



**PONNAIYAH RAMAJAYAM INSTITUTE OF  
SCIENCE & TECHNOLOGY (PRIST)**

Declared as DEEMED-TO-BE-UNIVERSITY  
U/s 3 of UGC Act, 1956

### **7.3.1 INSTITUTIONAL DISTINCTIVENESS**





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## **PRIST, located in the 'rice bowl of Tamil Nadu', serves farmers' interest**

Recently, 'Pasumai Vikatan' a famous Tamil Weekly and the School of Agriculture, PRIST co-hosted a Farmers' Meeting with the theme 'Laabam Kozhikkum Velinattu Thozhilnutpangal (Eyarkai Iduporul Thayarippu Payirchi)' ['Profitable Foreign Technologies' (Natural Ingredient Product Training)].

Tamil Nadu Senior Agricultural Scientists Association (TASAA) was the Co-host of the event.

Topics such as the organic foundation of nutrients and effective micro-organisms (EM), offering insights on enhancing productivity and guidance on maintaining a safe, hazard-free environment and promoting healthy agriculture were discussed. The event was attended by 94 farmers from Thanjavur and other districts across Tamil Nadu.







**Lat:10.720279°**

**Long:79.042757°**

**Members of farmers from local regions as well as other districts of TamilNadu participating in the event.**



- Students of School of Agriculture, PRIST during A ‘Knowledge Exchange’ Event with the local officers of ‘Seed Treatment Station’, Department of Agriculture, Govt. of Tamil Nadu.



Seed Treatment Station



## **PRIST promotes Indian Knowledge System (IKS)**

PRIST promotes Indian Knowledge System (IKS) aspects effectively utilizing the presence of historical / cultural monuments available in the vicinity. The new education policy (NEP2020).

Emphasises on the promotion of IKS. PRIST has, in this connection, a distinctive advantage. Faculty members organize periodically visits to the historical monuments present in the vicinity of the campus. Some of these monuments include, Pragadeeswarar temple, Thiruvaiyaru Thiagaraja memorial place etc.. The IKS aspects advocated in the new educational policy are addressed by such planned educational visits of various groups of students



**Pragadeeswarar temple -Indian Knowledge System (IKS)**

**Lat:10.783379<sup>0</sup>**

**Long:79.134051<sup>0</sup>**





**Pragadeeswarar temple sculptures**



**Pragadeeswarar temple – Thanjavur  
Indian Knowledge System (IKS)**



## Successful Woman Entrepreneur:

The alumini of Ponnaiyah Ramajayam Institution of Science And Technology(PRIST) Student (2021 batch) Was chosen for the ‘successful woman entrepreneur’ award by an Association sponsored by the Indian Council for Agriculture (ICAR). She is now on her way to establish an ‘Agriclinic’ with financial assistance from the National Bank for Agriculture and Rural development (NABARD).





## Waste Water Management:

As part of its contribution to societal development, PRIST has taken efforts to focus ‘water quality’ making it a thrust area in its research pursuits. Faculty researchers along with their team of PG/PhD scholars, focus on surface and ground water modelling using specialized software viz. HEC -HMAS and Modflow Seawat. Exclusive facilities are available in ‘water quality surveillance’, ‘waste water management’ and ‘ambient air quality noise level assessment’.

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## ISRO - Subsurface Tracking Of Groundwater:

ISRO has awarded PRIST a project on ‘Subsurface tracking of groundwater discharge along coastal stretches of Andhra Pradesh and Tamil Nadu based on understanding and modelling of coastal aquifer dynamics’.



