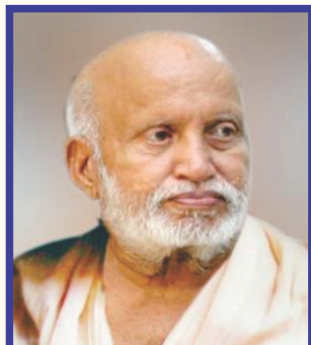


POORNAPRAJNA INSTITUTE OF SCIENTIFIC RESEARCH

(Recognised by Department of Scientific & Industrial Research (DISR) Govt. of India and Manipal University)

PROMOTED AND MANAGED BY ADMAR MUTT EDUCATION FOUNDATION

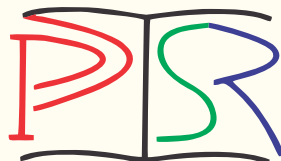


(1920 - 2009)

His Holiness

Sri Vibudhesha Theertha Swamiji

Founder



विद्यया विन्दते अमृतं

VISION

To promote and nurture excellence in the fundamental and applied sciences for the advancement of scientific knowledge and the benefit of mankind



His Holiness

Sri Vishwapriya Theertha Swamiji

Chairman

NEWSLETTER

Volume IV

January - June, 2013

Issue 001

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In the news

- ✿ Foundation stone laying ceremony was held on March 4, 2013 at PPISR main campus. H H Sri Vishwapriya Theertha Swamiji, Chairman, AMEF laid a foundation stone for the construction of Conference hall and Biology laboratory.
- ✿ On the 10th Anniversary Year 2013 of the establishment of PPISR Main campus at Bidalur, PPISR has crossed the 100 research publications in International Peer Reviewed Journals contributed in the areas of Theoretical physics, Mathematics, Nanomaterials, Catalysis, Polymers and Biological sciences.
- ✿ During the last six months, several sponsored projects were sanctioned for PPISR including industrial project from GTC Technology, USA and Govt agencies; BRNS, DST and VGST sponsored projects. Currently, 10 sponsored research projects are being executed in different areas of scientific research.
- ✿ Internationally renowned scientists including Prof. Yoshihiro Sugi, Gifu University, Japan; Prof. Joel M Friedman, Albert Einstein College of Medicine, USA. Dr. A V Ramaswamy, Former Deputy Director, NCL, Pune and Dr. R P Verma, Former Executive Director, R&D, Indian Oil Corporation (IOC), visited PPISR, Main Campus and delivered lectures.

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FROM THE DIRECTOR'S DESK.....

The first half of 2013 has been very productive in terms of research progress, research grants and scientific meetings with eminent scientists. We have been able to consolidate many of our academic activities in terms of completion of course work for Ph.D. students who got registered with Manipal University. The first Research Advisory Committee meeting took place for all the three areas of research which would be helpful for our faculty to improve the quality of their scientific programmes. Institute has made a significant progress in terms of getting sponsored research projects from Industry and Govt funding agencies. Based on successful completion of two years of project, GTC Technology, USA has extended the project for one more year on catalyst development for aromatics production. In addition, our faculty members have received sponsored projects from DST, VGST and BRNS. Several distinguished professors and scientists from both India and abroad visited our Institute and have given lectures. We have also taken several collaborative research programmes with renowned institutes like IISc, IIT-Madras, NIT, Surathkal, MIT, Manipal and also many engineering colleges and Universities in Karnataka. Several young students from various colleges have spent their vacation to carry out short term projects with our faculty members. As the institute is growing, we also make it a point to increase the infrastructure of PPISR every year and this time we are constructing a Conference hall and Biological science facility which will help in further growth of the institute. We are confident with the enthusiastic support of Admar Mutt Education Foundation and Trustee members, and also unstinted support and blessings from our Chairman H H Sri. Vishwapriya Theertha Swamiji, PPISR will be poised for growth from strength to strength.



Dr. A B Halgeri
Director

EDITORIAL



It is a great privilege to be associated with Poornaprajna Institute of Scientific Research, one of the 30 Poornaprajna institutions spread in Karnataka, Mumbai and Delhi. Being associated with PPISR as a faculty since 3 years, it is a great pleasure to be the editor of this 6th half-yearly News Letter. The year 2013 is the 10th anniversary of establishment of PPISR Bidalur Main campus which took place in the year 2003 at the hands of the Deputy Prime Minister of India.



