INDIAN CRYOGENIC COUNCIL (WEST ZONE)

Theme Meeting on Researchers & Industry Interaction in Cryogenics

Date: 23rd August 2014

Venue: Hotel Surya Palace, Opp. Parsi Agiyari, Vadodara, Gujarat – 390 020,

HOSTED BY

INOX INDIA LIMITED

4th Floor, ABS Towers, Old Padra Road Vadodara, Gujarat Pin: 390007

Theme Meeting on Researchers & Industry Interaction in Cryogenics

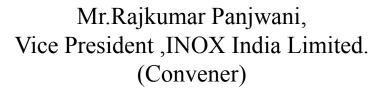
About the meet

- •Indian Cryogenic Council (West zone) organized a Theme Meeting on Researchers & Industry interaction in Cryogenics on 23rd August 2014.
- •This meet was conducted to provide a unique opportunity to all the participants from the Research sectors and Industrial sectors involved in design to operation as well as providing services, specifically in the field of cryogenic related science and technologies.
- •The meet provided a platform to share the wealth of knowledge available in both the sectors for mutual benefit towards large projects in Accelerators and Fusion apart from basic physics.
- •The focus was on exposure /exchange of information of research areas/latest developments in the related fields of Cryogenics and low temperature physics.
- This one day meet was hosted by INOX India Limited, Vadodara.

Time	SCHEDULE						
9 -10.00 am	Registration						
10 -10.40 am	INAUGURAL SESSION Welcome by Mr.Rajkumar Panjwani, Vice President INOX India Limited. (Convener) Address by Prof. S.L.Bapat, IIT Bombay ,Chairman ICC West Zone Address by ICC President – Dr. R.K.Bhandari Ex Director , VECC -DAE Address by Chief Guest – Dr Shishir Deshpande , Project Director ITER- India						
10.40-11.00 am	Tee Break						
		SPEAKERS	INSTITUTE/INDUSTRY	TOPIC			
11.00-11.15 am	1	Prof Milind D. Atrey	IIT Bombay	Cry cooler Technology at IIT Bombay			
11.15-11.30 am	2	Mr. Soumen Kar	IUAC New Delhi	Superconducting magnet Technology			
11.30-11.45 am	3	Mr. S.S. Udgata	I – Design, Pune	Computational Flow Thermal Analysis on Cryopanels			
11.45-12.00am	4	Dr.K.Gireesan	IGCAR Kalpakkam Chennai	Establishment of SQUID based measurements in Biomagnetic fields			
12.00-12.15 pm	5	Dr. H B NaiK	NIT Surat	Pulse Type Cryo Coolers and Thermo acoustics			
12.15-12.30 pm	6	Mr.P.Srinivasa Rao	SHAR- ISRO Sriharikota	Technology Development activities at SDSC SHAR in the field of Cryogenics.			
12.30-12.45 pm	7	Mr. Munjal Mehta	Shell-N-Tube Pvt. Ltd.Pune	Product Development for Space & Nuclear Applications			
12.45-1.00 pm	8	Mr. Mukesh Goyal	BARC	Large scale liquid helium/helium refrigeration systems – R&D at CRTD BARC-present and road ahead			
1.00-1.15 pm	9	Mr. Krishna Das	Apollo Heat Exchangers Pvt. Ltd, Mumbai	Aluminum brazed plates fin heat exchangers			
1.15-1.30 pm	10	Mr. Nayan. Pandya	CRYOgas Industries, Vadodara	"Applications of Cryo Coolers for Indian Market " Presented by Sumitomo and Cryogas			
1.30-2.30 pm	Lunch (Prof R Singh, University of Hyderabad to apprise on 25 th National Symposium on Cryogenics)						

Time					
2.30-4.30 pm	Post Lunch Session				
	SPEAKERS	INSTITUTE/INDUSTRY	TOPIC		
2.30-2.50 pm	1 Dr. T.S.Datta	IUAC New Delhi	Cryogenic equipment available at IUAC for comme Indian Industries	ercial production by	
2.50-3.10 pm	2 Mr.P.P.Kulkarni	INOX India Limited	Recent Advances in use of LNG in High Power Eng	ines	
3.10-3.30 pm	3 Mr.SujithKumar Raghavan Pillai	ISRO- VSSC Trivandrum	Semi- cryo engine development-challenges for th	e Indian Industry	
3.30-3.50 pm	4 DrVipul Tanna	IPR-Gandhinagar	Overview of SST-1 cryogenic system – Recent Dev	elopments	
3.50-4.10 pm	5 Mr. A. K. Sahu	IPR-Gandhinagar	Indigenous development of kw class helium refri	gerator/liquefier at	
4.10-4.30 pm	6 Dr. B .Sarkar	ITER- India	Cryogenic System Design for a specific environme different domain	nt – Think(ing) a	
4.30-5.00 pm	Tee Break				
5.00-6.00 pm	PANEL DISCUSSION: ALL TO PARTICIPATE Increased interaction amongst Industry- Research – Academia for the growth of Cryogenics in India Coordinator: Prof M.D.Atrey				
	Dr Tirlok Singh, Dr.Bhandari, Mr. Rajkumar Panjwani, Mr. Munjal Mehta, Dr.R .G. Sharma, Dr. T.S Datta				
PANEL	Vote of Thanks - Shri Kishore Talegaonkar , INOX India limited				
8.00-10.00 pm	Dinner – ALL PARTICIPANTS				







