Annual Meeting of Mathematics and Natural Sciences Forum of Indonesian Institutes of Teacher Training and Education Personnel (MatricesFor IITTEP)

In Conjunction With:

International Conference on Mathematics, Natural Sciences, and Education (ICoMaNSEd 2015)

August 07-08, 2015, Aryaduta Hotel Manado, Indonesia

Theme:

"Enhancement and Acceleration on Research and Learning in Mathematics and Natural Sciences for the Utilization of Natural Resources"

Supported and Coordinated by:
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WELCOME MESSAGE FROM EVENTS CHAIR

Best wishes to us

May God bless upon us

Assalamu'alaikum wa Rahmatullahi wa Barokatuh

Your excellency The President of Manado State University (UNIMA) Prof. Dr. Ph. E. A. Tuerah, M.Si., DEA., ladies and gentlemen, good morning and welcome to Manado, North Sulawesi, especially to Manado State University.

This seminar entitled the International Conference on Mathematics, Natural Sciences, and its Education (ICoMaNSEd): Enhancement and Acceleration on Research and Learning in Mathematics and Natural Science for the Utilization of Natural Resources is organized by Faculty of Mathematics and Natural Sciences, Manado State University, supported and coordinated by 12 members of Association of the Faculty of Mathematics and Natural Sciences from Teacher Program (LPTK).

Ladies and gentlemen, on behalf of the committee of this conference, I would like to thanks and give the highest appreciation to keynote speakers including:

1. Prof. David F. Treagust, Ph.D., FSB., FAERA (Courtin University, Perth, Australia)
2. Rebecca Johnson, MA (Columbia University, USA)
3. Ed van den Berg, Ph.D (Free University, Amsterdam, The Netherlands)
4. Assoc. Prof. Dr. Vichit Rangpan (Yala Rajabhat University, Thailand)
5. Prof. Dr. Syamsu Qamar Badu, M.Pd (State University of Gorontalo, Indonesia)

I would like also to give thanks and gratitude to the invited speakers from 12 universities including:

1. Assoc.Prof. Dr. Kamisah Osman (The National University of Malaysia)
2. Dr. Ir. Sri Nurdiati, M.Sc (Bogor Agricultural University, Indonesia)
3. Prof. Ferdy S. Rondonuwu, Ph.D (Satya Wacana Christian University, Salatiga, Indonesia)
4. Prof. Dr. Zulkardi, M.I.Komp, M.Sc (Sriwijaya University, Palembang, Indonesia)
5. Prof. Dr. Julius H. Lolombokan, MS (Manado State University, Indonesia)
6. Prof. Drs. Manihar Situmorang, M.Sc., Ph.D (Medan State University, Indonesia)
7. Prof. Dr. Liliasari, M.Pd (Indonesian Education University, Bandung, Indonesia)
8. Dr. Slamet Suyanto (Yogyakarta State University, Indonesia)
9. Dr. Suharto Linuwih, M.Si (Semarang State University, Indonesia)
10. Prof. Dr. Subandi, M.Si (Malang State University, Indonesia)
11. Dr. Hj. Yuni Sri Rahayu, M.Si (Surabaya State University, Indonesia)
12. Suwardi Anas, M.Sc., Ph.D (Makasar State University)

Now, I would like to special thanks to 156 speakers and all of participant required in this seminar.

Ladies and gentlemen, to be able to display text in the real international standard, required not only the international community of scientists involved in the research process, but is also involved in the process of publication. Therefore, I expect this event to be a dissemination of the lecturer researches.

Finally, I am delighted to thank to all the members of the committee who have been working very hard for the success of this conference.

Please enjoy the conference and enjoy in Manado city. Thank you very much.

Dr. Rymond J. Rumampuk, M.Si
WELCOME MESSAGE FROM DEAN

Best wishes for all of us
Assalamu'alaikum wa Rahmatullahi wa Barakatuh

Distinguished Rector of the State University of Manado with the vices rector of Unima, Deans of the Faculties and Chairs of the Institutions;
Distinguished Rector of the State University of Gorontalo and chairmans present today;
Distinguished Chairman of the Forum of Mathematics and Natural Science of Indonesian Institution of Teacher Training and Education Personels (IITTEP)
Distinguished Deans of Mathematics and Natural Sciences Forum members of IITTEP along with vice deans and heads of Departments and Study Programs, and delegates from Faculty of Mathematics and Natural Science of IITTEP;
Especially, distinguished Keynote Speakers, invited Speakers, all the speakers in ICoMaNSEd 2015, and Participants joining this Scientific Conference,

Praise and thanks to the presence of the Lord, because ICoMaNSEd 2015 event can be held today. We are proud because as a part of the academic community, we can take part in enriching the scientific communication forum between scholars through ICoMaNSEd. Through this Scientific Conference, we are present here, to share and to exchange experiences through various experts in the field of Mathematics and Natural Science Education from several countries and various parts of Indonesia. For the implementation of ICoMaNSEd 2015, we thanked to Rector of State University of Manado, Chairman of the Forum of Science IITTEP, deans of Mathematics and Natural Sciences Faculty of IITTEP along with vice deans and heads of departments and study programs, Lecturers and students who support this event so it could be held. In particular, we express our gratituded to Keynotes Speakers and Invited Speakers who have agreed to attend and to present their articles in ICoMaNSEd 2015.

