



## Activity Report

Tirupati Graphene and Mintech Research Centre in collaboration with CUTM is providing One year Academic Research Training to Dr. Tapan Dash (HOD Physics, SoAS, CUTM) at TGMR Centre in Bhubaneswar.

Agency Name: Tirupati Graphene and Mintech Research Centre

Academic Year: 2021

Total Number of Activities in this academic year: 1

Name of the Faculty: Dr. Tapan Dash

Academic Research Training for one year at TGMRC R&D center

**TGMRC**, Bhubaneswar is a new budding R&D organization of international level under the flagship company of **Tirupati Speciality Graphite Pvt. Ltd** Mumbai under the Principal Promoter Company of **Tirupati Graphite PLC, London**. Tirupati Graphite PLC is a fully integrated specialist graphite and graphene producer, with operations in Madagascar, Mozambique and India. The resources and operations are going on at multi-locations of globes in setting up state of art facilities to make tailor made products for conventional and new applications, developing technologies and expertise to design, engineering, research and development and with special emphasis for application of graphene in Green Energy and Green Storage, Composites, etc., securing the world's needs of this critical and wonderful material and maximising values for all connected. Vision of the company is to be global leader to provide one stop solution from minerals to materials for an example from graphite to graphene. TG is producing Madagascar flake graphite and developing integrated downstream processing facilities in India. The graphite beneficiation plant is fully automated to produce final concentrate from raw material using state of art technology developed in in-house R&D and maintaining the consistency of quality of product. The quality of concentrate is checked by international reputed

institutions for materials and metallurgical applications. The company is conscious of its social and environmental responsibilities.

**TGMRC** shall be integrated R&D Centre for Mineral & Material Technology. It has the vision to create “One Stop Shop” with scientific capabilities in wide spectrum areas of mineral processing, metal extraction, and making mineral and metal-based products, related equipment development and waste utilization with special emphasis on conservation and sustainable utilization of natural mineral resources. It has created the state of art facilities of instruments and equipment to carry out world class research engaging high quality researchers to provide the technological package starting from development of the process/product till the commissioning the project for the mineral-based industries. The Institute is capable to transfer the technology and give door-step solution on the concept of “**Lab to Land**”. Cost effective utilization on the concept of “**waste to wealth**” shall be the simultaneous focus area and thus also achieving the goal of minimizing environment impact in mineral-based industries. **TGMRC** will work as “**Economic Booster**” to mineral-based industries through R&D backup to maximise production, minimise the cost of production and minimize waste by proper ways and means, starting from optimal use feedstock materials to finished goods and provide expertise for solutions during on-line production problem, if any.

  
Dean - Academic  
Centurion University of Technology & Management  
Bhubaneswar, Khurda - Odisha - 751005



## **Activity Report**

School of Paramedics and Allied Health Sciences in collaboration with Apollo Hospitals trained the students in Clinical Teaching cum Training. As a collaborative activity 26 students of SoPAHS for 6 months are sent to Apollo Hospitals, Bhubaneswar for clinical teaching and internship training program. This activity is mainly focusing on Building institutional collaboration towards clinical teaching, practical training, and placement of SoPAHS Students. The responsibilities of the students during the training programme is prepared by both CUTM and Apollo Hospitals. Apollo hospital has the liberty selected trainees in its payroll based on the performance and evaluation as well as on completion of the course.

Year of enrolment -2021

Duration of Training – 6 months

Number of the Students – 26

Type of the Activity – Clinical Teaching

Agency – Apollo Hospitals, Bhubaneswar

  
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Empowering Communities!*

## **Activity Report**

Name of the Organization – ICD International Business School

Duration of MoU – 06.06.2017 to 06.06.2022

Nature of the Activity: Academic development and Student Exchange

Name of the Students:

Sunthareswaran Johan

Manhes Jeacham

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CUTM, Odisha



## Activity Report

Agency Name: NTNU

Academic Year: 2020

Total Number of Activities in this academic year: 1


Name of the Activity: Academic Student Exchange Program

Name of the Students: Two students Ashok Kumar Sindri and Prabhat Kumar Tripathy went for the exchange program at NTNU in January 2020.

The course developed in partnership with NTNU now works for two groups of students: first and second year. Second year students: A meeting was held with the 2 students of MDM (Ashok Kumar Sindri and Prabhat Kumar Tripathy) who would be going to NTNU for one semester (Spring) as part of the collaborative programme. After a round of introductions, Geir made a presentation on NTNU titled "Short Introduction – Knowledge for a better World" which presented the vision of the University relating to higher studies and what the students coming to Norway needed to know about the university.

He gave a profile of the University outlining the different disciplines that are offered at NTNU, general idea about the different campuses, the number students at different levels of the University, organisational structure and location of different campuses. He also gave a brief idea about the city of Trondheim and the Dragvoll campus where the students from CUTM will be located. In Spring 2020 in which the students from CUTM have been enrolled extends over approximately 6 months in which 6 Jan – 20 April 2020 is teaching and 4 May – 6 June 2020 is the examination period.

The students will undertake 3 courses – 1) Globalisation and Sustainable Development in the South  
2) Innovation and Regional Development, 3) GIS Tools for Climate Change Studies.

  
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## CSA – CUTM IN COLLABORATION

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Centre for Sustainable Agriculture works scientifically on developing Sustainable Agriculture practices to support the Farming Community. It works across Andhra Pradesh & other states too. During 2019, Centurion University signed MoU to work on Sustainable Agriculture course curriculum developed with our eminent faculties of School of Agriculture. Also students visit and internship program at their centre. Later in a process of developing course curriculum, we have developed and started a domain course named as Organic Farming.

### Domain Track: Organic Farming

Teacher  
Dr.Saurav Barman

Category  
Domain Courses

- Description
- Teachers
- Attendees
- Reviews

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**Domain Track Title : Organic Farming**

# **Track Total Credits ( T-P-P): 3-15-11 (29 credits)**

## **Courses Division:**

**Track courses: 09 credits**

- 1. Organic Farming. (1-2-0)**
2. Certification and Inspection Systems in Organic Farming in India. (1-2-0)
3. Biopesticides and Biofertilizers. (1-2-0)

**Practice Courses: 09 credits**

1. Organic Production- Field Crops. (0-3-0)
2. Organic Production- Horticultural Crops. (0-3-0)
3. Biofertilizer and Biopesticide Production Technology. (0-3-0)

**AELP Linked with Domain: 11 credits**

## **Domain Track Objectives:**

1. Traditional
2. Innovative
3. Scientific

## **Domain Track Learning Outcomes:**

1. Skilled Practitioner
2. Expert/ Consultancy
3. Agri.-Entrepreneur

## **Domain Syllabus:**

**Track courses:**

- 1. Organic Farming. (1-2-0)**

**Theory:**

**Module 1.1:** Organic Farming: Principles, Developing Organic farm, Conversion of Soil to Organic.



**Module 1.2:** Soil Cultivation and Tillage: Creating good growing conditions, Minimum disturbance, Soil compaction, and Types of Soil Cultivation.