Dr. Shishir Deshpande, Project Director ITER- India Chief Guest





Dr. R.K.Bhandari ICC President Ex- Director , VECC -DAE

Prof. S.L.Bapat IIT Bombay, Chairman ICC West Zone

PARTICIPANTS- PROFILE

	Service Sector	User Sector	
1.	INOX India Limited	SHAR ISRO Sriharikota	
2.	Precise Vacuum Engineering	NIT Rourkela	
3.	Sterling Cryogenics	NIT Surat	
4.	Velan Valves	IUAC New Delhi	
5.	Pfeiffer Vacuum	BARC CTD Mumbai	
6.	PANalytical	IIT Kharagpur	
7.	Shell-N-Tube Pvt Ltd	IPR Gandhinagar	
8.	CRYOgas Industries	ITER-India, Gandhinagar	
9.	L & T Hazira	University of Hyderabad	
10.	Apollo Heat Exchangers Pvt. ltd	VSSC-ISRO, Trivandrum	
11.	I- Design	TIFR Mumbai	
12.	Cryopump Asia	IIT Bombay	







Prof Milind D. Atrey (IIT Bombay)

Cryocooler Technology Development at IIT Bombay

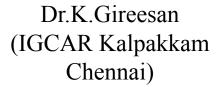
Mr. Soumen Kar (IUAC New Delhi)

(Indigenous Development of Cryogen-Free Superconducting Magnet System)

Mr. S.S. Udgata I – Design, Pune

(Computational Flow Thermal Analysis on Cryopanels)





(Establishment of SQUID based measurements in Biomagnetic fields)



Dr. H B NaiK (NIT Surat)

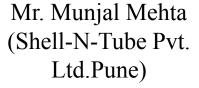
(GM Type Pulse Tube Cooler & Thermoacoustic Compressor)



Mr.P.Srinivasa Rao (SHAR- ISRO Sriharikota)

(Technology Developmental activities at SDSC SHAR in the field of Cryogenics)





(Product Development for Knowledge & Technology sector)



Mr. Mukesh Goyal (BARC)

(Large Scale Cryogenic Systems Liquid He/He Refrigeration R&D at CrTD, BARC Present & Road Ahead)



Mr Krishna Das (Apollo Heat Exchangers Pvt. Ltd, Mumbai)

(Aluminum brazed plate fin heat exchangers)



Mr. Nayan. Pandya (CRYOgas Industries, Vadodara)

(Applications of Cryo Coolers for Indian Market " Presented by Sumitomo and Cryogas)



Dr. T.S.Datta (IUAC New Delhi)

(Cryogenic equipment available at IUAC for commercial production by Indian Industries)



Mr.P.P.Kulkarni (INOX India Limited)

(Recent Advances in use of LNG in High Power Engines)



Mr.SujithKumar Raghavan Pillai (ISRO- VSSC Trivandrum)

(Semi- cryo engine development-challenges for the Indian Industry)



Dr..Vipul Tanna (IPR-Gandhinagar)

(SST-1 Cryogenics
Overview
with New
Developments & Upgradation plans in
SST-1)



Mr. A. K. Sahu (IPR-Gandhinagar)

(Indigenous development of kw class helium refrigerator/liquefier at IPR)



Dr. B .Sarkar (ITER- India)

(Cryogenic System
Design for a specific
environment –
Think(ing) a different
domain)

PANEL DISCUSSION



PANEL DISCUSSION



Sponsors to the Event

INOX India Limited, Vadodara SHELL-N-TUBE PVT LTD, Pune CRYOgas Industries, Vadodara



Kishore Talegaonkar, INOX India Limited Coordinator

Conclusions

- •The meet was a great success with lot of exchange of ideas between the participants. It ended with a positive note with need of overall cooperation & innovation.
- •In line with changing times ICC to act as catalyst for building competencies / capabilities & capacities in India. Mechanism will be worked out to bridge gaps between Researchers-Industry- Academia. A step was taken by launching a interactive website https://www.indian-cryogenics.com
- •A path forward was set to have more such meetings and to take up specific issues with concerned authorities.