

NASA Scientists and Astronaut Conduct Space Experiment Workshop with School Students at Shiv Nadar School

Winning experiment to be replicated aboard the International Space Station by astronauts

- *Astronaut Steven Roy Swanson and his team are interacting with students from 14 schools participating in the workshop*

Friday 7 October, 2016: Shiv Nadar School, apart of the **Shiv Nadar Foundation**, is conducting a unique multi-school workshop for an experiential learning program called **Mission Discovery India** in collaboration with ISSET(International Space School Educational Trust), UK. The five day workshop, from October 5 – 9, 2016, will involve Indian students working in mixed groups with **Astronaut Steven Roy Swanson Astronaut Trainer, Sarah Murray ISSET Founder, Chris Barber**, and other leaders to design experiments for space. **The winning experiment will be replicated by astronauts aboard the International Space Station.** The India workshop is ISSET's first in Asia.

The workshop being conducted at the Shiv Nadar School, Noida is orienting students on real-life issues linked to space based on which the students will design experiments, taking into account the limiting environment of space. For example winning experiments from past global Mission Discovery programs looked at determining the effectiveness of treatment of conjunctivitis in microgravity or carbon dioxide consumption by cacti in space. The 17 participating schools from across North India include the Shiv Nadar Schools, Mayo College, Ajmer, Delhi Public School and The Sri Ram School among others. Students are divided into 30 teams comprising eight students each (from class 8th upwards) to design the experiments.

Astronaut Steven Roy Swanson is working with a dynamic team to help students get a first-hand experience of working together on space linked experiments. The workshop facilitators also include **NASA scientist Sarah Murray** (she is responsible for the Neutral Buoyancy Laboratory Space Walking training facility at NASA and has also held roles in Astronaut Training and Mission Control) and **Julie Keeble**, a lecturer in Pharmacology in the Institute of Pharmaceutical Science from **King's College London**.

On bringing Mission Discovery to India, **Astronaut Steven Roy Swanson said** *"We are delighted to be in India. With this program, students get a straight-off opportunity to get involved and participate in something that for many is unimaginable or out-of-bounds. Winning this will give students the privilege of having their ideas actually reach space and be carried out at the international space station. This will not only help them learn how to work in a team and gain knowledge about space, but also help them enhance their self- belief and capabilities to be able to achieve success."*

Speaking on the occasion, **Col Gopal Karunakaran, CEO, Shiv Nadar School says,** *"This is a great opportunity and privilege for Indian students and just the kind of far-reaching things that we try out at the Shiv Nadar School to provide our students incredible learning experiences. Mission Discovery is allowing Indian students an opportunity to experiment on scientific issues actually relevant to NASA,*

working alongside real astronauts and scientists. This is experiential learning at its finest and we are very grateful to ISSET for this once-in-a-lifetime opportunity.”



Chris Barber, Founder, The International Space School Educational Trust (ISSET), said, *“Mission Discovery is a global program conducted in the UK, USA, China, Australia and, now in India. Through this we inspire school students with an opportunity to have their ideas carried out by astronauts as they orbit the earth on the International Space Station. Mission Discovery enables students to learn firsthand from astronauts, world famous scientists and NASA leaders. In this the first Mission Discovery in India or Asia, we are impressed with the knowledge and enthusiasm of the Indian students.”*

Shikha Agnihotri, Founder, Young Edsplorer, *“We are very enthusiastic to work in partnership with schools to promote the concept of Experiential Learning which is the process of learning through experience, and is more specifically defined as -Learning through reflection on doing. Young Edsplorer aims to revolutionize the concept of learning through experiences for school students in the Indian Subcontinent. Capitulating the power of this potential, our mission is to let the maximum young minds explore world and the environment around themselves. Keeping that passion in mind, we would like to thank ISSET, UK for collaborating with us to bring Mission Discovery to India.”*

About Shiv Nadar School

The Shiv Nadar School is a not-for-profit initiative of the Shiv Nadar Foundation in K12 private education to deliver educational excellence and provide education for life. The Shiv Nadar School will provide students an environment that challenges them into discovering their talent and skills. A culture of creativity will inspire the joy of learning among students. The schools will nurture ethical, respectful, happy and purposeful citizens of society.

About the team:

Astronaut Steven Ray Swanson: *He is an American engineer and a retired NASA astronaut. Steven has received numerous awards and honors. These include the NASA Exceptional Achievement Medal and the JSC Certificate of Accommodation and many others. Prior to becoming a NASA astronaut, Swanson worked for GTE in Phoenix, Arizona, as a software engineer. Steve has flown 2 shuttle flights, STS-117 and STS-119. He has logged over 643 hours in space and completed 4 spacewalks totaling 26 hours and 14 minutes. Steve has also served in other roles at NASA, such as a CAPCOM for both International Space Station and Space Shuttle missions.*

https://en.wikipedia.org/wiki/Steven_Swanson

Sarah Murray - *Sarah is responsible for the Neutral Buoyancy Laboratory Space Walking training facility. She has held roles in Astronaut Training and Mission Control. She has been Deputy Chief of Space Flight Training Management where she was the Chair of the International Training Control Board, responsible for Astronaut training across the ISS partners. She was the Group Leader for the Space Shuttle Communications Group and was selected to lead the Columbia Recovery Office following the Space Shuttle Columbia accident. Sarah taught school at the Frankfurt International School in Germany and served several years in the United States Army before joining NASA.*

Julie Keeble: *Julie is a lecturer in Pharmacology in the Institute of Pharmaceutical Science at King's College London. Julie works closely with Mission Discoveries winning teams to produce the final experiment, fit to be launched into space. Her research focuses on the role of sensory nerves in pain, inflammation and thermoregulation. Julie is a module organiser for the MSc. Integrative Physiology & Pharmacology for Research at King's. She is also a member of the British Pharmacological Society and a BBSRC Schools Regional Champion*

Chris Barber: Founder of the International Space School Educational Trust (ISSET). Chris has had extensive careers in both finance and education. He is also a Leadership and Organizational Improvement Consultant.

Ross Barber: ISSET Project Manager. ISSET has been developed to be the UK's most exciting space educational organization, running programs in the UK, USA, China, Arctic and India.

About Shiv Nadar Foundation

The Shiv Nadar Foundation (www.ShivNadarFoundation.org) has been established by Shiv Nadar, Founder, HCL - a \$6.5 billion leading technology and healthcare enterprise. The Foundation's mission is to contribute to the process of national development and social transformation by establishing institutions and undertaking new initiatives in the fields of education and culture. The Foundation is committed to the creation of a more equitable, merit based society by empowering individuals to bridge the socio-economic divide through philanthropy-based transformational education.

The Foundation set up the SSN Institutions (www.SSN.edu.in) in 1996, comprising the SSN College of Engineering (already a highly ranked private engineering college in India), in Chennai, Tamil Nadu. The Foundation has also set up VidyaGyan, a residential leadership academy for meritorious rural children, at Bulandshahr and Sitapur in Uttar Pradesh. In addition, the Foundation runs the Shiv Nadar University (www.snu.edu.in), an international multi-disciplinary university with strong research orientation located in Greater Noida in India's National Capital Region and the Shiv Nadar School (www.shivnadarschool.edu.in), a network of progressive urban schools across India aimed to provide children with education that creates lifelong learners. The Foundation has also set up the Kiran Nadar Museum of Art (www.knma.in), India's largest private philanthropic museum in modern and contemporary art with the vision to take art to the common public.

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