Chair Foreword

The honorable,
- Professor Dr. Syowal Gultom, M.Pd, Rector of Universitas Negeri Medan
- Professor Dr. Jakrapong Koewkhao, Director of the Center of Excellence in Glass Technology and Materials Science (CEGM), Nakhon Pathom Rajabhat University (NPRU), Thailand
- Rosemarie Daher Kowalski, Ph.D, Intercultural Studies, Research Methodology and Writing in Northwest University USA
- Professor Dr. Atty Cecilio D. Duka, Ed. D, Director Recoletos Law Center, San Sebastian College of Law – Manila
- Dr. Mati Horprathum (Researcher at The National Electronic and Computer Technology Center – NECTEC, Thailand)
- Vice Rectors
- Deans of Faculties of Education, Languages and Arts, Social Sciences, Natural Sciences and Mathematics, Engineering, Sports Sciences, and Economics
- Director of Postgraduate School of UNIMED
- Lecturers, researchers, students, all speakers and participants

Good Morning, Salam Sejohtera, Praise to Allah the Almighty for all His blessing, where today we are here to participate in ‘The First International Conference on Innovation in Education, Science and Culture (ICIESC)’ with the theme “Innovation Making Better Life”.

Ladies and Gentlemen,
This conference presents a keynote speaker, 4plenary speakers from Thailand, Philippine, United States of America (USA) and Indonesia. Besides speaker, around 220researchers covering lecturers, teachers, participants and students have attended in this conference. The researchers come from Manado, Palu, Kendari, Malang, Surabaya, Bandung, Jakarta, Palembang, Jambi, Batam, Pekanbaru, Padang, Aceh, Medan and several from Malaysia, Philippine and Thailand.

I would like to express greatest thankfull to all colleagues in the steering committee for cooperation in administering and arranging the conference. Hopefully this conference will be continued in the coming years with many more insight articles from inspiring research.

Regards:
Chairperson of ICIESC

Dr. Junastel Rajagukguk, M.Si
Welcoming Speech of Chairman of Research Institute, State University of Medan
International Conference on Innovation in Education, Science and Culture (ICIESC)

On behalf of the 1st International Conference on Innovation in Education, Science and Culture (ICIESC) committee, I wish to welcome all of the participants to the conference being held during November 8 – 9, 2017 at Grand Mercure Hotel, Medan Sumatera Utara, Indonesia. Welcome the honorable guests speakers Professor Syawal Gultom, M.Pd, Professor Jakrapong Kaewkhao, Rosemarie Daher Kowalski, Ph.D, Professor Atty Cecilio D. Duka, Ed. D and Dr. Mati Norprathom. Welcome also delivered to Vice Rectors, Deans of Faculties of Education, Languages and Arts, Social Sciences, Natural Sciences and Mathematics, Engineering, Sports Sciences, and Economics, Director of Postgraduate School of UNIMED, other speakers, and participants from outside and inside Unimed.

This conference is one of the manifestations of the vision and mission of Research Institute (Lemlit) of Unimed, namely the dissemination and implementation of the results of research and studies related to the community. Therefore we strongly support the activities of this seminar which is also a series of academic activities of Unimed. Through this seminar, the participants will exchange information related to the latest research in the field of education, science-technology and culture which is expected to bring new ideas in solving various problems.

In accordance with the theme presented in this conference “Innovation Making Better Life” it is expected that Lemlit Unimed can lead and strengthen the future research. The goal of innovation is to improve research quality especially for education, science, technology and culture. Through innovation in education, science and culture, the human resources will be capable for solving global crises such as internationally political conflicts, climate change and loss of biocultural diversity.

Thank you for all committee to has well organized this conference. Thanks to all keynote speakers who have attended, presented and shared their ideas on education, science and culture. Thanks to all researchers, students and participants and hopefully this will be scientific discussion to develop the future innovation.

Finally, I hope that all academicians and stakeholders of Lemlit Unimed hand-in-hand to excel our institution to be a world class university.

Best wishes for all of us.
Chairman of Lemlit Unimed

Prof. Motlan, M.Sc., P.H.D
Committee of ICIESC

Advisors

Prof. Dr. Syawal Gultom, M.Pd (Rector of Unimed)
Prof. Drs. Motlan, M.Sc.,P.hD (Chairman of Research Institute of Unimed)
Dr. Martina Restuati, M.Si (Secretary of Research Institute of Unimed)

International Scientific Committee

Prof. Dr. Jakrapong Kaewkhao (NPRU-Thailand)
Prof. Dr. Atty, Cecilio D. Duka, Ed.D. (San Sebastian College of Law, Manila - Philippines)
Prof. Dr. Ruhizan Mohamad Yassin (UKM Malaysia)
Prof. Dr. Nordin Hussin (UKM Malaysia)
Assoc. Prof. Dr. Azlizan Mat Enh (UKM-Malaysia)
Dr. Mohd Bin Samsudin (UKM-Malaysia)
Prof. Dr. Chan Kim Ling (Malaysia)
Prof. Alvin P Ang (Philippine)
Piyawut Srichaikul, Ph.D. (Thailand)
Dr. John Alvarez (Australia)
Dr. Michelle Henstridge (Australia)
Professor Tim Ackland (Australia)
Prof. Loretta Baldassar (Australia)
Prof. David Bartha (Australia)
Prof. Sandor Bartha (Australia)
Professor Dirk Baur (Australia)
Professor Snezhana Abarzhi (Australia)
Prof. Loretta Baldassar (Australia)
Professor Yrjo Engstrom (Finland)
Professor Todd L. Hutner (USA)
Dr. Chao Ceng (Korea)
Dr. Qian Yang ()
Prof. Magdalena Pasarica (USA)
Dr. Ellen K. Henriksen (Norway)
Dr. M Rodrigues (Portugal)
Dr. P. Simao Carvalho (Portugal)

