FOREWORD FROM THE CHAIR OF THE 3RD ICTCRED 2017

On behalf of the Organizing Committee, I would like to extend our warmest welcome to you at the International Conference on Tropical and Coastal Region Eco Development (ICTCRED) 2017. This annual conference is the third event after the second has been successfully conducted in 2016 at Bali. This conference is organized by Research and Community Services Institute (LPPM), Diponegoro University. The conference aims to provide a forum for researchers, academicians, professionals, and industries to expose and exchange innovative ideas, methods, and experience in the areas related to tropical life sciences and coastal development. This conference also provides forum for researchers and scientists to exchange ideas and their current achievements.

In this year, 215 abstracts from various universities and research centers from many countries have been received. However, after in-depth review, only 147 high quality papers are accepted for oral and poster presentation in this conference. In addition, we cordially invite seven highly respected researchers in various fields as keynote speakers in this conference, to share their knowledge and expertise. I am grateful of each one of them for setting aside their valuable time to participate in this conference.

Moreover, I would like to announce that the ICTCRED 2017 Committee has signed an agreement with the Institute of Physics (IOP) to publish the conference proceeding in their Scopus-indexed IOP Conference Series: Earth and Environmental Sciences (EES) after a series of review. We do hope that the collaboration with IOP will increase the visibility of this conference papers to international levels which also give benefits to authors and also their institutions.

Finally the success of this conference lies not only in the quality of papers but also on the dedicated team efforts of the organizing committee. We thanks to the keynote speakers for the participation in this conference. I would like to acknowledge Institute of Physics (IOP) for the collaboration in publishing the conference proceedings. Indeed, I would like to thank the Scientific Committee members for their effort in reviewing and evaluating the papers for maintaining the quality of the conference. Last but not least, all staffs of The Research and Community Services Institute, Diponegoro University, deserves our great appreciation for their unlimited supports.

To all delegates, I hope that the 3rd ICTCRED 2017 event will be memorable not only from the scientific perspective but in the joy of meeting with other scientists for mutual collaboration. I wish you enjoy the conference as well as the beautiful nature and great traditions of Yogyakarta.

Chair,
Organizing Committee of ICTCRED 2017

Dr. Agus Trianto
FOREWORD OF THE DIRECTOR

Dear distinguished speakers, delegates, ladies, and gentlemen

I am very pleased to welcome you all to this international conference, Tropical and Coastal Region Eco-development, which acts as a forum for those interested in tropical and coastal development issues. Diponegoro University commits to provide an opportunity for scientific society to always play an important role in disseminating ideas and research results, especially in the area of coastal and tropical development, which is the main research field of our university. Hence, this conference offers a platform for extensive sharing and exchange of knowledge for the development of coastal and tropical areas.

The topics presented in this conference cover marine biodiversity, sustainable marine utilization and development, climate change on coastal and marine ecosystems, and coral reef ecosystems and coastal management. In the tropical field, this conference deals with relevant ideas and knowledge addressing vital life sciences, tropical health and nutrition, tropical diseases and tropical food and energy. In addition, this conference also covers socio-economic aspects such as exploration of tropical rainforests, deforestation, rising immigration, etc. Thus, it is clear that the International Conference on Tropical and Coastal Region Eco-development is a unique blend of coastal and tropical that nicely fits the current interest among the community concerned with sustainable coastal and tropical ecosystems.

Finally, we would like to express our gratitude to our distinguished keynote speakers, Prof. Susilo Wibowo, Dr. Hadiyanto, Prof. Gerard Pals, Prof. Junichi Tanaka, Dr. Roel H. Bosma, Prof. Tao Liu, and Prof. Soottawat Benjakul, who had been traveling all the way to Yogyakarta. Certainly we will have an important benefit of preparing the next generation of Indonesian scientists with international exposure. We thank our participants to present their research papers, to share extensively and exchange of ideas thoughts and discussions so that this conference facilitates the formation of networks among participants. We thank all invited guests who have shown their interests in coastal and tropical region development field. Many thanks to the organizing and scientific committee of ICTCRED 2017 who have worked very hard to run the conference.

I wish you all a productive and successful conference.

