

Acknowledgements

The organizers 2nd ICOLIB 2017 express sincere appreciation and grateful thanks to all those who have contributed their kind support to facilitate this conference



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WELCOMING ADDRESS

The International Conference of Life Science and Biotechnology (ICOLIB) was organised by the Biology department, Faculty of Mathematics and Basic Sciences, The University of Jember, Indonesia. This conference has been held biannually at different venues. The last one, (First ICOLIB) held in Aston Hotel Jember 2015, Indonesia. Now, we are holding the 2nd ICOLIB at Panorama Hotel and Resort Jember, Indonesia. The ICOLIB is a forum for students, researchers, educators, observers and practitioners from university, research institutions, industry and general public, policy maker to exchange ideas and latest information in the field of life science and its application. The theme of the 2nd ICOLIB 2017 '**Integrated Biological Sciences for Human Welfare**' will underpin the need for collaboration and cooperation of individuals from a wide range of professional backgrounds. The scope of the 2nd ICOLIB covers several fields of studies, namely life sciences, environmental sciences, medical and pharmaceutical sciences, science of renewable energy, agricultural science and food security. This conference will also offer opportunities for discussion and sharing as well as encouraging international research collaboration. Furthermore, the scientific articles will be peer-reviewed and published in a serial book volume published with Cambridge Scholar Publishing UK. The selected scientific articles in the 2nd ICOLIB will be further reviewed and will also be published in a Scopus-indexed Journal.

The 2nd ICOLIB has been fortunate to have Prof. Harald zur Hausen, 2008 Nobel Laureate in Physiology or Medicine for his discovery of human papilloma viruses causing cervical cancer. Prof. zur Hausen and his team has made a breakthrough in 1982 and 1983 when they were able to isolate HPV 16 and HPV 18 as the virus types responsible for cervical cancer. Based on these findings, vaccines have been developed against cervical cancer, one of the most common forms of cancer among women. This work led to improved methods for predicting which women are in the risk zone. We are very honoured to present Prof. Harald zur Hausen, as a keynote speaker, and 6 distinguished scientists as invited speakers.

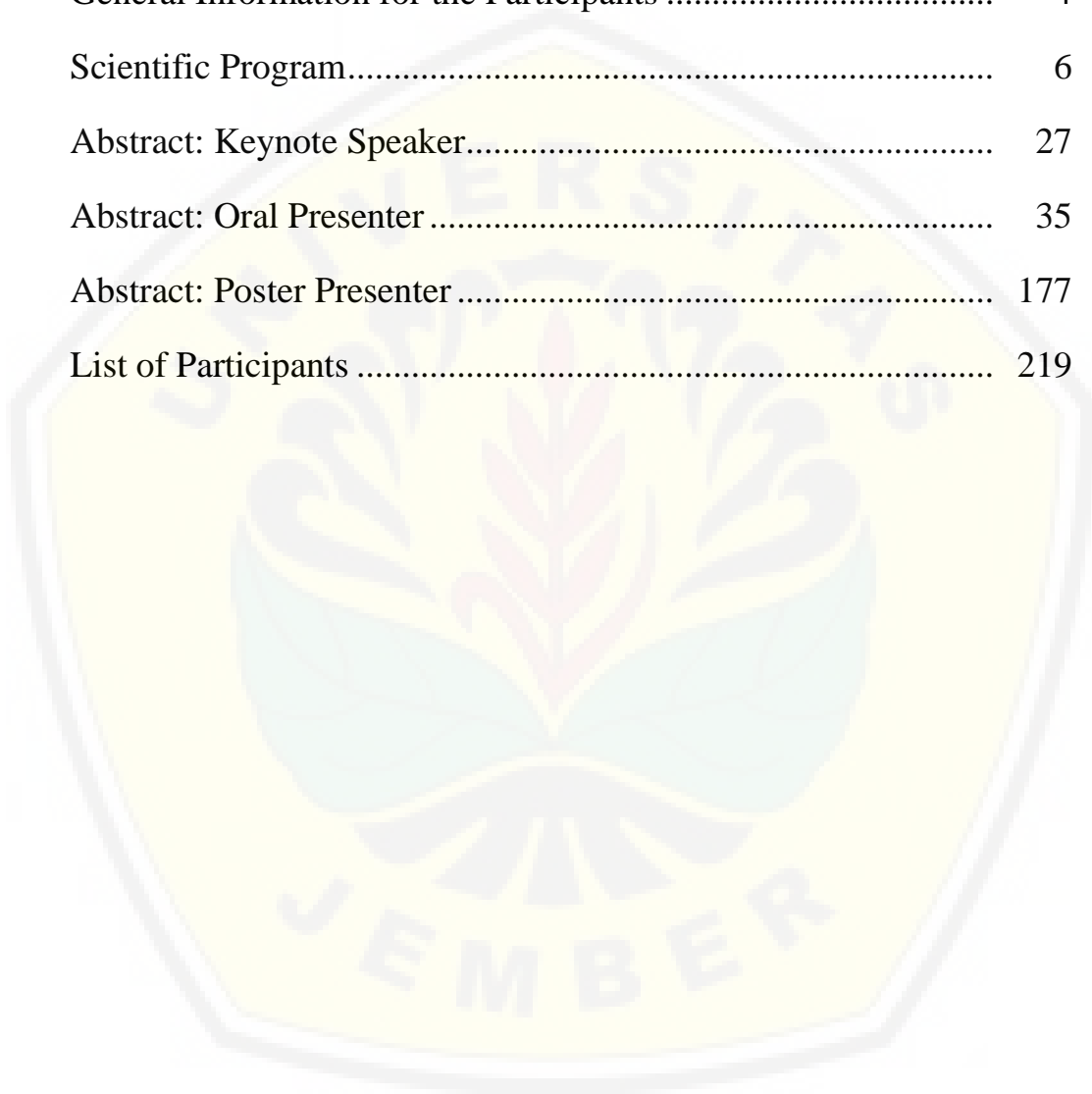
I sincerely hope that the results of this conference will enable all participating scientists from all over the world to have the opportunity to exchange knowledge through lectures and posters.

