

Fostering excellence in STEM education – unlocking opportunities for outreach

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Introduction

Cambridge: a global hub of innovation

Cambridge recognised as one of the world's foremost business clusters is celebrated for its vibrant entrepreneurial culture in science and technology. The burgeoning biomedical, biotech and IT industries have propelled the region into a global epicentre for groundbreaking innovation. However this rapid growth has accentuated a pressing skills shortage across scientific and technological roles, ranging from entry-level to post-doctoral positions.

Bridging the skills gap – Cambridge Academy of Science and Technology

As an initiative-taking response to this challenge, the Cambridge Academy of Science and Technology (CAST), a proud member of the Cambridge Academic Partnership (CAP) and supported by the Baker Dearing Trust as a University Technical College (UTC) stands as a beacon of solution. CAST specialises in delivering focussed education for careers in Science, Technology, Engineering, and Maths (STEM). Tailored for young minds aged from 13 to 19 years old, CAST's comprehensive programme encompasses GCSE, A Level and BTEC courses complemented by a unique opportunity for students to collaborate with nearby businesses engaged in innovative scientific pursuits.

Challenge projects: nurturing skills for the future

At the core of CAST's innovative educational approach lies the 'Challenge Project' model. Integrated into the curriculum, Challenge Projects immerse students in real and pertinent research and work, cultivating essential

skills crucial for success in STEM fields. From designing robotic arms to delving into bioinformatics-based projects with industry leaders, these projects provide firsthand experiences that go beyond traditional classroom learning.

2023 Challenge project winners



Industry collaborations and recognition: a decade of Dragons' Den Excellence

Originally organised by the MRC, the Challenge Projects have been orchestrated by CRUK's Cambridge Institute for the past 10 years. Enjoying invaluable support from esteemed Cambridge-based organisations involved in laboratory animal research, both historically and presently, the Challenge Projects have also garnered support from industry players. This collaboration has facilitated