Inauguration of Bidalur campus on May 4, 2003

The journey of 10 years of PPISR, as a private, non-profit research organization, is an inspiring story which has its ups and downs but has crossed all the hurdles and is moving ahead. In 2013, PPISR crossed 100 publications in international peer reviewed journals which in itself is a great achievement. Since the establishment of Materials science and Biological Sciences divisions in 2010, PPISR is growing in terms of research, number of researchers and instruments. Hence AMEF, the governing body of PPISR, took a decision to expand the infrastructure and build a conference hall and biology laboratory. Foundation stone was laid by H H Sri Vishwapriya Theertha Swamiji in March and inauguration of the hall is scheduled on Founder's Day, July 4, 2013. Another important event that took place was the first Research Advisory Committee meeting of eminent scientists (RAC members) from IISc, IITM, RRI and other places with faculty of PPISR. The meeting was very helpful to me and my colleagues to improve the quality of our scientific programmes. During last six months, the institute also observed the visits of eminent internationally acclaimed scientists like Prof. Yoshihiro Sugi from Japan and Prof. Joel Friedman from USA who gave lectures and had scientific discussions with faculty and students. The institute is also not behind in celebrating cultural and social events like New years celebration and Vanamahotsava to rejoice World Environment Day. I hope the news and information given in this issue will make a good reading and useful to the readers.

Dr. Ganapati V Shanbhag

AMEF BOARD OF TRUSTEES MEETING

AMEF board of trustees meeting was held at Bidalur main campus on May 25, 2013. Dr. K Srihari, Hon. Secretary, AMEF/PPISR welcomed the Chairman and all the members of the Board. Many issues related to the maintenance and development of PPISR, balance statements, ratification of resolutions passed earlier were discussed and adopted. Annual Report of PPISR for the year 2012-2013 was released by the Chairman, AMEF, H H Sri. Vishwapriya Theertha Swamiji. Dr. A B Halgeri, Director, presented the quarterly progress report of PPISR. The Chairman and trustee members appreciated the overall progress made during this period.



RESEARCH ADVISORY COMMITTEE MEETING

Research Advisory Committee (RAC) was formed last year to review and advise on the scientific research programmes being conducted in each of the research areas, Theoretical Science, Materials Science and Biological Sciences.

RAC meeting was held for the First time in PPISR campus on March 27, 2013 to review the research projects of individual faculty of Materials Science. Prof. Guru Row, Professor, SSCU, IISc, Prof. K R Krishnamurthy, Chair Professor, NCCR, IIT Mardas and Prof. T M Aminabhavi, Emeritus Professor, UGC were the members of RAC attended the meeting. Dr. G V Shanbhag, Dr. A V Raghu, Dr. Nalini G Sundaram and Dr. Sanjeev Maradur presented their ongoing and future research projects.



RAC members gave several suggestions on the projects and expressed their satisfaction on the overall progress made in the research during last two and half years.

The Research Advisory Committee Meeting (RAC) for Biological Sciences was held on April 3, 2013 in the presence of PPISR Director Dr. Anand B Halgeri and presided by subject experts Dr. A J Rao, Professor (Ramanujan Fellow) Department of Biochemistry and Dr. Ramakumar, Professor, Department of Physics, IISc Bangalore.

The RAC meeting for Theoretical Sciences was held on April 14, 2013 in the presence of director Dr. A B Halgeri and presided by subject experts Prof. N Kumar, distinguished Homi Bhabha Professor, Raman Research Institute, Bangalore, and Prof. C Sivaram, Professor, IIAP Bangalore, and St. Joseph College.

INVITED LECTURES BY SCIENTISTS



➤ **Prof. Joel M Friedman**, Albert Einstein College of Medicine, New York, USA visited PPISR, Main campus and delivered a talk on "**What to do when you know there is no NO (nitric oxide)**" on February 21, 2013 in PPISR.

➤ **Prof. Yoshihiro Sugi**, Gifu University, Japan and University of Queensland, Australia, delivered a lecture on "**The Shape-Selective Catalysis in Alkylation of Polynuclear Aromatics**" on May 28, 2013. Prof. Sugi is an internationally acclaimed scientist in Catalysis Research and the Catalysis group of PPISR was greatly benefited from his visit.



