



Poornaprajna Institute of Scientific Research

Promoted and managed by **Admar Mutt Education Foundation**

(Recognized by Department of Scientific and Industrial Research (DSIR), Govt. of India and MAHE, Manipal)



Dr. Ganapati Shanbhag
Dean (Academics)

Research Highlights of PPISR 2023

- ★ Seven research scholars successfully defended their PhD viva-voce examination and obtained doctoral degrees from MAHE, Manipal.
- ★ Industry project sponsored by SULZER-GTC, USA was successfully completed by Dr. Ganapati Shanbhag's group during 2023.
- ★ A new project sponsored by SABIC has been initiated by Dr. Shanbhag's group.
- ★ A project on "Design and development of UV-visible light active rooftop photocatalyst panels for green H₂ generation and value added chemicals from sunlight harvesting" sponsored by DST/SERB under the startup research grant (SRG) scheme has been initiated by Dr. Naresh Nalajala's group.
- ★ Dr. R Ranjith Kumar won the prestigious National Dr. K. V. Rao Scientific Society Research Award for his exemplary work done in Physics.
- ★ Five best presentation awards were received by Ph.D. students in 2023 at National and International conferences.
- ★ The Institute has published 21 research papers in highly reputed international journals and 3 Indian patents have been filed this year.
- ★ Two MOUs were signed with well-known Institutes like Galgotias University, Greater Noida and Mount Carmel College, Bengaluru

PhDs graduated from PPISR in 2023



1) Dr. Chethana A

Guide: **Dr. Nalini Sundaram**

Co-guide: Dr. Ganapati Shanbhag

Title: Design of Semiconductor Oxide Nanomaterials for Efficient Gas Sensors

Present Position: DST-WISE Postdoctoral fellow at JNCASR, Bengaluru.



2) Dr. Shrilakshmi Rao

Guide: **Dr. Ananda K.**

Title: Rational modification of insulin driven by evolutionary studies and chemistry for therapeutic applications"



3) Dr. Shankar Kundapura

Guide: **Dr. Ramagopal**

Title: Rational Modification of Immune Checkpoint Receptors of PD-1 Pathway for Cancer Immunotherapy

Present Position: Postdoctoral fellow at University of Vienna, Austria.



4) Dr. Kartik Y R

Guide: **Dr. Sujit Sarkar**

Title: "Geometry, Criticality and Topological transitions in Hermitian

and non-Hermitian systems" Present Position: Postdoctoral fellow at Tel Aviv University, Israel.

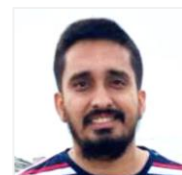


5) Dr. Vaishnavi B J

Guide: **Dr. Ganapati V. Shanbhag**

Title: "Designing novel catalysts for conversion of biomass derivatives furfuryl alcohol and levulinic acid into value-added chemicals"

Present Position: Selected as Scientist at GE Aerospace, Bengaluru



6) Dr. Vinod N. Rao

Guide: **Dr. Srikanth R.**

Title: "Feasibility Study of Practical Counterfactual Quantum Cryptography"

Present Position: Postdoctoral fellow at University of York, United Kingdom.



7) Dr. Ranjith Kumar R

Guide: **Dr. Sujit Sarkar**

Title: "Topological Phase Transition at Quantum Criticality in One Dimensional Topological Systems"

Present Position: Institute postdoctoral fellow at IIT Bombay.

New Faculty : PPISR welcomes new faculty



Dr. Nagasuresh Enjamuri

Assistant Professor

Ph.D.: IIT Dhanbad

Postdoc: NCL Pune and Hokkaido University, Japan

Research: Conversion of CO₂, biogas, and biomass into valuable fuels and chemicals.

