

Team Bath Heart win Second World Heart Hackathon Title



Second win in a row puts Bath artificial heart team on top of the world

Team Bath Heart, a group of students from the University of Bath who have designed and built their own artificial heart, have been named the best in the world for the second year running.

The team won the world Heart Hackathon, which took place in Japan yesterday. The victory follows last year's win in the same competition.

The team, made up of 70 students studying engineering, science and management courses, created a prototype 'total artificial heart' for the contest – a device which could technically replace the entire job of a heart. They used innovations including wireless charging and 3D printing to create their device, making it smaller and more sophisticated than the 2023 model.

Team lead Mansi Ahuja, who is studying Electrical and Electronic Engineering, said: "Winning the Heart Hackathon this year feels amazing. We had to fill some big shoes following last year's team and we pushed ourselves to work hard to be sure we could say we tried our absolute best.

"The panel of judges were extremely impressed with our prototype, in particular due to the well manufactured casing. Autodesk, our sponsor, 3D-printed a version of the casing for visual representation and machined the top plate with stainless steel for proof of machinability. We sent them our CAD files and design and consulted with them on machining technique, and this was a different project for them to work due to the complicated shapes of our design.

"We're super proud to have earned the second win in a row and to represent Bath and Team Bath Heart in this way. We have a really committed team and have had amazing support from our academic supervisors and our sponsors who we are very thankful for."

The Heart Hackathon first ran last year in Texas. The competition was created to nurture the next generation of cardiovascular innovators.

Team Bath Heart were the only UK team at the event in Utsunomiya, north of Tokyo – others came from the USA, Australia, New Zealand, Romania, Egypt, Thailand and Sweden.

The competition comprised a report detailing each team's work and innovations, and a fifteen-minute final presentation, delivered to world experts in cardiovascular support devices, followed by 5 minutes of intense questioning. Team Bath Heart's final report was 150 pages long.

Following their win the team will be able to present their artificial heart to the International Society for Mechanical Circulatory Support (ISMCS) conference, a gathering of world leaders in circulatory support devices, which is linked to the Hackathon.

Dr Katharine Fraser, a Senior Lecturer in Mechanical Engineering and one of the team's academic supervisors, said: "The Team have worked incredibly hard to create an advanced design with a unique pumping mechanism, gentle blood handling, and transcutaneous electrical transmission.

“While all the teams had progressed since last year, TBH stood out for the combination of novelty, progress, and a fantastic presentation.”

The team has received support to create their device and fund the trip from sponsors and donors including Ansys, Autodesk, Keysight, 3P Innovation, the Institution of Mechanical Engineers and the University of Bath’s Centre for Learning and Teaching and the Faculty of Engineering and Design. They also received support in arranging and funding the trip from the Sasakawa Foundation, which builds education links between the UK and Japan.

Parties or companies interested in sponsoring Team Bath Heart as they begin to develop next year’s Heart Hackathon entry can contact them at teambathheart@bath.ac.uk, by visiting the Team Bath Heart website or their crowdfunding page.

Source & Image Credit: [The University of Bath](#)

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