IC-LGO
2015

International Conference on

Processing of Lean Grade and Urban Ore

(IC-LGO 2015)

Organized by

CSIR-National Metallurgical Laboratory
Jamshedpur

In association with

IIM
Metallurgy
Materials Engineering

Indian Institute of Metals
Jamshedpur Chapter

Program Schedule

Time (hrs)	Day 1 (20 January 2015)			
08:00-09:30	Registration			
09:30-10:30	Inaugural Function			
10:30-11:00	High Tea			
11:00-13:00	Plenary Session I (PI) (NML Auditorium)			
13:00-14:00	Lunch at NML			
14:00-16:00	Plenary Session II (PII) (NML Auditorium)			
16:00-18:00	Plenary Session III (PIII) (NML Auditorium)			
19:00-20:30	Cultural Program at Tube Makers Club			
20:30-22:00	Dinner at Tube Makers Club			
	Day 2 (21 January 2015)			
09:30-11:00	Plenary Session IV (PIV) (NML Auditorium)			
11:00-11:15	Break			
11:15-12:45	Plenary Session V (PV) (NML Auditorium)			
12:45-13:00	Inauguration of Poster Session			
13:00-14:00	Lunch at NML			
Parallel Sessions	**Hall 1**	**Hall 2**	**Hall 3**	**Hall 4**
	NML Auditorium	Main Lecture Hall	Diamond Jubilee (DJ) Hall	Old Conference Room
14:00-16:00	CBI: Characterisation and Beneficiation – I (Iron Ore)	HPI: Hydrometallurgical Processing – I (Leaching)	SW: Solid Waste Utilization	EWI: Environmental Issues - I
16:00-18:00	CBII: Characterisation and Beneficiation – II (Nonferrous/ Others)	HPII: Hydrometallurgical Processing – II (Leaching)	RCI: Recycling – I (E-wastes)	EWII: Environmental Issues - II
19:00-20:00	Cultural Program at Beldih Club			
20:00-21:30	Dinner at Beldih Club			
	Day 3 (22 January 2015)			
09:30-11:30	PFI: Processing of Fines I (Pelletisation)	HPIII: Hydrometallurgical Processing – III (Separation Processes)	RCII: Recycling – II (E-wastes)	PP: Pyrometallurgical Processing
11:30-13:30	PFII: Processing of Fines II (Sintering)	HPIV: Hydrometallurgical Processing – IV (Separation Processes)	RCIII: Recycling – III (General)	BPI: Bioprocessing - I
13:30-14:30	Lunch at NML			
14:30-16:30		CBIII: Characterisation and Beneficiation – III (Coal)	EE: Energy and Energy Materials	BPII: Bioprocessing -II
16:30-17:00	Break			
17:00-17:30	Panel Discussion **(Hall 1: NML Auditorium)**			
17:30-18:00	Valedictory function **(Hall 1: NML Auditorium)**			
19:30-21:30	Cultural Program and Dinner			

PROGRAM SCHEDULE FOR IC-LGO 2015 (VENUE: CSIR-NML, JAMSHEDPUR)

20th JANUARY, 2015					
	SESSION-I (09:30-10:30 Hrs.)	**SESSION-II** (11:00-13:00 Hrs.)	**SESSION-III** (14:00-16:00 Hrs.)	**SESSION-IV** (16:00-18:00 Hrs.)	
HALL – 1	INAUGURAL FUNCTION	PLENARY LECTURES - I	PLENARY LECTURES - II	PLENAR LECTURES - III	
HALL – 2					
HALL – 3					
HALL - 4					
21st JANUARY, 2015					
	SESSION-I (09:30-11:00 Hrs.)	**SESSION-II** (11:15-12:45 Hrs.)	**SESSION-III** (14:00-16:00 Hrs.)	**SESSION-IV** (16:00-18:00 Hrs.)	
HALL – 1	PLENARY LECTURES – IV	PLENARY LECTURES - V	Characteriza tion & Beneficiation – I	Characterization & Beneficiation – II	
HALL – 2			Hydrometallurgical Processing – I	Hydrometallurgical Processing – II	
HALL – 3			Solid Waste Utilization	Recycling – I	
HALL - 4			Environmental Issues – I	Environmental Issues – II	
22nd JANUARY, 2015					
	SESSION-I (09:30-11:30 Hrs.)	**SESSION-II** (11:30-13:30 Hrs.)	**SESSION-III** (14:30-16:30 Hrs.)	(17:00-17:30 Hrs.)	(17:30-18:00 Hrs.)
HALL – 1	Processing of Fines – I	Processing of Fines – II		Panel Discussion	VALEDICTORY SESSION
HALL – 2	Hydrometallurgical Processing – III	Hydrometallurgical Processing – IV	Characterization & Beneficiation – III		
HALL – 3	Recycling – II	Recycling - III	Energy & Energy Materials		
HALL - 4	Pyrometallurgical Processing	Bioprocessing - I	Bioprocessing - II		
HALL – I: NML AUDITORIUM	HALL – 2: NML LECTURE HALL	HALL – 3: NML DJ HALL	HALL – 4: OLD CONFERENCE HALL		