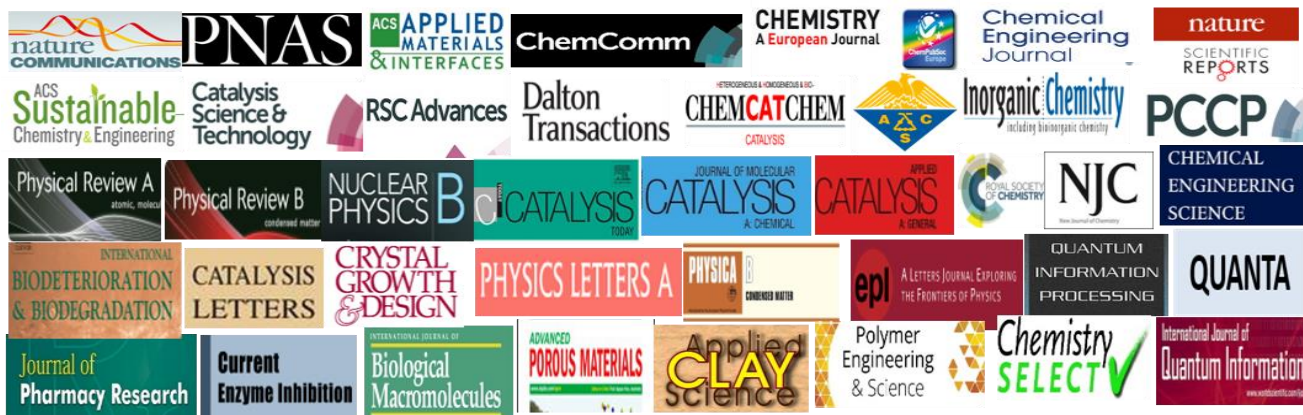
Publications - 2023



No. of papers published 2022: **21**

Patents filed: **03**

Total no of publications: **~390 (overall 2011-23)**



Patents filed (2023)

1. Biologically active zinc-free hexameric insulin analogues, (2023), Indian Patent Application No. 202341002384, Inventors: Ramagopal UA, Rao SS, Kundapura S, Ananda K. (filed by PPISR)
2. High affinity PD-1 mutant as lead molecules for cancer immunotherapy, (2023), Indian Patent Application No. 202341044329 Inventors: Ramagopal UA, Kundapura S. (filed by PPISR)
3. Catalyst for carbon dioxide hydrogenation to methanol and method of preparation thereof, (2023) Indian Application number: 202341022626, Inventors: S. Kotni, G. Valavarasu, G. V. Shanbhag, R. Vetrivel, A. B. Halgeri, S. Sujith, C. N. Mallannavar and K.M.R Vaibhava (filed by HPCL; outcome of collaborative project)

Highlights of Activities in the institute



Founder's Day Programme



Founder's Day was celebrated at PPISR in fond remembrance of the Founder late H. H. Sri Vibudhesha Theertha Swamiji on July 6, 2023 at Bidalur campus. Dr. A. B. Halgeri delivered an overview and inaugural speech. Dr. Ganapati V. Shanbhag gave a preamble on the Founder. This was then followed by inaugural key note lecture by **Dr. Shubha V.**, the former distinguished scientist of **CSIR-National Aerospace Laboratories**, Bengaluru who was the chief guest for the inaugural function.

The celebration was graced with several eminent scientists across various disciplines with an array of lectures; "Embracing the Future: Circular Economy in the Chemical Industries" by **Dr. Navneet Kumar Gupta**, Centre of Sustainable Technologies, **IISc, Bengaluru**; "Gravitational Geometric Phase" by **Dr. Banibrata Mukyopadhy**a, Department of Physics, IISc followed by the concluding lecture by **Dr. Manjunath M. V.**, Department of Neurovirology, **NIMHANS**, Bengaluru on the topic "Understanding neurological complications of COVID-19: A Lab based approach".

Annual Day Programme 2023



The Annual Day Programme on 02-02-2023 was graced by the august presence of HH Shree Eeshapriya Theertha Swamiji. Welcome address from the Director of the institute Dr. Anand B. Halgeri. The Hon. Secretary of PPISR Dr. K. Srihari, spoke about the visions of the founder chairman followed by the Highlights of Research Activities presented by the Dean, Dr. Ganapati V. Shanbhag.