Purwatiningsih

Chairwoman of The 2nd ICOLIB 2017

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General Information for the Participant

Registration Information

Conference Venue

- The venue for the conference is the Panorama Hotel, Jember, East Java, Indonesia

Registration

- Registration includes:
 - ❖ 2nd ICOLIB Abstract Book
 - ❖ ID Card
 - ❖ Document Bag
 - ❖ Refreshment (coffee & tea) during the conference day
 - ❖ Buffet Lunch

ID Card

- Participants are requested to display their ID Card during the conference for entry to scientific sessions, melas and the wellcome reseption. Please also show the ID Card to committee before transportation to the conference venue.

Instruction for the Moderator

- Please ensure that the sessions and speaker presentations are kept stricly on time

Instruction for Speakers (Keynote Speaker and Oral Presenter)

- Speaker are requestes to submit their presentation to staff in the audio-visual room at the least 1 hours before each presentation, then upload and ensure that the proper presentation is in the computer provided
- 45 minutes have been allocated for each keynote speakers (please allow time within this period for answering the questions)
- Free oral presenter will last 10 minutes only (please allow time within this period for answering questions)
- Please be aware that the above times must be strictly adhered to

Instructions for Poster Presenter

- Poster presentations will be located in the front of the conference space along the second floor.
- Poster will be display throughout the conference, and presenters are responsible for putting them and removing them.

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SCIENTIFIC PROGRAM

MONDAY, 7TH AUGUST 2017

TIME	VENUE: PHOENIX BALLROOM (Panorama Hotel)	PAGE
07.30-08.00	Registration	
08.00-08.10	Suwar Suwir Dance	
08.10-08.20	Indonesia Raya Antherm	
08.20-08.25	Chairwoman ICOLIB report : Purwatiningsih, Ph.D	
08.25-08.40	Speech : Deputy Head of Mission - Germany Embassy: Hendrik Barkeling	
08.40-09.00	Opening remark : Director General of Learning and Student Affairs, Ministry Research, Technology and Higher Education: Prof. Dr. Intan Ahmad	
09.00-09.10	Opening ceremony (Prof Dr. Intan Ahmad, Moh. Hasan, Ph.D (Rector) & Hendrik Barkeling)	
09.10-09.20	Token of Appreciation	
09.20-09.30	Group Photo Session	
09.30-09.35	Pray (Dr. Bambang Piluharto)	
09.35-09.55	Reog Ponorogo Performance Dance	
09.55-10.10	Coffee Break	
10.10-11.15	Keynote Speaker Infectious Agents in Bovine Red Meat and Milk and Their Potential Role in Cancer and Other Chronic Diseases Prof. Harald zur Hausen , 2008 Nobel Laureate in Physiology or Medicine (University of Heidelberg-Germany) Chairperson: Dr. rer. nat. Kartika Senjarini	28
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13.00-13.45	Invited speaker 2. Quality Management in Thai Mango Supply Chain to Meet the Needs of Consumers: A case Study of Mango Exporting to Japan Market	31
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Prof. Sirichai Kanlayanarat, Postharvest Technology Program, School of Bioresources and Technology, King Mongkut's University of Technology Thonburi, Bangkok Thailand

Chairperson: M.Su'udi, Ph.D

VENUE: PHOENIX BALLROOM

14.00-15.30 Parallel Oral Session

Chairperson: Edwin Setiawan and Jamsari

1.	CHARACTERIZATION OF NPR1 ANKYRIN DOMAIN FROM CHILLI PEPPER (<i>Capsicum annuum</i> L.) Jamsari Jamsari, Bastian Nova, Sumaryati Syukur, Lily Syukriani, and Elfi Asben	37
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16.00-17.00