➤ **Dr. A V Ramaswamy**, former Head of Catalysis Division and Deputy Director, National Chemical Laboratory, Pune delivered a talk on "**Alternative sources for fuel and chemicals**" on February 5, 2013. Later he went through the research topics and projects chosen in Materials Science and gave his suggestions to improve the quality of research. **Dr.(Mrs) Veda Ramaswamy**, former Deputy Director, NCL, Pune also present on this occasion.



➤ **Dr. R P Verma**, Former Executive Director, R&D, Indian Oil Corporation Faridabad and Advisor for R&D, HPCL visited PPISR and delivered a lecture "**Innovations in Oil and Gas Industry**" on June 5, 2013. Later, the faculty of Catalysis group discussed with him about their research activities and sought his guidance.



➤ **Prof. S Ramasesha**, Solid state and Structural Chemistry Unit, IISc, Bangalore delivered a lecture on "**Chemistry of Correlated Electrons**" on April 26, 2013.

➤ **Dr. Rajakumara Eerappa** from FIRC Institute for Molecular Oncology Foundation (IFOM), **Milan, Italy** gave a talk on "Mechanistic insights into the histone code and cytosine methylated DNA read-out and interpretation by

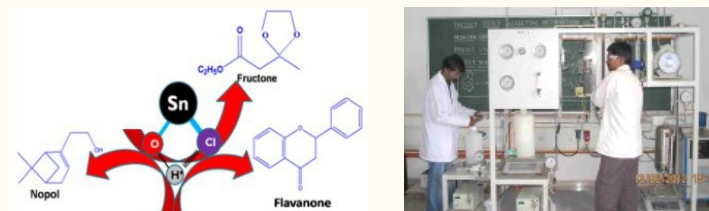
➤ **Dr. Dattatray J Late**, Department of Materials Science and Engineering, International Institute of Nanotechnology, Northwestern University, USA delivered a lecture on "2D Nanomaterials for **Novel Device systems**" on January 30, 2013"

➤ **Dr. Satish A Patil**, Associate Professor, Solid state and Structural Chemistry Unit, IISc, Bangalore delivered a lecture on "**Polymer based Solar Cells**" on May 9, 2013.

PROGRESS IN RESEARCH AT PPISR

MATERIALS SCIENCE

The Catalysis group is currently working on three industry sponsored projects sponsored by GTC Technology, USA, Shell Technology Centre, Bangalore and Hindustan Petroleum Corporation Ltd (HPCL), Bangalore. The 2nd phase of GTC project completed in June 2013 which involved the scale-up preparation of catalyst for the development of Aromatics Technology.



The 1st generation catalyst was finalized which goes to the next step of process development.

Quarterly project meetings of the other industrial sponsored projects took place during Jan-Feb, 2013. The current research projects including glycerol transformation to value-added products such as glycerol carbonate, acetins and solketol; Catalyst design for biodiesel synthesis from transesterification of non-edible oils such as Honge oil; Hydrothermal synthesis and pore engineering of zeolites for shape selective organic transformations such as alkylation, acylation and disproportionation; Novel catalysts for Prins reaction and photo catalysis are under progress. The research work "Condensation reactions assisted by acidic hydrogen bonded hydroxyl groups in tin(II)hydroxyl chloride" was published in internationally reputed "RSC Advances" Journal. Tin(II)hydroxylchloride, as a novel solid acid catalyst was reported for the first time by Catalysis group of PPISR. Another work titled "Transesterification of glycerol to glycerol carbonate using KF/Al₂O₃ catalyst: The role of support and basicity" was accepted for publication in Catalysis Letters Journal.

Progress in Research in the Functional Energy **Nanomaterials Group:**

The project titled "Design and Development of Nanocrystalline Layered Bismuth compounds for Photocatalytic Degradation of Dyes and Organic Pollutants in the Visible Region" was executed. In this work Bi₄TaO₈Cl nanoparticles synthesized by Solution combustion synthesis (SCS) show excellent photocatalytic activity in the visible light region. The preliminary results are published in the international peer reviewed journal RSC Advances (DOI: 10.1039/c3ra40240a). The X-ray diffraction data of the nanoparticles have been collected at the synchrotron radiation source at the Advanced Photon Source, Argonne national lab, Chicago, U.S.A and Rietveld refinements are in progress to analyse the crystal structure. Local structure analysis of KNdW₂O₈ polymorph-nanoparticles using Pair Distribution Function analysis from data collected at the state of the art neutron diffractometer at the Oak Ridge National Laboratory, Tennessee, U.S.A.

