

# UK ROBOT competitions

David Hannaford

Minos 2017

# BCU Techfest

- Original Micromouse competition running annually since 1980
- Currently hosted by Birmingham City University
- Competitions usually held in June and November
- Location – BCU Birmingham
- Competitions for schools and seniors
  - Line follower – white line on black background
  - Non contact wall follower – follow wall to get to centre of maze
  - Drag race – time down 7 meter straight course, head to head
  - Time Trials – fastest around outside of maze
  - Maze solver in 16 x 16 maze – fastest time

- More info:

<http://www.bcu.ac.uk/engineering/news-events/micromouse>  
<http://www.micromouseonline.com/micromouse-book/rules/>

# IET Robot Triathlon

- Run by the IET Midlands section
- Competition usually held annually on 1 day in March
- Location – Midlands University or Derby Silk Mill
- Competitions
  - Line follower – as per Micromouse – but not essential to stop
  - Drag race – as per Micromouse 7 meter track – knockout
  - Time Trials – a wall follower round outside of rectangular track with option of doing a figure of 8 across middle section for extra points
- Constraints – max size 25 x 25cm and must use M12 motors
- Run alongside family Robot day with a dozen or more robot activity related stands
- More info about previous events at <http://www.theiet.org/events/local/193512.cfm>
- <http://www.theiet.org/events/local/227870.cfm>

# Pi Wars

- Run by Cambridge labs Pi wars community
- Competition held annually in early April over 2 days weekend
  - Saturday -Schools. Sunday -beginners, intermediates and pros/veterans
- Location – Cambridge Computer Labs
- Competitions – mix of Autonomous(A) and Remote Controlled(RC)
  - [Straight-Line Speed Test](#) - Fastest sum of 3 times down a 7.28m course (A)
  - [Minimal Maze](#) - Drive round simple maze twice without touching walls (A)
  - [Line Following](#) – Fastest round course of black line on white background(A)
  - [Pi Noon – the Robot vs Robot Duel](#) – Burst opponents balloon (RC)
  - [Obstacle Course](#) – Navigate through obstacle course fastest (RC)
  - [Skittles](#) Robot collects and propels a ball to knock over skittles (RC)
  - [Slightly Deranged Golf](#) – Push a golf ball around obstacles into hole (RC)
- Constraints – main controller must be a Raspberry Pi
- 60 teams for 2017 – local TV & newspaper coverage
- More info at : <http://piwars.org/2017-competition/>
- Photos: <http://marutan.net/PiWars2017-Day1/target0.html>

# Fighting Robots Association

- Runs Robot Wars type ticketed events touring around the country
- Competitions – All Remote Controlled
  - Mainly heavyweight class fighting as per Robot Wars
  - Some projects done with schools (Roaming Robots) for non destructive robots and with super ant-weight or featherweight class fighting robots
- More info at
  - <http://www.fightingrobots.co.uk/content/22-fra>
  - <http://www.roamingrobots.co.uk/>
  - <http://www.extremersrobots.co.uk/>

# Vex UK National Championships

- Run by VEX – who sell robot kits – mainly USA based but competition runs in 32 countries with 10,000 teams
  - UK Regional Competitions in Feb and Nationals in March
  - Location – UK National held at NEC Birmingham
  - Competitions – Mainly Remote Controlled(RC) aimed at schools and colleges.
    - Challenges change each year, mainly about moving objects in a 12ft square playing area better than your opponents
    - Standard matches - Teams play against each other
    - Skills challenges – one robot against the clock
  - Constraints – Must use mainly VEX components for the robots (quite expensive & large)
  - More info at : <https://www.vexrobotics.com/competition>  
<https://www.robotevents.com/>
- Or from UK contact [bridie\\_gaynor@vexrobotics.com](mailto:bridie_gaynor@vexrobotics.com)