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Chairperson: Trina Tallei

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Certificate Distribution

TUESDAY, 8 AUGUST 2017

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08.00-08.45	Invited speaker 3. The importance of N-terminal domain on the post-translation regulation of sucrose-phosphate synthase from sugarcane(<i>Saccharumofficinarum</i>)	30

Prof. Bambang Sugiharto, Biology department, Faculty of Math and Natural Science, The University of Jember

Chairperson: Ach. Sjaifullah, Ph.D

08.45-09.30 **Invited speaker 4.** Ecology, Biodiversity and Human Welfare 31

Prof. Inocencio E. Buot Jr., Botany, Ecology & Biodiversity (University of The Philippines Los Banos-Philippine)

Chairperson: Ach. Sjaifullah, Ph.D

09.30-10.00 Coffee break

10.00-10.45 **Invited speaker 5.** Long-Term Changes in Water Quality in Lake Biwa With Special Reference to Organic Matter Dynamic, Microbial. Ecology and Diversity 32

Prof. Shin-Ichi Nakano. Centre for Ecological Research, Kyoto University, Hirano Shiga, Japan

Chairperson: M. Su'udi, Ph.D

Venue: ROOM PHOENIX

11.00-12.30	<p>Parallel Oral Session. Chairperson: Tri Candra dan Anak Agung Istri Dewi</p> <ol style="list-style-type: none"> 1. PRODUCTION OF NITROGEN-PHOSPHOR-SULPHUR (NPS) SLOW-RELEASE FERTILIZER USING POLYSTYRENE-STARCH WITH SPRAY COATING TECHNIQUES Muslim Suardi, Reni Mayerni, Elfi Sahlan Ben, Selvi Merwanta, Yahdian Rasyadi, Noni Rahayu, Betna Dewi, Idris Sutan Sati and Akmal Djamaan 48 2. IDENTIFICATION OF POLYKETIDE SYNTHASES IN <i>Elaeis guineensis</i> AND THEIR POSSIBLE ROLE IN RESPONSE TO <i>Ganoderma boninense</i> INFECTION Zulfikar Achmad Tanjung, Redi Aditama, Condro Utomo, Tony Liwang, Reno Tryono 49 3. EFFECTIVENESS OF FUNGI ISOLATED FROM RHIZOSPHERE PALM OIL FOR CONTROL <i>Ganoderma boninense</i> Mulawarman, Didi Permadi 52 4. STUDY THE EFFECT OF DROUGHT STRESS AND BIOLOGICAL FERTILIZER TOWARD THE GROWTH OF MEDICINAL PLANT <i>Brucea javanica</i> (L.) Merr Dwi Setyo Rini 51 5. STUDY OF YEAST CELL IMMOBILIZATION USING CELLULOSE BASED ON WASTE OF WOOD IN OPTIMIZING PRODUCTION OF BIOETHANOL Agus W. Pratama, Farida Utami, Nurul Z. Vikriya, Nanda A. An Nisa', Nindi L. Kholidah, Tri Mulyono 50 	
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THE ROLE OF RESISTANT STARCH TYPE 3 FROM CASSAVA STARCH IN INCREASING PLASMA GLP-1 LEVELS OF DIABETIC MOUSE

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Abstract

Diabetes mellitus (DM) occur when human body is unable to produce enough insulin and/or unable to use insulin effectively, resulting in an increase of blood sugar levels (hyperglycemia). Indonesia has ranks fourth after United States, China and India in the prevalence of DM. Controlling blood sugar and insulin levels can be done through the stimulation effect of *Glucagon-like peptide-1* (GLP-1). The goal of this study was to determine the effects of resistant starch type 3 (RS3) from cassava starch in increasing plasma GLP-1 levels. This reasearch use male mouse (*Rattus novergicus*) as a diabetic model by providing a high-fat diet (HFD) for one mounth than combine with intraoperitonel injection of low dose streptozotocin (STZ). The mouse then grouped into 4 groups randomly (1) normal or negative control, (2) cassava starch diet, (3) RS3 diet, (4) positive control. Blood sugar levels were measured before and after STZ injection to determine the diabetic conditions (blood sugar ≥ 200 mg /dL). After 4 weeks of dietary administration blood sugar and plasma GLP-1 levels were examined using ELISSA. Statistical analysis showed decreased in blood sugar levels and increased in plasma GLP-1 levels after one mounth of RS3 diet. This research shows that RS3 from cassava starch has a potential role as a nutritional therapy on diabetes mellitus condition.

Keywords: Resistant starch type 3, cassava starch, GLP-1, Blood Sugar, Diabetes Mellitus