

**Centre of Excellence**  
on  
**“BIO-ENGINEERED SUSTAINABLE POLYMERIC SYSTEMS”**  
*(On-going)*  
at  
**School for Advanced Research in Petrochemicals (SARP) –**  
**LARPM, Bhubaneswar**

**1. Brief Note on The Project work: “Centre of Excellence for Bio-engineered sustainable polymeric systems”**

The Centre of Excellence (CoE) on ‘**Bio-engineered sustainable polymeric systems**’ has been established at CIPET:SARP-LARPM through the support of the Department of Chemicals and Petrochemicals (DCPC), Ministry of Chemical and Fertilizers, Government of India. The project is aiming to address three major sectors, which are of significance in today’s world –***Packaging, Healthcare and Energy Harvesting/Storage from renewable resources***. Natural resources has been utilized effectively for technology development pertaining to eco-friendly biodegradable polymer films for packaging and engineered green polymer membranes for healthcare as well as bio-derived materials for energy harvesting and storage applications. The project has been divided with following phases

- ✓ **Phase I:** Eco-friendly Biodegradable Polymer films in Packaging & Agriculture
- ✓ **Phase II:** Engineered Green Polymer Membranes in Healthcare and Biomedical Technology
- ✓ **Phase III:** Bio-derived materials in integrated Energy Harvesting and Storage Devices

**2. Advantages of Project Work**

Bio-based eco-friendly technologies are the sought-after know-how globally, considering their significance in regulating plastics waste disposal and address the depletion of petroleum resources.

The developed bio-engineered polymeric system from CoE would address the requirement of new sustainable materials that can cater to the needs of the industries and society.

CIPET along with its collaborators, who are the leading players in the field of bio-engineered materials, established a novel methodology for development of sustainable polymeric system for use in ***Packaging, Healthcare and Energy Harvesting/Storage sector***. Further, validated technology shall be transferred to pertinent industries for commercialization.

### 3. Agreements made with following for technology transfer/ commercialization of the technology

The following industry has shown their interest to take the assignment.

- **M/s IMGENEX India Pvt. Ltd**, Bhubaneswar.
- **M/s EnviGreen Biotech India Ltd**, Bangalore.
- **M/s HPCL Mittal Energy Ltd**, Noida

### 4. Publications on the Project

As of now the research work under the Center of Excellence is in progress, 10 nos. of research papers have been published in peer-reviewed International Journals till date.

### 5. Details of Patents granted & Technology for the project

No of Patent in process:	02
Technology Transferred:	Under progress

### 6. Equipment/ Machines available at CoE

SI. No.	Name of Equipment/ Machinery
1	HT GPC
2	Glove box
3	Biopotentiostat
4	Digester
5	pH Meter
6	Air Compressor, CO <sub>2</sub> trap and Gas Pipe Line with related accessories
7	Moisture Analyzer
8	High temp. Furnace
9	Brookfield Viscometer
10	Compositing Test Facilities

## 6. Photos of the equipment/machinery at Centre of Excellence (CoE)

### ➤ *High temperature GPC*



### ➤ *Glove box*



➤ **Biopotentiostat**



➤ **Moisture Analyzer**



➤ **pH Meter**

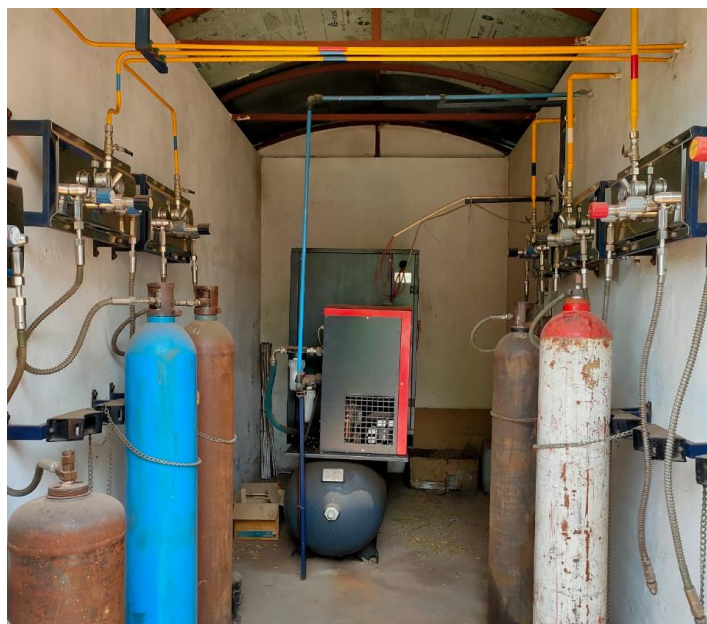


➤ **High Temperature Furnace**





➤ **Air Compressor and Gas Pipe Line with related accessories**



➤ **Digesters**



**7. Contact details for further information**

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