



# संकल्प

## Newsletter

For private circulation only

### CSIR - IIP

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CSIR - INDIAN INSTITUTE OF PETROLEUM, Dehradun

### !WELCOME!

#### DR ANJAN RAY TAKES OVER THE CHARGE OF THE DIRECTOR, CSIR-IIP, DEHRADUN, NOVEMBER 15, 2016

Dr Anjan Ray assumed the helmsmanship of the CSIR-Indian Institute of Petroleum, Dehradun, on November 15, 2016. He took over from Dr Ram Vishwakarma, who had been holding the additional charge of the Director, CSIR-Indian Institute of Petroleum since February 13, 2016.



*Dr Anjan Ray's first address as the Director*

#### Dr Anjan Ray : A Brief Profile

Born on April 27, 1963, Dr Anjan Ray did his M.S. in Chemistry from the IIT-Delhi and then went on to do his doctorate under the Nobel Laureate Prof Alan G MacDiarmid at the University of Pennsylvania, USA. He did his post-doctoral fellowship at the University of Texas, USA in 1990. The topics of his study covered, besides Chemistry, Chemical Engineering, Polymer Science, Inorganic & Bio-inorganic Chemistry, as also Solid-state Chemistry.

Dr Ray carried on his professional career at various organizations and concerns of repute. Just prior to the beginning of his stint at the CSIR-Indian Institute of Petroleum, Dehradun, he had been working with the UOP (a Honeywell Company) as Regional Commercial Director (Asia-Pacific). The compass of his professional career also included business management and development, strategic marketing, sales and industry management, applied research, technology management, formulation &

### *A word from the Director...*

On the 5<sup>th</sup> of December 2016, in his Inaugural Address at the Petrotech-2016 conference, the Honourable Prime Minister, Shri Narendra Modi Ji, who is also the President of the CSIR, clearly stated his vision of India's energy future.



*"Energy sustainability, for me, is a sacred duty. It is something India does out of commitment, not out of compulsion. India has taken the lead*

*in committing itself to a reduction of thirty-three per cent in the carbon intensity of its GDP from its 2005 level over the next fifteen years. We have done this despite our low starting point in per capita energy consumption. We are also committed to produce forty per cent of our power from non-fossil fuel by 2030."*

*Seven members of the Team-CSIR-IIP presented papers in oral and digital sessions at Petrotech-2016 and had the opportunity to hear the Prime Minister articulate his vision, which translates to a vision for the CSIR-IIP to focus even more strongly on translational research, industry partnerships and projects of near-term relevance to India's social, economic and environmental needs.*

*The CSIR-IIP presented several posters and model exhibits at the Chemicals & Petro-chemicals stall of the CSIR pavilion of Technofest-16 within the India International Trade Fair at Pragati Maidan in November, 2016. The waste plastics-to-diesel static model recorded possibly the highest number of footfalls in the whole pavilion, and the Chemicals & Petro-chemicals stall received the silver medal within the pavilion. The CSIR pavilion itself won the gold medal for the best pavilion. My congratulations to all members of the Team-CSIR-IIP who made this remarkable success possible!*

*We initiated a significant short-cycle project to measure the impact of vapour recovery systems on the local atmospheric concentration of benzene at petrol pumps, an issue of great relevance to public health of motorists and petrol station attendants since benzene is a known carcinogen. The project involves direct measurement of benzene emissions at petrol pumps of Indian Oil, Bharat Petroleum and Hindustan Petroleum, comparing those having Vapour Recovery systems with those that have not yet installed these.*

*During the quarter, our scientists generated twenty publications, two patents were granted and eight patent filings were done. One MoU was also signed in this quarter.*

*In a unique handover ceremony, I had the privilege of taking over the baton as the Director of this stellar Institute in the presence of two illustrious predecessors – Dr Ram Vishwakarma and Dr M O Garg, who was also formerly D-G of CSIR. The warmth and energy I have felt in my first weeks here offers the promise of an exciting future with the tremendously talented, motivated and committed members of the Institute at all levels.*

• Dr Anjan Ray

development, among others.

Dr Ray specializes in applied technologies with special emphasis on bio-fuels, surfactants and oleochemicals manufacturing and application, electronic materials, polymer science and energy policy.

He has many honours to his credit, and has had professional affiliation holding important membership in many committees like the Scientific Advisory Committee of the Department of Bio-technology, etc. He has many research publications in his name, has written several review articles & book chapters and made many conference presentations on process & application technology concepts.

Dr Ray has been instrumental in having as many as eighteen

technologies commercialized, and has filed a number of Indian & foreign patents.

Dr Anjan Ray's illustrious career also records an impressive array of publications in peer-reviewed journals, and has found place in abstracts and/or conference proceedings either as a solo writer or as a member of a team of authors.

Apart from his professional career in chemical technology, Dr Ray has had an active interest in media, education, heritage and environmental conservation for over three decades, and has even authored a book of fiction.

*We IIP-ians are proud to have such an erudite, well-respected, dynamic and energetic person as our new Director.*

-Editors

**A RARITY IN CSIR-IIP's ALBUM : A COMBINE OF TWO ERSTWHILE DIRECTORS AND THE PRESENT INCUMBENT OF THE TOPMOST POSITION IN THE INSTITUTE**



*Ex-Director Dr M O Garg with Dr Ram A Vishwakarma, the erstwhile Director (Addl. Charge), CSIR-IIP, Dehradun*



*Dr Ram A Vishwakarma welcomes Dr Anjan Ray*



*Mr Surendra Kumar, Administrative Officer, hands over the papers of charge to Dr Anjan Ray*



*Ushering in of a new era : Dr Anjan Ray takes over the charge of the Director, CSIR-IIP*



*Felicitations of Dr Anjan Ray as the New Director in the auditorium becomes an occasion for coming together of three leaders of the Institute. Mr Surendra Kumar, Administrative Officer (far right) is also seen*



## MoU's SIGNED

- Non-disclosure Agreement with M/s Technip India Ltd. New Delhi, for 'Setting up of a Three-Column Pressure/Vacuum Swing Adsorption (PVSA) Pilot Scale CO<sub>2</sub> Capture Unit', November 11, 2016

## RESEARCH ACTIVITIES

### Sponsored Projects Taken Up

- Detailed evaluation studies on Nadiyal Crude Oil
- Detailed evaluation studies on a crude oil sample from the NBP Field