# FIRST LEGO League

- Run by IET in the UK in conjunction with FLL
- Competition for teams of up to 10 pupils aged 9 to 16 and activities for teams of up to 6 Juniors aged 6 to 9
- Location – Regional competitions and international open championship in Bath in May 2017
- Competitions –Autonomous challenges
  - for 2017 “Animal Allies” – 15 missions for robot mainly about the robot moving or manipulating animal shaped lego objects within the base board area
- Constraints – Must use Lego Mindstorms kit
- More info at :  
<http://firstlegoleague.theiet.org/about/index.cfm>
- <http://firstlegoleague.theiet.org/junior/index.cfm>

# Eurobot - UK

- Run by eurobot.org in the UK in conjunction with Middlesex university as UK heats of full Eurobot
- Main competition for teams with participants aged less than 30 (aimed at schools & colleges) plus a junior competition for students aged less than 18. Can have 1 supervisor over age limit
- Location – UK finals in Middlesex
- Competitions –Autonomous challenges
  - 2 opposing teams collect objects in a 2 x 3 meter playing area representing moon village in 2017, and bring them into their team area, then use them to build a moon base and launch rockets
- Your team robots (1 or 2) must fit into starting area
- More info at :  
[http://www.planete-sciences.org/robot/data/file/coupe/2017/E2017\\_Rules\\_EN.pdf](http://www.planete-sciences.org/robot/data/file/coupe/2017/E2017_Rules_EN.pdf)
- Video at <http://www.eurobot.mdx.ac.uk/>



# Robocup Junior - UK

- Run by [robocup.org](http://robocup.org) in the UK
- Main competition for teams of up to 5 members of ages 11 to 14(Primary) or 15 to 18 (Secondary)
- Various events take place between March & June
- Location – hosted in 2017 at Calday Grange Grammar school – Birkenhead, Wirral and at BT's Adastral Park in Ipswich
- Competitions –Autonomous challenges
  - Soccer – 2 on 2 robots play soccer using a light emitting ball
  - Rescue line follower – follow black line on white tiles up ramps and through gaps, then collect and take balls to evacuation point
  - Rescue maze – explore maze fully for victims (warm objects), over bumps, ramps and visiting checkpoints and take rescue packs to victims
  - Cospace rescue- control robots in a virtual and real world together to find and collect coloured objects and take them to collection points
  - Onstage – 1-2 minute robotic stage performance
- More info at : <http://www.robocupjunioruk.org/>  
<http://rcj.robocup.org/rescue.html>

Also senior Robocup competitions aimed at universities

# EPSRC Schools robot challenge

- Run by EPSRC (Engineering and Physical Sciences Research Council) with UK-RAS (Robotics and Autonomous Systems) network
- For school children. 2 categories aged 4 to 12 or 13 to 18
- Location – on-line
- Challenges – Design and submit a virtual robot bug or a virtual garden for it to live in using interactive CAD style online facilities provided by EPSRC
- More info and info packs at :  
<http://hamlyn.doc.ic.ac.uk/roboticsweek2017/events/school-robot-challenge-2017>
- Must sign up by 30<sup>th</sup> April and submit by 28<sup>th</sup> May 2017
- Winners announced as part of EPSRC robotics week 24 to 30 June

# EPSRC Social care robot challenge

- Run by EPSRC with Bristol Robotics lab and Sheffield University
- Workshops and collaborative events leading to public demonstration of results in Robotics Week (24<sup>th</sup> to 30<sup>th</sup> June 2017)
- Location – demos at the International Robotics Showcase London
- Challenges – any of the following:
  - Assisted mobility
  - Personal hygiene
  - Social support
  - Preventative and rehabilitation monitoring
  - Remote assistance
  - Food preparation

- More info at :

<http://hamlyn.doc.ic.ac.uk/roboticsweek2017/news/social-care-robot-challenge-2017>

<http://hamlyn.doc.ic.ac.uk/roboticsweek2017/challenges/challenges-2017>

- EPSRC also run Surgical robot challenge, Extreme Environments Robot Challenge and Robots for Resilient Infrastructure Challenges

**That's all folks**

unless you know of something else!