



AMITY UNIVERSITY

A RESEARCH & INNOVATION DRIVEN UNIVERSITY

GRADE 'A' ACCREDITED BY NAAC



AMITY SCIENCE, TECHNOLOGY & INNOVATION FOUNDATION

SCIENTIFIC DISCIPLINE

Amity University has a strong focus on Research in the diverse areas of Science & Technology ranging from Biotechnology, Food Technology, Post Harvest Technology, Nanotechnology, Herbal, Microbial Technology, Engineering, Advance Materials, Physiotherapy, Pharmacy.



RESEARCH PROMOTION

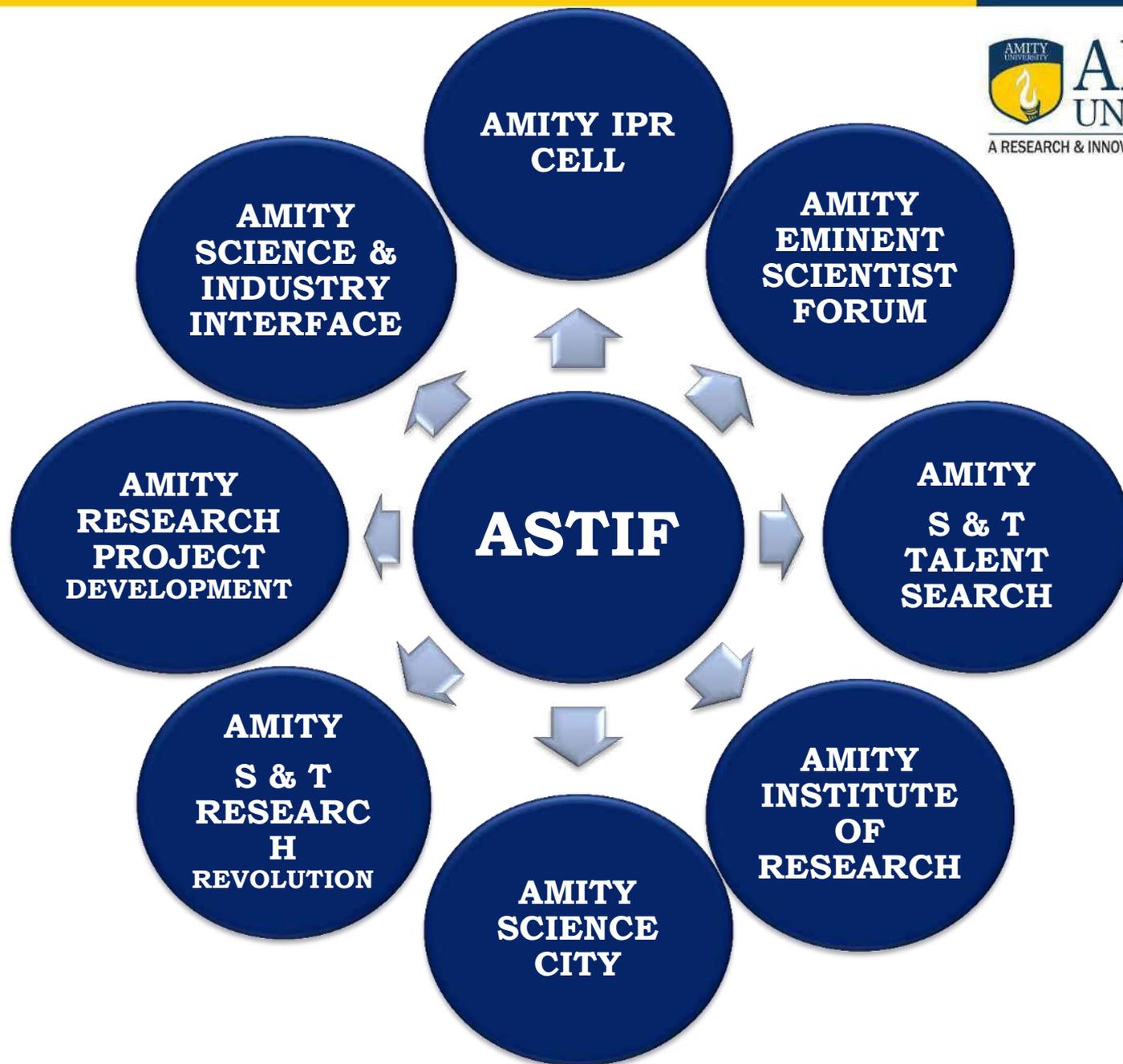
- **Recognized as SIRO by DSIR, Govt. of India.**
- **Sponsored projects under DST, Bill & Melinda Gates Foundation, DBT, DFG Germany, Ministry of Health & Family Welfare, MoEF ,CSIR.**
- **In house State of Art Research Facilities to promote world class research & innovation.**
- **Financial Assistance & Incentives for Projects, Patenting, Technology Commercialisation.**



