# 3rd CGSS INTERNATIONAL CONFERENCE of Graduate School on Sustainability

# Contemporary Studies on **Sustainable** Development

September 22-23, 2018

Graduate School Building, University of Merdeka Malang Terusan Raya Dieng 59 Malang, East Java, Indonesia

# CALL FOR PAPER

The exploration of sustainable development issues is still very open, especially at the regional level. These issues inspired Unmer Graduate Program in a sustainable manner to develop research and teaching. The conference is based on the belief that there are a large number of contemporary studies that are interdisciplinary and in the form of regional case studies in different countries. We need a range of inputs that will be the foundation for the specific study of environmental engineering, sustainable cities, and natural resource management.

The special themes we prepare are based on several issues in economics, and the field of architecture in order to explore the possibilities of interdisciplinary characters. Authors are invited to submit their papers with the following subthemes (but not limited to):



### Subthemes of Natural Sciences

- Architecture for Sustainable Cities and Communities.
- Architecture for Resilient Infrastructure and Sustainable Industrialization.
- Architecture for Affordable and Clean Energy
- Environmental Engineering for Clean Water and Sanitation.

## Subthemes of Economic

- Decent Work and Economic Growth for Economic Sustainability at Global Competition from Development of Tourism, Enterpreneurship, Small and Medium Enterprises;
- Industry Innovation and Infrastructure Supported by Development of Accounting; Banking; Capital Market; Tourism Production and Consumption; Business Management; Marketing; HRM;
- Innovation for Decent Work; SME; Creative Industry; Enterpreuneurship.
- Sustainability in Accounting;
- Corporate Governance & Corporate Social Responsibility.

# KEYNOTE SPEAKERS



Prof. Madya Dr. Mohd. Zin Bin Kandar



Professor Hasan Fauzi Sebelas Maret University Surakarta, Indonesia

# INVITED SPEAKERS



Professor Respati Wikantiyoso
Universitas of Merdeka Malang
Indonesia
Compactement (IAI-KApd)

# IMPORTANT DATES

Deadline for Full Paper Submission : September 2nd, 2018 Notification of Paper Acceptance

: September 10th, 2018

Deadline for Registration : September 17th, 2018 Presenter

- Indonesian Presenter

: IDR 500 000 -

International Presenter

: USD 100

**CONFERENCE FEE** 

**Participant** 

- Indonesian Participant

: IDR. 200.000,-

- International Participant

- USD 15

















more info website: pasca.unmer.ac.id/berita/announcement

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# LABORATORY TEST EFFECT OF THE SLOPE ANGLE AND THE LOADING WITH PILE AS AN ALTERNATIVE TO SLIDING

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## ABSTRACT

Increasing the pore water pressure effects the stability of the slope, this is caused by the scale shear strength depends on the presence of water in the soil itself. This experiment using the slope model test with the angle 450, 600, 700 with load above slope and given pireinforcement. Using the box of 40 cm x 160 cm, the height is 50 cm, slope model using class The space distance between the pile is 10D by using the configuration honeycomb. The mapurpose of this experiment is to understand the behavior and to know the variable influen on the collapse of the slope. The variable observed are: knowing the relationship influen pore water pressure toward the safety factor, the relationship of the safety factor with the loading, and also the relationship of the safety factor with the time duration needed collapse. Based on the results of data analysis testing that has been done, obtained the value pore water pressure inversely proportional to the value of the safety factor and the value the safety factor will be inversely proportional to the increase of loading. However, the value of these safety factors is directly proportional to the time of the collapse.

Keywords: slope stability, shear strength, safety factor, pore water pressure

## 1. INTRODUCTION

Events that indicate that the presence of water in the soil due to increased pore water pressure greatly affects the slope. This is due to the shear strength of the soil depends largely on the presence of water in the soil itself. The saturated soil of water has a smaller shear strength in comparison with wet soil or with dry soil. Changes in water content can cause the shrinkage of soil that is the cause of the collapse of the slope. If the movement of the soil due to changes in this volume occurs on the soil that forms the slope, then there will be a slump that can cause damage.

Follow up the problem of how much increase in pore water pressure on the slopes when there is a load above the slopes during the rainy season that could cause landslides will be done a study of the loading on the slopes by making the test in the form of a load evenly and given a pile reinforcement with the installation of configuration form hexagons and clay soil media.

The main purpose of this experiment is to understand the behavior and to know the variable influence on the collapse of the slope. The variable observed are: knowing the relationship influence pore water pressure toward the safety factor, the relationship of the safety factor with the loading, and also the relationship of the