

# 3<sup>rd</sup> ICGSS 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

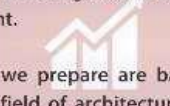
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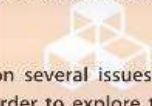
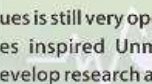
The exploration of sustainable development issues is still very open, especially at the regional level. These issues inspired Unmer Graduate Program in a sustainable manner to develop research and teaching. The conference is based on the belief that there are a large number of contemporary studies that 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);

7 AFFORDABLE AND CLEAN ENERGY



3 CLIMATE ACTION



3 CALL FOR PAPER

### 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, Entrepreneurship, 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; Entrepreneurship.
- Sustainability in Accounting;
- Corporate Governance & Corporate Social Responsibility.

## KEYNOTE SPEAKERS



Prof. Madya Dr. Mohd. Zin Bin Kandar  
Universiti Teknologi Malaysia  
Johor Bahru, Malaysia



Professor Lorne Cummings  
Macquarie University,  
Australia



Professor Hasan Fauzi  
Sebelas Maret University  
Surakarta, Indonesia



Professor Respati Wikantiyoso  
Universitas of Merdeka Malang  
Indonesia



Professor Nunuy Nur Afiah  
The Indonesian Institute of  
Accountants-Accounting Lecturer  
Compartment (IAI-KApd)

## INVITED SPEAKERS

## IMPORTANT DATES

Deadline for Full Paper Submission : September 2<sup>nd</sup>, 2018  
Notification of Paper Acceptance : September 10<sup>th</sup>, 2018  
Deadline for Registration : September 17<sup>th</sup>, 2018

## CONFERENCE FEE

### Presenter

- Indonesian Presenter : IDR. 500.000,-  
- International Presenter : USD 100

### Participant

- Indonesian Participant : IDR. 200.000,-  
- International Participant : USD 15



more info:

website:  
[pasca.unmer.ac.id/berita/announcement](http://pasca.unmer.ac.id/berita/announcement)

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## AIR INFLATED STAGE ROOF STRUCTURE WITH INDEPENDENT ENERGY FOR SMES EXHIBITION

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### ABSTRACT

Applied Research with objects of the SME Exhibition Stage in the form of portable stage buildings with inflatable structure roofs using PVC Tarpaulin fabric material. These facilities can be built, dismantled and moved to other locations easily, safely, quickly and lightly with independent energy sources (photovoltaic solar energy systems). The research objective is to develop stage facilities as a means of exhibiting SME products that fulfill aesthetic aspects: strength, speed, effectiveness, comfort and energy saving so as to encourage the development of creative economy SMEs. The research method used the Experimental Method and Action Research, beginning with the development of design, manufacture and testing of portable stage models with pneumatic air inflated stage roofs of Independent Energy, including: (1) speed test of the manufacture, transport, assembly, installation, dismantling of pneumatic air inflated structures and solar energy modules, (2) strength testing of Air Inflated materials (3) thermal comfort tests under the roof of the stage of Air Inflated pneumatic structures, (4) testing the effectiveness of using photovoltaic solar energy to drive inflatable stage roof blowers. The tests were carried out at the University of Merdeka Malang Lab and Field Test in Malang City and Regency, proved to provide reliable and satisfying results, including: a) speed of installation and demolition installations (23 minutes portable stage, 6 minutes inflatable roof, solar panel installation 15 minutes), b) the required air pressure is only 0.7 MPa to set up an inflatable roof, c) the tensile strength of PVC tarpaulin material reaches 312 kg/cm<sup>2</sup>, d) 4 solar panels each with a capacity of 100 wp with energy storage in the form of a 12 AH battery 12 V and 1000 W converter in bright conditions produce a minimum of 11.6 Am and 18.8 V can provide energy needs to drive inflatable stage roof blowers and portable solar systems, and e) comfort under the inflatable roof maximum temperature of 35°C. The portable stage and the practical and fast-build inflatable stage roof are expected to become a prototype of stage facilities for SME Exhibition on a national scale.

**Keywords:** portable stage, pneumatic structure, air inflated, solar energy, SME exhibition.

### 1. INTRODUCTION

Small and Medium Enterprises (SMEs) have a very important role in Indonesia economic development. This is because in addition to contributing to the growth and absorption of labor, it also plays a role in the distribution of development