### In-house Projects Taken Up

- Catalyst development for conversion of bio-ethanol to fuels & chemicals
- Field study to ascertain effectiveness of different measures taken-up by OMCs on benzene emission at petrol stations in India
- Diesel oxidation catalyst development to minimize the emissions from 4-stroke constant-speed engines.
- Chemical loop combustion for near-zero CO<sub>2</sub> emissions from industrial-grade fuel combustion

## RESEARCH OUTPUT

### Papers Published

- Optimizing renewable oil hydrocracking conditions for aviation bio-kerosene production, *Mohit Anand, Saleem Akthar Farooqui, Rakesh Kumar, Rakesh Joshi, Rohit Kumar, M G Sibi, Hari Singh and A K Sinha*, Fuel Processing Technology, **151**, 50-58, October 2016
- Reaction and mechanistic studies of heterogeneous hydroamination over support-stabilized gold nanoparticles, *Manideepa Sengupta, Arijit Bag, Subhasis Das, Astha Shukla, L N Sivakumar Konathala, C A Naidu and Ankur Bordoloi*, ChemCatChem, **8**(19), 3121-3130, October 2016
- PEG-mediated hydrothermal synthesis of hierarchical microspheres of MoS<sub>2</sub> nano-sheets and their potential for lubrication application, *Sangita Kumari, Rashi Gusain, Niranjana Kumar and O P Khatri*, Journal of Industrial and Engineering Chemistry, **42**, 87-94, October 2016
- Ni-nano-cluster on modified CeO<sub>2</sub>-ZrO<sub>2</sub> nano-porous composite for tri-reforming of methane, *Rajib Kumar Singha, Subhasis Das, Monica Pandey, Sachin Kumar, Rajaram Bal and Ankur Bordoloi*, Catalysis Science & Technology, **6**(19) 7122-7136, October 2016

- A Prussian blue/carbon dots nano-composite as efficient visible light-active photo-catalyst for C-H activation of amines, *Houcem Maaoui, Pawan Kumar, Anurag Kumar, Guo-Hui Pan, Radouane Chtourou, Sabine Szunerits, Rabah Boukherroub and Suman L Jain*, Photo-chemical & Photo-biological Sciences, **15**(10), 1282-1288, October 2016
- Thermo-analytical characterization and catalytic conversion of deoiled micro-algae and *Jatropha* seed cake, *energy fuels*, articles ASAP (As Soon As Publishable), *Zoltán Sebestyén, Eszter Barta-Rajnai, Zsuzsanna Czégény, Thallada Bhaskar, Bhavya B Krishna, Zoltán May, János Bozi, Zsolt Barta, Rawel Singh and Emma Jakab*, Energy Fuels, **30**(10), 7982-7993, October 2016
- MnFe<sub>2</sub>O<sub>4</sub> nano-crystals wrapped in a porous organic polymer: a designed architecture for water-splitting photo-catalysis, *Karnekti Dhanalaxmi, Rajkumar Yadav, Sudipta K. Kundu, Benjaram Mahipal Reddy, Vipin Amoli, A K Sinha and John Mondal*, Chemistry - A European Journal, **22**(44), 15639-15644, October 24, 2016
- Non-isothermal kinetic study of de-oiled seeds cake of African star apple (*Chrosophyllum albidum*) using thermo-gravimetry, *M A Sokoto, Rawel Singh, Bhavya B Krishna, Jitendra Kumar and Thallada Bhaskar*, Heliyo, **2**(10) Article e00172, 2016
- Guanidine-based task specific ionic liquids for synthesis of bio-lubricant-range esters under solvent-free conditions, *Jyoti Porwal, Subodh Kumar, Savita Kaul and Suman L Jain*, RSC Advances, **6**(96), 93640- 93644, November 2016
- Visible light-assisted reduction of nitro-benzenes using Fe(bpy)<sub>3</sub><sup>2+</sup>/rGO nano-composite as photo-catalyst, *Arvind Kumar, Pawan Kumar, Subham Paul and Suman L Jain*, Applied Surface Science, **386**, 103-114, November 2016
- Polymer-coated magnetically separable organo-catalyst for C-N bond formation via aza-Michael addition, *Vineeta Panwar, S S Ray and Suman L Jain*, Tetrahedron Letters, **57**(46) 5026-5032, November 2016
- Microbial degradation of high-impact polystyrene (HIPS), an e-plastic with decabromodiphenyl oxide and antimony trioxide, *Vini C Sekhar, K Madhavan Nampoothiri, Arya J Mohan, Nimisha R Nair, Thallada Bhaskar and Ashok Pandey*, Journal of Hazardous Materials, **318**, 347-354, 2016, November 2016

- Synthesis of succinimide-based novel additives for viscosity reduction of bituminous binder, *Kamal Kumar, Raj Kumar Singh, Aruna Kukrety, Anand Singh, S K Maity, Manoj Srivastava, Neeraj Atray and S S Ray*, *Construction and Building Materials*, **126**, 566-572, November 2016
- Pyrolysis of *Cedrus deodara* saw mill shavings in hydrogen and nitrogen atmosphere for production of bio-oil, *Bhavya B Krishna, Bijoy Biswas, Priyanka Ohri, Jitendra Kumar, Rawel Singh and Thallada Bhaskar*, *Renewable Energy*, **98**, 238-244, December 2016
- Strategies for selection of thermo-chemical processes for the valorization of bio-mass, *Rawel Singh, Bhavya B Krishna, Garima Mishra, Jitendra Kumar and Thallada Bhaskar*, *Renewable Energy*, **98**, 226-237, December 2016
- Highly nano-dispersed Gd-doped Ni/ZSM-5 catalyst for enhanced carbon-resistant dry reforming of methane, *Bipul Sarkar, Reena Goyal, Chandrashekar Pendem, Takehiko Sasaki and Rajaram Bal*, *Journal of Molecular Catalysis A: Chemical*, **424**, 17-26, December 2016
- Rheological studies of performance-grade bitumens prepared by blending elastomeric SBS (styrene butadiene styrene) co-polymer in base bitumens, *Kamal Kumar, Anand Singh, Samir K Maity, Manoj Srivastava, Manisha Sahai, Raj Kumar Singh and M O Garg*, *Journal of Industrial and Engineering Chemistry*, **44**, 112-117, December 2016
- Hierarchically nano-porous nano-crystalline ZSM-5 for improved alkylation of benzene with bio-ethanol, *Sandeep K Saxena and Nagabhatla Viswanadham*, *Applied Materials Today*, **5**, 25-32, December 2016
- Single-step synthesis of hierarchical  $\beta$ -CN: A metal-free catalyst for low-temperature oxidative dehydrogenation of propane, *Reena Goyal, Bipul Sarkar, Arjit Bag, Frederic Lefebvre, Siddharth Sameer, Chandrashekar Pendem and Ankur Bordoloi*, *Journal of Material Chemistry A*, **4**(47), 18559-18569, December 2016
- Co-processing of bio-oil from de-oiled *Jatropha curcas* seed cake with refinery gas-oil over sulphided CoMoP/Al<sub>2</sub>O<sub>3</sub> catalyst, *Mukesh Kumar Poddar, Aditya Rai, M R Maurya and A K Sinha*, *RSC Adv*, **6**(114), 113720-113726, 2016, December 2016

