

STRUCTURES SEMINAR

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Friday 20 November

3 pm to 4 pm

Join Zoom Meeting

The Effect of Shear Crack Geometry on Aggregate Interlock Action in Reinforced Concrete

Speaker Bio

After completing her B.Sc. Civil Engineering degree at University of Moratuwa, Sri Lanka, Hasini joined Prof. Janet Lees' Concrete Infrastructure Research Group(CIRG) in 2019 as a PhD student. She is passionate about revisiting the riddle of shear in reinforced concrete with a greater focus on aggregate interlock action as a shear transfer mechanism

Abstract

A shear crack in an RC beam undergoes a load sharing stage where aggregate interlock is dominant only in a particular segment at an angle near the mid-portion. However, one of the challenges is that this estimation of the aggregate interlock contribution is highly dependent on the shape of the critical shear crack. Therefore, a thorough study is required to determine the crack shape firstly on the measured cracking patterns and subsequently on predicting the expected cracking pattern. This talk illustrates the sensitivity of aggregate interlock action on simplified and higher order shear crack geometries to assess the best ways of idealizing the shear crack such that it could be adapted in analytical tools.