

## Robots Built by Amrita University Students Win Five Awards in Singapore

Posted By *admin* On March 3, 2016 @ 4:15 pm In Awards & Recognition, IT & BT News | [Comments Disabled](#)

---



[1]

**[2]** *Among the winners are a coconut tree climbing robot, a staircase-cleaning robot, a room-cleaning robot, a gesture-based navigational robot, and a hand-orthosis robot for stroke patients*

**Bangalore, March 3, 2016:** Five teams of robotics students from Amrita University have won prizes at the OMRG Asia competition in Singapore for their robots, besting 20 teams from other countries in the final round.

While the robotic coconut-tree climber, the hand-orthosis robot for stroke patients, the gesture-based navigational robot and the staircase-cleaning robot bagged prizes in the Open Category, the autonomous room-cleaning robot won the second prize in the Under 18 category. Notably, the robotic coconut-tree climber named Amaran was judged the "Best Mechanical Design," and ClePa, the staircase cleaning robot, was declared the "Best Marketable Design."

All the robots were designed by students as part of the Humanitarian Technology (HuT) Labs of Amrita University's Department of Electronics and Communication Engineering. The University intends to develop the robots further and introduce them in the market.

Said **Dr. Rajesh Kannan Megalingam, Director, Humanitarian Technology Labs, Amrita University:** "This is a huge achievement for Amrita University as well as the country as instances of Indians winning robotic contests outside India are rare. The wins have given our students exposure to international standards, designs and infrastructure in robotics and

an opportunity to network with peer designers from across the world. This is an experience which will have remarkable impact on their future endeavors. Winning multiple awards in a prestigious international competition is a testimony to the caliber and innovation capabilities of our students. Of the several universities from Asia which participated in the OMRG contest, Amrita University was the only one to win more than two prizes.”

Said **G Harsha**, a part of the seven-member student team working on the coconut-tree climber: “This project is driven by a humanitarian cause. The number of people who take the job of climbing coconut trees has reduced drastically in India due to accidents associated with the activity. If a man falls while climbing a tree, it may result in serious injuries or even death, resulting in untold grief and financial hardships to his family. The coconut-tree climbing robot thus fulfills a critical need. The structure of the coconut tree and the arrangement of coconut bunches posed a major challenge in designing this robot. Some trees are bent and the tree trunks are not of uniform shape too. The coconut bunches are embedded inside the leaves at the treetop. We had to do repeated field tests and kept making improvements in each design iteration of the robot till it worked.”

Said another student **Arsha V** who worked on the navigational robot: “This robot is intended to offer a helping hand for the elderly people and stroke and spinal-cord injury patients who use wheel chairs. It is cost-effective and overcomes many drawbacks of existing technologies such as voice control, joysticks, etc. which demand physical effort for navigating the wheelchair. Initially, we faced problems with controlling the jerk due to the sudden transition of the touch-sensor output. Later, the jerk was successfully minimized by controlling the Pulse Width Modulation (PWM). This has ensured a smooth and easy navigation of the wheel chair with hand gestures.”

### **Open Category Prizes:**

**Second Prize:** Gesture-based navigational platform (Students: Arsha, Aparna, Parvathy and Akhil)

**Fifth Prize:** Hand-orthosis robot for stroke patients (Students: Likhith, Rajesh, Nirmal, Vinu and N Vignesh)

**Best Mechanical Design:** Robotic coconut-tree climber (Harsha, Vignesh S, Sarath, Surya, Vishnu R, Venkatraj and Sai Kumar)

**Best Marketable Design:** Staircase-cleaning robot (Abhijeet, Aditya, Aravind, Bharath and Arjun)

### **Under 18 Category:**

**Second Prize:** An autonomous room-cleaning robot (Students: Aniketh, Pavanth, Aswin S and Naveen)

The OMRG Asia 2016 (One Moment of Robot Glory Asia) was organized by EDU Studio

Solutions of Singapore.

It brought together robot enthusiast working on the design of robotics applications and analysis of robotic systems. High-quality, original robotics demonstrations were invited from participants in all areas of robotics. The final showcase involved live on-stage demonstration of robots selected through review process based on video entries.

### **About Amrita University**

Amrita University is a multi-campus, multi-disciplinary research university that is accredited 'A' by NAAC and is ranked as one of the best research universities in India. The University is spread across five campuses in three states of India – Kerala, Tamil Nadu, and Karnataka, with the University headquarters at Coimbatore, Tamil Nadu. The University continuously collaborates with top US institutions including Ivy League universities and top European universities for regular student exchange programs and has emerged as one of the fastest growing institutions of higher learning in India. The University is managed by the Mata Amritanandamayi Math.

Sri Mata Amritanandamayi Devi is the founder and Chancellor of Amrita University. She is also known as Amma to millions around the globe. A world renowned humanitarian leader, Amma is the guiding light of the university. Amma's words, thoughts, and views on education and research have shaped the university's mission and vision.

---