#### Patent(s) Sealed Abroad

- An improved process for preparation of phosphorous containing mesoporous alumina catalyst for selective dehydration of methanol to dimethyl ether, *Ankur*

*Bordoloi, Reena Goyal, Subhasis Das, Rajib Kumar Singha, Chandrashekar Pendem, L N Sivakumar Konathala, Rajaram Bal, Sandeep Saran and M O Garg*, USA, Patent No. 9,468,914, dt. 18.10.2016

- Nano Ni-CeO<sub>2</sub> catalyst for syngas production and its preparation, *Rajaram Bal, Rajib Kumar Singha, Chandrashekar Pendem, L N Sivakumar Konathala and Ankur Bordoloi*, Patent No. 9,480,974, dt. 01.11.2016

#### Patent(s) Filed Abroad

- Halogen-free ionic liquids as lubricants or lubricant additives and a process for the preparation thereof, *O P Khatri and Rashi Gusain*, USA, Application No. 15/126,963, dt. 16.09.2016
- A catalyst for carbon monoxide oxidation and process for preparation thereof, *Rajaram Bal, Chandrashekar Pendem and Ankur Bordoloi*, USA, Application No. 15/380378, dt. 15.12.2016

#### Patent(s) Filed in India

- An improved process for production of 1,3 butadiene, *Umesh Kumar, Indrajit K Ghosh, Suman L Jain and S S Ray*, Application No. 201611034417, dt. 07.10.2016
- Metal salts of amino acids, their preparation and uses for co-polymerization of epoxides with carbon-di-oxide, *Padma Latha Patnam, Pawan Kumar, Suman Lata Jain and S S Ray*, Application No. 201611037018, dt. 28.10.2016
- Heavy petroleum residue-derived iron-incorporated sp<sup>2</sup> carbon nano-granules for improved synthesis of light olefins, *Indrajit K Ghosh, Umesh Kumar and Ankur Bordoloi*, Application No. 201611037408, dt. 02.11.2016
- Covalently bound chicken feather-grafted enzymes, preparation thereof and application as bio-catalyst, *Sunil K Suman, Padma Latha Patnam, Sanjoy Ghosh and Suman L Jain*, Application No. 201611042735, dt. 15.12.2016
- Dual fumigation homogeneous charge compression ignition (DF-HCCI) engine, *Wittison Kamei*, Application No. 201611043424, dt. 20.12.2016
- Oxidative hydrolysis of bio-mass on porous V-silicate, *A K Sinha, M G Sibi, Mohit Anand and Saleem Akthar Farooqui*, Application No. 201611043997, dt. 23.12.2016

#### TRAINING PROGRAMMES ORGANIZED

##### Programmes on Petroleum Refining Technology

- For the Executives of M/s Bharat Petroleum Corporation Ltd. (BPCL), Mumbai, September 19–October 7, 2016

- For the Executives of the Indian Oil Corporation Ltd. (IOCL), New Delhi, October 7-28, 2016
- For the Chemical Engineers of the Indian Oil Corporation Ltd. (IOCL), New Delhi, November 7 – December 23, 2016



**Training Programme on Petroleum Refining Technology for IOCL, New Delhi, November 7 – December 23, 2016**

### Other Programmes

- Workshop-cum-Training programme on 'Vehicular Pollution' for the Officers of the Ministry of Road Transport and Highways (MORTH), New Delhi October 3-7, 2016



**Training Programm on Vehicular Pollution for State Transport and Police Department, October 3-7, 2016**

### EXCHANGE OF KNOWLEDGE

#### Papers Presented in Conferences/Seminars/Symposia

#### **National Conference on Analytical Chemistry and Molecular Spectroscopy (ACMS-2016) NIT-Hamirpur, October 13-14, 2016**

- Measuring activity coefficient at infinite dilution of hydrocarbons in the ionic liquids (Eutectic solvents) and evaluation of other thermo-dynamic properties using gas chromatograph, *Nisha, Pooja Yadav, R Sah, Presenjit Ghosh, B R Nautiyal, S M Nanoti and Rakesh Yadav*

#### **International Conference on Energy Innovations-Today and Tomorrow, HP Green R&D Centre, Bangalore, October 14-15, 2016**

- Development and commercialization of soaker

visbreaking technology, *S N Yadav, S K Maity, Deepak Tandon and M O Garg*

#### **International Conference on Recent Trends in Engineering, Science & Technology, St Peter's College, Hyderabad, October 25-27, 2016**

- Nitrogen oxide emission over transient test cycle using artificial neural network, *Devendra Singh, Sushant Kumar and M O Garg*

#### **National Conference on Recent Advances in Chemical Sciences, Maharishi Markandeshwar University, Mullana, Ambala, November 11-12, 2016**

- Extractive oxidative desulphurization of fuels with hydrogen peroxide in the presence of catalysts, *Nisha, Pooja Yadav, B R Nautiyal and Rakesh Yadav*

#### **Petrotech-2016 by IOCL, New Delhi, December 5-7, 2016**

- Boron-based halogen-free ionic liquids as environmentally friendly and energy-efficient additives for lubrication applications, *Rashi Gusain and Om P Khatri*
- Gasoline from bio-oil : new applications for refineries, *Sandeep K Saxena and N Viswanadham*
- A catalytic process for C<sub>7+</sub> hydro-isomerization of various feedstocks : Industrial application, *N Viswanadham, Amit Sharma, Sandeep Kumar Saxena, Rajeev Panwar and M O Garg*
- Experimental approach to establish the proof of concept of partially open-loop S-I cycle to produce hydrogen from H<sub>2</sub>S, *M Bhat, V Kumar, P Kumar, Ankur Bordoloi, S Kumar, S M Nanoti, M O Garg, D Parvatalu, S Banerjee and Subham Paul*
- Effective utilization of CO<sub>2</sub> over nano-structured catalysts, *Subhahsis Das, Rajib Sinha, Manideepa Sengupta and Ankur Bordoloi*
- Improved hydroprocessing using novel sulphur-resistant Pt@SOD incorporated inside conventional sulphided catalyst, *A K Sinha, M G Sibi, Aditya Rai, Mohit Anand and Salem Farooqui*
- Lignocellulosic ethanol, xylitol and energy: a bio-refinery process, *Diptarka Dasgupta, Debashish Ghosh, Deepti Agrawal, Snil Kumar Suman, A K Kurmi, D K Adhikari and Anshu Nanoti*

