**Cardiff University media release**

**Alan Turing inspired escape room shows “maths is more than just numbers”**

*Problem solving, teamwork and tenacity key to beating STEM outreach challenge*

Schoolchildren have taken on a Bletchley Park-inspired escape room as part of a day of Science, Technology, Engineering and Mathematics (STEM) outreach activities at Cardiff University.

The game, developed by Senior Lecturer Dr Thomas Woolley, pits players against a series of puzzles based on the work of his mathematical hero Alan Turing at Station X in World War Two.

One of the most influential British figures of the 20th century, Turing led a team of codebreakers who were responsible for decoding the encryption of German Enigma machines during the second world war.

Dr Woolley who is also Head of Outreach at the School of Mathematics said: “One of my mathematical heroes was Alan Turing. He was an absolutely incredible mathematician who worked on computers before computers existed and founded the field of mathematical biology which is the focus of my research to this day.

“But what he’s probably best known for – and there’s been movies about this – is breaking the enigma code during World War Two.

“It’s this ability to apply yourself to a new problem, the tenacity to take on a challenge even if you don’t necessarily find the answer, that are core principles in mathematics.”

In a race against the clock, the teams from Cathays High School in Cardiff followed instructions in a fictional letter from “Adam Turning” who asks for their help in breaking a new enigma code. However, before they’re recruited as new code-breakers they have to show that they’re made of the right stuff by cracking puzzles made out of a variety of different objects including maps, wooden rods and prerecorded messages. Each puzzle solution lead to a key and codes that opens several lock boxes, each providing new puzzles and clues.

With each challenge, players obtained one of three enigma wheels which they use to crack a final code, obtain a key and stop the clock.

Uvindi, whose team ran out of time, said: “We got all of the boxes open but couldn’t find the code for the metal keypad.

“It was really hard, but I think it showed us how to be smart and patient.”

Felix, who was part of the winning team with a time of 38 minutes and 21 seconds, added: “I thought it was fun and quite tricky as well.

“There were parts where we had to use a Caesar cipher wheel and then the enigma code.

“It was very entertaining!”

Dr Woolley says escape rooms like his are great for helping students to develop and showcase a range of important skills.

He added: “I’ve always loved puzzles and maths and there’s a huge overlap between the two ideas.

“These escape rooms are an opportunity to share that joy with schoolchildren who might have a really set idea of what maths is. I hope the game inspires them to engage with maths from a new angle.”

“After all, maths is not just numbers. Problem solving, teamwork and tenacity practiced in these games are key skills required in any field, no more so than mathematics.”

**ENDS**