

Biodiversity Conservation



SRM

INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be **University** u/s 3 of UGC Act, 1956)

How do we preserve and
protect our biodiversity?

BIODIVERSITY CONSERVATION

SRMIST strive to preserve and protect natural habitats and biodiversity on our campuses, creating new opportunities for wildlife on campus wherever possible. In addition to nurturing local habitats, our biodiversity work helps create a better environment for the university community, promoting staff and student wellbeing, and increasing enjoyment of our campuses.

WE AIM TO:

- The improve the biodiversity and preserve and protect the natural habitats in an around the campus.

HOW WE' RE ACHIEVING BIODIVERSITY CONSERVATION

The university takes great pride in its estates and makes the following actions to maintain and enhance its biodiversity:

- To preserve and improve existing valuable habitats;
- Identify specialist measures for vulnerable species.
- Erect interpretive signs by valuable habitats;
- Reduce the use of residual pesticides,
- Zero green waste policy;
- Stimulate natural habitats by leaving 'eco-strips' near streams and woodland edges.

SWACHH BHARAT ABHIYAN

Swachh Bharat Abhiyan is also called as the Clean India Mission or Clean India drive or Swachh Bharat Campaign. It is a national level campaign run by the Indian Government to cover all the backward statutory towns to make them clean. This campaign involves the construction of latrines, promoting sanitation programmes in the rural areas, cleaning streets, roads and changing the

infrastructure of the country to lead the country ahead. SRMIST is keen in participating the Swachh Bharat Abhiyan program through the following initiatives.

SRMIST INITIATIVE FOR BIODIVERSITY CONSERVATION

1. Pond Renovation
2. Swachh Baharat program
3. Social responsibility–oil spill at the marina
4. National service scheme (NSS)
5. SRM environment club
6. SRM tree plantation drive
7. SRM lake cleanup (Keezhkattalai lake)
8. SRM Earth Day celebrations
9. SRM environmental day celebrations

POND RENOVATION

The Campus is divided by a water body namely Potheri Tungal (Chitteri) for an extent of 11.89 hec. The tank ceases to be an irrigation source and is maintained as a storage water body. The collector of Kancheepuram District has permitted the management to carry out the renovation of this tank. The tank has been deepened, strengthened and renovated for walkways, garden and lawns around the tank.



Figure 49 : Pond renovation activities carried out by SRMIST Students

SWACHH BHARAT PROGRAM

India celebrating the 3rd anniversary of 'Swachh Bharat' where the higher educational institutions had to contribute and follow the policy 'Swachhta Hi Seva' the NSS unit of SRM IST campus organized a cleaning drive in and around the campus, also they involved in cleaning the Municipal Park and streets.



Figure 50 : Swachh Bharat Campaign by students of SRMIST



Figure 51 : Potheri Railway Station Cleanup by students of SRMIST



Figure 52 : Cleaning activity at Perungalathur lake by students

SOCIAL RESPONSIBILITY—OIL SPILL AT ENNORE

Two ships, the Dawn Kanchipuram and the BW Maple, collided off Ennore on January 28 causing an oil spill of 251.46 tonnes. More than 35 km of Chennai's coastline was affected by the oil spill, with Ernavoor as the 'epicentre'. Blobs of oil were found along the coastline of Puducherry and Devanampattinam too. MT Dawn Kanchipuram reportedly had 584.14 MT of bunker oil. More than 2,000 people, including volunteers, were engaged in the clean-up operations. In this regard, oil spills were cleaned by many volunteers including HIMT Students, Port Authorities and Local Fishermen's.

As a social responsibility SRM has conducted the health camp at Hindustan Institute of Maritime Training (HIMT), Vengampakkam, Kalpakkam, Tamil Nadu 603102 and the Local Fisherman who involved in the oil pollution cleanup. The entire study has been carried out by School of Public Health & Center for Environmental Nuclear Research, SRM University to study the health impact of the volunteers. Also to evaluate and compare the health risk of employees 50 employees from CPCL has been recruited to estimate the benzene exposure in low-level environment under strict adherence to industrial standards.

The levels of benzene if any in the blood and urine samples has been analyzed from the CPCL employees. This values of minimal exposure CPCL group

will be compared with the values of high exposure volunteers group involved in the Ennore coastal oil spill cleaning work. We have already collected the samples from this group. The studies was sponsored by SRM University.



Clean Up of Oil Spill at Marina



Clean Up of Oil Spill at Marina



Volunteers Involve in Oilspill Clean Up at Marina are undergoing Medical Check Up.



