

Curriculum Vitae

Name: Dr. Addy Wahyudie (Assistant Professor)

Address: Electrical Engineering Department, United Arab Emirates University, F1-building, room: 1172, P.O. Box: 15551, Al Ain, UAE.

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Research interest: Control systems engineering and its application in renewable energy (ocean energy) and mechatronics.

Educational Background:

- D. Eng. in Electrical Engineering, Kyushu University, Japan, 2010.
Thesis: “Model Predictive Control for Electromechanical Valves”.
- M. Eng. in Electrical Engineering, Chulalongkorn University, Thailand, 2005.
Thesis: “Robust PID Controller for Belt Conveyor System”.
- B. Eng. in Electrical Engineering, Gadjah Mada University, Indonesia, 2002.
Thesis: “Screening Systems for Selection of Enhanced Oil Recovery Methods using Fuzzy Logic”.

Employment:

- August 2010 – Now: Assistant Professor, Electrical Engineering Department, UAE-U.
- June 2005 – June 2010: Lecturer, Electrical Engineering Department, Gadjah Mada University.

Award and Grant:

- Cumlaude distinction and top ten-graduated student in Faculty of Engineering, Gadjah Mada University (2002).
- AUN Seed-Net full scholarship for master degree (2003-2005).
- Manbukagakusho – MEXT full scholarship for doctoral degree (2007-2010).
- Research Grant: “Continuous control input generation for Unmanned Quadrotors using sliding modes”, Budget: 20,000 AED, SEED Grant UAE-U, 2012-2013. (Principal Investigator).

- Research Grant: “Experimental Verification of Heaving Wave Energy Converter Control Strategy Through A Laboratory Scale Test Rig”, Budget: 400,000 AED, UPAR Grant UAE-U, 2014-2015. (Principal Investigator).
- Research Grant: “Optimizing Marine Energy Harnessing via Holistic Control Strategy: An Experiment Study”, Budget: 380,000 AED, Start-up Grant UAE-U, 2014-2016. (Principal Investigator).
- Research Grant: “Using Airborne Ad Hoc Multi-UAV Network for Road Traffic Monitor, Control and Management”, Budget: 339,000 AED, The UAE-U Center-Based Interdisciplinary Research Grant, 2014-2016. (Co-Principal Investigator).
- Research Grant: “Robust PID Stabilization and Sliding Mode Control for Magnetic Levitation”, Budget: 20,000 AED, SEED Grant UAE-U, 2014-2015. (Principal Investigator).

Research Advisory:

- Co-supervision of 1 PhD Student (Mr. Mohamed Abdi Jama)
- Completed principal supervision of 1 master student (Mr. Rami Safiieldin)
- On-going supervision of 1 master student (Mrs. Omsalama Mubarak)
- Supervision of 7 graduation projects (5 in UAE-U and 2 in Gadjah Mada University)

Course Taught:

- Control Systems (UAE-U)
- Industrial Automation (UAE-U)
- Special Topics in Power and Control (UAE-U)
- Electric Circuit II (UAE-U)
- Electromechanical Devices (UAE-U)
- Advanced Topic in Control Systems (UAE-U)
- Numerical Computation (Gadjah Mada University)
- Optimal Control (Gadjah Mada University)
- Engineering Mathematics II (Gadjah Mada University)
- Control Techniques Laboratory (Gadjah Mada University)

Journal Publication:

