

Incorporating carbon nanotubes to enhance intelligence in rubberised concrete

Tuesday 19th September 2017 Free Evening Presentation (1 hour)

University of Birmingham, Room-G36, Mechanical and Civil Engineering Building (Y3), Edgbaston, Birmingham B15 2TT

5:45 PM for 6:00 PM start

Speaker: Dr. Sakdirat Kaewunruen (Senior Lecturer in Railway and Civil Engineering, Birmingham University)

The majority of civil infrastructure is constructed using concrete materials and currently concrete production is at all time high resulting in significant carbon dioxide emissions. This presentation discusses an experimental investigation that has been highly promising in identifying an alternative solution to solve the sustainability issue regarding concrete. Our critical literature concrete structures still lacks of self-monitoring ability for failure or any changes in the structure. This presentation will highlight the factors that influence the self-monitoring ability as mainly the conductive filler, fabrication and dispersion, which are the critical parameters. Experimental studies have been carried out to identify the most environmentally sustainable solution with a minimum of 40MPa compressive strength at 28 days. The study reveals that intelligent and sustainable concrete can be established. The self-monitoring concrete engineered by crumb rubber can also reduce carbon dioxide emissions in comparison to a meter cubed of ordinary Portland cement concrete.

Dr Sakdirat Kaewunruen has over 14 years in rail industry and regulatory environments and has a wide variety of specialisations, including rail engineering, track components, structural and engineering, maintenance and construction. He is a Chartered Engineer in both Civil and Structural Colleges, and has research and practical experience internationally in railway systems and infrastructure engineering.

Carpark is free after 17.00 or only a short walk from University Train Station.

Non-members are especially welcome

Please email regional-events@concrete.org.uk to ensure your place at this event.

Edgbaston Campus Map Index to buildings by zone

- Red Zone**
- R1 Law Building
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- R7 Aston Webb – Student Hub
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- R14 Barber Institute of Fine Arts
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- R19 Education Building
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- R21 Mulheed Tower
- R23 University Centre
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- Green Zone Conference Park**
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- Yellow Zone**
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- Y3 Mechanical and Civil Engineering Building
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- Y8 Chemistry West
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- Y10 Arts Bioscience
- Y11 Chemical Engineering
- Y12 Biochemical Engineering
- Y13 Chemical Engineering Workshop
- Y14 Sport, Exercise and Rehabilitation Sciences
- Y15 Civil Engineering Laboratories
- Y16 Occupational Health
- Y17 Public Health

- Orange Zone**
- O1 The Guild of Students
- O2 St Francis Hall
- O3 University House