Progress in Research in the Functional Polymers Group: The group actively works in the area of developing novel polymeric membranes for pervaporation applications. It has one on-going project sponsored by VGST Government of Karnataka and recently it has received one more project from BRNS, Govt. of India. The project titled "Graphene loaded sodium alginate nanocomposite membranes with enhanced dehydration performance via pervaporation" where we have shown that how graphene can be effectively used as a filler to enhance the performance of the membrane and it is under revision. We have also completed the project titled "Activated clay modified sodium alginate mixed matrix membranes for dehydration of isopropanol via pervaporation".

No. of publications: 5

THEORETICAL SCIENCES

Dr. Sujit Sarkar has continued his work on quantum phase transition of light in cavity quantum electrodynamics and his study of quantum correlations like discord and entanglement in condensed matter systems and optical lattices, both of which are useful in quantum information processing. Dr. R Srikanth's group obtained novel results in generalizing the operator-sum approach to open quantum systems, and in using Bell-degenerate graph states for a dual quantum secret sharing (where a fiducial state is teleported over entanglement that encodes a quantum secret) and in the interplay of signaling and randomness in nonlocal correlations.

The DST sponsored project of Dr. Sujit Sarkar titled "Investigating geometric phase and Quantum Phase Transition in Quantum Many Body Systems" was sanctioned in June 2013. Dr. R Srikanth's DST project was initiated in April 2013. He has jointly applied for an Indo-Australian project with Prof. T. Srinivas of ECE, IISc and Prof. Xu Hwang of Canberra University on quantum key distribution over wireless and optical networks. The team has been invited for the presentation shortly.

No. of publications: 4

BIOLOGICAL SCIENCES

Structural Biology group successfully completed the structure solution and refinement for three proteins from the Enolase superfamily: (i) a D-glucarate dehydratase from *Pseudomonas mendociana* and (ii) a putative glucarate dehydratase from *Acidaminococcus* and (iii) a mandalate racemase/ muconate lactonising enzyme from *Pseudovibrio* sp. All the three structure have been deposited in the international databank for protein structures, the Protein Data Bank (PDB) with ids 4HN8, 4HYR and 4JHM respectively. Work has been initiated in the structural biology group on (i) the structural studies of adenine phosphoribosyl transferases from pathogenic bacteria, (ii) testing the limits of macromolecular crystallographic phasing. As a part of Ramalingaswami fellowship, Dr. Ramagopal initiated work on design and modification of T-cell costimulatory molecules towards therapeutic applications.

Microbiology group successfully isolated important strains of endophytic fungi from medicinal plants and showed their secondary metabolites are biologically active against microbes and also as enzyme inhibitors. These fungal isolates were optimized for their secondary metabolites production and extraction methods. The results are very promising that these strains might come out as patentable. Collaborations with well-known research institutes such NIMHANS, MVIT, NITK are under discussion for the expansion of research activities. More than 20 fungi were identified by molecular method and sequences were submitted to GenBank in the name of PPISR, which are available for the public access all over the world.

In Biological Sciences, Dr. U Ramagopal has been awarded 3 year grant from the VGST, Dept. of IT, BT & ST, Govt. of Karnataka for the Establishment of Centre of Excellence in Science & Engineering Education. Research Scholar Mrs. Pavithra GC registered for PhD at Manipal University under the guidance of Dr. Udupi Ramagopal.

No. of Publications: 2

SPONSORED RESEARCH PROJECTS

During the last six months, several sponsored projects were sanctioned to PPISR including industrial project GTC Technology, USA and Govt agencies; BRNS, DST and VGST sponsored projects. Currently, 10 sponsored research projects are executed at PPISR in different areas of research as follows.