OBJECTIVE

- **To create Research & Innovation culture**
- **To promote cutting edge Research in frontier areas of Science & Technology including fields of national importance**
- **To encourage faculty members to undertake research for professional development and enrichment of courses/teaching**
- **To assist researchers with excellent academic & research records with Amity Research Fellowship**
- **To organize Lecture/Oration series from eminent Scientists**
- **Offer financial support for scientific projects**





STUDENT SUPPORT - SCHOLARSHIPS

Over 25,000 meritorious students have been awarded Amity scholarships

Following are some of the Scholarship Holders with 100% Scholarship



Dr. Ashok K. Chauhan with some of the 100% scholarship holders

R & D INFRASTRUCTURE



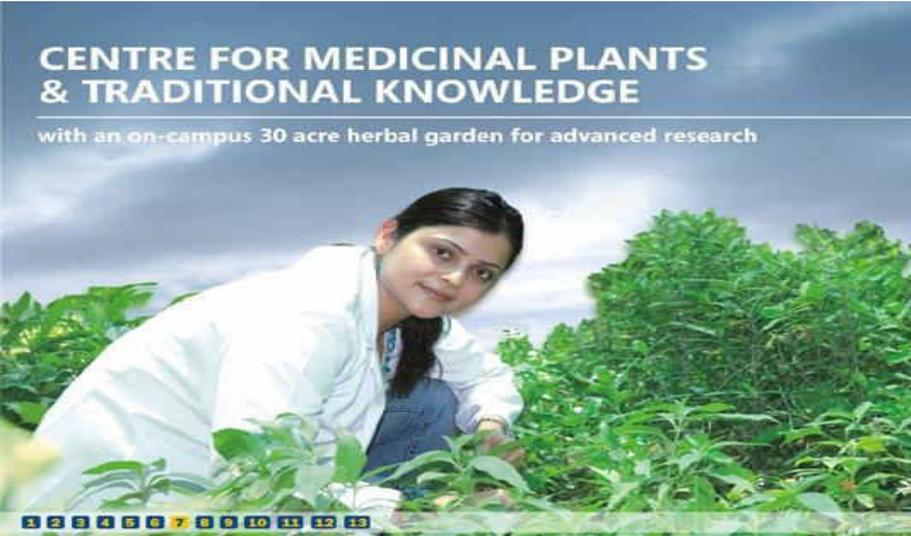
Strong Research Focus

Sponsored projects by Ministry of Science & Technology and Ministry of Agriculture



