CE405 Project Allocation (E/19)

Project No.	Supervisor	Title
C/19/01	Dulakshi Karunasinghe	Statistical downscaling methods for the assessment of future rainfall in the Central Province of Sri Lanka.
C/19/02	NGPB Neluwala	Quantifying and Reducing Head Loss in Diversion Channels: A Hydrodynamic Analysis
C/19/03		Estimation of reservoir water levels using satellite data products
C/19/04	MMGT De Silva	Performance evaluation of conventional hydrological models and Artificial Neural Networks (ANNs) to simulate streamflow in a tropical Sri Lankan river basin
C/19/05		Drought Analysis in a tropical river basin in Sri Lanka
C/19/06	DD Dias	Study on the bank stability of the Deduru oya (In collaboration with the Irrigation Department, Sri Lanka)
C/19/07		Empirical correlation for quantifying the force excerted by a Tsunami bore based on experimental outcomes
C/19/08		Morphological evolution of Deduru oya river stretch (Irrigation Department, Sri Lanka)
C/19/09	KGN Nanayakkara	Analyzing ambient water quality of surface water bodies for different end-uses (Collaborator: Department of Irrigation, Sri Lanka)
C/19/10		Novel coating materials for preventing fat, oil and grease deposition in the sewer (Collaborator: RMIT University, Australia)
C/19/11		Optimizing the coagulation dose considering multi-factors (IIT/Kanpur, India)
C/19/12	GMPR Weerakoon (Co-superviser GBB Herath)	Assessment of fecal contamination of groundwater in a rural village
C/19/13		Non-revenue water (NRW) control strategies for a selected city (Field work could be easier for boys)
C/19/14		Vertical subsurface flow constructed wetlands: Optimization of land area requirement
C/19/15	WCTK Gunawardana	Evaluation of microplastics content in urban environment
C/19/16		Low cost oxygen transfer technology to treat iron and manganese
C/19/17		Performance evaluation of drainage systems in urban and peri-urban developments
C/19/18	Dimuth Navaratna (Co-superviser GBB Herath)	Investigating the potential of recovering bioenergy from a hybrid wastewater treatment technology
C/19/19		Potential use of RO/NF concentrate/brine in concrete as a partial replacement for cement
C/19/20		Recovery of nitrogen and phosphorus from anaerobically pre-treated wastewater using struvite precipitation
C/19/21	RMLD Rathnayaka	Eco-Friendly Cement Mortar with Water Treatment Plant Sludge (Collection of samples from water treatment plants)
C/19/24	KRB Herath	Mechanical behavior of natural woven fiber reinfored polymer composites (Prof. RMG Rajapakshe (Department of Chemistry) and Dr. Mrs. SR Herath)
C/19/26		Mechanical behaviour and testing methods of laminated natural fiber reinforced composites.
C/19/27	SR Herath	Analysis of the behaviour of Woven natural fiber reinforced polymer matrix composites
C/19/28		Analysis of components made of Fully bonded unidirectional fibre reinforced polymer matrix composites
C/19/29		Analysis of behaviour of human leg during walking
C/19/30	Chathurani Chandrasiri	Deep learning approach to model the hydration kinetics of cement based material
C/19/31		Numerical simulation of shrinkage behavior of cement system
C/19/32		The efficacy of the chemical admixture for alternative binder system.