Implementation of Scientific Conference or other scientific meetings forms such as symposium, seminar or FGD, etc by a university or research institute, is a form of scientists activities that always continue to strengthen scientific attitude

and the scientists development, especially forum 2015, these development in this involved not only Mathematics and Natural implementation of Natural Science to be the pillars and a source of strength in Indonesia, especially North Sulawesi, Manado, North Sulawesi, Manado, of the Faculty University, hospitality and beauty.

Distinguished participants,

Last but not least, on behalf of ICoMaNSEd, the Medicine Physiology, University of Medicine Physiology, Brazil. I ask the following question: "is a scientist?". It is an abstract that need not be too much, but if it be possessed. On this, the qualities from ancient thinkers, to be less ignored by the new generation; ability and determination; abilities to deal with difficulties ".

Hopefully the advice and inspiration to all to fulfill our scientific career dreams, but to believe.

Shalom,
Wassalamu alaikum wa Rahmatullahi wa Barakatuh

Thank you.

Manado, August 3, 2015
Dean of the Faculty of Mathematics and Natural Science
Prof.Dr.Cosmas Polu
and the scientists identity to be opened, objectived, and criticals to the science developments, especially for the further of science development. In ICoMaNSEd forum 2015, these things are reflected in the context of improvement and development in the learning of Natural Sciences and Mathematics. The experts involved not only from IITPE-universities, but also involve the faculty of Mathematics and Natural Sciences of non-IITPE ones. We strongly hope that the implementation of present Scientific Conference in State University of Manado, will be the pillars and a reference for the implementation of other scientific events in Indonesia, especially Manado, North Sulawesi. We welcome all the audiences to Manado, North Sulawesi, land of Nyiur Melambai, which is famous for its hospitality and beautiful landscapes.

Distinguished participants and honorable guests,

Last but not least, on this occasion, I would like to quoted from a Nobel laureate in Medicine Physiology back in 1960, Sir Peter Medawar, a British scientist, born in Rio de Janeiro Brazil. His advice for us academics and scientists started from the following question: "Do we need a sharp mind to be able to succeed as a scientist?". It is an anxiety that does not need to be considered, because one does not need to be too clever in order to be a successful scientist. Well-thoughts must be possessed. On the other hand, it would be very helpful to have some good qualities from ancient times that somehow now have been regarded as a trait that less ignored by the scientists. Those properties are: a practical view; perseverance; determination; ability to concentrate; tenacity to not despair when facing difficulties ".

Hopefully the advice from the Nobel laureate Sir Peter Medawar, could be an inspiration to all the academics who gathered today towards successful stages in our scientific careers. Keep this adage: "God does not call us to be a successful man, but to believe. Believe, in order to succes ".

Shaloom,
Wasalamu alaikum warahmatulahi wabarakatuh.
Thank you.

Manado, August 3, 2015,
Dean of the Faculty Unima,
Prof.Dr.Cosmas Poluakan, M.Si
WELCOME MESSAGE FROM RECTOR

Honourable Vice Rectors and Deans of all faculties,
Honourable keynote speakers from outstanding universities,
Distinguished all invited speakers and all other speakers,
Distinguished guests,
All participants,
Ladies and gentlemen,

Syaloom,
Assalamu’alaikum warrahmatullah wabarakatuh.
May peace and God’s blessings be upon you all.

I am delighted to be here with you today, as you start the Annual Meeting of Mathematics and Natural Sciences Forum of Indonesian Institute for Teacher Training and Education Personnel (Matrices for IITTEP), conducted and sponsored by 12 universities former known as IKIP, in conjunction with International Conference on Mathematics, Natural Sciences and Education (ICOManSED)). It is my privilege and pleasure to welcome you all to the Forum and Conference organized by the Faculty of Mathematics and Natural Sciences, State University of Manado in North Sulawesi, Indonesia in which researchers and practitioners on mathematics and science and the education, to get together, share ideas, experiences, expectations, and research findings. I want to extend a warm welcome to all of you, on behalf of the State University of Manado. It is a great honour to host so many distinguished keynote speakers from the USA, Australia, Netherland, and Thailand, distinguished invited speakers from 12 Indonesian Universities namely: UNJ, UPI, UNY, UNNES, UNESA, UM, UNP, UNIMED, UNDIKSHA, UNM, UNG, and UNIMA, and also Malaysia and all participants.

