

CE405 Project Allocation (E/20)

Project Number	Supervisor	Project title
C/20/01	Prof. L. C. Kurukulasuriya	Development of design charts for the design of under-reamed pile against uplift in expansive soils stabilized with cement, lime and fly ash. Co-supervised by Prof. M. C. M. Nasvi
C/20/03		Effect of design and construction practices on the status of reinforced concrete and random rubble retaining structures
C/20/04		Mix design development for Strength Prediction of One-Part Geopolymer Stabilized Expansive Soil Using Artificial Neural Networks
C/20/05	Prof. M. C. M. Nasvi	Stability Analysis of Embankments Constructed using Cement, Lime and Fly Ash Stabilized Marginal Soil. Co-Supervised By: Ms. Sangeetha Pavatharanan, Department of Civil Engineering, University of Jaffna
C/20/06		Comparison of swell-compressibility characteristics of expansive soil treated with cement, lime and FA
C/20/07	Dr A. M. R. G. Athapaththu	Characterization of inherent random heterogeneity of weathered Metamorphic Rocks
C/20/08		Prediction of individual slope failures in residual terrains based on satellite forecasted rainfall
C/20/10		Forensic Investigation of Structural Distress and Soil-Structure Interaction Effects in Akbar Bridge, University of Peradeniya
C/20/11	Dr S. K. Navarathnarajah	Coupled DEM-ANN Modeling to Assess the Influence of Particle Shape on the Shear Behavior of Granular Materials
C/20/12		Effect of Particle Gradation on the Shear Behavior of Railway Ballast: Experimental and DEM Study
C/20/13		Traffic Flow Prediction on Urban Expressways Using Machine Learning Techniques. Co-supervisor Ms. Supuni Nissanka
C/20/14	Dr W. M. V. S. K. Wickramasinghe	Assessing GPS-Only Approaches for Bus Dwell Time Detection at Bus Stops. Co-supervisor Eng. Hasanka Wijesundara
C/20/15		Analyzing the Influence of Surrounding Land-Use and Points of Interest on Bus Stop Dwell Time. Co-supervisor Eng. Hasanka Wijesundara
C/20/16		Agent-Based Modelling (ABM) approach for assessing the effectiveness of travel behavior interventions. Co-supervisor Mr. Umesh Lowe, PhD Researcher, University College Dublin, Ireland
C/20/17	Dr W. R. S. S. Dharmarathna	Nested Logit (NL) Modeling Approach for Travel Mode Choice Behavior: Comparative Analysis of Daily Commuters and Non-Commuters in Kurunegala district, Sri Lanka. Co-supervisor Dr Sajith Udayanga, Saitama University, Japan
C/20/18		Development of Traffic Performance Indicators and Assessment Index for Improving Traffic Flow Efficiency Through Simulation: A Case Study of Kurunegala City, Sri Lanka. Co-supervisor Dr Sajith Udayanga, Saitama University, Japan
C/20/25		Integrated Thermographic and Machine Learning Approaches for Crack Depth and Severity Evaluation in Concrete. Co-supervisors – Dr J A S C Jayasinghe and Dr Upul Jayasinghe (Computer Department)
C/20/26	Dr A. J. Dammika	Exploration of combined Non-Destructive Testing (NDT) approaches on corrosion damage severity estimation of Reinforced Concrete (RC) Elements.
C/20/27		Hybrid frequency-time domain deep learning framework for accurate localization and characterization of building damage
C/20/28		Computational Fluid Dynamics (CFD) Approaches for Assessing Wind Effects, Structural Loads, and Pedestrian Comfort in Urban Environments
C/20/29	Dr J. A. S. C. Jayasinghe	Cyclic Degradation and Strain Localization in Thin/Thick-walled steel hollow Piers
C/20/30		Integrated Vision, Machine Learning, and Digital Twin Frameworks for Sustainable Deconstruction and Waste Handling. Co-supervisors – Prof. CS Bandara, Dr A.J. Dammika and Dr Upul Jayasinghe (Computer Department)
C/20/34		Utilization of waste material in binary, ternary, and quaternary blended cement concrete
C/20/35	Dr (Mrs.) K. C. Chandrasiri	Mechanical and durability properties on nontraditional precursors-based alkali-activated systems
C/20/36		Utilization methods of RHA in concrete
C/20/41	Mr. D.M.A.G.B. Dissanayake	Experimental Investigation of Frequency Splitting as an Indicator of Damage in Reinforced Concrete Beams. Co-supervisor - Dr A.J. Dammika
C/20/42		Effect of Elastomeric Bearing Pad Thickness on the Vibration Damping Characteristics of Simply Supported Precast Prestressed Concrete Bridge Girder. Co-supervisor - Dr A.J. Dammika
C/20/19		Development of a Sustainable Concrete Mix Incorporating Normal and Plastic Aggregates for Thin Element 3D Printing. Collaboration: Mr. Mahanama
C/20/20	Prof. A. M. A. C. S. Bandara	Durability Performance of Concrete Incorporating Plastic Particles as Coarse Aggregate under Vibratory Conditions
C/20/21		Development of a Sustainable Concrete Mix Incorporating Construction and Demolition Waste and Waste Plastic Aggregates with Carbon Footprint Assessment

