



KNOWLEDGE AND AWARENESS MAPPING PLATFORM



PRESENTS

Special Session on

ROLE OF ROBOTICS IN HEALTHCARE

"A glimpse of

"How Robotics & AI is supporting in Haptics and Bionics"

JUNE 23, 04:00 IST

For Classes 5th - 12th

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KNOWLEDGE SESSION 2022: EPISODE 5

ORGANISED BY: KNOWLEDGE AND AWARENESS MAPPING PLATFORM

A KNOWLEDGE ALLIANCE OF



Date: 23rd June 2022

Organized For: Class 5th – 12th

Topic: The Role of Robotics in Healthcare

Category: Science, Technology & Innovation

No. of Participants: 800+ students from different schools across India

Speaker/Presenter: Ms Praveena Nair (Sr. Instructional Designer)

Overview:

On June 23rd, KAMP conducted a special workshop on "The Role of Robotics in Healthcare" by Ms. Praveena Nair. Ms. Praveena has more than 20 years of experience in the fields of client engagement, Verbal Abilities Training, and recruitment. She is also a certified Trainer from Cambridge Language Assessment, a division of Cambridge University). She was the Cambridge Language Assessment Centre Head for Kerala.

Currently, she is working as a Sr. Instructional Designer at M/s Inker Robotics. Inker Robotic Solutions Pvt. Ltd. is an award-winning EdTech company (awarded 'The Best Robolab' set up in India in 2019 at the STEM event conducted at IIT, Delhi). Inker Robotics is dedicated to providing the best in Phygital Learning to the K12 sector with its most innovative physical and digital STEM-aligned programmes in Robotics and Emerging Technologies. The motto of the company is to get young schoolers to # BeFutureReady and they promote this through immersive, engaging, and embedded knowledge transfer.

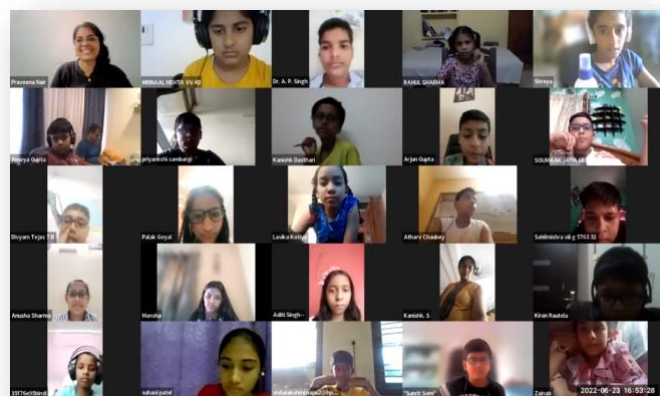


It was an immense pleasure to have Ms. Praveena with us for this very amazing session. It was an amazing experience to see her connect with the students in her own charming way. The students were very

delighted to learn more about the topic and kept their engagement at the highest level.

Ms. Praveena started the workshop with the most essential question for the students: "What is the most important thing in our life?" To which we received the desired response, as many students were likely to say that health and wellness are the most important things in their lives.

Proceeding towards the topic, she presented the students with some real life examples where individuals have used technology to make their lives better. The examples she gave



were of individuals who have gone through a major accident and lost their normal body functioning, one way or the other. Given below are the famous examples that she mentioned:



1. Dr. Hugh Herr
 - He has a PhD in Biophysics from Harvard University; he is a professor at the MIT Media Lab.
 - He lost both his legs below the knees due to frostbite during one of his mountain climbing experiences.
 - His brain can conveniently control the bionic leg movements with the help of sensors connected to the muscles in his body.

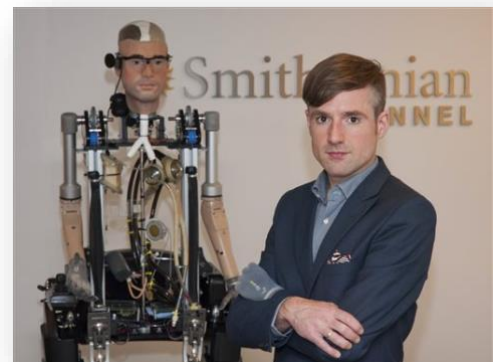
2. Ms. Claire Lomas
 - She is a jewellery designer who had a severe horse-riding accident that led to paralysis below the chest.
 - She uses the Exoskeleton ReWalk Suit that helps her walk normally.
 - She is the first person with her condition to have walked a marathon for 16 days.
 - She has raised over £575,000 for charity since her accident.

3. Mr. Ray Flynn
 - He has been suffering from an ageing disorder related to the eye known as age-related macular degeneration which causes blindness.
 - A bionic eye implant was performed to treat his disorder.
 - Now, he can see everything as a normal person does. The bionic spectacles have a camera that transmits messages to the brain.

With such examples, Ms. Praveena showed students how robotics and technology have made it possible to fight any issue, and along with this, she has also motivated the students to never give up in life, no matter what the circumstances.

She even made the students familiar with a bionic robot named Frank. Frank is a 100% bionic man created by Dr. Bertolt Meyer from the University of Zurich. He has a complete respiratory system, an artificial heart, an artificial lung, an artificial kidney, as well as artificial blood running down his artificial circulatory system. To achieve a human level of functioning, he has more than 20,000 sensors.

Technology has helped a lot in the medical field nowadays. It has become easier to create 3D models of artificial body parts and replace them with damaged real body organs. Thanks to



advances in technology, doctors can now easily replace vital organs as well as any other part of the body, such as the rib cage, hip, knee, or other part of the body.

Similarly, robotics has made a great contribution to healthcare with the use of collaborative robots. These robots can communicate, interact with patients and, in many cases, even be able to assist them with their medication on time, get their blood tests done or measure their blood pressure. Given below are some famous robots that are currently used in many hospitals:

1. Davinci Robot: It has the ability to operate on patients flawlessly. In the last 5 years, it has operated on over 8 thousand surgeries in Amrita Hospital in Kerela.
2. Rutgers Robot: Assists in Blood Tests can easily identify the veins, get the blood sample, run a blood test, and provide a full report in 30 minutes.
3. Robear: it can carry and lift patients from one place to another.
4. Romeo: It can assist individuals with Alzheimer's or patients who need consistent special care.
5. QT: can help children with special needs, such as autism. It teaches them, listens to them, and even helps control their temper.



The use of such robots has also been found to be very effective even during COVID situations, when many nurses and doctors have been afraid to get in contact with the contagious disease.

Organized By:

Knowledge and Awareness Mapping Platform
(KAMP Operations and Coordination Office)

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