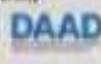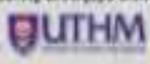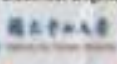# 9th EECCiS 2018

## The 9th Electrical Power, Electronics, Control, Communication, and Informatics Seminar

*Roles and opportunities of wireless system to support energy security*

# PROGRAMME BOOK

The 9th International Conference on Electrical,
Electronics, Communications, Controls and Informatics
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(EECCIS 2018)

*"Roles and Opportunities of Wireless System to
Support Energy Security"*

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## Level Control in Coupled Tank System Using PID-Fuzzy Tuner Controller

*Dian Mursyitah and Ahmad Faizal (UIN SUSKA RIAU, Indonesia); Ewi Ismaredah (UIN Suska Riau, Indonesia)*

Abstract : This research proposes fluid level control in coupled tank system using PID controller supported with Fuzzy Logic as tuner parameter of Kp, Ki, and Kd. This is done because the PID controller has a weakness in determining the appropriate combination of PID parameters for good system performance. From the test results, obtained Kp 0-60; Ki 0-2; Kd 5-10; The analysis shows that the PID-Fuzzy tuner controller performs well, with time constants of 0.6 seconds and 0.64 seconds in tanks 1 and 2 with steady-state error -0.002 m and 0.0014 m in tanks 1 and 2 .

## Comparative Analysis of Tsukamoto and Mamdani Fuzzy Inference System on Market Matching to Determine the Number of Exports for MSMEs

*E. Sonalitha and B. Nurdewanto (University of Merdeka Malang, Indonesia); S. Ratih (Universitas Brawijaya, Indonesia); N. Roosmalita Sari (Institut Agama Islam Negeri Tulungagung, Indonesia); A. Boedi Setiawan and Pindo Tutuko (University of Merdeka Malang, Indonesia)*

Abstract : The improvement of MSMEs export performance is one of the government's efforts to improve the economy of the community. Increased export performance is done by monitoring and controlling the amount of exports. the problem faced in determining the amount of exports is the difficulty of calculating the stock, capacity, and competition among MSMEs in influencing the amount of stock. The right amount will minimize the loss from the MSMEs side. This study uses export data of wood and other forest product sub sector, that is commodity furniture. Fuzzy method in some study can give optimal result.. This study compares two methods to determine the effectiveness of products that benefit MSMEs. This study examines the effectiveness of Fuzzy Mamdani and Fuzzy Tsukamoto methods on market matching process. Based on this study, Fuzzy Mamdani gives a better performance than fuzzy Tsukamoto with the accuracy system is MAPE=6.49%.