



In-house Internship Proposal Form

Proposal No. (*for office use only*):

Date of Submission: 09.05.2023

1.	Name, Designation and Dept. of Faculty Mentor1, Mentor2 (if, available)	Ann George- Mentor 1 Assistant Professor Department of Civil Engineering
2.	Title of the Proposal	Pilot study to evaluate the role of geocell confinement in porous concrete pavements
3.	Prospective Branch of the intern	CE
3.	Brief Description of the Proposal (Not more than 250 words): Conventional permeable pavements offer the following advantages of storm water runoff reduction, underground water quality improvement, heat-island effect mitigation, traffic noise reduction, and skid resistance improvement. However it is difficult to simultaneously optimize the mechanical and durability properties and infiltration performance of such pavements. Geocell is an interconnection of cells that form a honeycomb pattern, which provides confinement to the inferior material and laterally distributes the load. When a load is applied, the geocell reinforcement holds the infill material in cells from being displaced by hoop action in the cell walls, thereby increasing the shear strength of the composite system. In addition to the hoop action, the surrounding cells provide passive resistance, and friction offered by geocell wall and infill material further contribute towards the reduction of stress, thus, increasing the bearing capacity of the layer beneath the geocell-reinforced layer. This study attempts to improve the performance of permeable concrete pavement using geocell confinement. As a green infrastructure solution, permeable concrete pavements can be used to supplement or replace conventional grey infrastructure and greatly contribute to sustainable and low impact development.	
4.	Estimated hours of Student activity: (Minimum 10 to 15 hrs)	40-50 hours
5.	Proposed activity for the students:	
	<ol style="list-style-type: none">i. Estimate the quantity of material requirements for preparation of mixes and assess the experimental work to be carried out.ii. Procurement of materials required for conducting the experiments.iii. Testing the mixes for evaluation of its performanceiv. Preparation of reportv. Publication of findings	

6.	Expected outcomes	
	The performance improvement of porous concrete pavements through use of geocells. Research paper publication	
7.	Remarks, if any	Nil

Name and Signature of Faculty Mentor(s):

Ann George
ANN GEORGE

Recommendations:

for *Jays Saha*
Dr. Jaye Saha

Dept. Internship Coordinator
(Name and Signature)

Head of the Department
(Signature)

Jml
9/5/2022

Dr. JISHA S.V.
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