**Module 1.3:** Crop Planning and Management: Crop rotation, Intercropping, Cover crops, Crop- Animal association, Designing cropping systems.

**Module 1.4:** Mulching: Selection of Mulch materials, Source of Mulching materials, Recommendation while using Mulches, Application of Mulch.

**Module 1.5:** Organically Manage: Live fencing, Water, Nutrient, Weed, Pest and Disease.

**Module 1.6:** Plant Propagation: Criteria for Seed evaluation, characterization and multiplication, Importance of Traditional Varieties, Seed conservation and its Certification.

**Module 1.7:** Animal Husbandry: Animal Housing, Animal Feeding, Animal Health, Breeding Goals.

**Module 1.8:** Introduction of Forest Trees: Azadirachta indica, Pongamia pinnata, Tamarindus indica, Sesbania grandiflora, Dalbergia latifolia, Terminalia chebula etc.

**Module 1.9:** ITKs of Gajapati: Collection, Study and Implementation.

**Module 1.10:** Other forms of Organic Management: Biodynamic Agriculture, Rishi Krishi, Natural Farming, Panchgavya Krishi, Natueco Farming. Homa Farming and EM-Technology.

**Practical:**

**Practical 1.1:** Preparation of Enrich Compost.

**Practical 1.2:** Preparation of Vermicompost.

**Practical 1.3:** Preparation of Green manures, Liquid manures, Panchgavya, Biodynamic and NADEP.

**Practical 1.4:** Preparation of different organic Insecticides/ Pesticides.

**Practical 1.5:** Identification and use of Mulch materials.

**Practical 1.6:** Water Management

**Practical 1.7:** Weed Management.

**Practical 1.8:** Seed Multiplication, conservation and Certification process.

**Practical 1.9:** Practical on Animal Husbandry.

**Practical 1.10:** Collection of ITKs.

**Practical 1.11:** Practical on Conversion of Soil to Organic

**2. Certification and Inspection Systems in Organic Farming in India. (1-2-0)**

**Theory:**

**Module 2.1:** Organic Certification: The Certification Process, Certification and Product Labelling, Certification around the World.

**Module 2.2:** Regulatory Mechanism for Organic Certification in India: Scope and Operational Structure of National Programme for Organic Production.

**Module 2.3:** National Standards for Organic Production: Conversion requirements, Maintenance of Organic Management, Crop Production, Animal Husbandry, Food Processing and Handling, Labelling, Storage and Transport.

**Module 2.4:** Inspection and Certification Process:

Inspection and Certification Agency.

Annual Surveillance and Review of Inspection and Certification Agencies.

Inspection and Assignments.

Inspection visit and Reports.

Methods and Frequency.

Analysis and Residue Testing.

Inspection Regime for Part Conversion and Parallel Production. Inspection for use of Genetically Engineered Products.

Inspection and Certification of Grower Group.

Procedure for Implementation of Internal Control System.

Certification Process.

Mandatory checks to be undertaken by the Authorized Inspection and Certification Agency during Inspection.

**Practical:**

To Visit and Document on

**Practical 2.1:** Different Organic certification Agencies in Odisha.

**Practical 2.2:** Hands on learning on Packaging & Labelling.

**Practical 2.3:** Organic Cold Storage in Odisha.

**Practical 2.4:** Certified Organic Farmer.

**Practical 2.5:** Certified Organic Grower group.

**Practical 2.6:** Food Processing & Handling Unit.

**Practical 2.7:** Animal Husbandry Unit

### **3. Biopesticides and Biofertilizers. (1-2-0)**

**Theory:**

**Module 3.1:** Introduction, status and scope.

**Module 3.2:** Concepts and classification of biopesticides viz. pathogen, botanical pesticides and biorationales.

**Module 3.3:** Botanicals and their uses.

**Module 3.4:** Mass production technology of bio-pesticides Virulence, Pathogenicity and symptoms of entomopathogenic pathogens and nematodes.

**Module 3.5:** Methods of application of biopesticides. Methods of quality control and Techniques of biopesticides. Impediments and limitation in production and use of biopesticide..

**Module 3.6:** Introduction, status and scope.

**Module 3.7:** Structure and characteristic features of bacterial biofertilizers- Azospirillum, Azotobacter, Bacillus, Pseudomonas, Rhizobium and Frankia.

**Module 3.8:** Cynobacterialbiofertilizers: Anabaena, Nostoc and Hapalosiphon.

**Module 3.9:** Fungal biofertilizers: AM mycorrhiza and ectomycorhiza.

**Module 3.10:** Nitrogen fixation: Free living and symbiotic nitrogen fixation, process of nodule formation, role of different genes (Nod and Nif), enzymes and Bio chemistry of Nitrogen fixation.

**Module 3.11:** P-Solubilizer and K-mobilizer: Mechanism of P- solubilization, phosphate mobilization and K solubilisation.

**Module 3.12:** Production Technology: Strain selection, sterilization, growth and fermentation, mass production of carrier based, liquid biofertilizers and EM.

**Module 3.13:** FCO specifications and quality control of biofertilizers.

**Module 3.14:** Application: Soil, Seeds, Seedlings and Tubers etc.

**Module 3.15:** Biofertilizers: Factors influencing the efficacy of biofertilizers, Storage, Shelf life, Quality control, Certification and marketing.

**Practical:**

**Practical 3.1:** Hands-on Training on Laboratory Equipments

Practical 3.2: Isolation and purification of Azospirillum.

**Practical 3.3:** Isolation and Purification of Azotobacter.

**Practical 3.4:** Isolation and Purification of Rhizobium.

Practical 3.5: Isolation and Purification of P-solubilizers.

Practical 3.6: Isolation and Purification of cyanobacteria.