#### **India International Science Festival (IISF), CSIR-NPL, New Delhi, December 7-11, 2016**

- Sulphonated carbons as cost-effective and environmentally benign solid acid catalysts for



isopropylation of phenol with isopropanol, *Praveen K Khatri, Vedika Gupta, Umesh Kumar and Suman L Jain*

#### 6<sup>th</sup> DAE-BRNS Inter-disciplinary Symposium on Material Chemistry, BARC, Mumbai, December 6-10, 2016

- Reduced graphene oxide: An efficient adsorbent for removal of water-soluble cationic dyes, *Kanika Gupta and O P Khatri*

#### National Tribology Conference (NTC-2016), organized by IIT-BHU and Tribology Society of India, IIT-BHU, December 8-10, 2016

- Alkylamine-functionalized hexagonal boron nitride as a novel nano-additive for tribological applications, *Sangita Kumari, O P Sharma and O P Khatri*
- Fatty acid-constituted halogen-free ionic liquids: from environmental sustainability to enhanced tribo-performance, *Rashi Gusain, Amazd Khan and O P Khatri*
- Comparative assessment of tribological investigation of amine-grafted hexagonal boron nitride and graphitic carbon nitride nano-fluids, *Ajay Kumar, G D Thakre, Pankaj K Arya and Amar K Jain*
- Experimental evaluation of lubricant performance of engine oils in contact fatigue behaviour of steel, *Prashant Thapliyal, Ajay Kumar, G D Thakre and Amar K Jain*
- 3,5-di-tert-butyl-4-hydroxybenzaldehyde functionalized graphene oxide as a novel multi-functional additive for lubricant applications, *Ajay Chouhan, O P Sharma, Raj Kumar Singh and O P Khatri*
- Long alkyl chain-functionalized MoS<sub>2</sub> nano-sheets as high-performance lubricant additives, *Sangita Kumari, N Kumar and O P Khatri*

#### 5<sup>th</sup> International Hydrogen & Fuel Cell Conference, Hyderabad, December 11-13, 2016

- Thermo-chemical Hydrogen generation through partially open-loop S-I cycle, *Subham Paul, P Kumar, V Kumar, S Kumar, Ankur Bordoloi, S M Nanoti, M O Garg, D Parvatalu and S Banerjee*

#### ICSM-2016, MNIT, Jaipur, December 12-16, 2016

- 2D-structured nano-sheets of octadecylamine-grafted g-C<sub>3</sub>N<sub>4</sub> as lubricant additives, *Ajay Kumar, G D Thakre, Pankaj K Arya and Amar K Jain*
- Investigating efficacy of Cu nano-particles as additives for bio-lubricants, *Pooja Garg, Ajay Kumar, G D Thakre, P K Arya and Amar K Jain*

#### Colloquia and Talks

- Ms. Sayantani Saha, IIT-Delhi, *Environmentally Benign Process Developments*, December 27, 2016

#### DISTINGUISHED VISITORS

- Mr P K Kashyap, Executive Director and Mr Sunil Haldar, Sr. Manager, October 25-26, 2016
- Dr Tobias Henkel, Dr Justin and Dr Chandra Ratnasamy, Head (R&D), M/s Clariant Corporation, USA, November 11, 2016
- Mr Mahesh Aras, M/s Lona Industries Limited, Mumbai, December 8-9, 2016

#### INTERNATIONAL VISITS

- Dr Thallada Bhaskar, Principal Scientist's Visits:
- To deliver an invited lecture at the '1<sup>st</sup> International Conference on Bio-resource Technology for Bio-energy, Bio-products & Environmental Sustainability', Sitges, Spain, October 23-26, 2016
- To attend the 'Seventh Regional 3R Forum in Asia and the Pacific' with the theme "Advancing 3R and Resource Efficiency for the 2030 Agenda for Sustainable Development", Australia, November 2-4, 2016
- Visit to China under the visiting fellowship given by the Chinese Academy of Sciences (CAS) {President's International Fellowship Initiative (PIFI)}, November 15 - January 15, 2017
- Dr Anjan Ray, Director, CSIR-IIP, to attend the 'Workshop on Resource Efficiency and Low-Carbon Society: Identifying Opportunities and Implications under the G7 Alliance on Resource Efficiency', Tokyo, Japan, December 11-13, 2016

#### PARTICIPATION IN CONFERENCES/SEMINARS/WORKSHOPS/BRAINSTORMING SESSIONS/DISCUSSIONS

- Mrs Nisha, Technical Officer, 'National Conference on Analytical Chemistry and Molecular Spectroscopy (ACMS-2016)', NIT-Hamirpur, October 13-14, 2016
- Ms Kritika Kohli and Mr Ravindra Prajapati, 'International Conference on Energy Innovations-Today and Tomorrow', HP Green R&D Center, Bangalore, October 14-15, 2016
- Mr Devendra Singh, Senior Scientist, 'International Conference on Recent Trends in Engineering, Science and Technology-2016', St Peter's College, Hyderabad, October 25-27, 2016

- Dr S K Maity, Senior Scientist, '*Seminar on FCC and Hydroprocessing Catalysts*', organized by JGC C&C (formerly CCIC Japan), New Delhi, November 8, 2016
- Mrs Nisha, Technical Officer, '*National Conference on Recent Advances in Chemical Sciences*', Maharishi Markandeshwar University, Mullana, Ambala, November 11-12, 2016
- Mr R C Saxena, Sr Technical Officer, '*National Symposium on Radio-isotopes and Radiation Technology in Industry, Healthcare and Agriculture*', the Thapar University and the National Association for Application of Radio-isotopes and Radiation in Industry, Mumbai, November 28-29, 2016
- Dr Anjan Ray, Director, CSIR-IIP; Dr O P Khatri, Senior Scientist; Dr N Viswanadham, Principal Scientist; Dr Subham Paul, Scientist; Mr Diptarka Dasgupta, Scientist; Dr A K Sinha, Principal Scientist; Mr R C Saxena, Senior Technical Officer and Dr Ankur Bordoloi, Scientist, '*PETROTECH-2016*', organized by the Petrotech Society and the IOCL, New Delhi, December 5-7, 2016
- Mr G D Thakre, Senior Scientist & Mr O P Sharma, Technical Officer, '*National Tribology Conference (NTC-2016)*', organized by the the IIT-BHU and the Tribology Society of India, Varanasi, December 8-10, 2016