- Two years of industry project sponsored by GTC Technology, USA on the “Design and development of solid acid catalyst for aromatics technology” completed successfully and extended for another year. The project is managed by Dr. G V Shanbhag and his group.
- Other two industrial sponsored projects from Shell Technology Centre, Bangalore and Hindustan Petroleum Corporation Ltd (HPCL), Bangalore have been carried out in Materials Science Division, PPISR with Dr. G V Shanbhag as Principal Investigator and Dr. Sanjeev Maradur as co-investigator.
- The project titled “Layered Bi based Nanomaterials for Photocatalytic Degradation of Dyes and Pollutants” sponsored by DST, Govt of India under the ‘SERC- Fast Track Scheme For Young Scientists’ is executed by Dr. Nalini G Sundaram as Principal Investigator.
- The project titled “Influence of Electron Beam Irradiation on the Crystal Structure and Photoluminescence of Rare Earth doped Tungstate Nanophosphors” was sanctioned by Board of Research in Nuclear Sciences (BRNS), Dept. of Atomic Energy, Govt. of India to Dr. Nalini G Sundaram jointly with Prof. Ashok Rao, MIT, Manipal” in 2013 for the period of 3 years.
- Dr. A V Raghu obtained a project titled “Effect of Electron Beam Irradiation on Polymeric composite Membranes for Pervaporation Separation Application” from BRNS, Govt. of India in May 2013 for the period of 3 years.
- A project titled “Graphene-loaded sodium alginate nanocomposite membranes with enhanced isopropanol dehydration performance via pervaporation technique” sponsored by VGST, Govt. of Karnataka is going on in Materials Science division with Dr. A V Raghu as Principal Investigator.
- The infrastructure fund, “The Establishment of Center of Excellence in Science, Engineering and Medicine” (CESEE), Department of IT, BT and ST, VGST, Govt. of Karnataka was sanctioned to Biological Sciences Division in 2013 for the period of 3 years.
- Dept. of Science and Technology (DST), Govt. of India sanctioned a project titled “Entanglement, nonlocality and Superluminal Signaling in Deterministic and Indeterministic Extensions of Quantum Mechanics” to R Srikanth of Theoretical Sciences Division in 2013 for the period of 3 years.
- A project titled “Geometric Phase and Quantum Phase Transition in Quantum Many Body System” sanctioned by DST, Govt. of India to Dr. Sujit Sarkar, Prinicpal Investigator in June 2013 for the period of 3 years.

HIGHLIGHTS OF SCIENTIFIC ACTIVITIES

More than 10 research articles were published in reputed international peer reviewed journals in 2013, originated from the laboratories of PPISR.

Second year of GTC Technology, USA sponsored project on the development of catalyst and process for aromatic technology was successfully completed by Dr. G V Shanbhag and his group.

Dr. G V Shanbhag was invited by SIT, Tumkur to be the member of 'Syllabus revision committee' for Chemistry for the year 2013.

Dr. A V Raghu became a Editorial member of "Drug Invention Today" journal (Elsevier).

Dr. R Srikanth was invited to join the Editorial team of the international journal "Quanta" devoted to the foundations of physics.

Three proteins structures solved from Dr. Udipi Ramagopal's group, PPISR were successfully deposited in "Protein Data Bank", an international repository for the 3-D structural data of large biological molecules.

Dr. K. Ananda's group in Biological Sciences extracted more than 100 endophytic fungi from medicinal plants so far and several of them were characterized by their genetic signature.

Biological Sciences Division of PPISR established a collaboration with New York Structural Genomics Consortium, New York, USA.

Dr. Ramagopal was invited to give the demonstration sessions on phasing protein structure at the workshop designed for budding crystallographers at Indore, Madhya Pradesh.

Dr. R Srikanth presented a talk in IIT-R, Jodhpur International Workshop on Quantum Biology January 25--27, 2013 titled "Neuronal transistors as the physical basis of free will".

Mr. Aravinda S presented a talk in Nalanda dialog 2013 titled "The problem of language : Classical quantum and beyond".

Dr. R Srikanth was a co-organizer for the Nalanda Dialog 2013 (nalanda-dialogforum.org) organized in Nalanda Mahavihara University, Bihar.

Mrs. Swetha Sandesh gave Oral presentation of her research work titled "Transesterification of glycerol with dimethyl carbonate using KF/Al₂O₃ as a solid base catalyst" during 21st National Symposium on Catalysis at IICT, Hyderabad, February 10-13, 2013.

Vijaykumar S Marakatti and Mr. Janardhan H L presented Posters of their research work in 21st National Symposium on Catalysis at IICT, Hyderabad, February 10-13, 2013.

Two research works of Dr. R Srikanth were presented as posters at the International Conference on Quantum Information and Quantum Computing (ICQIQ 2013), IISc, Bangalore, January 7-11, 2013.