**Practical 3.7:** Isolation of AM fungi by Wet sieving method.

**Practical 3.8:** Isolation and Purification by sucrose gradient method.

**Practical 3.9:** Isolation and purification of Trichoderma.

**Practical 3.10:** Isolation and purification of Pseudomonas.

**Practical 3.11:** Isolation and purification of Bacillus.

Practical 3.12: Isolation and purification of Metarhizium.

**Practical 3.13:** Layout of Bio fertilizer Laboratory.

Practical 3.14: Layout of Bio pesticide Laboratory.

Practical 3.15: Market Survey and Marketing.

**Practice courses:**

### **1. Organic Production- Field Crops. (0-3-0)**

**Practice:**

**Practice 1.1:** Components: Organic farm.

**Practice 1.2:** Implement: Conversion of Soil to Organic.

**Practice 1.3:** Seed: Multiplication of Adopted and Resistant Varieties, Conservation and Certification.

**Practice 1.4:** Water Management: Reduce evaporation, Increasing Infiltration, Planting Pits, Contour bunds, Catchment strips, Drip irrigation systems and Water Storage.

**Practice 1.5:** Organic Nutrient production, Analysis and its Application: Green manures, Liquid manures, Panchgavya, Biodynamic, NADEP and Vermicompost etc.

**Practice 1.6:** Organic Pesticides production, Analysis and its Application: Neemashta, Agniashastra, Brahmashastra, Jeevamrutam and Neem Oil etc.

**Practice 1.7:** Weed Management.

**Practice 1.8:** Harvest and Post-Harvest Management.

**Practice 1.9:** Formulating Good Agricultural Practice (GAP).

**Practice 1.10:** Field trials of ITK's to assess their effectiveness (Gajapati context).

**Practice 1.11:** Hazard analysis and Critical Control Point. Documentation for certification.

**Practice 1.12:** Visit to Organic farm/field.

## **2. Organic Production- Horticultural Crops. (0-3-0)**

**Practice:**

**Practice 2.1:** Field Preparation.

**Practice 2.2:** Selection of Adopted and Resistant Varieties.

**Practice 2.3:** Seed Treatment.

**Practice 2.4:** Raising of Seedling and Nursery Management.

**Practice 2.5:** Mulching.

**Practice 2.6:** Identification and Use: Natural Plant Growth Regulators and Micronutrients.

**Practice 2.7:** Management: Water, Nutrient, Weed, Pest and Disease

**Practice 2.8:** Harvest and Post-Harvest Management.

**Practice 2.9:** Visit to Organic fields and marketing centers.

### **3. Biofertilizer and Biopesticide Production Technology. (0-3-0)**

**Practice:**

**Practice 3.1:** Isolation and purification of important biopesticides.

**Practice 3.2:** Mass multiplication of Trichoderma Pseudomonas, Bacillus, Metarhizium etc. and its production.

**Practice 3.3:** Identification of important botanicals.

**Practice 3.4:** Field visit to explore naturally infected cadavers.

**Practice 3.5:** Identification of entomopathogenic entities in field condition.

**Practice 3.6:** Quality control of biopesticides.

**Practice 3.7:** Visit to biopesticide laboratory in nearby area.



**Practice 3.8:** Isolation and purification of Azospirillum, Azotobacter, Rhizobium, P-solubilizers and cyanobacteria.

**Practice 3.9:** Mass multiplication and inoculums production of biofertilizers.

**Practice 3.10:** Isolation of AM fungi by Wet sieving method and sucrose gradient method.

**Practice 3.11:** Mass production of AM inoculants

**AELP Linked with Domain (0-0-11).**

1. Scaling Production and Marketing
2. Field Trials (Gajapati context)
3. Project Based Learning
4. Publication

**Track courses:**

**1. Organic Farming (1-2-0): Theory and Practical: Session Plan**

**Session 1.1: Organic Farming:** Principles, Developing Organic farm, Conversion of Soil to Organic.

**Practical 1:** Practical on Conversion of Soil to Organic.

Organic Farming Module-1

Video- Principles

**Session 2: Soil Cultivation and Tillage:** Creating good growing conditions, Minimum disturbance and Soil compaction and Types of Soil Cultivation.

**Practical 1.2:** Ploughing with Country plough, field level understanding of Physical nature of Soil for Crop growth.

Organic Farming Module-2

Document- Tillage

Video- Soil Compaction

Land Preparation 1

Land Preparation 2

Ploughing

**Session 1.3: Crop Planning and Management:** Crop rotation, Intercropping, Cover crops, Crop- Animal association, designing cropping systems.

**Practical 3:** Raising of Crops with different Cropping systems.

Organic Farming Module-3

Video- Crop rotation 1

pdf- Crop rotation 2

pdf- Cropping System

Video- Multiple Cropping 1

Video- Multiple Cropping 2

Document- Crop Rotation 3

**Session 1.4: Mulching:** Selection of Mulch materials, Source of Mulching materials, Recommendation while using Mulches, Application of Mulch.

**Practical 4:** Identification and use of Mulch materials.

Organic Farming Module-4

**Session 1.5: Organically Manage:** Live fencing and Water, Nutrient, Weed, Pest and Disease.

**Practical 5:** Identification and Multiplication of Live fencing Plants, Preparation of Enrich Compost, Vermicompost, organic Insecticides/ Pesticides.

Organic Farming Module-5

Video- Weed

Video- Nutrient Management

Video - Integrated Nutrient Management

Video- Pest Management

Visit site for Manure study materials (Wageningen University)

Video- Live Fence

Video- Live Fence 2

Video-Water management 1

Video-Water management 2

**Session 1.6: Plant Propagation:** Criteria for Seed evaluation and characterization.

Importance and Multiplication of Traditional Varieties, Seed conservation and its Certification

**Practical 6:** Seed Multiplication, conservation and Certification process.

Organic Farming Module-6

Visit Seed Center of Wageningen University

**Session 1.7: Animal Husbandry:** Animal Housing, Animal Feeding, Animal Health, Breeding Goals.

**Practical 7:** Designing Animal Shed, Organic Feed Formulation, Visit to Animal Husbandary Farm.

Organic Farming Module-7

**Session 1.8:** Introduction of Forest Trees: Azdirachtaindica, Pongamiapinnata, Tamarindusindica, Sesbaniagrandiflora, Dalbergialatifolia, Terminaliachebula etc.