#### IMPORTANT MEETINGS ATTENDED/VISITS

- Dr Anjan Ray, Director, CSIR-IIP's Visits & Meetings:
  - ❖ Paid a visit to the Institute's Fuel Testing Laboratory (FTL), NOIDA, November 29, 2016
  - ❖ Project Review Meeting at the CSIR-CGCRI, Kolkata & a Meet with Prof Sadhan Ghosh at the Jadavpur University, Kolkata for discussions on an international conference to be organized by the CSIR-IIP in March 2017, December 16-18, 2016'
  - ❖ '*Catalysis for Sustainable Development (CSD)*' at CSIR-NCL, Pune, December 19, 2016
  - ❖ Attended the '*39<sup>th</sup> Activity Committee Meeting on Catalytic Reforming & Isomerization at BORL*', Bina Refinery, December 20-21, 2016
  - ❖ A visit to the CSIR Hqrs., New Delhi to meet the DG-CSIR, December 23, 2016
  - ❖ Visited the GAIL, New Delhi, December 26, 2016
  - ❖ Meeting at M/s Sud Chemie India Pvt Ltd, New Delhi, December 26, 2016
  - ❖ Meeting with Dr K K Pant, at the IIT-New Delhi, December 30, 2016

#### HRD/AWARENESS EVENTS

##### Programmes at the CSIR-HRDC, Ghaziabad

- Mr Mukesh Gairola, Section Officer and Mrs Vineeta Walia, Assistant, Training Programme on '*Gender Sensitization and Sexual Harassment of Women at Workplace : Prevention, Prohibition and Redressal*', November 3-4, 2016
- Mr Parvesh Chand, Section Officer, '*Training Workshop on RTI Online Portal for Nodal Officers*', November 10, 2016

##### Other Programmes

- Dr Sunil Kumar, Senior Scientist, '*Five-day Training Course on Integration of Molecular Design Simulation for Development of Industrial Chemical Products and Processes*', IIT-Guwahati, December 12-17, 2016
- Mr V Silambarasan, Technician, '*Workshop on Glass Apparatus for Distilling Herbal Medicine*' on December 15, 2016 and '*18<sup>th</sup> National Seminar on the Rôle of Scientific Glassblowing in Rural Development*' during December 16-17, 2017 at Gandhigram Rural Institute, Gandhigram, Tamilnadu, organized by the Indian Society of Glassblowers

#### EXPOSURE OF STUDENTS TO OUR SCIENTIFIC INTELLECT & INFRASTRUCTURE

##### Visits of students/different groups of students/cadets/trainers/trainees/faculty members from the following institutions/colleges/regions/states

- A team of 68 students of M.Sc. (Applied Chemistry), Madras Christian College (MCC), Chennai, Tamil Nadu, along with faculty members, October 7, 2016



**Students of Madras Christian College (MCC), Chennai face-to-face with science in practice at the Institute**

- A team of 49 students of M.Sc. (Chemistry), Baba Farid Institute of Technology (BFIT), Dehradun, along with faculty members, October 20, 2016

- A team of 24 students M.Sc. (Chemistry), VSKC Govt. PG College, Dakpatthar, Dehradun, along with faculty members, October 24, 2016
- A team of 30 students of the Unison World School, Dehradun, along with faculty members, November 17, 2016



*Exposure of students of the Unison World School, Dehradun to CSIR-IIP's research work*

### **CAPABILITIES / ACTIVITIES OF THE INSTITUTE BROUGHT TO THE FORE**

#### ***Participation in the CSIR Technofest-2016 under the auspices of India International Trade Fair (IITF), Pragati Maidan, New Delhi, November 14-27, 2016***

Dr Anjan Ray, Director; Dr S M Nanoti, Chief Scientist; Dr D C Pandey, Principal Technical Officer; Dr S S Ray, Senior Principal Scientist; Dr Manoj Srivastava, Principal Scientist; Dr Sanat Kumar, Principal Scientist; Dr Neeraj Atray, Senior Scientist; Dr Sunil Kumar, Senior Scientist; Dr Soumen Dasgupta, Senior Scientist; Dr B R Nautiyal, Principal Technical Officer; Dr Ajay Gupta, Principal Technical Officer; Dr Jasvinder Singh, Principal Technical Officer; Mr Manoj Kumar Thapliyal, Senior Technical Officer; Dr Ajay Kumar, Scientist; Mr Pankaj Arya, Scientist; Mr Satish Kumar, Senior Technical Officer; Mr Swapnil Divekar, Scientist; Mr B Neelam Naidu, Scientist; Dr Raj Kumar Singh, Scientist; Dr Pankaj K Kanaujia, Scientist; Mr Anil Kumar, Senior Technician (1); Mr Vikram Singh Rawat, Assistant; Mr Rajendra Kumar, Senior Stenographer; Mr Sunil Kumar, Senior Technical Officer; Mr Rajendra Kumar, Technician; Mr Pradeep Tyagi, Technical Assistant and Mr H Upadhyaya, Project Assistant.

#### ***Participation in the 'PETROTECH-2016' and the '12<sup>th</sup> International Oil and Gas Conference and Exhibition', December 4-7, 2016, Pragati Maidan, New Delhi***

- 'PETROTECH-2016' and the '12<sup>th</sup> International Oil and Gas Conference and Exhibition' was organized under

the aegis of the Ministry of Petroleum & Natural Gas, Government of India by the Indian Oil Corporation Limited and the PETROTECH society and was held at Pragati Maidan, New Delhi, during December 4-7, 2016 with the theme '*Hydrocarbons to fuel the future: Choices & Challenges*'

The activities of the exhibition included showcasing all posters/exhibits/samples etc. at PETROTECH-2016. Dr D C Pandey, Principal Technical Officer and Dr Atul Ranjan, Scientist, were present at the CSIR-IIP stall during the event and interacted with the delegates/visitors visiting it. The event was fruitful for the Institute as it made the delegates/visitors aware about the various technologies and the activities of the Institute.

