

Industrial Green Chemistry World 2017 Launch of SERB - IGCW Awards

By **Dr.K.S.Murthy**, Pidilite Industries Ltd

Ralph Waldo Emerson said, "Do not go where the path may lead, go instead where there is no path and leave a trail."

Mr.Nitesh Mehta, Co-founder & Director, Green Chemis Tree Foundation convened the IGCW, the first and largest Industrial convention with focus on expanding, implementing and commercializing green chemistry and green engineering based technologies and products in the chemical



industry. The first event was held in Powai, Mumbai, in 2009. IGCW 2017 symposium was held at Ramada Hotel & Convention Centre on 5th & 6th October 2017 with the launch of Green Chemistry and Green Engineering Awards in cooperation with Science & Engineering Research Board (SERB). Stakeholders of chemical industry like research communities, consultants, students, representatives of MPCB and MIDC were present on the occasion.

Mr.Subhash Desai, Minister for Industries & Mining, Maharashtra State said that institutions and sectors are turning green following green chemistry and green engineering which are the needs of the hour. He congratulated Green Chemistry Foundation for this initiative since there is a sense of self education and for bringing all the stake holders on one platform to understand the issues



and technicalities. We have enjoyed fruits of industrial development and at the same time faced adversaries through hazards of the industry and the Government faces challenges to manage such issues. During his tenure of 3 years, he came across shocking incidents like injuries to human and damage to property. Some units instead of treating effluents pass them into the streams polluting the waters and make it impossible for farmers and the

residents around to use the contaminated waters. Government officiates legal rights and regulations and even members of the association are upset with actions and reactions of some of their members with consequent effect on CETP. He suggested members of the industry should regularise their activities so that the outcome would help to make our world better liveable. Further, industries should help small and medium players by providing them support and guidance to achieve our goals of improving our environment, understand responsibilities of each other and walk together while green chemistry lights up our path.



Dr.Rajiv Sharma, Secretary SERB-DST, Government of India congratulated the awardees and said they support the industry with expectation from them such as following group practices for any product or chemical or

processthat is user friendly and helps climate change.

Dr. Ajay Deshpande, Member, National Green Tribunal, Pune said that environmental governance in the country had seen a change during the last 5 years and many cases of violation of environmental norms and remedial actions dealt with. Environmental justice system had changed a lot due to public



pressure of awareness and consciousness. Many of the industries have pre-treatment, air pollution control systems and yet the problems persist. With stringent regulations and markets becoming competitive, to get the balance of industrial sustainability warrants innovations which can emanate through green chemistry for process substitutes and technologies called just in time since environmental litigations in the criminal cases had shot up 20 times. Therefore. they must find some

way to cope in a more environmental friendly manner. Action research in the environment is carried out in academic institutions and industries should involve by handholding them for solving their problems and green chemistry would put them on a sustainable basis.



Impressed with the workshop, discussions of industry-academia and activities **Dr. Bettina Rechenberg**, Head, German Environment Agency said that production is linked to environmental load and as such the conference would deal with

issues of environmental performance of the chemical sector and how to improve the same. It is a way forward to come together to search for solutions helping the industry resulting in a clean, green India. Awards were launched to encourage activities to bring together environment and economy.

Mr. Sushil Kharkwal, Vice President-



Environment & Safety. PI Industries have been associated with IGCW since 2009 and congratulated Nitesh, Krishna and their team for exemplary leadership for the forum where green chemistry projects meet and work on

programs in tandem to find solutions. Established in 1947, PI Industries business has now grown on contract manufacturing where chemistry is applied for new products and to meet challenges of reducing waste, increasing yield, enhancing capacity, productivity improvement and efficiency.