**HI-TECH
LABS**

for practical training and
applied research



**CENTRE FOR MEDICINAL PLANTS
& TRADITIONAL KNOWLEDGE**

with an on-campus 30 acre herbal garden for advanced research

1 2 3 4 5 6 7 8 9 10 11 12 13



65



State-of-the-art labs



ROOTONICS

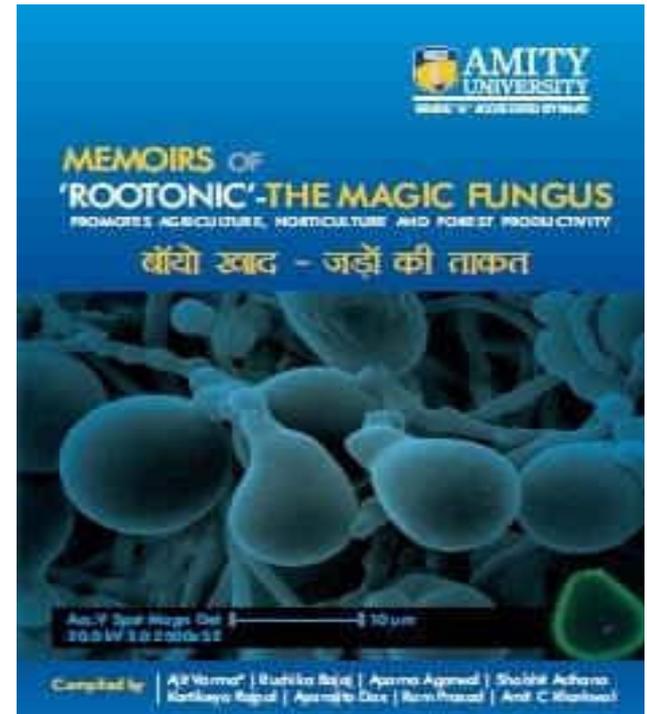
Plant Growth Promoter

↑ Abiotic Stress Tolerance

Biofertilizer

Bioregulator

Bioherbicide



Positive influence of *P. indica* on Sugarcane

Effect of Ripelock Technology on Shelf Life of Indian Varieties of Mango, Papaya & Banana

RipeLock Treatment

Procurement of de-sapped fruits, washing and air drying



SmartFresh™ Treatment (1000ppb for 16 hours) in plastic tent



Bagging of SF treated fruits for Ripelock Treatment (Type 1 bags)



Storing Control and Ripelock Treated fruits in separate rooms



Visual, organoleptic and physiochemical evaluations



Mango Varieties evaluated -Alphonso, Bombay Green, Dashehri, Langra & Chausa.

Rohm and Haas, USA funded project

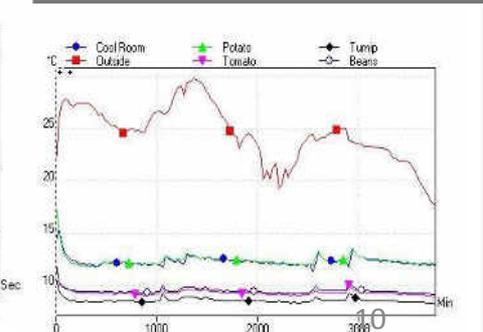
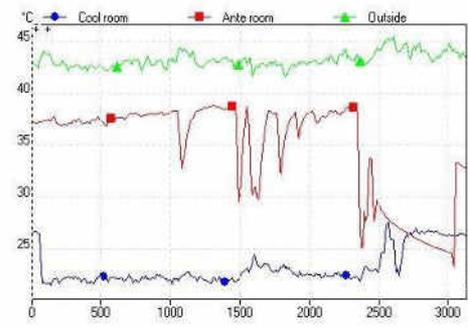


USAID Hort CRSP project : Highlights

Cool Room & Cold Chain transport for small scale farmers

Advantages

- Low cost storage for small scale farmers
- Easily installed, cost effective cool room
- Marketing of the stored produce planned and phased
- Positive impact on livelihood of farmers
- Low power consumption
- Environment friendly i.e. low carbon emission





AMITY INSTITUTE OF ADVANCED RESEARCH STUDIES(Materials & Devices)

Free Curcumin

Poorly dispersible in water
Reduced Bioavailability
Leads to alopecia
Less absorptive in nature

Nanocurcumin

Dispersible in water
Sustained drug release kinetics
↑ Bioavailability, cellular uptake
↑ inhibition of clonogenicity of cancer cell lines

EFFECT OF NANOCURCUMIN IN SWISS ALBINO MICE FOR TREATING CANCER



Mice without treatment (Control)



Mice treated with nanocurcumin

AMITY INSTITUTE OF ADVANCED RESEARCH STUDIES(Materials & Devices)

Reusable water purifier using silver nano embedded porous concrete pebbles based on green technology



Silver nano embedded pebbles



CANCER BIOLOGY

- **Cancer Biomarkers**
- **Novel Therapeutic Targets**
- **Cancer stem cells**



ZEBRAFISH MODEL

- **Neurobehavioral phenomics for aquatic neuropharmacology and toxicology research.**
- **Structural studies using Zebra Fish- DHFR**

