



You are invited to the *RoboCup Rescue Maze Workshop*

Hosted by Somerville House, this workshop will introduce the new Rescue Maze event, with a series of demonstrations and hands-on activities across the day.

It is open to both staff and students, however, limits may be placed on the number of students to ensure fair access to all members of the RoboCup Junior Queensland community.

Date:

Monday 6 March 2017 from 8.30am until 2.30pm

Venue:

The Honour Room, Foundation Building
Somerville House, 17 Graham Street, South Brisbane

Cost:

Free

What to bring:

Students will need to bring a packed lunch

What will be provided:

- Robots and mazes
- Take home information sheets
- Expert tutors
- Teachers will be provided with a light lunch

Pick up and drop off:

Somerville House is located opposite the South Bank train station and close to Vulture Street bus stops. Paid parking is available at the South Bank Parklands underground carpark along Little Stanley Street, and the Hancock Street or Mater Hill carpark.

Please assemble at the main Somerville House reception on 17 Graham Street, where you will be escorted to the venue.

RSVP:

Please RSVP online via Trybooking
www.trybooking.com/260844 by
Friday 24 February 2017.

For all queries, please contact
Mrs Brenda Gahan
on 07 3033 9424
or email bgahan@somerville.qld.edu.au



About the Workshop

The Rescue Maze Challenge is new to RoboCup Junior Australia in 2017. It has been adapted from the Rescue Maze competition that is becoming part of RoboCup Junior International in 2017.

The challenge involves finding victims amongst the rubble in a catastrophic event. For example, the collapse of a major building in a city environment. The maze is the path the robot must follow to search the rubble for signs of life. This might include heat, light or coloured markers.

The Maze

The maze consists of a grid of 30cm x 30cm 'rooms'. Each room must be searched for the robot to find all the victims.

There can be two types of walls. The first are those that connect to the outside walls, allowing the robot to use a wall following algorithm to solve the tiles adjacent to these walls. The second type are floating walls. These do not connect to other walls and as such must be discovered by some other search pattern.

The maze might contain an upper area connected by a 25-degree incline (ramp). There are points awarded for climbing and descending the ramp.

Finally, some of the rooms can be marked with black squares. These are no-go zones. Other rooms might have some obstacles to cross, like loose debris, or speed bumps.

Robot Requirements

The robot must be able to fit through a door 30cm wide and manoeuvre through the maze without damaging it. It must have a PAUSE feature that can be used to ensure that the robot can be quickly and safely stopped at any time.

For heated victims, a temperature sensor or thermal sensor will be required. These might not be available for the LEGO robots at the workshop.

Please note: Robots will be provided for the workshop.

Workshop Structure

The workshop will look at an analysis of the Maze challenge, and incorporate some of the requirements into a LEGO robotics solution and then look at programmed solutions for these requirements. We will have ample time to implement solutions using some standard robots with modifications.

Timeline

8.30 – 9.00am	Arrive
9.00am	Introduction
9.10am	Analysis of the Maze Challenge
9.30am	Breakout Session 1: Solving the challenge components
10.45am	Morning Tea
11.00am	Review of Breakout Session 1 and further analysis
11.30am	Breakout Session 2: Solving the challenge components
12.30pm	Review
12.45pm	Lunch
1.30pm	Breakout Session 3: Putting challenge components together
2.15pm	Introducing non LEGO solutions and some further ideas to incorporate
2.30pm	Workshop Close