#### ***Participation in the Mega Expo IISF-2016, December 7-11, 2016, CSIR-NPL, New Delhi***

- Dr Anjan Ray, Director; Dr D C Pandey, Principal Technical Officer; Dr Manoj Srivastava, Principal Scientist; Dr Neeraj Atray, Senior Scientist; Dr Ajay Kumar, Scientist; Mr Pankaj Arya, Scientist; Mr Kalyan Singh, Senior Technical Officer; Mr V S Kukreti, Senior Technical Officer; Mr Ravi Khanna, Senior Technical Officer; Mr Manoj Kumar Thapliyal, Senior Technical Officer; Ms Jayati Trivedi, Scientist; Dr Indu Shekhar, Scientist; Mr K P Bhatt, Senior Technical Officer; Mr Satish Kumar, Senior Technical Officer; Ms Manisha Sahai, Technical Assistant; Mr Vikram Singh Rawat, Assistant; Mr Rajesh Kumar Sharma, Technician; Mr Kamal Kumar, Technical Officer; Mr Mukesh Kumar Poddar, Technical Assistant; Mr Rajendra Kumar, Technician and Mr Shekhar Singh, Project Assistant, participated in the event by demonstrating CSIR-IIP exhibits.

#### **VIGILANCE AWARENESS WEEK, OCTOBER 31 – NOVEMBER 5, 2016**



*Dr S S Ray, Sr Principal Scientist, administers the vigilance oath on the employees of the Institute*



- Vigilance Awareness Week was celebrated by taking an oath and organising an essay competition.

**RASHTRIYA EKTA DIWAS, OCTOBER 31, 2016**

- Rashtriya Ekta Diwas (National Unity Day) pledge was taken on October 31, 2016 to commemorate the 141<sup>st</sup> birth anniversary of the Iron Man (Loh Purush) of India from Gujarat, Sardar Vallabhbhai Patel, who played a stellar Unison World School, Dehradun role in unifying the erstwhile Princely States of the newly independent India, thus turning India into an integrated nation.

**CONSTITUTION DAY, NOVEMBER 26, 2016**

- The Constitution of India was adopted on November 26, 1949 by the Constituent Assembly and it later came into effect on January 26, 1950, making India a full Republic. As per the instructions of the Govt. of India, the Constitution Day was celebrated in the Institute.

**HONOURS & AWARDS**

- It was a proud moment for the CSIR-IIP and some other



*Dr D C Pandey (far right) receives the 'Silver Award' at Technofest - 2016 from Dr Girish Sahni, D-G, CSIR (second from right) on behalf of the Team of the Chemicals & Petro-chemicals Pavilion*



*Team CSIR-IIP & Team CSIR-NCL with the Award*

participating Chemical Cluster CSIR laboratories like the CSIR-National Chemical Laboratory, Pune, (Nodal Laboratory), CSIR-Central Salt and Marine Chemicals Research Institute, Bhavnagar, CSIR-Indian Institute of Chemical Technology, Hyderabad, CSIR-National Institute for Interdisciplinary Science and Technology, Thiruvananthapuram, CSIR-National Institute of Oceanography (with industrial Partners ONGC, RIL, IOCL, BPCL, HPCL, GAIL, NTPCL, Lona Industries Ltd., Essar Oil Ltd. & Apar Industries) upon receiving the 'Silver Award' jointly for Chemical & Petro-chemical Theme in the Technofest-2016, in the India International Trade Fair (IITF) organized by the Indian Trade Promotion Organization (ITPO) at Pragati Maidan, New Delhi, November 14-27, 2016. The whole activity was co-ordinated by Prof Ashwini Kumar Nangia, Director, CSIR-NLC, Pune.



*The Technofest -2016 Award*

- CSIR-IIP's exhibit stall was selected as the "BEST STALL" in the 'ENERGY PAVILION' in the Mega Expo IISF-2016, during December 7-11, 2016, at the CSIR-NPL, New



*Dr D C Pandey, PTO, receives the 'Best Stall' award from Dr Harsh Vardhan. Dr Pandey is flanked by Dr D S Bedi, Chief Scientist & Head, USD, CSIR-HQ, New Delhi*

Delhi. The award was given away by Dr Harsh Vardhan, Hon'ble Minister for Science and Technology & Earth Sciences in the valedictory function on December 11, 2016

### PhD/D Phil DEGREE AWARDS

- Mr Aamir Hanif was awarded Ph.D. degree by the Academy of Scientific & Innovative Research (AcSIR) for his thesis entitled "Synthesis, Characterization and Evaluation of Adsorbents for High-Temperature CO<sub>2</sub> Capture", done under the supervision of Dr Anshu Nanoti, Senior Principal Scientist and co-supervision of Dr Soumen Dasgupta, Senior Scientist
- Mr Arvind Kumar was awarded Ph.D degree by the Academy of Scientific & Innovative Research (AcSIR) for his thesis entitled "Graphene-polymer composites for high-end uses: Preparation, characterization and tribological evaluation", done under the supervision of Dr S S Ray, Senior Principal Scientist and Dr Babita Behera, Scientist.

### हमारा क्रीड़ा पक्ष

- सीएसआइआर-खनिज एवं सामग्री प्रौद्योगिकी संस्थान (आइएमएमटी), भुवनेश्वर में आयोजित डॉ आत्मा राम स्मृति वालीबॉल टूर्नामेंट, 21-24 नवंबर, 2016 में प्रतिभागिता

सीएसआइआर-आइएमएमटी, भुवनेश्वर में 21-24 नवंबर, 2016 के मध्य आयोजित डॉ आत्मा राम स्मृति वालीबॉल टूर्नामेंट में संस्थान के दो खिलाड़ियों श्री फरीद मोहम्मद, सहायक एवं श्री राजीव पँवार, तकनीशियन ने सीएसआइआर दल की से खेलते हुए अंतिम प्रतिस्पर्द्धा में ईस्ट कोस्ट रेलवे को 3-2 से हराकर विजय प्राप्त की। इस मैच को दूरदर्शन, ओड़िया पर भी प्रसारित किया गया।

- 48वें शांति स्वरूप भटनागर स्मृति टूर्नामेंट (आंतरिक खेल-आंचलिक) का आयोजन, 28-30 दिसंबर, 2016

48वें शांति स्वरूप भटनागर स्मृति टूर्नामेंट (एस एस बी एम टी), 2016 का उद्घाटन-समारोह दि. 27 दिसंबर, 2016 को सीएसआइआर-भारतीय पेट्रोलियम संस्थान, देहरादून के परिसर में आयोजित किया गया। श्री अशोक कुमार, भापुसे, ए. डी. जी., उत्तराखंड पुलिस ने टूर्नामेंट का उद्घाटन किया।

