



EDINBURGH CENTRE FOR  
**ROBOTICS**  
Innovation Ready



THE UNIVERSITY  
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# Edinburgh Centre for Robotics Newsletter

December 2015, Issue 4

## Latest News

### "Why I chose the Robotics CDT"

Jonathan Bowles, one of our first year CDT in Robotics & Autonomous Systems students, writes about his experience in the programme so far, his research and why he chose Edinburgh Centre for Robotics.

To read the post, please visit [www.edinburghrobotics.wordpress.com](http://www.edinburghrobotics.wordpress.com)

### BBC World Service: The Robot designed to replace astronauts

On the 18th November, Prof Sethu Vijayakumar, co-director of the Edinburgh Centre for Robotics, was interviewed by BBC World Service radio about the NASA Valkyrie robot project. He explained why Valkyrie resembles human beings and talked about its use in space exploration, as well as its applications on Earth.

To hear the full interview, please visit: [www.bbc.co.uk/programmes/p038f64b](http://www.bbc.co.uk/programmes/p038f64b)

### EPSRC Humanoid Robotic Sandpit held at the Edinburgh Centre for Robotics

On the 3rd & 4th November, researchers from the groups of Nicolas Mansard (LAAS, Toulouse), Jeremy Wyatt (U. of Birmingham) and Matt Howard (Kings College London) visited for two days to discuss avenues for potential collaboration in the area of humanoid control and manipulation.

Read the full story at [www.edinburgh-robotics.org/news](http://www.edinburgh-robotics.org/news)

## Save the date

9th December, 10:00

*CDT Virtual Open Day*

Online Information session for prospective students. Further information and registration at

[www.edinburgh-robotics.org/vod](http://www.edinburgh-robotics.org/vod)

29th January, 17:00

First deadline for applications to the EPSRC CDT in Robotics & Autonomous Systems.

[www.edinburgh-robotics.org/apply](http://www.edinburgh-robotics.org/apply)

*Sponsor a PhD  
researcher*

To learn about the  
benefits, contact:  
[jmcaleese@ed.ac.uk](mailto:jmcaleese@ed.ac.uk) or  
[I.McEwan@hw.ac.uk](mailto:I.McEwan@hw.ac.uk)

**EPSRC**

Engineering and Physical Sciences  
Research Council





## ROBOTARIUM

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### New Arrivals

The Robotics Laboratory at Heriot-Watt University has just added a new heavy-weight member - the social robot, FLASH.



FLASH at the Robotics Lab  
During assembly on the laboratory's premises, FLASH amused everyone by emotionally reporting social media statuses, forecasting the weather, narrating planned calendar events, and taking pictures of the assembly team as they tried to put the FLASH together.

From the first day the FLASH gathered quite an audience of academic staff and the students that were already willing to interact with it.

### Upcoming arrivals

The University of Edinburgh has formed a research collaboration with NASA's Johnson Space Center (JSC) and the Florida Institute of Human Machine Cognition (IHMC) around NASA's ground breaking humanoid robot - Valkyrie. Weighing 125 kg and standing 1.8m tall, Valkyrie is one of the most advanced robots ever constructed and will enable breakthroughs in humanoid control, planning and perception. Valkyrie will become part of the Institute of Perception, Action and Behaviour within the School of Informatics. It forms the centerpiece of the Edinburgh Centre for Robotics (Robotarium) which is a joint initiative with Heriot-Watt University. Co-ordinated with Robotarium is the EPSRC Centre for Doctoral Training in Robotics and Autonomous Systems (CDT-RAS). PhD Students from CDT will carry out research using the robot.

[www.edinburgh-robotics.org/robotarium](http://www.edinburgh-robotics.org/robotarium)



## TRAINING

EDINBURGH CENTRE FOR  
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### Annual Conference

On Friday 23rd October 2015, the first Edinburgh Centre for Robotics Conference took place in the James Watt Centre II at Heriot-Watt University. Industrial delegates, academic staff and students (CDT & aligned) attended the event. Professor Peter Corke, from Queensland University of Technology in Brisbane, Australia, opened the Conference with his talk "Why Robots See?". An overview of the Centre's activities followed this talk Professors David Lane and Sethu Vijayakumar welcomed and introduced the new cohort of students to everyone present at the Conference; gave an update of the Robotarium facilities (Heriot-Watt University and the University of Edinburgh). New Robotarium equipment will arrive during the next months and there will be a Robotarium launch next year, to which delegates from industries and Universities will be invited to attend. Please refer to our Annual Review 2014/2015 ([goo.gl/77O34O](http://goo.gl/77O34O)) to find about the Centre's activities throughout this last year.

Professor Nick Weston's talked about the Benefits to Industry of Sponsoring a Ph.D. student. Professor Weston, from Renishaw, first gave an overview of the research success and innovation carried out at Renishaw. He then pointed out that all of Renishaw's staff have multiple skills and that sponsoring a Ph.D. student has turned out to be beneficial for the company because each student represents the possibility of



Edinburgh Centre for Robotics Conference

a future member of staff or a long-term relationship with a future academic partner. In exchange, the students benefit from getting industrial experience and helping them decide whether they wish to stay in academia after their Ph.D. degree or pursue a career in Industry. Professor Darwin Caldwell, from IIT Genoa, also presented a talk on Humanoid and Quadrupedal Robots. The Robotics Department in IIT Genoa is currently researching hydraulic Quadrupedal Robots, which have better stability than

the Humanoid Robots seen in the DARPA challenge earlier this year.

Then, our 2014 cohort presented their research projects. They have been working on their projects right after successfully achieving their MSc by Research degree at the University of Edinburgh and Heriot-Watt University. The last session of the Conference was an interactive session between industrial delegates and students, where each group designed and justified a Robotics & Autonomous Systems project that could be doable in a year by a 3-4 small student teams, and could develop a capability to address a market need. The imaginary kick starter budget was £20k and the Robotarium facilities were available for this project. At the end of the session, each group justified their project in 2 or 3 minutes with a round of questions and answers.

Overall, this year's Conference proved to be successful and a great opportunity for industrial delegates to learn about the research activities carried out at the Centre by our academic staff and students. We are already looking forward to and getting ready for next year's Conference and Robotarium Launch.

To see all the photos, please visit :  
[goo.gl/zhF1b3](http://goo.gl/zhF1b3)

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