Fig-1 : Offshore thermal/salinity anomaly assessment

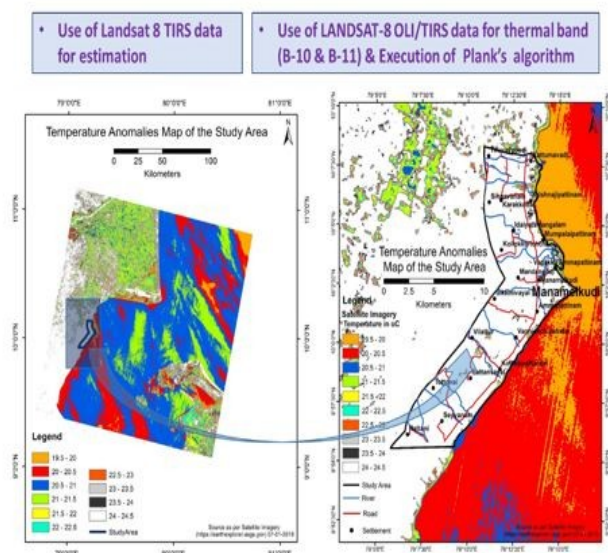


Fig-2: Zones of Temperature anomalies



## **WATER-IC for SUTRAM of EASY WATER:**

PRIST is a 'Participating Investigator' in WATER-IC for SUTRAM of EASY WATER and has established in its campus a Centre for Sustainable Treatment, Reuse and Management for Effluent, Affordable and Synergistic solutions for water.





## **Adsorbents In Textile Wastewater Treatment:**

The DST has also sponsored the PRIST faculty to work on a project viz. ‘Characterization and utilization of selected, de-oiled cake as adsorbents in textile wastewater treatment’. In line with the institutional vision viz.

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## **Plastic Waste Conversion:**

PRIST initiatives deals with plastic waste i.e., conversion of low-density polyethylene (LDPE) – a thermoplastic - into diesel. Attempts have been made through selected catalytic pyrolysis to obtain fuel-grade synthetic diesel, whose engine performance and emission characteristics have been found close to conventional diesel. The reactor design has already been patented and the preparation is underway for the possible commercialization of this technology as well as installation of the pilot-scale reactor on the campus itself.

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## **Water quality for mass-bathing of pilgrims in the holy Mahamaham :**

A notable distinctiveness of PRIST is encouraging the research scholars to seek solutions for problems encountered in its neighborhood. Examples given below are in support of such distinctiveness:

Mass-bathing in holy sites has been one of the essential components in the cultural fabric of unity in diversity of our country. However, progressive deterioration of broad selfless consciousness of the general populace, quite contrary to the very spirit of the Indian culture, has resulted in serious deterioration of water quality in such sites. Characterization and surveillance of water quality parameters were carried out by PRIST researchers to assist the planners and sanitary engineers to develop a better and more scientific approach in ensuring congenial water quality for mass-bathing of pilgrims in the holy Mahamaham tank located in the neighbouring town of Kumbakonam.





## **Research And Development In Fisheries:**

To identify the potential niche in the domain of scope of research and development in fisheries, a scientiometric analysis had been carried out as a doctoral project covering all the public issues faced by Indian researchers working on fisheries. Accordingly, the specific exploration had been directed towards hatching, growth, disease control, harvesting, preservation and distribution sub-domains, with special emphasize on improved strategies and research gaps, thereby providing direction of sustenance and enhancement of fishery sectors of the country (both, on regional basis and on national basis).

- [https://pristuniv-my.sharepoint.com/:b:/g/personal/criteria7\\_prist\\_ac\\_in/ETdQc1\\_Eik1MkARyQLBQcL8B1Ib6KY\\_tPALrFRhqNakJlg?e=hyM0Eb](https://pristuniv-my.sharepoint.com/:b:/g/personal/criteria7_prist_ac_in/ETdQc1_Eik1MkARyQLBQcL8B1Ib6KY_tPALrFRhqNakJlg?e=hyM0Eb)
- [https://pristuniv-my.sharepoint.com/:b:/g/personal/criteria7\\_prist\\_ac\\_in/EZy5nNhBJ7tDhW-eozXVhTcB9ZONiBX2quKrT3hvaFSzjA?e=FvVnSE](https://pristuniv-my.sharepoint.com/:b:/g/personal/criteria7_prist_ac_in/EZy5nNhBJ7tDhW-eozXVhTcB9ZONiBX2quKrT3hvaFSzjA?e=FvVnSE)

## **Management of Municipal Solid Waste :**

Extensive studies had been undertaken by multiple research scholars in effective and efficient management of municipal solid waste (MSW), covering the regions of Union territory of Puducherry and the state of Tamilnadu (Kumbakonam and Perambalur). These studies involve leachate characterizations and modeling (including validations, projections and recommendations), optimization of collection points, selection of suitable landfill sites, decentralised recycling/ treatment units and optimized routing using geospatial modeling.