**Practical 8:** Identification and Multiplication of Forest Trees

Organic Farming Module-8

**Session 1.9: ITKs of Gajapati:** Collection, Study and Implementation.

**Practical 9:** Collection of ITKs.

Organic Farming Module-9

**Session 1.10: Other forms of Organic Management:** Biodynamic Agriculture, Rishi Krishi and Natural Farming, PanchgavyaKrishi, Natueco Farming. Homa Farming and EM-Technology.

**Practical 10:** Preparation of Green manures, Liquid manures, Panchgavya, Biodynamic and NADEP

Organic Farming Module-10

## **2. Certification and Inspection Systems in Organic Farming in India (1-2-0): Theory and Practical: Session Plan**

**Session 2.1: Organic Certification:** The Certification Process.Certification and Product Labelling, Certification around the World.

**Practical 1: To visit and document different Organic certification Agencies in Odisha.**

certification Module-1

**Session 2.2: Regulatory Mechanism for Organic Certification in India:** Scope and Operational Structure of National Programme for Organic Production.

**Practical 2: Hands on learning on Packaging & Labelling.**

certification Module-2

**Session 2.3: National Standards for Organic Production:** Conversion requirements and Maintenance of Organic Management.

**Practical 3: Visit to Certified Organic Farmer for doumentation.**

certification Module-3

**Session 2.4: National Standards for Organic Production:** Crop Production.

**Practical 4: Visit and document to Certified Organic Grower group**

certification Module-3

**Session 2.5: National Standards for Organic Production:** Animal Husbandry.

**Practical 5: To visit and document in Animal Husbandry Unit.**

certification Module-3

**Session 2.6: National Standards for Organic Production:** Food Processing and Handling.

**Practical 6: To visit and document in Food Processing & Handling Unit.**

certification Module-3

**Session 2.7: National Standards for Organic Production:** Labelling, Storage and Transport.

**Practical 6: To visit and document Organic Cold Storage in Odisha.**

certification Module-3

**Session 2.8: Inspection and Certification Process:** Inspection and Certification Agency, Annual Surveillance and Review of Inspection and Certification Agencies.

**Practical 7: To document and understand the compliance standards.**

certification Module-4

**Session 2.9: Inspection and Certification Process:** Inspection and Assignments, Inspection visit and Reports, Methods and Frequency.

**Practical 8: To document and understand the compliance standards.**

certification Module-4

**Session 2.10: Inspection and Certification Process:** Analysis and Residue Testing, Inspection Regime for Part Conversion and Parallel Production.

**Practical 9: To document and understand the compliance standards.**

certification Module-4

**Session 10: Inspection and Certification Process:** Inspection for use of Genetically Engineered Products, Inspection and Certification of Grower Groups.

**Practical 10: To document and understand the compliance standards.**

certification Module-4

### **3. Biopesticides and Biofertilizers (1-2-0): Theory and Practical: Session Plan**

**Session 3.1:** Introduction, status and scope. Concepts and classification of biopesticides

**Practical 1: Hands on Training on laboratory equipment and Layout of Biopesticides laboratory.**

Video

PDF1.

**Session 3.2:** Pathogen, Botanical pesticides. biorationales. Botanicals and their uses.

**Practical 2: Identification of some important botanicals.**

Video

PDF2.

**Session 3.3:** Mass production technology of bio-pesticides.

**Practical 3: Process involved in the Production of Biopesticides.**

Video

PDF3.

**Session 3.4:** Virulence, Pathogenicity and symptoms of entomopathogenic pathogens and nematodes.

**Practical: Identification of Pathogens and nematodes used as bio pesticides.**

Video

PDF4.

**Session 3.5:** Methods of application of biopesticides. Methods of quality control and Techniques of biopesticides. Impediments and limitation in production and use of biopesticide.

**Practical 5: Methods of application of biopesticides.**

Video

PDF5.

**Session 3.6:** Biofertilizer- Introduction, status and scope.

**Practical 6: Hands on Training on Laboratory Equipments and Layout of Biofertilizer Laboratory.**

Video

Introduction and Structure of Biofertilizers

**Session 3.7:** Structure and characteristic features of bacterial biofertilizers-

Azospirillum, Azotobacter, Bacillus, Pseudomonas, Rhizobium and Frankia;

Cynobacterialbiofertilizers: Anabaena, Nostoc and Hapalosiphon. Fungal biofertilizers:

AM mycorrhiza and ectomycorhiza.

**Practical 7: Isolation and Purification of Azospirillum, Azotobacter, Bacillus, Pseudomonas, Rhizobium and Frankia; Cynobacterialbiofertilizers: Anabaena, Nostoc and Hapalosiphon. Fungal biofertilizers: AM mycorrhiza and ectomycorhiza.**

Video

Video

Video

Video

Video

Write up on Practical

Introduction and Structure of Biofertilizers

Structure of Biofertilizers

**Session 3.8:** Nitrogen fixation: Free living and symbiotic nitrogen fixation, Process of Nodule formation, Role of different Genes (Nod and Nif), Enzymes and Biochemistry of Nitrogen Fixation.

**Practical 8:**

Video

Write up on Practical

Nitrogen Fixation

**Session 3.9:** P- solubilizer and K- mobilizer: Mechanism of phosphate solubilization, phosphate mobilization and K solubilization.

**Practical 9: Isolation and Purification of P- solubilizers and K- mobilizers.**

Video

Write up on Practical

P and K Solubilizers

**Session 3.10:** Production Technology: Strain selection, sterilization, growth and fermentation, mass production of carrier based, liquid biofertilizers and EM. FCO specifications and quality control of biofertilizers. Soil, Seeds, Seedlings and Tubers etc. Factors influencing the efficacy of biofertilizers, Storage, Shelf life, Quality control, Certification and marketing.

**Practical 10: Mass Production, Market Survey and Marketing of Biofertilizers.**

Video

Video

Video

Video

Video

Write up on Practical

Mass Biofertilizers Production

**Practice courses:**

**1. Organic Production- Field Crops (0-3-0): Practice: Session Plan**

**Practice 1.1:** Components: Organic farm, Conversion of Soil to Organic.

**Practice 1.2:** Seed: Multiplication of Adopted and Resistant Varieties, Conservation and Certification.



**Practice 1.3:** Water Management: Reduce evaporation, Increasing Infiltration, Planting Pits, Contour bunds, Catchment strips, Drip irrigation systems and Water Storage.

**Practice 1.4:** Organic Nutrient production, Analysis and its Application: Green manures, Liquid manures, Panchgavya, Biodynamic, NADEP and Vermicompost etc.

**Practice 1.5:** Organic Pesticides production, Analysis and its Application: Neemashttra, Agniashtra, Brahmashtra, Jeevamrutam and Neem Oil etc.

**Practice 1.6:** Application of different methods to Manage Weeds.

**Practice 1.7:** Harvest and Post-Harvest Management.

**Practice 1.8:** Formulating Good Agricultural Practice (GAP).

**Practice 1.9:** Field trials of ITK's to assess their effectiveness (Gajapati context).

**Practice 1.10:** Hazard analysis and Critical Control Point. Documentation for certification.

## **2. Organic Production: Horticultural Crops (0-3-0): Practice: Session Plan**

Practice 2.1: Field Preparation.

**Practice 2.2:** Selection of Adopted and Resistant Varieties.

**Session 2.3:** Seed Treatment.

**Practice 2.4:** Raising of Seedling and Nursery Management.

**Practice 2.5:** Mulching

**Practice 2.6:** Identification and Use: Natural Plant Growth Regulators and Micronutrients.

**Practice 2.7:** Management: Water, Nutrient, Weed, Pest and Disease

**Practice 2.8:** Harvest and Post-Harvest Management.

**Practice 2.9:** Visit to Organic fields and marketing centers.

### **3. Biofertilizer and Biopesticide Production Technology (0-3-0): Practice: Session Plan**

**Practice 3.1:** Isolation and Purification of important Biopesticides.

**Practice 3.2:** Mass multiplication of Trichoderma Pseudomonas, Bacillus, Metarhizium etc. and its production.

<https://youtu.be/rwaFKXFUVdo>

**Practice 3.3:** Identification of important Botanicals.

<https://youtu.be/mhBVwMVoG3s>

**Practice 3.4:** Isolation and purification of Azospirillum, Azotobacter, Rhizobium, P-solubilizers and cyanobacteria.

Video

Video 2

Video 3

Video 4

**Practice 3.5:** Mass multiplication and inoculums production of biofertilizers.

Video

**Practice 3.6:** Isolation of AM fungi by Wet sieving method and sucrose gradient method.

Video

**Practice 3.7:** Mass production of AM inoculants.

Video

**Practice 3.8:** Field visit to explore naturally infected cadavers.

**Practice 3.9:** Identification of entomopathogenic entities in field condition.

<https://youtu.be/CnylR4reS74>

**Practice 3.10:** Visit to biopesticide laboratory in nearby area.

**A. List of Projects/ Case Studies to be taken up under Organic Farming Domain:**

1. Farmers Market
2. Biofertilizer Production in Odisha and Andhra Pradesh.
3. FPOs
4. ITKs
5. Organic Grower in Odisha and Andhra Pradesh.

**B. Scaling Production:**

1. Higher Production.
2. Awareness Program.
3. Marketing

**C. Field Trials (Gajapati Context):**

1. Application.
2. Generates Results.
3. Publications.
4. Supports Awareness and Mobilization.



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M S Swaminathan School of Agriculture  
CUTM, Paratatherrundi



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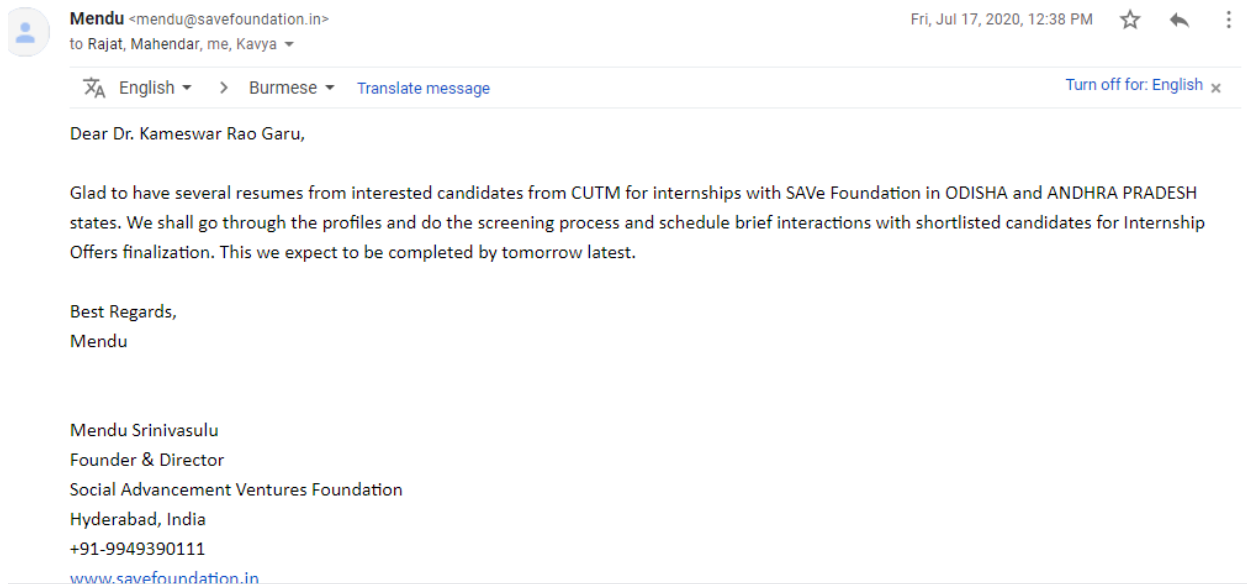
## Activity Report


CUTM in collaboration with E-fresh Pvt. Ltd and SAVE foundation conducted two month internship for School of Agriculture and Management students of CUTM. This internship program is guided by SAVE fondation. This is activity is planned as per the MoU between E-fresh, SAVE foundation and CUTM. Few students are selected by SAVE foundation for the internship.

Duration: 2 Month

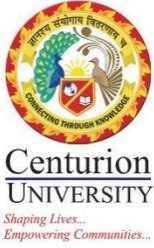
Resource person : Kameswar rao

Activity: Internship at SAVE foundation



  
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## Tessolve Activity Report

CUTM in collaboration with Tessolve conducted internship program on VLSI verification. Students of Department of Electronics & Communication Engineering attended the internship and project work on VLSI verification and successfully completed.

Agency Name: Tessolve Semiconductor Pvt.Ltd.

