



IEM

The Institution of Engineers, Malaysia

ORGANISED BY CIVIL AND STRUCTURAL
ENGINEERING TECHNICAL DIVISION

WEBINAR TALK "PASSIVATION BREAKDOWN ON STEEL REINFORCEMENT IN CONCRETE"



THURSDAY
25 JULY 2024



TIME
3.00PM - 5.00PM



PLATFORM
ZOOM

CPD APPROVED HOURS : 2 HOURS

CPD REF NUM : IEM24/HQ/302/T (W)



DR. LEE SIAW FOON

REGISTRATION FEES

IEM STUDENT MEMBER : FREE

IEM MEMBER : RM 15

NON IEM MEMBER : RM 70

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SPEAKER PROFILE

Dr. LEE SIAW FOON graduated from University of Malaya in 1997 with BSc in Physics (First Class Honours Degree). Then, she further her study in Loughborough University and graduated with PhD in Materials Science in 2002. Currently, she is a Research Associate in The Eduardo Torrajo Institute for Construction Science (IETCC), Spain. Dr. Lee's research mostly in steel corrosion and photocatalyst. She has published more than 20 papers in the international journals and conferences. She always invited as a paper presenter in the international conferences in Malaysia, Spain, United Kingdom, United State of America, Czech Republic and Norway. She is an associate editor of Journal of the Mechanical Behaviour of Materials (De Gruyter) from 2023 until present and member of editorial board of Nonlinear Engineering (De Gruyter) from 2021 to 2022. She is also a guest editor and principle guest editor for 3 papers in Green Processing and Synthesis (De Gruyter) Journal from 2022 until present.

Dr. Lee's experiences in R&D activities including panel of judges for the Best Student Presentation Award in National Physics Conference 2023 in Malaysia; session chair for National Physics Conference 2023 in Malaysia; session chair for Energy and Materials Session at 7th International Conference on Catalysis and Chemical Engineering in Las Vegas; session chair for Infrastructure Composites Session at 27th International Conference on Composites/Nano Engineering (ICCE-27) 2019 in Spain and international advisory committee for the area of Micro- and nano- technology in construction and civil engineering at the 2nd International Conference on Advances Micro and Nanocomposite for Engineering 2014 in Malaysia.

SYNOPSIS

The talk focuses on careless application of anodic or cathodic protection can cause the passivation breakdown of reinforcing steel in concrete. Affecting factors on the mechanical properties of steel. Cement hydrates provide high pH condition for passivation. Point defect model depicts the development of passive film until corrosion. The phenomena observed during anodic potential polarization, pitting potential, corrosion products and breakdown mechanism. Hydrogen absorption during cathodic potential polarization induced fracture mechanism.