•Role of Environmental Contaminants as Endocrine Disruptors: Implications for Female Infertility

- ✓ Lead, Nickel, Cadmium and Mercury**
- ✓ Excessive use of pesticides and insecticides accumulation of phthalates**
- ✓ Use shampoos, creams and other cosmetic items accumulation of plasticizers such as Bisphenol-A.**

**a) General
b) Female Egg Donors
c) Infertile Female**

Population

•Identification & Characterization of Arthritogenic Bacteria in Patients with Enteric Infections: A Prequel to Reactive Arthritis.

AMITY INSTITUTE OF ENVIRONMENTAL TOXICOLOGY, SAFETY AND MANAGEMENT

- **Analysis of surface and groundwater contamination through indiscriminate use of Agrochemicals (pesticides) use in the region of crops of maximum pesticide usage (Rice, cotton and vegetables)**



Crop- Cotton
Area- Punjuwan, Sirsa
River- Ghaggar River

AMITY IN ANTARCTICA

Amity University has launched a Centre fully dedicated to Antarctic research
“Amity Centre for Antarctic Research and Studies”



TECHNOLOGIES TRANSFERRED

- **Iodine Based Finger print powder for developing Latent Fingerprint** - M/s. Pyramid Cyber -Security and Forensic Pvt. Ltd., New Delhi.
- **LPG Sensor** - M/s. Realty Automation & Security Systems Pvt Ltd (RASS), Pune
- **Herbal Mosquito Repellent** - M/s. Tarini Herbal Company, Delhi
- **Rechargeable Fly Ash Battery**- M/s Welspun Energy Pvt. Ltd., Noida
- **Herbal Colors** - M/s Shubh Laxmi Industries



Rechargeable Fly Ash Battery



LPG Sensor



Herbal Mosquito Repellent



RECENT INNOVATIONS



ROOTONIC
Enables plant growth even in drought like conditions. One-time application.



BIODEGRADABLE PLASTICS
Safe, non-toxic and economical to use. Simple chemical process and an easier manufacturing procedure.



COOKING OIL QUALITY TESTING KIT
Easy to use kit to test oil quality. Works well in different types of oils. No training required to use the kit.



WATER PURIFIER
Re-usable, economical and easy to carry first of its kind Water Purifier based on Silver Nano Particles.



LPG SENSOR
Low Cost, Room Temperature LPG Sensor based on Carbon Composites. Simple in fabrication with eco-friendly sensors.

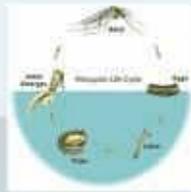


RECENT INNOVATIONS



HERBAL HAND SANITIZER

Control petri plates which were not treated with herbal extract formulation before exposure to air. The test petri plate which was treated with herbal extract before exposure to air.



HERBAL MOSQUITO REPELLENT FORMULATION

- Repels mosquitoes effectively
- Can be used in the form of incense sticks, cones and candles
- Suitable for rural areas with no power supply
- Natural and Eco-friendly
- Long lasting



TRANSDERMAL PATCH-FOR ERECTILE DYSFUNCTION

The Patch with natural penetration enhancers can be fixed on any part of the body that will release Sildenafil Citrate into the blood stream directly.



GREEN TEA EFFERVESCENCE TABLET

THE ADVANTAGES:

- Camellia sinensis - antioxidant
- Natural sweetener - zero calorie
- Variety of flavours (Cardamom / Lemon / Clove) with or without milk powder



LOW COST WATER TESTING KIT

A Water Testing Kit that determines the inorganic contaminants which is based on physiological parameters and their correlation with the help of statistical analysis



VISION FOR THE FUTURE

- **Amity University to be one of the top universities of the world**
- **To be a knowledge hub for Science & Technology Management in the cutting edge emerging areas of the future**
- **To develop links and collaborations with the top Universities & Institutions across the world such that the best of the global university are blended with the best of Indian Culture and ethos in order to make all students ready for any global assignments anywhere.**
- **To continue to start courses, programmes and research facilities in frontier technologies of the future.**