Admar Mutt Education Foundation inducted an award to recognize outstanding contribution from the faculty of PPISR. This year, **Dr. R. Srikanth**, received **Outstanding Scientist Award** for his achievements in the field of quantum computing during *the last decade* and was honored by the Chairman of PPISR H. H. Shree Eeshapriya Theertha Swamiji during the second annual day celebration on February 02, 2023.

Poojya Swamiji honoured the students for their outstanding performance during their research endeavours; **Dr. Shankar V. Kundapura** from Biological Sciences, **Dr. Vaishnavi B. J.** from Materials Science & Catalysis, and **Dr. Kartik Y. R.** from Theoretical Sciences received the "Best Research Scholar Award", Ms. Bhavana Kulkarni received "Best Seminar Award", **Dr. Ranjit Kumar R. and Dr. Vinod Rao** received "Institute Ambassador Award." The prizes were also distributed for the winners who participated in the Annual Sports Meet-2023. H H Shree Eeshapriya Theertha Swamiji released the Newsletter for the year 2022 and it was followed by his benediction.

National Science Day celebrations



On the occasion of **National Science Day**, two day conference (March 9-10) on “Scientific Concepts and Advancement for Humanity” was organized at Bidalur Campus. During the conference, eminent scientists from academia and industry namely **Dr. Kartick Mondal**, Scientist from Shell Technology Centre, Bengaluru; **Dr. P. V. Shivaprasad**, National Centre for Biological Sciences, **TATA Institute of Fundamental Research**, Bengaluru;



Dr. Kusharga Bansal of JNCASR, Bengaluru; **Prof. Nayantara Gupta, Raman Research Institute, Bengaluru** delivered invited talks. Followed by these talks, **Ph.D. scholars delivered talks on various aspects** of chemistry, biology and physics. Dr. Ganapati V. Shanbhag coordinated the overall event.

Visit of Dr. Nikolay Nesterenko from Sulzer, Switzerland

PPISR delighted to have the opportunity to host eminent scientist and project leader from **Sulzer, Switzerland** who is a prominent sponsor of research projects at the institute after it acquired GTC Technology Inc, USA. For reviewing the project's advancement, Dr. Nikolay Nesterenko, **Global Head of Technology Commercialization Gas Solutions at CFCL of Sulzer Switzerland**, visited PPISR from June 21st to June 24th, 2023. During this time, he engaged with our scientists and students, observed the ongoing research activities related to sponsored projects, and actively participated in extensive discussions with Principal Investigator of the project, Dr. Ganapati V. Shanbhag and Project Coordinator, Dr. A. B. Halgeri. He appreciated the overall research work and progress made in the ongoing sponsored project.



Visit of Scientists from Shell Technology Centre



Prof. Dr. Thomas Weber, Principal Scientist, Shell Technology, Amsterdam and Dr. Kartick Mondal, Senior Scientist, Shell Technology Centre, Bengaluru along with other team members visited PPISR campus on May 19, 2023.

Visit of scientists from Yokogawa, Bengaluru

Scientists from Yokogawa, Bengaluru visited PPISR on 14th September 2023 to discuss about possible research collaboration. Mr. Ravikumar Ramamurthy, Mr. Prasenjit Das, Dr. Maharnob Sarkar and Mr. Rakesh Ramachandran from Yokogawa and Dr. Maradur, Dr. Ananda, Dr. Naresh N, and Dr A. B. Halgeri from PPISR attended the meeting.



Invited talks



There were several invited lectures and webinars by distinguished speakers conducted at PPSR during 2023. Some important lectures are as follows. **Prof Kattesh V. Katti**, Columbia, University of Missouri, USA visited our research campus at Bidalur on June 8, 2023.

Prof. Krishna Prasad, distinguished scientist at the Centre for Nano & Soft Matter Sciences (CeNS), Bengaluru visited PPSR. The former Faculty of PPSR

Dr. Mallikarjuna Shakarad, presently Professor, Dept. of Zoology, University of Delhi visited the campus and delivered a lecture. **Prof. K. R. Krishnamurthy**, Senior consultant to Deepak Nitrite Ltd., Vadodara delivered an invited talk on “Selective hydrogenation of Furfural: Gateway for sustainable fuels and chemicals”.