Distinguished guest, Ladies and gentlemen,
The theme of the conference is “Enhancement and Acceleration on Research and Learning in Mathematics and Natural Sciences for the Utilization of Natural Resources”.

This event is aimed to providing dissemination and publication media for research results, theoretical studies, and best practices in the field of Mathematics, Natural Sciences, and Education; more over, strengthening the interaction and communication between researchers, promote mathematics and science research activities by the researchers in Indonesia and overseas, in hope to build networks and collaborations.

By promoting collaboration across disciplines, we can further extend the opportunity to discover innovations, gain better understanding and enhance the advancement of science body.

The development of Mathematics and Natural Science can not be separated from the scientific charateristics that encourage high-curiosity in doing research. We hope, IITTEP always creating, maintaining, facilitating, and developing the world class academic atmosphere that encourage students and faculty to continue doing research, and community services.

Research is one of the Tri Dharma of the higher education. It is a systematic effort to solve the problems or answer the questions through data collecting, formulating the generalities based on the data, then finding and developing organized knowledge by scientific method. It is expected that from research activities valuable empirical facts can be obtained to improve and develop the theory and practice to bring a better quality of education. We do hope this conference will bear fruitful results and promote networking and future collaborations for all participants from diverse background of expertise, institutions, and countries to promote science, mathematics, and the education.

Distinguished guest, Ladies and gentlemen,

In this very precious moment, I would like to express my highest appreciation and gratitude to the keynote speakers from Australia, the USA, Netherland, Thailand and Indonesia.

I also would like to take this opportunity to express my gratitude to all delegates for their full support, cooperation and contribution to the Forum and Conference 2015. I also wish to express my gratitude especially to the Dean of Faculty of Mathematics and Science, Prof. Dr. Cosmas Poluakan, M.Si, and to the Organizing Committee who dedicated their time and energy to attend meeting and for their hard work to make this conference a big success. However, should you find any shortcomings and inconveniences, please accept my apologies.
In closing, I realize that you are fully dedicated to the sessions that will follow but I do hope you will also take time to enjoy fascinating Manado with its tropical ambience.

Let me wish you all a productive conference and enjoyable stay here in Manado. Also I wish you all great success and this international conference will bring us fruitful benefits in education.

Thank you very much.

Syaloom

Wassalamu’alaikum warahmatullah wabarakatuh.

May peace and God’s blessings be upon you all.

Manado, 8 August 2015

Rector,

Prof. Dr. Ph. E A Tuerah, M.Si, DEA
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Prof. Dr. R. Pallitangan, M.Si (Proceeding Division)
Prof. Dr. J. Lolombuan, M.Si (Proceeding Division)
Prof. Dr. I.R.S. Santos, M.Si (Proceeding Division)
Prof. Dr. Sanusi Gugule, M.Si (Proceeding Division)
Prof. Dr. Reveson Mege, M.Si (Proceeding Division)
Dr. A. Komansian, M.Si (Proceeding Division)
Dr. A. Mandolam, M.Pd (Proceeding Division)
Dr. F. Dungus, M.Si (Proceeding Division)
Dr. J. Mamangkey, M.Si (Proceeding Division)
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<td>Opening Ceremony</td>
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<td>08:00-08:30</td>
<td>Registration for ICoManSEd2015</td>
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<td>08:30-08:45</td>
<td>Opening Ceremony</td>
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<td>Plenary Lecture (Talk Duration for Every Keynote Speaker: 30 min)</td>
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<td>10:00-10:15</td>
<td>Coffee Break + Poster Presentation</td>
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<td>Plenary Lecture (Talk Duration for Every Keynote Speaker: 30 min)</td>
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<td>PARALLEL SESSION</td>
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<td>Prof. Dr. Zulkarni, M.Si., M.S., University of Bandung</td>
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<td>Mathematics and Mathematics Education</td>
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<td>Literacy of Indonesian Student&quot;</td>
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<td>Room 2</td>
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<td>Mathematics and Mathematics Education</td>
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<td>&quot;Mistakes of Statistical Methodology in Educational Research&quot;</td>
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<td>Room 3</td>
<td>Prof. Dr. Subedi, M.Si., M.S., University of Surabaya</td>
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<td>Mathematics and Mathematics Education</td>
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<td>&quot;The Role of University in Preparing STEM Teachers in Indonesia&quot;</td>
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<td>Room 4</td>
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<td>Biology and Chemistry</td>
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<td>&quot;Enhancing Students' Cognitive Thinking Skills Through Sciences Education&quot;</td>
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<td>Prof. Dr. Monbar, M.Si., M.S., State University of Medan</td>
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<td>Biology and Chemistry</td>
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<td>&quot;Higher Order Thinking Skills Through Sciences Education&quot;</td>
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<td>Room 6</td>
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<td>Natural Sciences and Education</td>
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14:00-15:15
LIST OF ABSTRACTS

