Ir. Dr Goh Wan Inn
Senior Lecturer
Faculty of Civil Engineering and Built Environment,
Universiti Tun Hussein Onn Malaysia, Malaysia

BIONOTE

Ir. Dr Goh Wan Inn has been employed as a Senior Lecturer at the Faculty of Civil Engineering and Built Environment since 2015. Since 2023, she has been appointed as Head of Department for Student Industrial Training Department, Centre of Career Advancement and Alumni, Universiti Tun Hussein Onn Malaysia. She completed her 1-year industrial attachment in Feb 2023 and was successfully certified as a Professional Engineer by the Board of Engineer Malaysia on 17 August 2023. She has been involved in teaching at the undergraduate and postgraduate levels. Her other responsibilities include supervision of the undergraduate students' Final Year Project (FYP), Master by coursework students' final project, as well as Master by research and PhD students. has been involved in 13 grants and led 7 research grants among them. As an active lecturer, besides teaching and doing research, She also actively joined as a committee member for various programs and competitions organized by her University. She also kept up with her knowledge by attending conferences, workshops, and seminars, where she could expand her network. She also served as a judge, internal and external examiner, reviewer, and speaker for final exam papers, invention competitions, final year projects, journals and conference papers, and other events.

Title: **"Material Properties of Self-Compacting Concrete Incorporating Palm Oil Fuel Ash (POFA) and Gypsum Powder as Cement Replacement"**

ABSTRACT

This study explores the feasibility of utilizing palm oil fuel ash (POFA) and gypsum powder (GP) as partial replacements for cement in self-compacting concrete (SCC). Various proportions of POFA (20%) and GP (5%, 10%, 15%) were examined to assess their impact on the material and fresh properties of SCC. Physical properties of raw materials were determined, revealing differences in specific gravity and water absorption. Microstructural analysis using Scanning Electron Microscope (SEM) with Energy Dispersive X-Ray Analysis (EDX) indicated higher silica content in POFA (5.96%) and increased calcium content in GP (18.78%). Fresh properties tests, including slump flow, T500, J-Ring, and segregation, demonstrated that the 20P 0GP mix achieved optimal workability and self-compatibility without external compaction. The study highlights the potential of using agricultural waste and natural resources as sustainable alternatives in SCC production.