Conference Chairperson
Dr. Juniastuti Rajagukguk, M.Si

Secretary
Dr. Zulkifli, M.Sc

Treasurer
Dr. Hexti Frisiastuti, M.Hum

Secretariat
Sadellik S.Pd

Papers and Proceedings

Rini Massey

Roslaini

Nanda Pratiwi, M.Pd

Rahmad Gultom

Dr. Saronom Slaban, M.Pd

Dra. Ani Sutiani, M.Si

Dr. Muhammad Amin, M.Pd

Dr. Kustoro Budiarta, M.Si

Ricky Syaputra, S.Pd, M.Sc
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2. National Anthem  
3. Pray  
4. Traditional Welcome Dance  
5. Welcoming Speech of Lemlit Chairman |                            |
| 09.00 – 09.40| Plenary Lecture 1: (Opening of conference) Prof. Dr. Syawali Gultom, M.Pd (Rector of State University of Medan- Indonesia) | Isli Iriani Indah Pane, S.Pd., M.Hum |
| 09.40 – 10.25| Plenary Lecture 2: Prof. Dr. Jakrapong Kaewkhao  
(Director of the Center of Excellence in Glass Technology and Materials Science (CEGM), Nakhon Pathom Rajabhat University (NPRU), Thailand) | Nora Susanti, SSt, MSc, APt |
<p>| 11.20 – 12.10| Plenary Lecture 4: Prof. Dr. Atty Cecilio D. Duka, Ed. D (Director Recoletos Law Center, San Sebastian College of Law – Manila) | Dr. Anni H. Pulungan, M.Hum |
| 12.10 – 12.45| Invited Speaker: Dr. Mati Horprathum (Researcher at The National Electronic and Computer Technology Center – NECTEC, Thailand) | Prof. Dr. Sumarno, M.Pd |
| 12.45 – 13.30| Lunch Break/ Poster Session                                                  | Committee                  |
| 13.30 – 15.30| Parallel Session 1                                                          | Moderator                  |
| 15.30 – 15.50| Coffee Break                                                               | Committee                  |
| 15.50 – 17.30| Parallel Session 2                                                          | Moderator                  |
| 17.30 – 17.45| Closing in parallel room by moderator                                       | Moderator                  |</p>
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Schedule of Poster Session

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[ABS-1]
Lexical Change in Javanese Dialect Used in Medan
Desi Haryati Nainggolan

Abstract - This research aimed to find out the lexical change in Javanese dialect and the lexical change occurs in Javanese dialect and to state the reasons the influence of lexical change in Javanese dialect used in Medan. The sources of data were from male and female in average age 30-55 years old. Firstly the data showed of 367 glosses achieved 1506 change namely the loss of lexical item the change of meaning and the creation of new lexical item. And the data will be analyzed by using interactive model proposed by Miles and Huberman (1994) with three phases of data analysis. Secondly the percentage of semantic change of Javanese language of Medan are verb to verb 28.51%), adjective to adjective (22.59%), noun to noun (21.48%), verb to noun (3.33%), and verb to adjective (2.96%). Pronoun to pronoun (6.29%), pronoun to adjective (0.37%), verb to noun (2.33%), verb to adjective (2.96%), noun to adverb (0.74%), verb to verb (2.96%), noun to adjective (4.07%), noun to pronoun (0.37%), adjective to noun (2.59%). Thirdly the creation of new lexical item of Javanese language in Medan pattern contains external borrowing and it comprised Dialectal Borrowing, Archaism into Indonesian language and Archaism into another ethnic.

Keywords: Lexical Change and Javanese Dialect
Topic: Social Science and Humanities

[ABS-3]
Reducing Heavy Metal Contamination in Marine Dredged Sediment in Its Use as Substitute Material in Road Construction
Ernesto Silitonga
State University of Medan
Corresponding Author.

Abstract - An experimental study of a laboratory-scale was realized to identify the feasibility of the re-use of contaminated marine dredged sediment as a new replaced material in road construction. The marine dredged sediment (MDS) was taken from part of Cherbourg Bay of Normandie France. Due to the large amount of sediment dredged every year in France, the beneficial reuse of MDS is urgently needed to realize. The primary goal of this study is to stabilize MDS so that MDS could be used in road construction as a replacement material, which is needed to fulfill the road regulation criteria and harmless to environment. However, on its application, due to drying and oxidation process of polluted MDS may affect mobility and bioavailability of the land utilized. In order to achieve the primary goal, the addition of Silica Fume was realized. The present of Silica Fume besides to enhance the geotechnical characteristic, is aimed to reduce the pollution level, especially the heavy metal content. The series of geotechnical tests were realized to verify if MDS could be utilized as replacement material in road construction. After the geotechnical study in laboratory results show as expected thus the identification of chemical characteristic realized. To evaluate the environmental impacts of the used material, leaching test is performed. The leaching test result showed that the Silica Fume addition was capable to reduce the pollution level especially for Cadmium (Cd). The result confirmed that with the present of Silica Fume (in certain percentage) in the mixture, the stabilization process succeed to fulfill the geotechnical characteristic and the MDS can be used as a replacement material and harmless to the environment.

Keywords: Marine dredged sediment, pollutant level, road construction Silica Fume
Topic: Applied Science_Engineering