Yours sincerely

Director of Research and Community Services Institute
Diponegoro University

Prof. Heru Susanto
WELCOME ADDRESS OF THE RECTOR OF
DIPONEGORO UNIVERSITY

It’s a great pleasure and honour for our University to be the host of the 3rd International Conference on Tropical and Coastal Region Eco Development 2017 organized by Research and Community Service Institute, Diponegoro University. The special acknowledgement, I address to the distinguished speakers Prof. Susilo Wibowo and Dr. Hadiyanto from Diponegoro University-Indonesia, Prof. Gerard Pals from VU University Medical Center – Netherlands, Prof. Junichi Tanaka from University of the Ryukyus – Japan, Dr. Roel H. Bosma from Wageningen University – Netherlands, Prof. Tao Liu from Ocean University of China, and Prof. Soottawat Benjakul from Prince of Songkla University. Thank you for the valuable time to deliver knowledge and share scientific information at this conference. I believe that this opportunity will provide the valuable information for us and deliberate some new research ideas for participants of this conference. For all the participants, I would also like to welcome you at this conference.

The origin of the conference theme is reflected from the idea of our Center of Excellence (CoE) which was established in 2012 representing our priority as a research university. Since the declaration of Diponegoro University as a research university, the main theme of every research result will be enhanced to the level of international benchmarking.

Diponegoro University, consists of 13 faculties, has strong human resources and research background related to the coastal development and tropical life sciences. It is also supported by integrated laboratory of marine and fisheries, which are located at Teluk Awur Jepara.

Coastal development and tropical life sciences are two important issues in Indonesia and need to be actualized by the government. The enormous potencies of Indonesia, large resources of marine area and their potential value of natural marine products extract, provide an opportunity to contribute for health energy and food. Recent issue has been arisen that the food and energy also can be exploited from the sea. Indeed, the exploration and exploitation of marine products must be considered on the impact of the environmental devastation. These issues are interesting topics which are reflected by large number of abstracts submitted to this conference. These interesting issues need to be discussed in this conference by sharing research finding and ideas. I am grateful to see that this conference has enormous responds from the participants either from domestic or from other countries such Japan, China, US, and France, as reported by organizing committee.

Number of publication indexed by reputable database has been set as an indicator for world university rank including Indonesia. Therefore, Diponegoro University also encourages all scientists and academic staffs to increase their publication records in these international reputation journals. Currently, Diponegoro University is in the 6th position among universities in Indonesia for the number of
publications in reputable International journals. I sincerely express appreciation to the organizing committee for their effort to realize this conference.

By the end of my short welcome address, I hope our foreign guests take advantage of their stay here to enjoy Yogyakarta and its wonderful places. It is a beautiful and historical city to visit with a wonderful and unique traditional art dance, stunning sunset, great sceneries and interesting shopping.

Once again, it is my great pleasure to welcome you all to the 3rd International Conference on Tropical and Coastal Region Eco Development 2017. I wish you a pleasant two fully scientific days of conferences and I hope you can get a fruitful share with other scientists on current developed knowledge and perhaps seeking for potential collaboration of your interested field.

Thank you for your kind attention.

Prof. Yos Johan Utama
Rector
KEYNOTE SPEAKERS

Prof. Susilo Wibowo
Universitas Diponegoro – Indonesia
“Indonesia got obese; do we care? Genetics, epigenetic, and enviromental point of view”

Dr. Hadiyanto
Universitas Diponegoro – Indonesia
“Effects of sugar addition on the thermal degradation of phycocyanin from Spirulina sp.”

Prof. Gerard Pals
VU University Medical Center – Netherlands
“Cancer and the environment”

Prof. Junichi Tanaka
University of the Ryukyus – Japan
“Exploration of coral reef organisms for bioactive molecules and related issues”

Dr. Roel H. Bosma
Wageningen University & Research – Netherlands
“Investing in climate change mitigation and adaptation on mangrove and aquaculture doubles benefits.”

Prof. Tao Liu
Ocean University of China – China
“Research on complete mitochondrial genome of marine algae”

Prof. Soottawat Benjakul
Prince of Songkla University
“Valorization of fish processing by product”