Project No.	Supervisor	Title
C/19/33	KK Wijesundara	Performance-based design of high-rise buildings for wind loadings
C/19/34		Response of precast beam-to-column connections for quasi-static lateral cyclic loading
C/19/35		Modeling of in-elastic buckling of members in lattice towers using force-based fiber beam-column elements
C/19/36	KAS Susantha	Vibration of voided RC floors due to rhythmic human activities (If a potential collaborator from dept of civil engineering is feasible, experimental part can be included.)
C/19/37		Study on the effect of resonance on earthquake response of RC frames
C/19/38	CS Bandara	Soft and printable concrete with partial aggregate replacements by waste plastic & polythene (India-Sri Lanka Project - MOH)
C/19/39		Behaviour of discontinuous welding of steel subject to cyclic loading (Part of an ongoing project)
C/19/40		Fatigue strength assessment of steel reinforcement bars with different damages
C/19/41	AJ Dammika	Detection of corrosion induced damages in RC & PC beams by using non-linear damping signatures
C/19/42	JASC Jayasinghe	Wind Effect on High-Density Building Aeras: A Study based on CFD Simulations (For more information - D.P.N.A.P. Gunadasa, Instructor, STR Lab <e18116@eng.pdn.ac.lk>)
C/19/43		Performance of Thin-Walled Steel Hollow Piers under Lateral Cyclic Loading (For more information - A.C.D. Pigera, RA, STR Lab <e16283@eng.pdn.ac.lk>)
C/19/44		Fire / Thermo-Mechanical Numerical Modeling OR Digital Twin (DT) and Computer Vision (CV) in Structural Health Monitoring (SHM) (For more information [Fire] - Y.P.K.M.W.N. Kanakarathna, Instructor, STR Lab <e17151@eng.pdn.ac.lk> For more information [Digital Twin] - E.M.R. Ekanayake, RA, STR Lab <e16095@eng.pdn.ac.lk>)
C/19/45	HADS Buddhika	Framework for corrosion-induced degradation of reinforced concrete structures
C/19/46		Investigating the environmental and economic impacts of using supplementary cementitious materials (SCMs) using the life cycle approach
C/19/47		Characterization of corrosion in reinforced concrete beams using destructive and non-destructive tests
C/19/48	Sahan Bandara	Exploring the structural performance of reinforced concrete columns retrofitted using Ultra High Performance Fibre Reinforced Concrete (UHPFRC) jacketing
C/19/49		Investigating the effects of notches and holes on the performance of timber girders
C/19/50		Investigating the structural behaviour of reinforced concrete slabs retrofitted with Ultra High Performance Fibre Reinforced Concrete (UHPFRC) jacketing
C/19/51	LC Kurukulasooriya	Heave of subgrades stabilized optimally using cement, lime and Fly ash (Dr.MCM Nasvi as a co-supervisor)
C/19/52		Collapsibility characteristics of residual soils subjected to leaching under different hydraulic gradients and its effect on the stability of slopes
C/19/53		Influence of Anisotropic swelling behavior of expansive soils on the design of under-reamed pile foundations

Project No.	Supervisor	Title
C/19/54	MCM Nasvi	A Comparative Life Cycle Assessment of Expansive Road Subgrade Stabilized with Different Binders: A Case Study (Co-Supervisor: Dr.L.C.Kurukulasuriya)
C/19/55		Performance of One-Part Geopolymer Stabilized Expansive Road Subgrades Under Mechanical and Environmental Loads
C/19/56		Prediction of settlement of shallow foundations using ANN and its comparison with the traditional methods
C/19/57	AMRG Athapaththu	Effect of degree of saturation on shear strength parameters of completely weathered rock of Gneisses
C/19/58		Suitability of biomass fly ash to improve the properties of marginal soils (Collaboration with Industry)
C/19/59		Applicability of biomass bottom ash to improve the geotechnical properties of expansive soils (Collaboration with Industry)
C/19/60	SK Navarathnaraja	Mechanical Properties of Rubber-Ballast Mixtures for Railway Applications
C/19/61		Assessment of Influence of Particle Shape on Shear Behavior of Large Granular Materials Through Artificial Neural Network Modeling
C/19/62		Predicting Pile Settlement Using Artificial Neural Networks Based on Standard Penetration Test (SPT) Data
C/19/63	AGHJ Edirisinghe	Condition Assessment and Traffic Impact of Manhole Covers in Kandy Municipal Council
C/19/64		Pedestrian Distraction: Analyzing Mobile Phone Usage Patterns and Safety Implications
C/19/65		Assessing Helmet Usage Patterns and Safety Compliance Among Motorcyclists
C/19/66	HK Nandalal	Estimating Route Travel Times Using Google Maps for Optimized Planning
C/19/67		Assessing Travel Time Reliability through Mobile Phone GPS Data Analysis
C/19/68	MMGV Shyamalee	Analysis of Delays at Pedestrian Crossings: A comparison of Signalized and Traffic Police Controlled Intersections
C/19/69	WMVSK Wickramasinghe	Public Transport Bus Travel Time Prediction through Machine Learning for Intelligent Public Transportation Systems (Eng. W.M.H.P. Wijesundara)
C/19/70		Predicting Traffic Delays Due to Lane-Changing Behavior in Urban Areas (Eng. W.M.H.P. Wijesundara)
C/19/71		Modeling Pedestrian Compliance Behavior at Urban Signalized Intersections
C/19/72	WRSS Dharmarathna	Multinomial Logit (MNL) approach for disaster evacuation center choice modeling (Co-supervised by Mr. Kasun Thalgaskotuwa, PhD Candidate, The University of Tokyo, Japan)
C/19/73		Recursive Logit (RL) modeling approach for evacuation route choice in disastrous networks (Co-supervised by Mr. Kasun Thalgaskotuwa, PhD Candidate, The University of Tokyo, Japan)
C/19/74		Mode choice and mode shift of commuters for alternative bus route system in Kandy, Sri Lanka (Co-supervised by Mr. Dhanushka Herath, PhD Candidate, University of Peradeniya)