मुख्य अतिथि के आगमन पर प्रतिभागी दलों ने मार्च-पास्ट किया और तदुपरांत शेष कार्यक्रम हेतु सभी उपस्थित जन लवराज कुमार प्रेक्षागृह में एकत्रित हुए। भारतीय पेट्रोलियम संस्थान के निदेशक डॉ0 अंजन रे ने प्रतिभागी टीमों और मुख्य अतिथि सहित अन्य आमंत्रित अतिथियों का स्वागत किया। डॉ0 रे ने खेलों के क्षेत्र से



टूर्नामेंट के उद्घाटन के क्षण

अपने संबंध के बारे में बताया। मुख्य अतिथि का परिचय देते हुए डॉ0 रे ने बताया कि श्री अशोक कुमार के व्यावसायिक कैरियर में सीआइएसएफ, बीएसएफ जैसे संगठन तथा गढ़वाल व कुमाऊँ के



डॉ अंजन रे

महानिरीक्षक जैसे पड़ाव आए और अब वे वर्तमान में ए.डी. जी. (पुलिस प्रशासन), उत्तराखंड पुलिस का कार्यभार देख रहे हैं।

शांति स्वरूप भटनागर स्मृति टूर्नामेंट की आयोजन समिति की अध्यक्ष श्रीमती पूनम गुप्ता ने परिषद्, मेजबान संस्थान तथा टूर्नामेंट के बारे में सविस्तर जानकारी दी।



श्रीमती पूनम गुप्ता

मुख्य अतिथि ने कहा कि खेल शारीरिक, मानसिक व आध्यात्मिक तीनों क्षमताओं का विकास करते हैं, नकारात्मकता से बाहर आने का सर्वोत्तम मार्ग हैं और एक लक्ष्य सामने होने के कारण अभिप्रेरित भी करते हैं।

इस अवसर पर मंचस्थ मुख्य अतिथि श्री अशोक कुमार, निदेशक डॉ0 अंजन रे, टूर्नामेंट की आयोजन समिति की अध्यक्ष श्रीमती पूनम गुप्ता तथा श्री जसवंत राय, प्रशासनिक अधिकारी ने एक स्मारिका का भी विमोचन किया।



मुख्य अतिथि  
श्री अशोक कुमार

इस अवसर पर सभी खिलाड़ियों को मुख्य अतिथि द्वारा एक शपथ भी दिलाई गई।



इस टूर्नामेंट में बैडमिंटन, टेबल-टेनिस, ब्रिज, शतरंज व कैरम की प्रतियोगिताओं में परिषद् की 10 प्रयोगशालाओं अर्थात् सीएसआइआर-राष्ट्रीय भूभौतिकीय अनुसंधान संस्थान (एनजीआरआइ), हैदराबाद, सीएसआइआर-राष्ट्रीय समुद्र विज्ञान संस्थान (एनआइओ), गोवा, सीएसआइआर-राष्ट्रीय पादप विज्ञान अनुसंधान संस्थान (एनबीआरआइ), लखनऊ, सीएसआइआर-प्रगत सामग्री एवं प्रक्रम अनुसंधान संस्थान (एएमपीआरआइ), भोपाल, सीएसआइआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान (सीआइएमएफआर), धनबाद, सीएसआइआर-उत्तर-पूर्व विज्ञान एवं प्रौद्योगिकी संस्थान (एनईआइएसटी), जोरहाट, सीएसआइआर-खनिज एवं सामग्री



**स्मारिका का विमोचन**

प्रौद्योगिकी संस्थान (आइएमएमटी), भुवनेश्वर, सीएसआइआर-भारतीय समवेत औषधि संस्थान (आइआइआइएम), जम्मू, सीएसआइआर-राष्ट्रीय धातुकर्म प्रयोगशाला (एनएमएल), जमशेदपुर तथा सीएसआइआर-भारतीय रासायनिक जीव विज्ञान संस्थान (आइआइसीबी), कोलकाता, के 146 खिलाड़ियों ने भाग लिया।

### **श्रीमती अरुणिमा रे द्वारा नवीकृत सीएसआइआर-भापेसं समुदाय-केंद्र का उद्घाटन**

48वें शांति स्वरूप भटनागर स्मृति टूर्नामेंट (एसएसबीएमटी) (आंतरिक खेल-आंचलिक), 2016 के प्रथम दिन सीएसआइआर-भारतीय पेट्रोलियम संस्थान परिसर में स्थित नवीकृत सीएसआइआर-भापेसं समुदाय-केंद्र का उद्घाटन कर श्रीमती अरुणिमा रे द्वारा उसका कैरम, ब्रिज, शतरंज, बैडमिंटन तथा टेबल-टेनिस के आंतरिक खेलों के लिए लोकार्पण किया गया। इस अवसर पर डॉ० अंजन रे, निदेशक, सीएसआइआर-भापेसं, श्रीमती पूनम गुप्ता, अध्यक्ष, 48वां एसएसबीएमटी, श्री जसवंत राय, प्रशासनिक अधिकारी, डॉ० डी सी पांडेय, अध्यक्ष, सीएसआइआर-भापेसं समारोह समिति, श्री नवीन कुमार मौर्य, सचिव, सीएसआइआर-भापेसं स्टाफ क्लब, श्री

हेमंत तिवाड़ी, संयुक्त सचिव, सीएसआइआर-भापेसं स्टाफ क्लब एवं श्री बिरंचि सारंग, अनुभाग अधिकारी एवं अन्य उपस्थित थे। इस आयोजन से आंतरिक खेलों का शुभारंभ हुआ।

इस त्रिदिवसीय 48वें टूर्नामेंट का समापन 30 दिसंबर, 2016 को हुआ। सभी तीनों दिन वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद् (सीएसआइआर) की प्रयोगशालाओं/संस्थानों के 10 विभिन्न दलों में खासी प्रतियोगिता देखी गई।

अंतिम दिवस का परिणाम-पत्रक विभिन्न खिलाड़ियों के संघर्ष का प्रमाण रहा। इनमें थे श्री अभय कुमार साहू, आइएमएमटी, शतरंज में प्रथम तथा श्री श्यामजी गुप्ता, आइआइसीबी, द्वितीय। ब्रिज के खेल में आइआइसीबी का दल प्रथम रहा जबकि आइएमएमटी का दल द्वितीय। कैरम की विभिन्न प्रतियोगिताओं में महिला (युगल) एनजीआरआइ ने जीता जबकि एनईआइएसटी, जोरहाट उप-विजेता रही। महिला (एकल) कैरम में एनजीआरआइ प्रथम रही और एनबीआरआइ द्वितीय। इसी खेल में, पुरुष (युगल) का



