



**INTERNATIONAL CONFERENCE
ON EDUCATION, TECHNOLOGY, AND SCIENCE**

**Improving The Quality of Education
To Face The Impact of Technology**

University of Muhammadiyah Purwokerto

December 28th, 2013

P R O C E E D I N G S



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**International Conference on Education, Technology, and Science
NETS 2013**

Improving The Quality of Education to Face The Impact of Technology

PROCEEDINGS

**Universitas Muhammadiyah Purwokerto
Purwokerto, December 28th, 2013**

Preface
Rector of UMP

Assalamu'alaikum wr. wb.

Alhamdulillah, that UMP will carry out prestigious event namely "National Olympiad and International Conference on Education, Technology, and Science (NETS) 2013" is a very great news for me. NETS 2013 is the first event which is conducted in collaboration between UMP and PWM Central Java. It is a great event which is constructively supported by ITB, UNiSA, UTeM, and several institutions under UMP partnership to smoothen the event.

Recently, technology grows very fast. This fast growth affects on the quality of education in Indonesia. Based on this condition, UMP and PWM Central Java formulate a program which later it is formed into "NETS 2013". This event is also a contribution to Islamic Higher Education Institution to prepare candidate of future leaders who have competitive skills to compete positively in comprehending knowledge and technology.

In NETS 2013, there are some events which are arranged in a sequence such as: International Conference on Education, Technology, and Science (ICETS) with Prof. Dr. Ir. Imam Robandi, M.T., Mr. Ganjar Pranowo, Mr. Simen Lourds, and Dr. Hiroshi Takeda; Seminar (Call for Paper) including some disciplines of science covering Education, Engineering, Medicine, Science, Social, Politic, Religion, Law, Culture, Arts, Agriculture, and Technology; National Olympiad for Student and Teacher (NOST) which is joined by students, teachers, and schools; and Expo. In NETS 2013 competitions, participants are fighting over trophies, medals, certificates, and advisory fund reaching up to Rp250.000.000,- ; furthermore, there is also a fellowship to study in UMP.

As the Rector of The University of Muhammadiyah Purwokerto, I do really expect that conducting this event could encourage all of us to be more advanced nation not only on economic side, but also on social life. It is also expected that this event will increase our awareness on how important it is to develop and advance technology in education.

That is all I could deliver now, for further information you may access our website on www.ump.ac.id.

Last but not least, "Let's join and support NETS 2013 in UMP".

Wassalamu'alaikum wr. wb.

Purwokerto, 28th Decembe 2013

Rector,

Dr. H. Syamsuhadi Irsyad, M. H.

Preface

The Chairman of NETS 2013

Assalamualaikum, wr. wb.

Today is the valuable and precious milestones for education in Indonesia in general and Muhammadiyah in particular because all levels of education from elementary schools to university get together to build relationship and networking in the national Olympiad and international conference hosted by University of Muhammadiyah Purwokerto.

We deserve rejoice and pride because there are more than 1705 participants, 215 officials and 300 invited guests. This is also a great honour for University of Muhammadiyah Purwokerto to have the Governor of Central Java and the staffs, the regents from four regions and the staffs, the chief of Central Muhammadiyah Board , the Education division of Muhammadiyah Board, the directorate of higher education, Rectors of University of Muhammadiyah throughout Indonesia and rectors of universities in Purwokerto, companies and stake holders, media , travel biro as well as the colleagues, persistent fighters for Muhammadiyah in the region and territory.

As the chairman of this events, I'd like to report that there are more than 1616 teachers and students who will be joining the national Olympiad and there are more than 311 researchers, lecturers and students will be taking part in the International Conference. Again, I'd like to emphasis that this event is really a pride for us because the participants are coming representing five big islands in Indonesia, they are Sumatra, Kalimantan or Borneo, Java and Sulawesi.

This event holds thirty one types of competitions and organizing six international conferences. There are twenty five competitions for students, four competitions for teachers and three competitions for schools. The international conference covers fields of Educations, Engineering, Science and Agriculture, Health and Medicine, Culture and Arts, social, Politics, Economics, Religion and Law.

We are proud to mention that we have at least fifteen experts coming from higher education, one from high schools, two industries and one national research centre (LIPI). The experts and scholars are coming from some outstanding universities and institutes such as University of South Australia, Tottori University Japan, Institute Teknologi Melaka, Malaysia, Henderson Secondary School Singapore, Boromanjani College of Nursing Thailand, Surabaya Technology

Institute Bandung Technology Institute, Gadjah Mada University, Bogor Agriculture Institute, and University of Muhammadiyah Purwokerto.

On behalf of the committee, we'd like to express our deep gratitude and thanks to all sides for their sincere helps and supports that make this event possible to happen in UMP. Last but not least, we have tried and done our best in organizing this event, however, we realized that weaknesses and shortcomings may exist. And for that particular reason we'd like to apologize to you all. Hopefully, the next year NETS will be much better and much improved. Have a great competition and conference!

Wassalamualaikum wr.wb.

Purwokerto, 28th Decembe 2013

The Chairman

Regawa Bayu Pamungkas, ST., MT.

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Editor	: Sularso, Amd. Nur Afifah Indriyani

Keynote and Invited Speakers

Keynote Speakers

Prof. Imam Robandi (ITS, Indonesia)
Mr. Simen Lourds (Singapore)
Dr. Hiroshi Takeda (Tottori University, Japan)

Invited Speakers

Elvia Shauki, Ph.D. (University of South Australia, Australia)
Prof. Dr. Mifedwil Jandra Mohd. Janan (UTM, Malaysia)
Panarut Wisawatapnimit (Boromarajonani College of Nursing, Bangkok, Thailand)
Dr. Ir. Danu Ariono (ITB, Indonesia)
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Prof. Dr. Sugeng Priyadi (UMP, Indonesia)
Herman Soemantri, ST., M.Si. (PT. Pertamina)

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