

ERE 2016

Annual Conference

On

Earth Resources Management

Department of Earth Resources Engineering

Faculty of Engineering

University of Moratuwa

Sri Lanka

8th July 2016, Sri Lanka Foundation, Colombo, Sri Lanka

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Management

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Message from the Conference Coordinator

It is with great pleasure I continue to fulfill the responsibility of coordinating the activities leading to the ERE 2016 the Annual Conference under the theme “Earth Resources Management” as the coordinator. The conference is no doubt the greatest annual academic event of the Department of Earth Resources Engineering of the University of Moratuwa. I consider it an honor to play a pivot role in organizing activities leading to this great event, networking with a large number of organizations and individuals.

The event brings together many academics, students, industry leaders, alumni and well wishers and is graced by the Prof. A.K.W. Jayawardana, Vice Chancellor, University of Moratuwa and Mr. David Lees, the keynote speaker, a Senior Engineer and a consultant with world-wide experience and the founder of Grouting and Foundation Works Australia Pty Ltd. We are privileged to listen to the keynote address delivered by Mr. David Lees.

This forum provides an ideal opportunity for the students to mix along with the senior industry professionals and industrialists and learn firsthand the new trends of development in the industry and in academia elsewhere and, sharpen ones skills to suit the changing circumstances. In an informal setting the academic will also have a chance to feel the pulse of the industry and exchange views which will help guide future research.

I hope that the theme is an inspiration to the young professionals to chart their future role as there is still a lot to be done to tap the vast potential of industrial minerals in the country and accordingly plan their future and make themselves ready to undertake the future management of country’s mineral resources raising the stature of the industry to greater heights.

I sincerely thank all the academic colleagues for the valuable advice offered, reviewers, non-academic staff members and the student body effectively fulfilling the individual tasks undertaken to make the event a success. This event would not have been possible without the financial assistance of the our sponsors.

Eng. P. V. A. Hemalal
Senior lecturer – Conference Coordinator
ERE 2016
27th June 2016

Message from the Head of the Department

It is indeed a great pleasure in issuing this message for the ERE Research Conference 2016 on Earth Resources Management organized by the Department of the Earth Resources Engineering, Faculty of Engineering, University of Moratuwa.

The Annual Research Conference is a landmark event of the department and it is continuing for the eleventh year in 2016. It is a premier forum for the undergraduates, academics, researchers, industry leaders, country's geo-professionals and alumni to come together and to have constructive discussions on Earth Resources and Mining Engineering applications for the betterment of the country. I am sure that through the conference, the department gets a great opportunity to showcase their research to the world and that will be immensely helpful to build up strong links with the industry.

The organization of this annual research conference involved several key personal and organizations, behind. Thus, I would like to thank Prof. Ananda Jayawrdane, Vice- Chancellor, Prof. Kapila Perera, Dean, Faculty of Engineering and all well wishers of the University. Also, our gratitude goes to industry partners for their continuous willingness to financially support this event.

I greatly appreciate the team effort extended by the members of the organizing committee and all academic and non academic staff of the department who gave their maximum contribution to make this event a success. I wish all the best for the researchers who present their research outcomes at this conference.

Dr. HMR Premasiri
Head / Department of Earth Resources Engineering
08th June 2016



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University of Moratuwa

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Eng. Nanda Ekanayake

CONFERENCE PROGRAM

8.30 – 9.00 Registration

Opening Ceremony

- 9.00 – 9.10 Traditional Lighting of the Oil Lamp and the National Anthem
- 9.10 – 9.15 Welcome address by Head, Department of Earth Resources Engineering, University of Moratuwa
- 9.15 – 9.25 Address by the Dean, Faculty of Engineering, University of Moratuwa
- 9.25 – 9.35 Address by the Vice Chancellor, University of Moratuwa
- 9.35 – 9.40 Introducing the Keynote Speaker by Prof. PGR Dharmaratne
- 9.40 – 10.20 Keynote Address by Mr. David Lees - Chief Site Consultant of Head Race Tunnel and Link Tunnel, Uma Oya Multi-Purpose Design Project, Amberg Engineering AG.
- 10.20 – 10.30 Close of Inauguration Ceremony/Vote of Thanks
- 10.30 –10.50 **MORNING TEA**