**ब्रिज के एक खेल का दृश्य**

विजेता रहा आइआइसीबी का दल जबकि उप-विजेता के रूप में एनआइओ रहा। कैरम पुरुष (एकल) में एनआइओ विजेता व आइआइसीबी उप-विजेता रहे। टेबल टेनिस (टीम प्रतियोगिता) में पुरुषों में एनबीआरआइ विजेता व एनएमएल उप-विजेता रही। महिला टेबल टेनिस (टीम प्रतियोगिता) में एनजीआरआइ प्रथम व आइआइसीबी द्वितीय रहे। टेबल टेनिस (पुरुष, एकल) में श्री डी के पुरुषोत्तम, एनबीआरआइ ने विजयश्री प्राप्त की और श्री आर. राजू, एनएमएल ने द्वितीय स्थान प्राप्त किया। टेबल टेनिस (महिला, एकल) में विजयी रहीं सुश्री डी. माधवी, एनजीआरआइ और उप-विजेता रहीं सुश्री सोनल लिमसल, एनबीआरआइ।

बैडमिंटन (महिला, एकल) में एनजीआरआइ प्रथम व आइआइसीबी द्वितीय रहीं। बैडमिंटन (महिला, टीम प्रतियोगिता) में एनजीआरआइ को प्रथम स्थान मिला और आइआइसीबी को द्वितीय। बैडमिंटन (पुरुष, एकल) के विजेता रहे एनजीआरआइ

तथा उप-विजेता थे आइआइसीबी। बैडमिंटन (पुरुष, युगल) में भी प्रथम स्थान एनजीआरआइ को मिला तथा आइआइसीबी को द्वितीय स्थान।

उपर्युक्त सभी परिणामों की घोषणा श्री परवेश चंद, अनुभाग अधिकारी ने डॉ० लवराज कुमार स्मृति प्रेक्षागृह में आयोजित संक्षिप्त समापन समारोह का संचालन करते हुए की। इस समारोह की अध्यक्षता डॉ० अंजन रे, निदेशक, सीएसआइआर-भापेसं ने की। श्री चंद ने टिप्पणी की कि पुरानी कहावत, जो खेलों को उपेक्षा की दृष्टि से देखती रही है, के विपरीत खेल जीवन में व्यक्ति के विकास में मदद करते हैं।

श्रीमती पूनम गुप्ता ने प्रतिभागी दलों के साथ ही प्रतियोगिता-स्थलों की भी जानकारी दी और संयोजकों, अम्पायरों, निर्णायकों, आदि की भूमिका का आभार व्यक्त किया और कहा कि इसी से टूर्नामेंट का सफलतापूर्वक समापन हुआ है। उन्होंने यह भी कहा कि सभी ने सर्वोत्तम स्थान प्राप्त करने के लिए संघर्ष किया।

तदुपरांत, डॉ० अंजन रे, निदेशक ने प्रतिभागिता प्रमाण-पत्र वितरित किए जिन्हें खिलाड़ियों की ओर से उनके दल-प्रबन्धकों ने प्राप्त किया। कार्यक्रम का समापन श्री जसवंत राय, प्रशासन अधिकारी के धन्यवाद प्रस्ताव के साथ हुआ।

### राजभाषा-संबंधी गतिविधियां

#### • अधिवर्षिता पर आंतरिक कार्यशाला का आयोजन, दिनांक 23.12.2016

अधिवर्षिता, उसके साथ देय-लाभों, प्रक्रिया आदि संबंधित विषयों तथा साथ ही कुछ ही वर्षों पूर्व प्रवर्तित एन् पी एस् के बारे में कर्मचारियों को जागरूक करने की दृष्टि से अधिवर्षिता पर एक आंतरिक कार्यशाला का आयोजन दिनांक 23 दिसंबर, 2016 को राजभाषा अनुभाग की ओर से किया गया, जिसमें संस्थान के



कार्यशाला का एक दृश्य

वरिष्ठ सहयोगी श्री राजेन्द्र सिंह चौहान, सहायक ने विषय रूप से उपर्युक्त विषयों पर प्रकाश डाला। कार्यशाला की अध्यक्षता श्री परवेश चंद, वरिष्ठतम अनुभाग अधिकारी ने की। संचालन श्री मुकेश चन्द्र रतूड़ी, वरिष्ठ हिंदी अधिकारी ने किया। राजभाषा अनुभाग के श्री देवेन्द्र राय एवं श्री तिलक कुमार ने सहयोग दिया।

### संस्थान-परिवार के समाचार

#### (क) संस्थान-परिवार में वृद्धि

##### (i) नई नियुक्तियां

- डॉ० अंजन रे, निदेशक, सीएसआइआर-भापेसं 15.11.2016
- डॉ० सनत कुमार, वरिष्ठ प्रधान वैज्ञानिक 02.12.2016
- श्री बिपुल सरकार, वैज्ञानिक 27.12.2016
- श्री सुधाकर रेड्डी येनुमला, वैज्ञानिक 28.12.2016
- श्री इरन्ना गोगेरी, वैज्ञानिक 30.12.2016

स्वागत!

##### (ii) स्थानांतरण पर आगत

- श्री जसवंत राय, प्रशासनिक अधिकारी, सीएसआइआर-सूक्ष्म जीव प्रौद्योगिकी संस्थान, चण्डीगढ़ से 27.12.2016

#### (ख) संस्थान-परिवार से विदाई

##### (i) अधिवर्षिता पर /सेवा-विस्तारोपरांत सेवा-निवृत्ति

###### 31 अक्टूबर, 2016

- श्री घनश्याम, गुप-सी

###### 30 नवम्बर, 2016

- डॉ० एस एम नानोटी, मुख्य वैज्ञानिक

###### 31 दिसंबर, 2016

- श्री रणजीत सिंह, प्रयोगशाला सहायक
- श्री राम पाल सिंह, वरिष्ठ तकनीशियन (2)

##### (ii) स्वैच्छिक सेवानिवृत्ति

- मोहम्मद जावेद अख्तर, सहायक (सा०), ग्रेड-I 03.10.2016

##### (iii) स्थानांतरण पर अन्यत्र तैनाती

- श्री पदम सिंह, वरिष्ठ वित्त एवं लेखा नियंत्रक, सीएसआइआर-सीआरआरआइ, नई दिल्ली को, 16.12.2016
- श्री सुरेन्द्र कुमार, प्रशासनिक अधिकारी, सीएसआइआर कॉम्पलेक्स, नई दिल्ली को, 20.12.2016

भावभीनी विदाई!