Academic Year: 2018

Total Number of Activities in this academic year: 1

No. of the Students: 13

Students List:-

1	150101130001	VIJAY GANESH SIVAKALA
2	150101130003	MUDDADA NARAYANA RAO
3	150101130008	VOONA DINESH
4	150101130010	KHADANGALU KUMAR
5	150101130011	PRADEEP KUMAR PATNAIK
6	150101130014	SRINIVAS PADALA
7	150101130017	JAMI RAVI KUMAR
8	150101130018	PADHI SAIKIRAN
9	150101130020	KISHORE ATHAPAKALA
10	150101130021	SIVA KUMAR SOBHANAPURAM
11	150101130022	SUNIL KUMAR PADHI
12	150101130024	DABBURI SAROJ PATNAIK
13	150101130038	DILEEP KUMAR GORLI

Sample Certificate of successful completion of Internship





## INTERNSHIP COMPLETION CERTIFICATE

Date: 31<sup>st</sup> March 2018

This is to certify that **Bhanupriya Pradhan** bearing Registration Number #140301ECR051 bonafide student of Department of Electronics & Communication Engineering of Centurion University of Technology & Management has undergone **internship and project work on VLSI Verification** From 1<sup>st</sup> January 2018 to 31<sup>st</sup> March 2018.

Wishing you all the best in your future endeavours



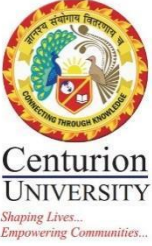
Authorised Signatory



TESSOLVE SEMICONDUCTOR PVT. LTD.

#215/231, 2<sup>nd</sup> Floor, New OCAC Towers, Gajapati Nagar, Achrya Vihar, Bhubaneswar- 751012 INDIA

W: www.tessolve.com ISO 9001: 2015 BANGALORE, VISHAKPATNAM, COIMBOTORE, USA, SINGAPORE, MALAYSIA



## **SELCO Activity Report**

Agency Name: SELCO

Academic Year: 2018

Total Number of Activities in this academic year: 1

No. of the Students: 40

- To gain the knowledge on different types of materials used in Renewable Energy.
- To understand the importance of Renewable Energy technology and its applications.
- To know the applications of solar thermal technology.
- To become expert in Entrepreneurship.

Students List:-

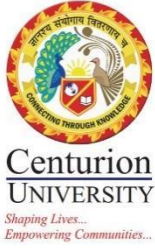
Sr.	Student	Roll No
1	SUMIT KUMAR	190301160001
2	TUSHAR KANTA PRADHAN	190301160002
3	SAMRESH MAHTO	190301160003



<b>4</b>	RAUNAK KUMAR	190301160004
<b>5</b>	SOMNATH KUMAR	190301160005
<b>6</b>	SOUMYA RANJAN RANA	190301160006
<b>7</b>	SARAS RAM DASH	190301160007
<b>9</b>	LABA KUMAR	190301160009
<b>12</b>	PRADYUMNA KUMAR DAS	190301160012
<b>13</b>	TASLEEM KHAN	190301160013
<b>14</b>	SWAYAM SUBHAJEET	190301160014
<b>17</b>	AAMIR SOHAIL	190301160017
<b>18</b>	ARRKADITYA NAYAK	190301160018
<b>21</b>	MD ASIF JAMAL	190301160021
<b>23</b>	SHAKTI KUMAR NAYAK	190301161022

26	MADHAV SHASWAT MISHRA	190301161026
27	SUBRAT KUMAR PRADHAN	190301161027
29	TAMALASHYAMA DASHADHIKARI	190301161029
31	ABHIJEET ROUT	0200316L5931
32	SANDEEP KUMAR MOHANTY	0200316L5932
33	SHARAD KUMAR URMA	0200316L5933
34	SHASHWAT SAURAV NANDY	0200316L5934
35	SUBHAJIT NANDY	0200316L5935
36	SURAJ KUMAR	0200316L5936
40	DIBYAJYOTI DAS	0200316L5940





## Nemhans Activity Report

Agency Name: NEMHANS Solutions Pvt. Ltd.

Academic Year: 2018

Total Number of Activities in this academic year: 1

No. of the Students: 26

21 Students had been selected by NEMHANS Solutions Pvt. Ltd. As RF Engineer from Communication System Domain through Internship.

Students List:-

SL NO	Students Name	Regd No.
1	140301ECR032	Ranjit Khuntia
2	140301ECR034	Satyajit Behera
3	140301ECR038	Kiran Kumar Das
4	140301ECR039	Aniket Panda
5	140301ECR042	Manas Kumar Roul
6	140301ECR046	Amllesh Kumar
7	140301ECR049	Amit Kumar Parida
8	140301ECR057	Sabyasachi Panda
9	140301ECR058	Enakshi Kamilla
10	140301ECR060	Shaik Saukat Alli
11	140301ECR065	Sandeep Singh
12	140301ECR066	Subhasmita Das
13	140301ECR068	Chinmaya Ku Pradhan
14	140301ECR069	Priti Mahato
15	140301ECR074	Monalisha Hansda
16	140301ECL077	Sarbajit Patanaik
17	140301ECL079	Rupan Das
18	140301ECL080	Sanjoy Debnath

19	140101ECR004	Pinninti Kranti
20	140101ECR008	Ankita Mallick
21	140101ECR017	S.Divya
22	140101ECR018	Nayan Mishra
23	140101ECR020	K.Yogeswar Rao
24	140101ECR022	G.V.Ramana
25	140101ECR038	M.Radha
26	140101ECR044	D.Likhita





## ICAR-CIWA Activity Report

Agency Name: ICAR-CIWA

Academic Year: 2018

Total Number of Activities in this academic year: 1

No. of the Students: 2

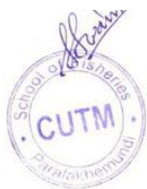
Internship to B.Fsc. students

Centurion University of Technology & Management(CUTM), the first multi sector State University of Odisha, was established through an act of State Legislative Assembly in 2010. Currently about 100 Students are Pursuing their career in B.F.Sc.

As per the regulation of ICAR 5<sup>th</sup> Dean Committee Syllabus, all B.F.Sc, students have to undergo training/internship/Apprenticeship training Programme in Government/Private organizations.

“ICAR - Central Institute for Women in Agriculture” is pioneer in the dissemination of different technologies related to gender mainstreaming and women empowerment in agriculture and allied sectors to realize enhanced productivity and sustainability of agriculture in the eastern region of country.