Technical Sessions

Session I - Mining

- 10.50 – 11.10 **Address by Chairperson – Dr. Daniel Subramaniam, Senior Lecturer, Department of Civil Engineering, University of Jaffna, Jaffna**
- 11.10 – 11.25 Critical evaluation of blast - induced structural damage criteria for buildings around metal quarries at Thudugala, Kaluthara. Hettiarachchi MM, Priyasanka IDP, Herath HMWD, Mohanaruban G, Hemalal PVA and Dharmaratne PGR
- 11.25 – 11.40 Stope productivity improvement through application of cut and fill mining method variant at Bogala Graphite Mines, Sri Lanka. Abeykoon AGTBB, Lanka KASS, Ovitigala IR, Wijerathna KS, Dharmaratne PGR and Hemalal PVA
- 11.40 – 11.55 Identification of most suitable locations for rock quarrying to supply aggregate requirements of the Colombo Port City Development Project. Nayanthara PGN, Rosairo KDARP, Gunawardana GMSM, Sanjewa WPG, Dissanayake DMDOK and Vijitha AVP
- 11.55 – 12.10 Identification of the most suitable location in Kaduwela area to establish a mega quarry site to supply aggregate requirements of Mega Projects in Colombo. Banujan B, Pathirana GPDH, Ranaweera DKL, Vijitha AVP and Dissanayake DMDOK
- 12.10- 12.25 Slope stability analysis and design of open pit mine slopes for limestone mine at Aruwakkalu, Puttlam, Sri Lanka. Kariyawasam KMGS, Dauglas DLPM, Amali NPG, Samaradivakara GVI, Chaminda SP, Hemalal PVA and Jayawardane CL

12.25- 13.15 **LUNCH**

Session II - Geology and Environment

13.15 - 13.35 **Address by Chairperson - Mr. N. M. S. I. Arambepola, Deputy Executive Director (Technical) of the Asian Disaster Preparedness Center (ADPC), Thailand**

13.35 - 13.50 Removal of iron oxides in Meetiyaagoda Kaolin by chemical leaching to improve whiteness. Azarudeen MHM, Piranavan S, Krishnakumar S, Senanayake IP, Rohitha LPS and Weerawarnakula S

13.50 - 14.05 Analysing the relationship between skin and formation damage of an oil well (time depended). Ruwanpathirana RS, Nagasinghe RV, Welagedara WWVP, Wickrama MADMG, Senadhira AMADM, Ratnayake NP and Vijitha AVP.

14.05 - 14.20 Development of a model to evaluate the settling time of mineral particles. Jayasinghe JMHD, Gunathilake WADV, Lakshan MGK and Rohitha LPS

14.20 - 14.35 Long term coastal erosion and shoreline positions of Sri Lanka. Lakmali EN, Deshapriya WGA, Jayawardene KGIA, Raviranga RMP, Ratnayake NP, Premasiri HMR and Senanayake IP

14.35 - 14.50 Geochemical aspects of serpentine bodies off Embilipitiya, Sri Lanka and their effect on human health. Wickramasinghe KO, Wijerathna AVVP, Godawithana CAP, Weerawarnakula S, Premasiri HMR and Abeysinghe AMKB

14.50 - 15.05 **EVENING TEA**

Session III – Geoenvironment

15.05 - 15.25 **Address by Chairperson - Mr. S. K. Jayawardhana, Senior Geologist and Managing Director, Ground Engineering (Pvt.) Ltd.**

15.25 - 15.40 Analysis of geological structures for road cut failures: A case study along Balangoda - Haputhale main road. Senarathna CSS, Godaliyadda DP, Disanayaka KTD, Premasiri HMR, Abeysinghe AMKB and Weerawarnakula S

15.40 - 15.55 Soil nail wall design optimization by geotechnical applications and geophysical techniques. Hettiarachchi DAI, Fernando HRW, Nanthahoban E, Sameer STM, Abeysinghe AMKB, Premasiri HMR and Samaradivakara GVI

15.55 - 16.10 Effect of physical and mineralogical properties of aggregates on quality of asphalt concrete. Wijayarathne GWLW, Thavaneeshan S, Sameera BHAT , Sandamali IGV, Chaminda SP, Jayawardena CL, Premasiri HMR and Samaradivakara GVI

16.10 -16.25 Integration of direct and indirect techniques to optimize subsurface exploration. Wijesinghe LV, Ineshka WSS, Sutharsini S, Jayawardena CL and Samaradivakara GVI

16.25-16.35 Summing Up – Prof. Nalin Ratnayake

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