Volunteers Involve in Oilspill Clean Up at Marina are undergoing Medical Check Up.



Volunteers at CPCL for Blood & Urine Collection



Health Checkup camp at HIMT, Vengampakkam, Kalpakkam

Figure 53 : Oil spill Cleanup and medical camp organized conducted by SRMIST

LITER OF LIGHT CAMPAIGN AT SRMIST

This campaign at SRMIST has aimed at lighting up the lives of people who lived in the rural parts of Chennai. A group of leaders were chosen and the team monitored two areas in the Guduvancherry. The team gave out a solar powered light to 15 residents of the aforementioned wards. The construction was basic and could easily be used by people of different age groups. It is through initiatives like these that we can help build the society. Being an integral part of a developing nation, it gives us immense happiness when we put a smile on the faces of those less fortunate.



Figure 54 : Liter of light recipient residents

EARTH HOUR CELEBRATIONS AT SRMIST

Earth Hour is a worldwide movement organized by the World Wide Fund for Nature (WWF). The event is held annually encouraging individuals, communities, households and businesses to turn off their non-essential lights for one hour, from 8:30 to 9:30 p.m. towards the end of March, as a symbol for their commitment to the planet. It was started as a lights-off event in Sydney, Australia, in 2007. Since then, it has grown to engage more than 7000 cities and towns worldwide. We love this planet. That's why each Earth Hour we make as noise as possible for action on climate change. We couldn't think of a better way of making ourselves heard than to host events and generally celebrate this amazing planet we call "home."



Figure 55 : Earth hour celebrations at SRMIST

The celebrations begins: 8:30pm on 25 March of every year. This day, unlike any other day, we turned it off. We switched off every utility linked to electricity, not just to cut costs, but also to increase the longevity of the environment. In one hour, we saved enough electricity to power the campus for a straight month, imagine what you could do just by saving. Imagine what such small steps build up to. They say that the amount of energy saved during this 1 hour could light up the world for generations to come. Here is to a world moving towards Sustainable Development Goals.



Figure 56 : Candle lights burning to create awareness on earth hour celebrations

SRM ECO RUN

Grasping the need for living in a pristine environment at the grass root level, SRM organized an eco run on the morning of the Independence Day of India to make people aware about the importance of environment conservation. With the motto of 'Go Clean, Go green', the Aaruush team from SRM Institute of Science and Technology (formerly known as SRM University) organized the 5km long run as an attempt to break the Limca Book of Records for the "Biggest Eco Run" and observed around 1181 registrations.



Figure 57 : Inauguration of Eco run at SRMIST

In order to encourage the crowd to contribute towards a clean and green environment, the Bring Your Own Bottle(BYOB) Campaign was also implemented in order to reduce plastic water bottle usage to minimal. This campaign ensured that no packaged plastic bottles were provided to the participants, hence spreading the motto. As part of the eco run the registered participants were also encouraged to sign a petition for "Switch to 100% Renewable Energy" with the aim to move towards an eco-friendly environment. The event noticed participation from not just the students but also from many faculty members of the University.



Figure 58 : Students and Staff involved in Ecorun Event

NATIONAL SERVICE SCHEME (NSS)

The NSS unit at SRM IST has more than 1000 registered students. Prof L.R Ganapathi Subramaniam, School of Mechanical Engineering, is the Program Co-ordinator. The NSS volunteers at SRM are involved in a broad spectrum of activities such as

- Social service–the community around the campus
- Cleaning the SRM IST campus
- Planting trees
- Conducting health camps in rural areas
- Organizing blood donation camps
- Advocacy on community health
- Creating AIDs awareness, helping NGOs to raise sponsorship and funds
- Working with tsunami victims in rehabilitation etc.

The NSS unit also adopts government schools in Chengelpet district and works closely with the school authorities and students.



SRM
INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)

SRM ENVIRONMENT CLUB



SRM Environment Club (SEC), has actively strived toward saving the deteriorating environment, within and outside the campus of SRM IST. We invite people from all spheres to put in their innovative minds, to protect our environment and make it a better place to live and laugh out without any fear.



Figure 59 : Environmental Club at SRM IST



Figure 60 : Campus Clean Up Drive by SEC

SRM TREE PLANTATION DRIVE



Figure 61 : Tree Plantation drive by SEC at SRMIST

Tree plantation drive by SEC on 5th Nov, 2016 at Shivananda Rajaram senior secondary school, Maraimalainagar. Totally 101 plants has been planted and regularly maintained by students of SEC, SRMIST.