ICAR-CIWA also promotes gender sensitive decision making for enhancing efficiency and effectiveness of women in agriculture. Two student of B.F.Sc from School of Fisheries, Centurion University of Technology and Management (Mr.Bigyanmihir Rout & Mr. Soumya Ranjan Dutta) are interested to learn and acquire knowledge on Fish processing technology for a duration of 10 weeks which will be helpful for their understanding of the subject





## Activity Report

Agency Name: FESTO

Academic Year: 2018

Total Number of Activities in this academic year: 1

No. of the Students: 77

- To impart knowledge to students on fundamentals of hydraulic and pneumatic power and their circuits with industrial applications

- Students will be able to identify various elements used in fluid power systems and will be able to deliver fluid power circuit diagrams
- Students will be able to design and test various control circuits using Fluidsim software
- Students will be able to apply the knowledge in PG program related to thermal field.

Students List:-

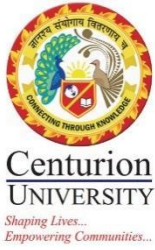
SL.NO	NAME	REGD NO
1	PALLAB GOSWAMI	160301160002
2	GOBIND MAHATO	160301160003
3	JASMINE PARIDA	160301160004
4	JYOTI RANJAN DAS	160301160005
5	AMIT KUMAR DAS	160301160008
6	SUMIT GUPTA	160301160009
7	SAQLAIN MUSTAQUE KHAN	160301160012
8	SK SHOAIB AKHTAR	160301160015
9	ANIL KUMAR DHARAI	160301160016
10	DEBADUTTA TRIPATHY	160301160020
11	SAYED ADIL ALI	160301160021
12	TRIDIP SAHU	160301160022

13	MOHAMMAD AZHAR	160301160024
14	ARAJIT RAY	160301160025
15	NIKHIL XALXO	160301160027
16	ADITYA BARJO	160301160030
17	SANGRAM SOURAVA BARIK	160301160035
19	RAJESH KUMAR BISWAL	160301160040
20	PRAMOD KUMAR ROUT	160301160045
21	SOUMYA RANJAN PRADHAN	160301160050
22	RATI RANJAN MISHRA	160301160053
23	SOMESH GACHHAYAT	160301160055
24	D.BHARAT KUMAR	160301160069
25	SOUMYARANJAN OJHA	160301160078
26	AYUSH HATHI	160301160079
27	DEEPTI PRAKASH NAIK	160301160082
28	ASWINI KUMAR	160301160089
29	TANMITTA MISHRA	160301160090
30	BINESH KUMAR SAMAL	160301160091
31	SHUBHAM KUMAR	160301160095
32	NIKHLESH DAS	160301160096
33	VISHAL GAURAV	160301160097
34	PRATIK SATAPATHY	160301160098
35	SAI SANDIPANI PRADHAN	160301160099
36	PRIYABRATA PANDA	160301160100
37	AMIT KUMAR PRADHAN	160301160101
38	BUBUNA PRADHAN	160301160102
39	MD SAFFIN	160301160103
40	ROSHAN KUMAR SINGH	160301160104
41	PRAMOD SAW	160301160105
42	GYANA RANJAN PATRA	160301160106
43	RAKESH KUMAR MAHARANA	160301160108
44	SIBABRATA SAHU	160301160109
45	SAI SARTHAK ROUT	160301160110
46	MD. ADIL HUSSAIN	160301160112
48	ASHUTOSH MOHAPATRA	160301160114
49	JAYANT KUMAR SUTAR	160301160116
50	ASHUTOSH SAMAL	160301160117
51	ASHWAS MOHANTY	160301160118
52	PIYUSH KUMAR	160301160119
53	ARCHISMAN MISHRA	160301161120

54	HRUSHIKESH CHAMPATI	160301161122
55	SUBHAJYOTI DAS	160301161123
56	AKASH MONDAL	160301161124
57	DIPTI RANJAN JENA	160301161125
58	SANJEEV KUMAR BOITI	160301161126
59	SHANKAR KUMAR TUDU	160301161128
60	JYOTIRANJAN SAHOO	160301161129
61	TUSHAR BEHERA	160301161131
62	PRABIR BEHERA	160301161132
64	SOUMYA KANTA PADHI	160301161134
65	RAJESH KUMAR MALLICK	160301161135
66	GOUTTAM PATRA	160301161136
68	SIDHARTH PATTNAIK	160301161138
69	SANDEEP KUMAR SWAIN	160301161139
70	BIKASH KUMAR PRADHAN	160301161140
71	CHITTARANJAN BALIARSINGH	160301161141
73	ARVIND KUMAR	160301161144
74	SOUMYA RANJAN SAHOO	160301161145
75	ASHWANI KUMAR SINGH	160301161147
76	ASHISH KUMAR MAHANTA	160301161127
77	KAUSHAL KUMAR MAHATO	160301161146







## CIFA Activity Report

Agency Name: CIFA

Academic Year: 2018

Total Number of Activities in this academic year: 1

No. of the Students:

Internship to B.Tech(Ag. Engg.) students

ICAR-CIFA is pioneer in the development and dissemination of different technologies related to freshwater aquaculture for the empowerment of rural community.

Students List:-

Sl. No.	Name of the Student	Regd . No.
1	Bhagyashree Mallick	140801agr061
2	Diksha Nayak	140801agr067
3	Priyadarshini Choudury	140801agr068
4	Sangeeta Bhuyan	140801agr074
5	Leena rani Mishra	140801agr078
6	TruptimayeeKalta	140801agr085





**Centurion**  
**UNIVERSITY**

*Shaping Lives...  
Empowering Communities!*


## **Harsha Trust Activity Report**

CUTM in collaboration with Harsha Trust conducted four month In-plant training for School of Agriculture and Management students of CUTM. This training program is guided by Mr. B.B.Mishra of Harsha Trust. This activity is planned as per the MoU Harsha Trust and CUTM. Few students are selected by Harsha Trust for the training program.

