Unitar Online Catalogue

CIFAL Surrey - Sustainable Concrete Cube Competition 2025

人类

截止日期 ：8 10月 2025

种类 ：	Side Event
位置 ：	Guildford, United Kingdom of Great Britain and Northern Ireland
日期 ：	29 10月 2025 to 5 11月 2025
期限 ：	1 Days
项目领域 ：	Decentralize Cooperation Programme
网址 ：	https://unitar.org/about/offices-training-centres-around-world/cifal-surrey
价格 ：	US$0.00
活动协调人 email:	CIFAL@surrey.ac.uk
合伙 ：	CIFAL Surrey, , CIFAL Surrey

背景信息

The Sustainable Concrete Cube Competition, now in its second edition in 2025, promotes innovation, sustainability, and hands-on learning in concrete technology. Hosted at the University of Surrey in collaboration with Tony Gee and Partners, VolkerLaser and supported by the Institution of Civil Engineers (ICE) Early Career Network, the event brings together undergraduate, postgraduate,

and graduate engineers (Surrey alumni) over two evenings. Teams of 3 members design and mix their own sustainable concrete mixtures, present their design concepts, and test cube specimens for strength and performance. The competition encourages creativity in material formulation, use of low-carbon binders, and circular material strategies, giving participants practical experience in sustainable construction and experimental testing.

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Enhancing participants’ practical understanding of sustainable concrete design through hands-on experience in material formulation, mixing, and mechanical testing.

Fostering innovation and creativity in developing low-carbon and circular concrete mixtures that align with sustainable construction principles.

Strengthening collaboration between students, alumni, academia, and industry partners, promoting knowledge exchange and professional development in sustainable structural engineering.

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The competition is structured across two sessions combining design, fabrication, and testing. In the first session, teams receive a safety briefing and engage in hands-on batching and mixing of their concrete in the University’s Structures Laboratory. In the second session, participants present their design concepts and test their 7-day cured cubes for compressive strength under laboratory supervision. Judges from industry evaluate teams based on innovation, sustainability, presentation, and performance. This format blends technical skill development with communication, teamwork, and practical understanding of sustainable concrete technology.

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Each team develops a sustainable concrete mix design using selected low-carbon materials and supplementary cementitious components, balancing strength, durability, and environmental performance. Participants follow standard laboratory procedures for batching, mixing, and curing to ensure consistency and

comparability of results. Compressive strength testing at seven days is conducted using calibrated equipment under staff supervision. In the design and presentation session, teams explain their material selection, mix design rationale, and sustainability strategies to a panel of academics and industry professionals. Teams are judged and cash prizes are awarded in three categories: Strongest Cube, Lowest Carbon Content, and Best Presentation. This approach integrates design, experimentation, and communication to enhance applied learning in sustainable concrete technology.

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Undergraduate and postgraduate students, early career practitioners.