- “Model-Free Control for Optimum Energy Absorption of Heaving Wave Energy Converter”, M. Jama, H. Noura, A. Wahyudie, and A. Assi, Elsevier journal of Renewable Energy (submitted).
- “Robust Predictive Controller for Efficient Power Capture of Point Absorber” M. Jama, H. Noura, A. Wahyudie, and A. Assi, IEEE Transaction of Sustainable Energy (Submitted).
- “Robust and Low Computational Cost Controller for Improving Captured Power in Heaving Wave Energy Converter”, A. Wahyudie, M. A. Jama, H. Noura, and A. Assi, Elsevier Journal of Renewable Energy (accepted).
- “Autonomous Formation Flight Algorithm and Platform for Quadrotor UAVs”, A. Drak, M. Hejase, W. Elshorbagy, A. Wahyudie, and H. Noura, International Journal of Robotics and Mechatronics (Accepted).
- “An Intelligent Fuzzy Logic Controller for Maximum Power Capture of Point Absorbers”, MDPI Journal of Energies, M. Jama, A. Wahyudie, A. Assi, and H. Noura, Vol. 7, Issue 6, 2014.
- “Robust PID Controllers for Quadrotors”, A. Wahyudie, T. B. Susilo, and H. Noura, Journal of Intelligent Unmanned Systems, Vol. 1, pp. 14-19, 2013.
- A. Wahyudie, T. Nakao, T. Kai, H. Setoguchi, M. Mukai, and T. Kawabe, “A Continuous Control Input generation Method in Model Predictive Control for an Electromechanical Valve”, Japan Society In Instrument and Control Engineers (SICE) Transaction on Industrial Appication, Vol 9, No. 20, pp. 148-155, December 2010.
- A. Wahyudie, T. Nakao, T. Kai, S. Seikoba, M. Mukai, and T. Kawabe, “Model Predictive Controller with a Fixed Compensator for an Electromechanical Valve” SICE Journal of Control, Measurement, and System Integration, Vol. 3, No. 5, pp. 381-387, May 2010.
- A. Wahyudie and T. Kawabe, “Characterization of All Robust PID Controllers for Belt Conveyor System via Polynomial Stabilization”, Research Report on Information Science and Electrical Engineering of Kyushu University, Vol. 15. No. 1. pp 13-18, march 2010.

Conference Publication:

- “Sliding Mode and Fuzzy Logic Control for Heaving Wave Energy Converter”, A. Wahyudie, M. A. Jama, A. Assi, and H. Noura, IEEE Conference on Decision and Control, 2013.
- “Sliding Mode Control for Heaving Energy Converter”, A. Wahyudie, M. A. Jama, A. Assi, and H. Noura, IEEE Multi-conferences on System and Control, 2013.
- “Controlling Heaving Wave Energy Converter using Function-Based Model Predictive Control Technique”, M. A. Jama, A. Wahyudie, A. Assi, and H. Noura, , Chinese Decision and Control Conference, 2013.
- “Self-Tunable Fuzzy Logic Controller for the Optimization of Heaving Wave Energy Converters”, M. A. Jama, A. Assi, A. Wahyudie, and H. Noura International Conference on Renewable Energy Research and Applications, 2012.
- “Fuzzy Logic Based Reactive Controller for Heaving Wave Energy Converters”, M. A. Jama, A. Wahyudie, A. Assi, and H. Noura, International Conference on Renewable Energies for Developing Countries, November, 2012.
- “Robust PID Controllers for Quadrotors”, A. Wahyudie, T. B. Susilo, and H. Noura, International Conference of Intelligent Unmanned Systems, October, 2012.
- “An input Modification in Model Predictive by using Augmented Plant”, T. Nakao, A. Wahyudie. M. Mukai, and T. Kawabe, MOVIC, pp-295-298, September 2009 (in Japanese).
- “A Design of Electromechanical Valve Control System using Model Predictive Control”, A. Wahyudie, T. Nakao, M. Mukai, and T. Kawabe, ICROS-SICE International Joint Conference of August, 2009.
- “Robust PID Controller Design for Belt Conveyor System via Complex Polynomial Stabilization”, A. Wahyudie and D. Banjerdpongchai, the 6th Asian Control Conference, pp 36-44, July 2006.
- “All Stabilizing PID Controllers for Belt Conveyor System via Real Polynomial Stabilization”, A. Wahyudie and B. Sutopo, the 7th Seminar on Intelligent Technology and its Application, May 2006.

- “Robust PID Controller Design for Belt Conveyor System via Complex Polynomial Stabilization”, A. Wahyudie and D. Banjerdpongchai, The AUN/SEED-Net Fieldwise Seminar on Control Engineering, March 2006.