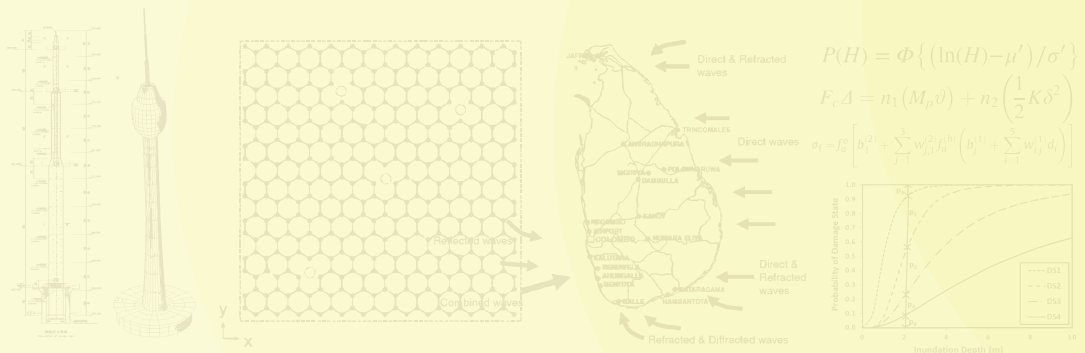




DEPARTMENT OF CIVIL ENGINEERING

Proceedings of
CIVIL ENGINEERING
 Research Symposium 2021

BOOK OF ABSTRACTS



Department of Civil Engineering
 University of Moratuwa
 November 2021

Civil Engineering Research Symposium 2021

Book of Abstracts

A selected collection of abstracts of the undergraduate research projects undertaken by the graduands of 2021

Organised by

Department of Civil Engineering

University of Moratuwa

Sri Lanka

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Message from the Head of the Department



Civil Engineering is a broad field where technology has been developing very fast, which enabled better and more sophisticated lifestyles for people. Therefore, it is essential to engage in both theoretical and applied research to fulfil this requirement in a more versatile manner.

It is with great pleasure that I present the proceedings of the Civil Engineering Research Symposium 2021 to the respected audience. The symposium is based on multi-faceted research that has been carried out at the Department of Civil Engineering, University of Moratuwa, mainly by its undergraduates under the supervision of the staff members.

Due to the diverse spectrum of Civil Engineering, those who practice need to face many challenges with a significant degree of out of box thinking. In order to balance the state-of-the-art technology and a higher level of sustainability, a wider range of research is carried out at the department. The academic staff of the department has a wealth of knowledge in various areas of expertise, and that is trickled down to the student population in the form of teaching and research. The state-of-the-art research carried out in the department at both undergraduate and postgraduate levels are showcased in conferences and symposia. This symposium consists of a collection of abstracts and presentations based on research carried out by the 2016 intake of undergraduates when they were in the 6th, 7th, and 8th semesters of the 4-year programme and by the current postgraduates of the department.

I sincerely hope that the Civil Engineering Research Symposium 2021 will benefit all the participants and the Civil Engineering industry as a whole. With the research findings presented at the symposium, I am sure that some of the unsolved research questions could be addressed with a greater degree of confidence and effectiveness.

Prof. (Mrs) Chintha Jayasinghe

Senior Professor in Civil Engineering

Head of the Department of Civil Engineering

University of Moratuwa

Preface to the “Civil Engineering Research Symposium 2021”

The Department of Civil Engineering at the University of Moratuwa takes a lot of pride in its achievements in Engineering education and research activities conducted at undergraduate and postgraduate levels. These achievements are well supported by an excellent group of academic staff members, who have strong collaborations with leading academics and research institutes worldwide. The department has taken numerous initiatives to thrive as the leading department of the region in Civil Engineering research and education. In this regard, the Civil Engineering Research Promotional Group was recently initiated to further support and enhance the research activities undertaken at the department.

The Civil Engineering Research Symposium 2021 is organised by the department to showcase the most recent achievements of the department, comprising both undergraduate and postgraduate research activities. The book of abstracts contains nearly 50 abstracts, illustrating the broad scope of undergraduate research projects undertaken by the students of the 2016 intake within the fields of Structural, Geotechnical, Hydraulic, Construction Management, Environmental, and Transportation Engineering. A selected number of projects representing their research will be presented during the morning session of the symposium.

The evening session is dedicated to commemorating the recent retirement of academic members of the department. This year, Emeritus Professor Priyan Dias will address the gathering as the most recently retired member of the Civil Engineering Department while Prof. David Thambirathnam and Prof. Mahen Mahendran (Queensland University of Technology, Brisbane, Australia) will deliver guest speeches. The latest research achievements of the postgraduate students are presented as a 3-Minute Thesis (3MT) Challenge videos and the winners will be announced during the evening session.

The editors wish to thank the contributors and the support of the academic staff members of the department, whose professionalism and dedication have made this symposium a reality.

Editorial Board

The Civil Engineering Research Symposium 2021

Acknowledgement

An event like this would not be possible if not for the support extended by many. We wish to express our gratitude to those who contributed in numerous ways to make the Civil Engineering Research Symposium 2021 a success.

We are indebted to our generous sponsors, the International Construction Consortium (ICC), the Civil Engineering Society (CES) and Dr Nadun Alwis who supported the symposium. The contribution of the academic staff members in the abstract review process and the selection of videos in the 3MT Challenge are appreciated. The support given by the non-academic staff is gratefully acknowledged. The services rendered by Eng. Chameera Randil in all graphic designs is greatly appreciated.

The technical assistance provided by the Center for Information Technology Services – University of Moratuwa (CITeS) is greatly valued. Live coverage of the event was made possible because of the support given by the media unit of the Department of Computer Science & Engineering, University of Moratuwa. We extend our deep gratitude to them.

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Civil Engineering Research Symposium 2021

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