



Proceeding of The First International Conference on Science (ICOS-1) 2014  
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## Proceeding

# The First International Conference on Science (ICOS-1)

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## PREFACE

Makassar city, the capital of South Sulawesi province known as one of the biggest cities in Indonesia and also having Hasanuddin University, the biggest university in eastern part of Indonesia, has plenty of natural resources and human resources. Having a strategic position at the center point of Indonesia, Makassar has been developing very rapidly, and has been contributing to the regional, national and even international economic development. Given this, science can play important roles and therefore is needed to support rapid development in various sectors.

With regard to this, cooperates with Ministry of Environment Indonesia, Atmospheric and Ocean Research Institute (AORI) Japan, University of Kebangsaan Malaysia (UKM), Alfred Wagener Institute (AWI) Germany, Queensland University of Technology (QUT) and Flinders University Australia, Faculty of Mathematics and Natural Sciences Hasanuddin University carried out “The First International Conference on Science (ICOS-1)” on November 19-20, 2014, in Hotel Clarion Makassar. The theme of ICOS-1 is “Science Enhancement for Developing Countries”. The conference attended by two hundred participants and came from Asia (Japan, Malaysia, Indonesia), Australia, and Europe.

There are approximately 97 research articles for oral presentations and 16 poster presentations, ranging from Biology, Statistics, Mathematics, Chemistry, Physics, Geophysics, Computer Science and Environmental Science. Of the 113 papers, there are approximately 79 papers were selected to be published in the proceedings of the ICOS-1 through the peer review process.

With regard to the delivery of the ICOS-1 in 2014 and the completion of the proceedings ICOS-1, 2014, allow us to thanks to: the authors for providing the content of the program, the conference participants who came from several public and private universities, the program committee and the senior program committee, who worked very hard in reviewing papers and providing feedback for authors to be included in the Proceedings of ICOS-1, 2014, the hosting organisation Hasanuddin University, our keynote and invited talk presentations including Ir. Muh Ilham Malik M.Sc, from Ministry of Environment Indonesia, Prof Koji Inoue from AORI Japan, Prof Mohammad B Kassim from UKM Malaysia, Dr.rer.nat Dominik Kneer from AWI Germany, Prof Dadang A. Suriamihardja and Prof Alfian Noor from Hasanuddin University, Prof Kerrie Mengersen from QUT and Dr. Darfiana Nur from Flinders University, Australia.

Hopefully is of benefit to all readers.

Yours faithfully,  
Prof Dr. Hanapi Usman M.S  
Dean of Faculty Mathematics and Natural Sciences  
Hasanuddin University



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