ORAL PRESENTATION

CATEGORY: MATHEMATICS AND MATHEMATICS EDUCATION

080Math  Dr. Hartono
Stability of Vibration Oscillator with a Time-Varying Mass

121Math  James Uriel Livingstone Mangobi
EIR Model Simulation with Half-Infected Mosquitoes

055MathEd  Patricia V. J. Runtu
The Potential and The Challenges of The Development and
The Implementation of Thematic Task-Based Assignment
Instruction in Mathematics Community in Sangihe

063MathEd  Navel Oktaviandy Mangelep
The Students' Mathematical Literacy Skill in Solving Pisa-
Type Mathematics Problems

083MathEd  Sahid, M.Sc.
Utilizing ICT to Support Joyful Learning in Mathematics
Teaching and Learning

096MathEd  Robby J. Wenas
The Effect of Realistic Mathematics Learning Approach and
Authentic Assessment on Students' The Achievement In
167PhysEd  Hadi Nasbey, Esmar Budi, Heni Rohmawati

*Development Experiment Set of Planck Constant Value For Modern Physics Learning*

**CATEGORY: NATURAL SCIENCES EDUCATION**

029NSEd  Mahardika Takaendengan

*Learning Method of Human Body Skeletal System based on Android*

033NSEd  Reynaldo Joshua Salaki and Clief Reymond Kawet

*Design Mobile Learning (M-Learning) Android on The Introduction of Animal and Plant Material for Elementary School*

039NSEd  Enos Taruh and Mangara Sihaloho

*Development Strategy Learning Tools Integrated Natural Sciences SMP/MTsUsing 4D Models (Define, Design, Develop, and Desiminate)*

077NSEd  Novianty Djafri

*Quality of Services Personnel Management in Developing Cultural Educational School*

079NSEd  Christophil S. Madellu and Paulus A. Pangemanan

*WTP-WTA Instrument for Controlling the Tourism Destination Life-Cycle*
Paper ID : 077NSEd
QUALITY OF SERVICES PERSONNEL MANAGEMENT IN DEVELOPING CULTURAL EDUCATIONAL SCHOOL

Novianty Djafri

1Department of Management Education, Faculty of Education Science, State University of Gorontalo, Gorontalo, Indonesia
noviantydjafri@yahoo.com

Abstract
Each school is responsible together in organization management through something that innovation in strengthening school culture. At the final destination which is expected by the school is the achievement of an organization that has a strengthening of the culture of the school is the best, but certainly there are obstacles in achieving that occur both in various fields, both academic and operational. The school goal is achieved or not is determined by the quality of human resources. Therefore, researchers focus of this paper on service quality administrative personnel. Problems in this paper to express ideas or thoughts about the author an important role in strengthening the school administrative staff of the school culture is the problem of this paper. How is the quality of schools, the implementation of educational administrative personnel management, the efforts made and the results achieved in improving the quality of service management innovation administrative personnel education in schools through innovative development of a culture of service quality management education personnel. This paper is intended to express the idea or the author's thoughts on an important role in strengthening school education personnel, school culture of innovation in improving the quality management of Administrative service personnel. The method used is literature study with qualitative descriptive approach. The results of the literature review education personnel consists of personnel chief school administration, business and executive officers of special services. Implementation of the education process in schools through the support role. The school as a center of cultural value development can be done through the use of innovative processes and implementation of rules and policies in accordance with the technical guidelines and instructions implementation is. Efforts to implementation through the provision of excellent service to all elements of the inside and outside of school, both educators, students and the surrounding community.

Keywords: Personal, service, school, culture
Basic form of a large circle symbolizes Mathematics, Science and Education as an integral unit of basic education and basic science, and states the symbol of mathematics geometry. Five small circle-shaped model of molymod express linkage development areas of Mathematics and Science which are centered on education activities. Red for Mathematics states: spirit, gives energy, symbol, action, passion, strength and joy. Yellow for Physics states: warmth and happiness, cheerful symbol and optimistic spirit, stimulate the mind and mental activity. Green for Biology states: calm and relax, the impression of balance the emotions, the symbol of openness and communication, color of hope and the future, justice and peace. Blue for Chemistry states: the calming effect and professional impression and trust. Stimulate communication skills, artistic expression, symbol of strength, able to calm the mind and improve concentration. Generally as a corporate base color, gray for Natural Science Education states: security, reliability, simplicity, and maturity. White for Education states: freedom and openness, represent the purity impression, chaste clean, symbol of peace.

Organized by

fmipa unima

Faculty of Mathematics and Natural Sciences
State University of Manado (UNIMA)