

# NANO BIO-CENTER AT GWAL PAHARI NEW DELHI

## FACT FILE

**CLIENTS NAME:** THE ENERGY AND RESOURCE INSTITUTE (TERI) & DEAKIN UNIVERSITY

**ARCHITECT:** SHIFT (STUDIO FOR HABITAT FUTURES), NEW DELHI

**PROJECT MANAGEMENT:** SHIFT (STUDIO FOR HABITAT FUTURES), NEW DELHI

**STRUCTURAL CONSULTANT:** SKELETON CONSULTANTS PVT. LTD.

**MEP CONSULTANT:** STERLING INDIA, NEW DELHI

**LANDSCAPE CONSULTANT:** DESIGN HABITAT, NEW DELHI

**SUSTAINABILITY CONSULTANT:** SUSTAINABLE HABITAT DIVISION (SHD), TERI

**AREA:** 3700 SQM

**CONSTRUCTION:** COMPLETED

**WORKING TEAM of SKELETON:** Er(Dr) ABHAY GUPTA, SOBHAN RAWAT.

## The TERI-Deakin Nano-biotechnology Centre

TERI's Nano-Biotech Research Centre (NBRC) is a unique facility for mycorrhizal research, micro-propagation technology, plant tissue culture and molecular biology. These technologies are intended to improve soil fertility, soil and plant microbiology, and provide nutrient cycling, bioremediation using microbes and plants, create bio-fuels, bio-fertilizer using transformed root organ cultures, with molecular characterization and commercialization of mycorrhizal bio-fertilizers, ultimately contributing to food security



of the nation.

## PROJECT BRIEF:

The facility is nestled within an existing dense forest and the shape of the structure is optimized to ensure no transplantation or cutting down of any healthy trees, as well as to ensure speedy delivery of the project. The building designed for this facility is, for the processes housed in it, a highly optimized resource conserving building including highly isolated foundations for vibration-free electron microscopy, a maximally daylight laboratory and office environment of clean room 10,000 and down to 1,000 class. Unlike standard lab areas that are just workspaces, this space has ample views from the inside, breakout and recreation areas to create a suitably creative research environment for over 100 scientists and students. The roof is designed to be covered with solar PV, solar hot water, and photo-bioreactors, while the building façade is covered with a second skin of creepers growing organic vegetable matter while shading the building at the same time.

The building is going to be certified GRIHA and will probably achieve a 5 star rating.

The TERI-Deakin Nano biotechnology Centre was inaugurated on 10th April'17 by our Honourable Prime Minister Shri Narendra Modi and Australian Premier Malcolm Turnbull via Video-Conferencing from Hyderabad House.

## STRUCTURAL GEOMETRICS

The building has two separate wings, placed at an angle of about 60° to each other and connected with an entrance lobby. Due to this the structural behavior in earth quake condition was much complex. There are architectural restriction on columns hence the design was done with great care and behavior was controlled using SMRF system. An exposed concrete element building with lots of natural light. Each and every element has been detailed finer aspects in concrete itself.

Web : [www.skeleton.in](http://www.skeleton.in)

