



THE UNIVERSITY OF BRITISH COLUMBIA

Department of Civil Engineering

SIERA: Sustainable Infrastructure Research Group

SIERA Group 2020 Seminar Series – Seminar No. 26

Wednesday, October 21, 2020 @ 5:30pm Pacific Time (PT)

Leaching Kinetics and Reactivity Evaluation of Ferronickel Slag in Alkaline Conditions



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Ruilin is a PhD candidate in Southeast University, China. His research interests include the hydration mechanism, mechanical properties and shrinkage characteristic of alkali-activated cements (AACs). He is currently focusing on the interrelationship between the composition, micro-structure and macro-performance of AACs incorporating ferronickel slag.

Abstract: This presentation will reveal the reactivity of individual mineral phases of ferronickel slag (FNS) based on the backscattered electron images analysis (BSE-IA) and present the leaching kinetics of FNS in NaOH solutions, aiming to reveal the interrelationships among physicochemical properties, leaching behavior and reactivity of FNS. There are three typical phases identified in water-quenched FNS, namely FNS I, II and III phase. The FNS I phase is more prone to dissolve and preferentially participate in the reaction process than the other two phases. The dissolved Mg from FNS is mainly involved in the formation of hydrotalcite and N-M-S-H gels. Cr could not be detected during the leaching process.

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