Duration: 4 Month

Resource person : B.B. Mishra

Activity: In-plant training program at Harsha trust

  
DEAN  
SOM  
CUTM, Odisha



**Internship Confirmation Letter**

Letter: HT/BBSR/intern/KM/03/2018

Date: 10/07/2018

To

The Deputy Registrar, T & P

Centurion University,

Paralakhemundi,

Ganjam

**Sub:** Allocation of Unit to be trained under In- plant Training  
( Mr. Taradutta Nayak; Regd. no150101170008)

Dear Sir,

With reference to your letter : NoB7 / CUTM / T &P / 2018; we are allocating **Mr. Taradutta Nayak** to be based at Kosagumuda for the in-plant training programme with a span of 120 days . He can proceed to Kosagumuda on 16th July 2018. He would be able to participate in the Livelihood implementation programmes of the said unit. During the internship period he will report to **Mr. Bhabanishankar Bhatta Mishra (Team Leader)** . He has to wind up his learning programme on or before 15th October 2018. During this period he may have to travel to other units as per his learning needs.

Organisation will not be liable for any of TA/DA claims to him during the period of his stay.

Thanking you for your cooperation

**Dr. Kallul Bora** Executive Director

**Executive Director**





## Dassault (Ennovia) Activity Report

Agency Name: Dassault Systems

Academic Year: 2017

Total Number of Activities in this academic year: 1

No. of the Students: 32

Faculties: 3

Ennovia Customization Training

- PEER LEARNING EXPERIENCE - For 3DEXPERIENCE courses
- COMPANION LEARNING SPACE - For Courses for legacy solutions (CATIA V5, ABAQUS etc).

Students List:-

S.No	Register no	Name
1	150101120001	PALAKA BIKASH KUMAR
2	150101120002	SANAPALA CHANDANA
3	150101120003	Patnaik Sekhar Mohanathi Tarun Kumar
4	150101120004	SOWMYA AVASARALA SRI SWATHI
5	150101120005	LANDA SANTOSH BHARGAV
6	150101120006	TIRUMARADDY SRIKANTH
7	150101120007	TRIPATHY SUBHASHMITA
8	150101120008	RAITA DOMBE
9	150101120009	paidisetty Priyanka
10	150101120010	BHUSHAN ARCHANA
11	150101120011	PRASAD VISHAL

12	150101120012	PATRO AKANKSHYA
13	150101120015	LOLLA MANASA
14	150101120016	NAYAK ANKITA
15	150101120017	MAHAPATRO SAMEER
16	150101120022	MOHANTY DEBASISH
17	150101120023	SUDHEER BURAGAPU
18	150101120024	PATNAIK BHARGAVI
19	150101120025	KUMARI SHAMBHAVI
20	150101120026	KUMAR SHUBHAM
21	150101120027	CHAUDHARY SRIRAM
22	150101120033	SAHU SONALIN
23	150101120034	MISHRA SOUMYA RANJAN
24	150101120035	kumari Kanchan
25	150101120036	BEHERA MONALISHA
26	150101120041	KARADA SRIKANTH KUMAR
27	150101120042	SINGH KAJAL KUMARI
28	150101120043	NAYAK HIMANSU SEKHAR
29	150101120044	PATRO KISHAN KUMAR
30	150101120045	BENERJEE KARUMURI RAHUL
31	150101120047	BEHERA SOUMYA RANJAN
32	160101120006	ANDAVARAPU SAI SUPRIYA
33	160101120007	KOMMURU BHAVANA
34	160101120008	AMARENDRA PRATAP DUTTA
35	160101120009	GAJJANA KIRAN
36	160101120010	ASHUTOSH MAHAPATRA
37	160101120016	ABHISHEK PATNAIK
38	160101120017	YARABATI PUJA
39	160101120018	KILLAMSETTY SUKESH
40	160101120019	KSHITIJ KUMAR SHUKLA
41	160101120028	MADDI SRINIVASA RAO
42	160101120029	SAI KRISHNA KOTLA
43	160101120030	VENKATESH RAMAVALASA
44	160101120031	MANOJ KUMAR PATRO
45	160101120038	MURIPINTI SHIREESHA
46	160101120039	SONALI RATH
47	160101120040	SUNEELA SASANAPURI
48	160101120042	PRATYUSH RANJAN PADHY
49	160101120043	MANOJ KUMAR ALU
50	160101120044	PRAVALIKA VAKA

51	160101120045	AMIT KUMAR PANDA
52	160101120055	PRIYANKA PANDA
53	160101120056	SUBHASIS TRIPATHY
54	160101120057	SAI APOORVA PAILA
55	160101120059	LAVANYA GELLANKA
56	160101120060	DILIP SAHUKAR
57	160101120061	BURLE CHARANYA
58	160101120070	KOTA CHANDRIKA
59	160101120071	KEMBURI JAGADEESH NAIDU
60	160101120073	SWAROOPA BOINA
61	160101120075	PRIYANKA LIMA
62	160101120076	SUVARNA LATHA PUPPALU
63	160101120077	SUBHAM KUMAR DAS
64	160101120078	GANESH SAI KAUSHIK
65	160101120079	SWAPNA DANDU
66	160101120082	SRIKEERTHI SASANAPURI
67	160101120083	ABHISHEK MANGARAJ
68	160101120084	GAYATHRI GANNAVARAPU
69	160101120085	SAMARJEET KUMAR DEO
70	160101120087	PRIYANKA RANASINGH
71	160101120088	SATISH KUMAR PATRA
72	160101120089	SUCHITRA GAMANGO









## Activity Report

CUTM in collaboration with Mednutra Pvt. Ltd. conducted a programme and online certificate courses under Nutrifly India Programme. The motto of this programme is to facilitate empowering responsible nutrition business by way of market access and commercialization, product development, consultancy and investment into startup ventures in nutraceuticals by leveraging industry network.

Total 44 students of CUTM participated in the Nutrifly India programme and successfully completed the certificate program on “New Product Development and commercialization in industry”. All the students are awarded with certificates after completion of the program.

Total Number of Students : 44

Duration: 1 month

Mode: Online mode

*M. Srinivasan*  
DEAN  
M S Swaminathan School of Agriculture  
CUTM, Paratathemundi

# SACAL – CUTM IN COLLABORATION

SACAL NGO is our training partner in Innovation Agri. project. Centurion University act as a knowledge partner in delivering training to 800 farmers on vermicompost production in interior areas of Mohana Block of Gajapati district, Odisha. For last four year we are working together to deliver training & other livelihood awareness to the Farming community. SACAL NGO also acts as a training partner under RPL project of Gram Tarang, where they have trained approx. 900 farmers on various job roles: such as Vermicompost production, Maize Cultivation & Mushroom production.



*M. Devendra Singh*

**DEAN**  
**M S Swaminathan School of Agriculture**  
**CUTM, Paratatherrundi**