LAKE CLEANUP (KEEZHKATTALAI LAKE)



Figure 62 : Keezhkattalai lake clean drive

As a part of NCC activities students of SRMIST has involved in the cleaning and renovation of the Keezhkattalai lake. Every year the lakes and ponds near SRM are renovated and cleaned.

SRM EARTH DAY CELEBRATIONS

The 22nd of April has been marked as an Earth Day to make the human race aware of the importance of their planet. The people celebrate world Earth Day every year as an annual event all across the world in order to increase the awareness among people about the environmental safety as well as to demonstrate the environmental protection measures.



Figure 63 : Earth day Celebrations at SRMIST

In this 45th year of Earth Day celebration students of SRM IHM under the support of Director Principal & Vice Principal Chef Ramesh took the initiative of planting new trees inside the premises of SRM IST & beautifying it. Mr B Sridhar (Asst Revenue Manager, Radisson Blu Hotel Chennai) was invited to grace the occasion. As this year's Earth Day theme states ' it's our turn to lead ' the students wanted to raise awareness about the importance of planting trees & the effects of deforestation on our planet.

SRM ENVIRONMENTAL DAY CELEBRATIONS

India is the global host of 2018 World Environment Day, which will take place on June 5, 2018. With "Beat Plastic Pollution" as the theme for this year's edition, the world is coming together to combat single-use plastic pollution. Every year SRMIST is celebrating the environmental day for a week-long (May 30th to June 5th).



**Walkathon cum Environment Audit
(May 30th)**



**Tree Plantation at Mamandoor
(May 31st)**



Stop Plastic Campaign
(June 1st)



Ground Level Awareness for Plastic Pollution at Besant Nagar Beach (June 3rd)



Plastic Pollution awareness to School Children through drawing, Essay and oratorical competitions (June 4th)



Installation of Air quality Monitor & Clock Tower Inauguration



Figure 64 : Environmental Day Celebrations

RALLY ON GLOBAL WARMING AND CLIMATE CHANGE

SRMIST has organized a rally on Global warming and climate change on 16th march 2018 every year. This event is to promote awareness among the staff and students of SRMIST on Global warming and Climate Change. The Main theme and slogan of rally will be “Mother Earth is in danger owing to negligence of human beings. The erratic behavior of nature is because of increase in pollution. It is the duty of everyone to reduce it,” “Friendship should not be limited to just people known to us but should extend to Mother Nature and to humanity at large so that we survive together.”



Figure 65: Rally on Global warming and climate change

SUSTAINABILITY EDUCATION

"Education for Sustainable Development allows every human being to acquire the knowledge, skills, attitudes, and values necessary to shape a sustainable future. Education for Sustainable Development means including key sustainable development issues into teaching and learning; for example, climate change, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption. Education for sustainability (EfS) is essential to help people to understand and accept the need for significant changes in the way we operate socially and economically, in order to ensure a sustainable future for everyone.



However, sustainable development can only be successful if it is embedded into the organization's curriculum, teaching and learning practices, as well as its estate management and community relations.

SUSTAINABILITY IN THE SRMIST CURRICULUM

At SRMIST, we take the approach that there is no definitive knowledge content that should be included in a curriculum addressing sustainability or sustainable development. We point to indicative curricular themes that may be more or less relevant to each disciplinary area and which might be used and adapted as 'entry points' to develop sustainability education further. Through our academic and professional courses, we're creating a global network of leaders and thinkers who have the capacity to collaborate, lead and deliver positive change.

COMPULSORY COURSE FOR B.TECH CURRICULUM IN ALL DISCIPLINES

15CY102 - Principles of Environmental Science

ELECTIVE SOUSES FOR B.TECH CURRICULUM

15ME343E Solar Energy Utilization

15ME370E Environmental Pollution And Abatement

15ME433E Sustainable Energy Systems

15BT302 Environmental Biotechnology

15BT310E Industrial Waste Management

15BT317E Bioremediation Technology

M.TECH ENVIRONMENTAL ENGINEERING COURSES OFFERED.