### **Municipal Solid waste – Perambalur:**

- [https://pristuniv-my.sharepoint.com/:b:/g/personal/criteria7\\_prist\\_ac\\_in/Eb3vf6tciPFPpRu2JMwBtokBgTEOK9I7EXFcKyKSO1DYJQ?e=D2xgaG](https://pristuniv-my.sharepoint.com/:b:/g/personal/criteria7_prist_ac_in/Eb3vf6tciPFPpRu2JMwBtokBgTEOK9I7EXFcKyKSO1DYJQ?e=D2xgaG)

### **Municipal Solid waste – Kumbakonam:**

- [https://pristuniv-my.sharepoint.com/:b:/g/personal/criteria7\\_prist\\_ac\\_in/ETrUMonvKpdGsozKXNG5I6UBevDtLgDqvm74kbjSKPypKQ?e=WMLhn0](https://pristuniv-my.sharepoint.com/:b:/g/personal/criteria7_prist_ac_in/ETrUMonvKpdGsozKXNG5I6UBevDtLgDqvm74kbjSKPypKQ?e=WMLhn0)

### **Municipal Solid waste – Puducherry:**

- [https://pristuniv-my.sharepoint.com/:b:/g/personal/criteria7\\_prist\\_ac\\_in/EawOKkSfvwJMvhyjBd-IAUIBX4xuCgL2dAfBDEQFDIVRAQ?e=OFjssG](https://pristuniv-my.sharepoint.com/:b:/g/personal/criteria7_prist_ac_in/EawOKkSfvwJMvhyjBd-IAUIBX4xuCgL2dAfBDEQFDIVRAQ?e=OFjssG)

The assessment of biological characterization of water has always been an expensive and time consuming, yet crucial requirement for assessment of potability of water. The researchers at PRIST have been extensively exploring the development of sensor-based water analyser kit for assessment of in situ biological characteristics of water. The device, under development, has been granted IPR (Design) protections.



Such a device would be of great assistance not only for NABL accredited analytic labs but also for domestic uses, bringing down the analytical time (from 48 to a maximum of 4 hours). An innovative approach for meeting potable water requirement, bypassing the standard treatment trains starting from raw water procurement through intake structures onto filtration and disinfection units, is development of atmospheric water generator (AWG). Such a unit would help provide PRIST's neighbourhood - a perennially humid region-the much-needed pure water supply at domestic / organizational sectors.

### **Development of Materials:**

Faculty researchers at PRIST along with their scholars have made considerable contributions to 'development of materials'. A functional group is established in this domain with the following.

### **Objectives:**

- Fabrication of the functional materials based on polymeric nanomaterials.
- Development of energy storage materials from polymeric nanomaterials.
- Growing functionalized single and polycrystals Synthesis of semiconductor nanostructures for optoelectronic and solar cells applications Fabrication of waste plastic derived graphene-based proton exchange membrane for usage in microbial fuel cell.



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➤ [https://pristuniv-my.sharepoint.com/:b:/g/personal/criteria7\\_prist\\_ac\\_in/EX-TM5XzgyhIo0z5R3Pf4QMBViAO2ja2m3TBU6SNkOq8EQ?e=cdIybA](https://pristuniv-my.sharepoint.com/:b:/g/personal/criteria7_prist_ac_in/EX-TM5XzgyhIo0z5R3Pf4QMBViAO2ja2m3TBU6SNkOq8EQ?e=cdIybA)

➤ [https://pristuniv-my.sharepoint.com/:b:/g/personal/criteria7\\_prist\\_ac\\_in/EauEHB4EDfhLr6dcYvRdUvQBm2Qqqs-skquhTDRnDxE1Hg?e=5HIr1K](https://pristuniv-my.sharepoint.com/:b:/g/personal/criteria7_prist_ac_in/EauEHB4EDfhLr6dcYvRdUvQBm2Qqqs-skquhTDRnDxE1Hg?e=5HIr1K)



## Efforts to nurture activities related to sports that are popular in the region and closely connected to Indian culture

PRIST takes conscious efforts to foster 'sports' those are popular in and distinctive to the local region. The institution over the past years has provided liberal sports scholarships and fostered student-talent pools in 'kabaddi', a sport which is widely popular in the local region. It is worth mentioning that 'kabaddi'- a sport of the soil - has always been an intrinsic part of the Indian sports culture.

PRIST's Kabaddi team has emerged as winner in a number of State level tournaments. In a recent event held by the government of Tamil Nadu, the Minister for Youth Welfare & Sports Development honoured PRIST students with the 'Chief Minister's Shield -Awards'. Some glimpses of the event are given below:





