

**Nanyang Technological University – Economic Development Board
Industrial Postgraduate Programme (NTU- EDB IPP)**

Project details

NTU Faculty	Professor Tan Choon Hong
NTU Faculty's email contact	Prof Tan Choon Hong: choonhong@ntu.edu.sg Chew Jia Shen: jiashen002@e.ntu.edu.sg Eugene Kuek: s210080@e.ntu.edu.sg
School	SPMS
Collaborating Company	Wilmar International
IPP Project title	Aliphatic C-H functionalisation of Lipids/Long Chain Carboxylic Acids (Branched-Chain Fatty Acids)
Description of IPP Project	Lipids is an important class of macromolecules that is present in all organisms, present in large quantities. From soaps to candles, detergents, surfactants to biofuels, lipids have been very important to mankind. Research on non-polar macromolecules have been limited to the functional groups present on these molecules. Naturally occurring fatty acids are usually made up of long carbon chains that have very similar chemical environments (e.g lauric acid, myristic acid and stearic acid) and selective transformations on each carbon atom is highly valuable to afford lipids that are of great commercial and scientific value. Hence, we would like to investigate and develop new methodologies that can functionalise (-methyl, -hydroxyl, -halide) aliphatic C-H bonds in the endeavour to create unique lipid molecules that can be applied as novel surfactants or new encapsulating materials to be used in drug discovery.
Requirements	Candidate must be Singaporean or Singapore Permanent Resident Candidate must have a minimum of Honours or its equivalent Candidate would be considered an employee with Wilmar International and would be required to manage both industrial and academic expectations Candidate would not need to perform teaching assistant duties
Duration of the project	4 years
Period of the project	08/2022 - 08/2026