Dr. A V Raghu was invited to deliver a talk at the "National Conference on Nano Science and Nano Technology" (NCRNT-13) held at Acharya Institute of Technology, Bangalore, on May 3, 2013.

Ms. Pavithra N and Mr. Satish L made oral presentations in National seminar on Current Perspectives of Fungi in Health Care and Environment (KAVASTHA) and 39th Annual Meeting of Mycological Society of India held on March 13-14, 2013 at Bangalore University."

DOCTORAL ADVISORY COMMITTEE MEETINGS

Doctoral Advisory committee meetings were held for each doctoral student who has registered for Ph.D. degree wherein subject experts review the six-month research work and give suggestions to improve the quality of research.

DAC meeting for Ms. Swetha Sandesh, Mr. Vijaykumar and Mr. Janardhan was held at Main Campus on June 17, 2013. Prof. B S Jai Prakash, Director, IEHMM, Bangalore, Prof. H N Vasanth, SSCU, IISc, Bangalore and Prof. Y S Bhat, BIT, Bangalore, were present as external subject experts. DAC meeting to review the doctoral work of Ms. Swetha SM and Mr. Srinidhi on Nanomaterials was conducted in Sadashiv nagar campus on June 5. Prof. S Shivashankar and Prof. T N Guru Row of IISc, Bangalore were present in the meeting.

Six-month doctoral research of Mr. Suhas in the area of Polymers was reviewed by Prof. T M Aminabhavi, Prof. Siddaramaiah of SJCE, Mysore and Prof. Y S Bhat, BIT, Bangalore on June 20, 2013.

DAC meeting of Biological Sciences students, Mr. Satish L and Ms. Pavithra N was conducted on June 22, 2013 with Prof. A J Rao, IISc and Dr. Raviraja, Stempeutics Research Pvt. Ltd as external experts.

On February 14, 2013, Prof. H G Nagendra, MVIT and Prof. S. Ramakumar, IISc assessed Mrs. G C Pavithra's synopsis presentation prior to her Ph.D. registration.

For Theoretical Sciences, Prof. C Shivaram, IIA, Prof. K Ajith, NITK and Prof. Usha Devi, BU assessed the six-month progress of Mr. Aravinda on March 23, 2013. Prof. N Kumar, RRI, Prof. B S Ramachandra, CFRCE and Prof. Usha Devi, BU reviewed the research work of Mr. Omkar on June 4, 2013.

All the DAC members appreciated the research progress made so far by the students and gave several suggestions to improve the quality of research.

FOUNDATION STONE LAYING CEREMONY

PPISR is fast growing in terms of its research activities and there is a need to increase the infrastructure for all the activities. In view of this, a decision was taken by AMEF to construct a 150-sitter conference hall and Biology laboratory at Bidalur campus. Foundation stone laying ceremony was held on March 2, 2013 wherein H H Sri Vishwapriya Theertha Swamiji, Chairman, AMEF laid a foundation stone on this auspicious day.



Dr. K Srihari, Hon. Secretary, AMEF, Dr. A B Halgeri, Director and Sri. Sreenivasa Rao, Financial Advisor were present during the ceremony. After the ceremony, half yearly PPISR News Letter from July-December 2012 was released by H H Sri Swamiji. During this gathering, Dr. A B Halgeri gave a welcome note and Dr. K. Srihari, Hon. Secretary, AMEF presided over the function. H H Sri. Swamiji gave the benediction on this occasion.

GTC COLLABORATION

An Industrial project sponsored by GTC Technology USA is going on in Materials Science Division since last two and half years on the development of catalyst and process for aromatics technology. The first and second phase of the project was successful. Catalyst recipe and scale-up procedure for this process was developed. Further work to improve the catalyst performance is under progress and hope for commercialization of the process in near future. This successful collaboration with US company has brought a lot of credibility to PPISR. It is expected to get more such collaborative projects with Indian and Multinational companies in future.

Dr. T S R. Prasada Rao, Former Director, Indian Institute of Petroleum (IIP), Dehradun and presently Consultant to GTC Technology visited PPISR on March 5, 2013. Dr. Prasada Rao was instrumental in establishing the collaboration between PPISR and GTC, USA. He addressed faculty and students, and shared his research experiences on developing catalyst and process technologies. Dr. G V Shanbhag gave a presentation of the overview of the project work and progress in different areas of research. Dr. Prasada Rao then visited the labs and interacted with faculty and students.