Prof. K. Seshan, Professor, University of Twente, The Netherlands visited our institute and delivered a lecture on “an insightful lecture on Fuels for transport, Fossil, Electricity and Hydrogen!”



Project Internship Programme



Around 30 students from various colleges/universities namely St. Aloysius college, Mangaluru, Mangalore University, GITAM University, Mount Carmel College – Bengaluru, REVA University and various colleges in and around Karnataka did their MSc project internship with all faculty members of PPSR and completed their respective projects successfully.

AMEF Board of Trustees Meeting



Admar Mutt Education Foundation Board of Trustees meeting was held on November 19, 2023. Trustee members discussed on different issues related to the PPSIR. Dr. A. B. Halgeri presented the overall highlights of PPSIR research activities and all the trustee members highly appreciated the achievement of PPSIR and overall progress of all the research activities. H. H. Shree Eeshapriya Theertha Swamiji, Chairman, AMEF presided over the meeting.



The PhD awardees of PPSIR during 2023, Dr. Kartik, Dr. Vaishnavi, Dr. Chethana, Dr. Vinod, Dr. Ranjith, Dr. Shankar, and Dr. Shrilakshmi, were honored by Shree Swamiji on this occasion.

Miyawaki Forest at PPSIR

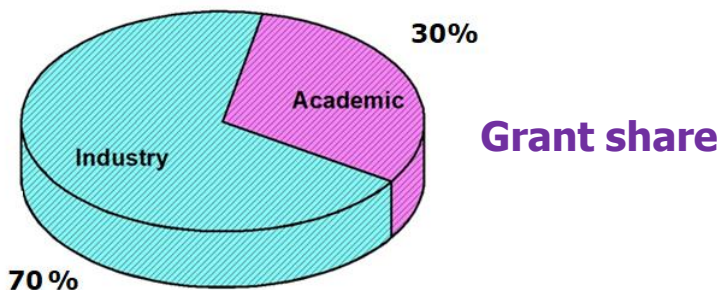
In light of growing concerns about environmental pollution and a steadfast commitment to environmental protection, PPSIR has established a **Miyawaki forest**. Afforestation not only stands as scientific method but also as a promising approach to safeguarding soil, air, water, and climate. **This initiative was personally spearheaded by His Holiness Shree Eeshapriya Theertha Swamiji** on May 25, 2023. The forest comprises a total of 1500 saplings in an acre of desert land encompassing **25 different plant species**, including fruits and medicinal plants. A dedicated team ensures the well-being of the saplings and provides periodic updates on the forest's growth to the revered Swamiji.



Overall Highlights of the Institute

#	Description	Total
1	Overall sponsored projects (2011-2022)	50
2	Funding from industry projects (2011-2023)	16 Crores
3	Funding from academic projects (2011-2023)	6.5 Crores
4	Overall research Publications (2011-2023)	>390
5	Overall avg impact factor (2011-2023)	4.0
6	Papers presented in conferences (2011-2023)	>125
7	PhDs graduated from PPSIR (2011-2023)	31
8	Best paper awards in conferences (2011-2023)	45
9	Patents granted Indian -2 US -2 (2011-2023)	4

SPONSORED PROJECTS (LAST 13 YEARS)



Sponsored projects	No. of projects	Funding amount (Rs.)
Industry	24	16 Crores
Government Agencies	26	6.5 Crores
Total	50	22.5 Crores

Industry Sponsored Projects executed by PPISR



24 industry sponsored projects 2011-2024



2021-2022
2022-2023
2023



2023-2024



2011-2012, 2015-2016,
2012-2013, 2016-2017,
2013-2014, 2017-2019
2014-2015,



2021-2022



2012-2014
2015-2018
2015-2018
2020-2022



2012-2013



2018



2018-2019
2020-2022



2018-2019



2015, 2018



2020



2021-2022



2019-
2020
2021-
2022



2019-
2020



2022

Government Sponsored Projects

26 Government sponsored projects 2011-2024





Thank You