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Dear colleague,

Acceptance to present a paper for the conference

Thank you for submitting an abstract entitled:

IDENTIFICATION OF TROPICAL PLANTS LEAVES IMAGE BASED ON PRINCIPAL COMPONENT ANALYSIS

for the International Conference-Sustainable Agriculture, Food and Energy (SAFE2016).

We are pleased to inform you that the committee has decided that your paper has been accepted for **oral presentation** in this conference. The full paper is optional. If you want to publish your paper in **IJASEIT Journal (Indexed by SCOPUS)**, you must submit an original and unpublished full papers through the 4rd International Conference Sustainable Agriculture, Food, and Energy (SAFE2016) using <u>EasyChair for SAFE2016 Submission System</u> at http://safe2016.safetainability.org or by e-mail to: safetainability2013@gmail.com.

Your manuscript is strictly limited to 4-10 pages of A4 paper in single space using Template_SAFE2016. The deadline for full paper submission is 15th September 2016.

Thank you very much and looking forward to seeing you in Colombo!

Prof. P. Mangala C. S De Silva
Department of Zoology
Faculty of Science
University of Ruhuna
Matara

Local Conference Coordinator

Prof. Dr.P.Mangala C.S.De Silva

Dr. Novizar Nazir

Executive Chairman of SAFE 2016 SAFE-Network Coordinator

HAMILTIN A. HIDALGO

Please print and bring with you to the conference

Event

International Conference Sustainable Agriculture, Food and Energy 2016 (SAFE 2016)

Date+Time

Thursday, Oct. 20, 2016, at 9.00 am-13.00 pm: Colombo City Tour Thursday, Oct. 20, 2016, at 19:00 pm Welcome Dinner Friday, Oct 21, 2016, at 08:00 am-17.00 pm (Conference) Saturday, Oct. 22, 2016, at 8.00-12.00 am (Conference)



Location

BERJAYA HOTEL, Colombo-SRI LANKA

Indra Laksmana

/

Event Management



Affiliation

Agriculture Politechnic of Payakumbuh

INDONESIA

Payment

US \$ 100.00 (Non-Student) US \$ 70.00 (student)

Registration Number 2016-156

All payment must be completed by **September 15th, 2016** through wire transfer to: BNI CABANG PADANG. Account Name: AISMAN Bank Address: JL. DOBI PADANG- Account Number: 0078008192

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Identification of Tropical Plants Leaves Image Base on Principal Component Analysis

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Abstract—Difference and variation of leaves shape is usually used as primary identifier of the plant species. But some plants may have a similar leaf shape and thus require another more accurate identifier. This study applied principal component analysis (PCA) methods for identifying tropical plant species from the shape of the leaves. This method simplified the observed variables by reducing the dimensions of the information that is stored as much as 75%, so it did not eliminate important information and can save the data processing time. There were 100 images of leaves taken from several sides of the leaf in JPEG format with which the shape of leaves were look similar, like citrus (Citrus aurantifolia), durian (Durio zibethinus), guava (Psidium guajava), mango (Mangifera indica), jackfruit (Artocarpus heterophyllus), avocado (Persea americana), rambutan (Nephelium lappaceum), sapodilla (Manilkara zapota), red betel (Piper crocatum) and soursop (Annona muricata). Identification of those 10 kind plant leaves produced 97% accuracy rate. Measurement systems were designed using the K-fold Cross Validation with k = 10, the results of experiments shown omission error occurs on the leaves of guava, jackfruit and red betel while twice commission error were found on the leaves sapodilla and once on citrus leaves.

Keywords— Leaves image, tropical plants identification, Principal Component Analysis

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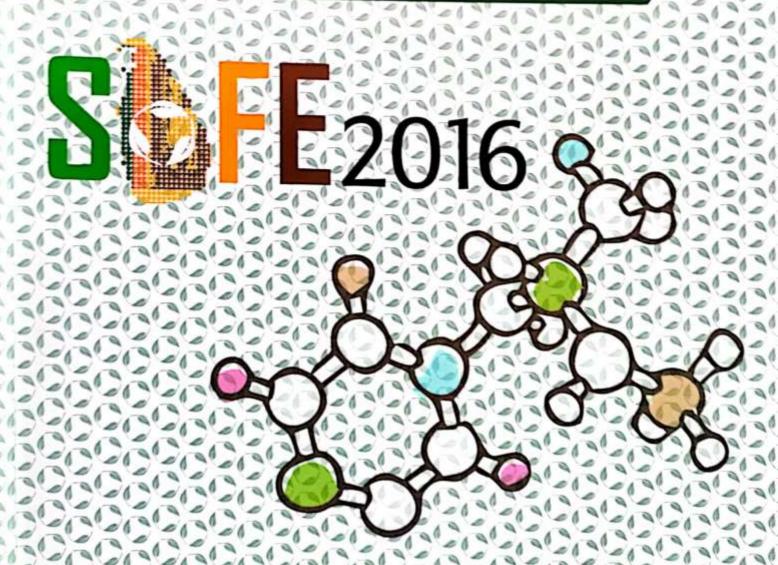
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03 Oktober 2016

Ir. Hj. Gusmalini, M.Si

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CERTIFICATE

Asia Pacific Network for Sustaiable Agriculture, Food and Energy (SAFE-Network) and University of Ruhuna, SRI LANKA Jointly certify that,

INDRA LAKSMANA

PRESENTER

International Conference-Sustainable Agriculture, Food and Energy (SAFE 2016)
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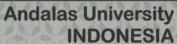
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