Dr. David Constable, Science Director, ACS Green Chemistry Institute, Washington DC spoke about the rationale for this award and what they were trying to do. UN put together 17 sustainable development goals - the world to do list in terms of sustainability. From crop protection agencies to fertilizers need chemistry and chemical engineering and their advances. Each goal

is an order and the goals are:

- Zero hunger: To meet ever increasing need for food throughout the world.
- Inclusive quality education: Require teaching green chemistry.
- Clear potable water and sanitation.
- Affordable and clean energy: Hydrogen fuel cells.
- Industry, innovation and infrastructure: Material science.
- Resilient cities and countries for sustainable industrialisation.
- Sustainable consumption and production: Function (intended use) e.g. Dyes and Pigments for colour exploit nano structures; Fashion industry.
- Climate change: Fossil fuels.
- Life below water: Sustainable use of ocean and resources.
- Innovation is essential for sustainable products and Green chemistry should spur innovation.
- Business process needs to change. Maximise resource efficiency. Eliminate and minimise hazards of pollution.
- Design system: Life cycle and sustainability perspective go hand in hand.
- EHS: Consideration for materials used, how safe are they, problems with chemistry. Innovation and Efficiency assessment.

Award Criteria: Chemistry or Engineering - Judging problem/challenge, connection to sustainability; addressing real world problem or challenge that is being faced. Secondly financial sustainability.

Mr. Srinivasan, Director, Pfizer Global Supply



Chain and R&D said that every stakeholder plays a crucial role and we need more green chemistry foundation sort of activities. He observed commitment level at the individual, industry and community since individually and

collectively we can achieve a lot to change lifestyle.

The winners each received Cash prize of Rs. 50,000. Congratulations.

MNCs, Large and Medium Scale Companies	Aarti Industries Limited, Jhagadia
Small-Scale industries	STEP Private Limited, Mumbai
Green Start-up Companies	Growtech Innovation India Pvt Ltd, Bangalore
Technology Developing Firms	Geist Research Private Ltd, Goa
Students	Ms.NalineeSuryawanshi, CSIR-NCL, Pune
Guides/Researchers–University and ResInst	Dr.S.Venkata Mohan, CSIR-IICT, Hyderabad

Secondly collaboration reflecting on what they are discussing about opportunities. Thirdly collection and fourthly resonance to the act of people so that future generation would follow. According to a famous TN poet, inculcate the desire to do the right thing; whatever you do, do it right like green chemistry.



Dr. Pascal Metivier, Solvay Group said that they set up a research centre in India 5 years ago and observed that India is progressing ahead at the same pace as the other countries and the organisers show the dynamism happening here taking the society forward.

Mr. Ravi Kapoor, Heubach preferred the word green thinking to green chemistry. Referring to Phthalo blue, he spoke about ammoniacal nitrogen conversion to ammonia liquor (25%) by using caustic lye and the biproduct was soda ash. In the case of Phthalocyanine green pigment, 1 ton generates 13 tons sludge at 9% solid contents (thixotropic). They neutralise mother liquor freed from copper and iron and make aluminium hydroxide pharmaceutical grade approved by FDA. This was integrated waste management. Balance out 5000 tons of blue and 3000 tons of green. Solid waste reduced by 85-90%. If you start innovating and looking at by-products everything can be recovered from the streams. Their focus is on products made in the cleanest way. Responsible care is thinking green as per the motto of their company 'Think green and think clean' and the thinking process is



more important, and the rest will follow.

Awards selection process: 88 nominations (researchers, students, people from sponsored industries, start-up companies and MNCs of which 5 could complete the case study/process successfully; 55 entries received in each category of 6; judges (5) for pre-screening process on a set of criteria and shortlisted 3 nominations in each category and the 18 nominations passed through second set of juries (3) who evaluated 3 finalists in each category. How much waste was reduced and improvement of efficiency; tangible difference made to quality of air, water and soil; impact of their research work and sustainability. Critical element of having green chemistry and contribution of sustainability going forward.

ICI ACTIVITIES...

Cont. from page 54

Mr. V. Nirmalgandhi, Sr. Manager Environment and Systems, Thirumalai Chemicals Ltd., Mr. Saravanan Kasthuri, Corporate Head EHS, Hikal Ltd., Mr. P. Manoharan, President-Safety, Sanmar Group, Mr. R. R. Gokhale, Secretary General-ICe, and Dr. V. P. Sridhar, Acutech, USA.

Overall 56 delegates registered for the programme and success rate received is 86.36%, which is significant.

The success of the programme is attributed to the ownership of the Andhra Pradesh Pollution Control Board and support of Bulk-Drug Manufacturers Association besides the composition of expert speakers from India and USA. The keen interest of chemical industry from this region towards sound management of chemicals by adopting RC programme is encouraging and ICC would be happy to extend hand-holding support to the industries which come forward for implementation.