danh Khoa Nguyen, Cong Toai Truong, Van Tu Duong, Huy Hung Nguyen, Tan Tien Nguyen, "Model identification of two double-acting pistons pump", Journal of Advanced Marine Engineering and Technology, 2023 Vol.47, No.2, pp.59-656 (Scopus)
41. Huy Hung Nguyen, Quoc Minh Lam, Trong Trung Nguyen, Van Tu Duong, Tan Tien Nguyen, "Decision-Making Controller Based on a Finite State Machine for Emergency Call Redirection System in Elevator Intercom", International Review of Electrical Engineering (IREE), Vol.18, N.2, pp: 155-163, 2023, Scopus Q2, ISSN: 1827-6660
42. Thang Nhut Le, Duc Minh Nguyen, Dat Trung Phan, Toai Cong Truong, Tu Van Duong, Hung Huy Nguyen, Tien Tan Nguyen, "Development of a Multi-Suspension Unit for Solar Cleaning Robots to Mitigate Vibration Impact on Photovoltaic Panels", Applied science, 2023, SCIE Q2, ISSN: 2076-3417
43. Huy Hung Nguyen, Cong Toai Truong, Anh Duy Hoang Ngoc, Minh Tri Nguyen, Van Tu Duong, Tan Tien Nguyen, "Investigation of Geometric and Hardness Parameters of Tank Track Grooves Equipped on Photovoltaic Cleaning Robot", Applied science, 2023, SCIE Q2, ISSN: 2076-3417
44. Van Tu Duong, Quoc Minh Lam, Anh Duy Hoang Ngoc, Minh Tri Nguyen, Cong Toai Truong, Huy

Hung Nguyen, Tan Tien Nguyen, “Development of Testing Apparatus for Investigating Electromagnetic Dynamics of Contactors: A Pilot Study”, *Instrumentation Science & Technology*, Volume 51, Issue 6 (2023), SCIE Q3, 2023

45. Thai Lam Cuong Quoc, Van Tu Duong, Huy Hung Nguyen, Tan Tien Nguyen, “A Novel Topology of Modular Coaxial Brushless DC Motor for Cylindrical Underwater Vehicles, *International Review of Mechanical Engineering (IREME)*, Vol.7, n.8, Scopus Q3, 2023
46. N. T. Le, C. T. Truong, H. H. Nguyen, T. T. Nguyen, and V. T. Duong, “Yaw angle determination of a mobile robot operating on an inclined plane using accelerometer and gyroscope,” *Measurement*, vol. 247, Apr. 2025, doi: 10.1016/j.measurement.2025.116806.
47. V. T. Duong, C. T. Truong, T. T. Nguyen, H. H. Nguyen, and T. T. Nguyen, “State space model identification using model reference adaptive approach: software and hardware-in-the-loop simulation,” *Cogent Eng*, vol. 11, no. 1, p. 2434938, Dec. 2024, doi: 10.1080/23311916.2024.2434938.
48. V. T. Duong, C. T. Truong, T. T. Nguyen, H. H. Nguyen, and T. T. Nguyen, “State space model identification using model reference adaptive approach: software and hardware-in-the-loop simulation,” *Cogent Eng*, vol. 11, no. 1, p. 2434938, Dec. 2024, doi: 10.1080/23311916.2024.2434938.
49. Q. T. Vu, V.T. Duong, H.H. Nguyen, and T. T. Nguyen, “Optimization of swimming mode for elongated undulating fin using multi-agent deep deterministic policy gradient,” *Engineering Science and Technology, an International Journal*, vol. 56, p. 101783, 2024, doi: <https://doi.org/10.1016/j.jestch.2024.101783>.
50. V. T. Duong, Q. M. Lam, A. D. H. Ngoc., M. T. Nguyen, C. T. Truong, H.H. Nguyen, and T. T. Nguyen, “Development of testing apparatus for investigating electromagnetic dynamics of contactors: A pilot study,” *Instrum Sci Technol*, vol. 52, no. 3, pp. 274–290, May 2024, doi: 10.1080/10739149.2023.2259976.