C/20/22	Prof. H. D. Yapa	Retrofitting Potential of Dapped-End Connections Subjected to Increased a/d Ratios
C/20/23		Evaluation of UHPC as a Retrofitting Material for Strength-Deficient Reinforced Concrete Beams. Co-supervisor Dr N.M.S.H. Bandara
C/20/24		Feasibility Assessment of Incorporating Industrial Aluminosilicate Wastes into Limestone Calcined Clay Cement (LC ³)
C/20/31	Dr H. A. D. S. Buddika	Analysis on the impact resistance of steel fiber reinforced concrete. Co-supervisor Dr Sathees Nava, Federation University, Australia
C/20/32		Experimental evaluation of bamboo reinforced concrete slab panels
C/20/33		The effect of recycled-tire steel fiber on shear behavior of RC beam with and without corrosion
C/20/37	Dr N. M. S. H. Bandara	Investigating the use of Machine Learning algorithms to predict the shear strength of Reinforced Concrete (RC) deep beams
C/20/38		Exploring the bond strength between normal strength concrete and Ultra High-Performance Fibre Reinforced Concrete (UHPRFC)
C/20/39		Strength and durability aspects of Bacteria-powered self-healing concrete. Co-supervisors Dr RMLD Rathnayake and Dr A. J. Dammika
C/20/43	Prof. S. B. Weerakoon	Experimental investigation to find optimum groyne orientation to control river bed erosion in a 90-deg river bend with a confluence
C/20/44		Investigation of Hydrological and Energy Generation Potentials of Waterfalls for Nighttime Hydro-Energy Development in Sri Lanka
C/20/45	Dr (Mrs.) M. M. G. T. De Silva	Drought Analysis in a Tropical River Basin under the Climate Change
C/20/46		Sensitivity Analysis of Dam Breach Parameters for Overtopping and Piping Failure Modes in HEC-RAS
C/20/47		Urban Flood Risk Assessment in the Kandy City
C/20/48	Dr N. G. P. B. Neluwala	Satellite-Driven Machine Learning Model for Short-Term Rainfall Forecasting in Sri Lanka. In Collaboration with Dr Damayanthi Herath
C/20/49		2D Flood Modelling of Pinga Oya Using HEC-RAS: Assessing the Impact of Buildings on Urban Flood Hazard
C/20/50		Assessment Of Head Losses In The Deduru Oya Irrigation Canal Using 2D Hydrodynamic Modeling. In collaboration with Irrigation Department
C/20/63	Mr. D.D. Dias	Application of CFD Techniques for 3D Modelling of Dam Breach Flow Dynamics. Co-supervisor Dr N. G. P. B. Neluwala
C/20/51	Prof. G. B. B. Herath and Dr (Mrs) G. M. P. R. Weerakoon	Constructed wetlands for wastewater treatment: Use of recycled byproducts as substrate media
C/20/52		Improvement of Johkasou wastewater treatment system for tropical countries
C/20/53	Prof. (Mrs.). K. G. N. Nanayakkara	Novel Coating Materials for Preventing Corrosion in Sewers. Co-supervisor Dr W.C.T.K. Gunawardana
C/20/54	Dr (Mrs.) W. C. T. K. Gunawardana	Pipe network modeling to reduce water leakages
C/20/55		Assessment of Fe/Mn removal efficiency with aeration devices
C/20/56		Quantification of anthropogenic particles in urban stormwater runoff and their removal mechanisms
C/20/57	Dr R. M. L. D. Rathnayake	Development of sustainable construction materials using water treatment alum sludge. Co-supervisor Dr A.J. Dammika
C/20/58		Performance Evaluation of Onsite Wastewater Treatment Systems Using Advanced Molecular Techniques. Co-supervisor Prof. Hisashi Satoh, Japan
C/20/59		Exploring the Feasibility of Alum Sludge Reuse within a Circular Economy Framework for Environmental Protection. Co-supervisor Dr A.J. Dammika
C/20/60	Dr G. N. Paranavithana (VL)	Investigation of the Potential Use of Domestically Fabricated Portable Aeration Systems for Small-Scale Reservoirs in Sri Lanka. Co-supervisor Dr Keerthi Atapattu from Faculty of Fisheries, marine science & Technology of University of Ruhuna
C/20/61		Development of Portable Permeable Reactive Barrier (PRB) Systems Using Dendro-Power Biochar and the soil of Hunugala Series to Improve Water Quality in Urban Drainage Systems
C/20/62		Investigation of the Potential Application of the Joule-Thomson Effect to Enhance Thermal Comfort in Residential Buildings in Sri Lanka