EN2001 TRANSPORT OF WATER AND WASTE WATER

EN2002 ENVIRONMENTAL MICROBIOLOGY AND ECOLOGY

EN2003 SOLID WASTE MANAGEMENT

EN2004 UNIT OPERATION AND PROCESSES IN WATER AND WASTE WATER TREATMENT

EN2005 AIR & WATER QUALITY MODELING

EN2006 DESIGN AND OPERATION OF WATER AND WASTE WATER

EN2101 INDUSTRIAL WASTE WATER TREATMENT

EN2103 HAZARDOUS WASTE MANAGEMENT

EN2105 ECOLOGICAL ENGINEERING

EN2106 ENVIRONMENTAL IMPACT ASSESSMENT

EN2107 BIOLOGICAL TREATMENT OF WASTEWATER

EN2110 GROUND WATER CONTAMINATION AND TRANSPORT MODELING
EN2113 MARINE POLLUTION MONITORING
EN2115 PHYSICAL AND CHEMICAL TREATMENT OF WATER AND WASTEWATER
EN2118 AIR POLLUTION CONTROL

AWARENESS WORKSHOP ON ENVIRONMENTAL SUSTAINABILITY

One day Awareness Workshop on Environmental Sustainability has been planned and organized in association with Gothe Institute Chennai on the eve of World Ozone Day held at SRM Institute of Science and Technology (formerly known as SRM University), Kattankulathur, Chennai, on 20th of September 2016. Several technical talks on numerous topics by very well renowned persons were arranged around 75 students participants were selected to attend this workshop out of 500 applications received. Mostly from nearby Schools, Polytechnic and Engineering colleges were selected. The event started off with the auspicious lamp lightening ceremony by our honorable chief guest Dr. J. Daniel Chellappa, [Senior scientist (TCW), BARC, Government of India and Technical Coordinator, Central Expert Group on Kudankulam Nuclear Power Project (KKNPP), Government of India, Chennai and he delivered the inaugural address and stressed upon the need of this kind of awareness workshops.



Figure 66 : Awareness Workshop on Environmental Sustainability

INDIAN BIODIVERSITY CONGRESS (IBC)

SRMIST has organized the Indian biodiversity Congress from 18-20th Dec 2014, focal theme of the seminar was “Biodiversity for Poverty Eradication. Dr. K Rosaiah, the honorable Governor of Tamil Nadu, Dr. Nanditha Krishna, Director, CPR Environmental Education Centre, Chennai, and Dr. G. G. Gangadharan, President, CISSA has ingaured and addressed the gatherings.

Indian Biodiversity Congress (IBC) is the largest conglomeration of scientists, conservationists, environmentalists, civil society groups and local communities in India, a platform to discuss the current status of biodiversity in India and an inclusive colloquium to forward strategies and policies to conserve the rich biodiversity heritage of the country. The major objective of IBC is to formulate a vision and alternate strategic plan for the conservation of biodiversity in the context of prevailing concept of “development at any cost”.



Figure 67 : Indian Biodiversity Congress Inauguration

SRMIST threw light on the strong research framework of the University which deals with tribal health, maternal and child health and the like. Dr. K Rosaiah, the honorable Governor of Tamil Nadu in his inaugural speech, pointed out that such platforms should not only be for the exchange of experiences and expertise, but also help in framing of feasible strategies and formulation of plans for conservation and sustainability of the biological diversity across the globe. It is high time to create and inculcate the massive level awareness among the masses.

SRMIST SUSTAINABILITY RESEARCH CENTER

SRM will set up Centre's of Excellence (COE) in areas which address critical issues and cuts across multiple disciplines. Center for Environment and sustainability will be established. This center goal is to take an inter-disciplinary approach to the analysis of sustainable systems, integrating strong, engineering-based approaches with insights from the social sciences to develop action-oriented, policy-relevant responses to long-term environmental and social issues.



Figure 68 : Centre's of Excellence (COE) in SRMIST

This will aims to develop the next generation of environment and sustainability leaders and to improve the quality of research publications by investing in faculty development, increasing the number of post graduate and doctorate students and extensively building a network of partnerships with leading local and global institutions. SRM IST is well positioned to address such challenges given its presence across the various disciplines. Also the work done in the CoEs also address most of the Sustainable Development Goals such as Quality Education, Good Health, No Hunger, Affordable and Clean Energy,

Sustainable Cities and Communities, Climate Action, Peace, Justice and Social Institutions



Figure 69 : Indian Mission and Sustainable development goals

SRM IST will setup Centre's of Excellence to focus on research areas that are of national importance and which will need collaboration from multiple disciplines. The CoE's that will setup will be a combination of existing CoEs being transformed to make it more holistic and new CoEs in emerging areas of research.

The center will accomplish this goal through research, teaching, training, public outreach, and much more. The center will become one of the best places to conduct or sponsor research in environmental sustainability because it brings together some of the best researchers and environmental research institutions in the world to tackle problems in environmental sustainability. Center's Mission is to achieve environmental sustainability in our lifetimes through research and education, and we can do this if we join together to build and sustain the robust environment needed to secure a bright and bold future for life on Earth.