RESEARCH TRAINING AND SHORT TERM PROJECTS

The institute is helping the external graduate and post graduate students to carry out their short term projects or by giving them training in research. Mr. Prashant Kumar, M.Tech. (Chemical Engineering) student from SIT, Tumkur, conducted his M. Tech. Thesis project on "Designing eco-friendly solid base catalyst for biodiesel synthesis from transesterification of non-edible oil." under the guidance of Dr. G V Shanbhag from October 2012 to June 2013. Two students from St. Aloysious College, Mangalore, Mr. Nagendra and Mr. Rohan conducted their one month M.Sc. project with Dr. G V Shanbhag on "Solvent free synthesis of 4-methoxyacetophenone using eco-friendly zeolite beta catalyst". Also, Najiya K.P.P, M.Tech (Nanoscience and Technology) student from Central University, Pondicherry carried out her summer project under the guidance of Dr. Nalini Sundaram, Nanomaterials Group for one month. Her project was titled "Photocatalytic Activity of Bi₄TaOCl nanoparticles Synthesized by sol-gel method."

A one day training programme was conducted for 12 M.Sc. Chemistry students from Govt. Science College, Bangalore on March 22, 2013, accompanied by Dr. Y Shivaraj, Lecturer, Chemistry Dept. All the research scholars and faculty of Materials Science, PPISR explained their research activities and demonstrated the analytical instruments and catalytic reactors.



VANAMAHOTSAVA

World Environment Day is celebrated every year on June 5 to raise global awareness of the need to take positive environmental action. It is run by the United Nations Environment Programme (UNEP). PPISR also celebrated the day and conducted few programmes during



the month of June. In this connection, **Vanamahotsava**, was celebrated at Bidalur campus on **June 14, 2013** by the faculty and students with a concern to love & care for the nature as nature alone is our future sustenance. It was inaugurated by H H Sri Vishwapriya Theertha Swamiji by planting a coconut tree followed by Dr. A B Halgeri and Sri. Sreenivasa Rao planting trees. About 80 trees were planted by students and staff of PPISR on this occasion.



A **new borewell** was constructed in order to meet the growing demand of water in the campus and inaugurated by H. H. Sri. Swamiji on the same day.

The concept of Vanamahotsava for the nature lovers was first initiated by Hon. (Late) K.M. Munshi, the then Union Minister for Food & Agriculture in the year 1950. Unless timely action is taken to prevent & restore environmental degradation, it may go beyond human control & threaten the survival of any living



organisms on this earth planet. While survival & development of human being is important, it is also equally important to preserve the nature which is the only source of oxygen and other essentials required for our living.

VISITOR'S VIEW

Prof. Joel M. Friedman, Albert Einstein College of Medicine, New York, USA.

"It was a real pleasure to visit this exacting institution which is filled with much promise. The energy of the institute is alive with creative forces. I expect great achievements to emerge from this young and growing institute".

Prof. Yoshihiro Sugi, University of Queensland, Gifu University, Japan.

"I am very happy to visit you. I am also happy if we have collaboration on Zeolite catalysis. Have a nice work".

Prof. S. Ramasesha, Solid state and Structural Chemistry Unit, IISc, Bangalore.

"Impressive to see the rapid development of the campus. The students and faculty are excited about their work. I wish the institute all the best in year to come".

Dr. R.P. Verma, Former Executive Director, R&D, Indian Oil Corporation, (IOC) Faridabad and Advisor for R&D, HPCL

"Extremely impressed with the Institute and its faculty. Director is giving guidance and all research projects have been found to be relevant. I wish good success in Institute's Endeavour. There is a good potential to increase collaborative R&D work."

Dr. Dattatray J. Late, Department of Materials Science and Engineering, International Institute of Nanotechnology, Northwestern University, USA.

"I find this institute has bright future and growing like institute JNCASR and other. Facilities are well experienced and good qualified. I wish all very good and bright success in their carrier".

Poornaprajna Analytical Center

Instruments available for external users :

- X-Ray Diffractometer (Bruker)
- FTIR Spectrophotometer (Bruker)
- Atomic Absorption Spectrophotometer (Perkin Elmer)
- UV-Vis Spectrophotometer (Perkin Elmer)
- Hand Held Refractometer (Mettle Toledo)

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