Plenary Sessions

Chair: Jae-chun Lee **Co-Chair: Sanjay Kumar**

Plenary Session –I	CSIR-NML Auditorium	January 20, 2015	11:00-13:00
Code	**Title: Lean Grade Ore**		**Speaker**
PI.1	The recovery of base, precious and rare earth metals from low grade and complex ore bodies		**David Dreisinger, Canada**
PI.2	Heap leaching as a key technology for recovery of values from low-grade ores		**Jochen Petersen, South Africa**
PI.3	Modeling heap leaching PLS from ore characteristics and leaching parameters		**Michael L. Free, USA**
PI.4	Designing selective dissolution with aqueous stability diagrams: the ABC approach		**Kwadwo Osseo-Asare, USA**

Chair: Kwadwo Osseo-Asare **Co-Chair: B. Nayak**

Plenary Session -II	CSIR-NML Auditorium	January 20, 2015	14:00-16:00
Code	**Title: Minerals and resources**		**Speaker**
PII.1	Global sustainability of critical materials		**Brajendra Mishra, USA**
PII.2	Hydrometallurgy in Europe		**Alexandre Chagnes, France**
PII.3	Thermodynamics, kinetics and mechanisms of Chalcopyrite leaching upto 150^{o}C		**Edouard Asselin, Canada**
PII.4	Alkali roasting and leaching for the recovery of primary and secondary metal oxides from minerals		**Animesh Jha, UK**

Chair: Keiko Sasaki **Co-Chair: B. K. Soni**

Plenary Session -III	CSIR-NML Auditorium	January 20, 2015	16:00 -17.30
Code	**Title : Recycling**		**Speaker**
PIII.1	New trend of e-scrap recycling technologies		**Takashi Nakamura, Japan**
PIII.2	Recycling of e-waste in Korea		**Jae-chun Lee, South Korea**
PIII.3	The R2 standard: Promoting sustainable technologies for recovering urban ore from used electronics		**John Lingelbach, USA**

Chair: Alexandre Chagnes **Co-Chair: K. D. Mehta**

Plenary Session -IV	CSIR-NML Auditorium	January 21, 2015	09:30-11:00
Code	**Title : Environment and Resources**		**Speaker**
PIV.1	Biohydrometallurgy of enargite: A spectroscopic investigation of bioleaching by thermoacidophilic iron-oxidizing archaeon, Acidianus Brierleyi		**Keiko Sasaki, Japan Kwadwo Osseo -Asare, USA**
PIV.2	Biotechnological innovations in the exploration and extraction of gold		**K. A. Natarajan, India**
PIV.3	Selective leaching of complex sulfide minerals and materials		**Gretchen Lapidus-Lavine, Mexico**

Chair: Animesh Jha **Co-Chair: K.-k. Yoo**

Plenary Session -V	CSIR-NML Auditorium	January 21, 2015	11:15-12:45
Code	**Title : Recycling**		**Speaker**
PV.1	Urban mining of precious metals from e-waste		**P. Parthasarathy, India**
PV.2	Junk of India : A source of corporate social responsibility		**B. K. Soni, India**
PV.3	Conversion routes from municipal solid waste to energy and bio-fuels - A Review		**Rajender Gupta, Canada**

Parallel Sessions

CBI.	Characterisation and Beneficiation – I (Iron Ores)	Hall 1 : NML Auditorium	January 21, 2015	14:00-16:00
Code	**Title**	**Authors**	**Affiliation**	
CBI.1	Impact of mineral industry on national economy **(Keynote)**	**Manoj Agarwal**	Adhunik Group of Industries, Delhi, India	
CBI.2	Challenges in the utilization of lean grade iron ore fines and slime for the production of value added products **(Keynote)**	**A.K. Vaish**, Vinod Kumar	M.S. University, Baroda, India	
CBI.3	State-of-the-art iron ore beneficiation technique for DRI, sinter & pellet feed **(Key Note)**	**Heribert Breuer,** Dinesh Biswal	Allmineral Asia Pvt., Ltd	
CBI.4	Influence of granulometry and bed height in jigging performance at Tata Steel	**Vishal Shukla**, Y. Ramesh Kumar, D.P.Chakraborty, Ashok Kumar	TATA-STEEL, Jamshedpur, India	
CBI.5	Megascopic & microscopic study of BHQ	**Sanjeev Kumar Das**, Ranjit Prasad	NIT, Jamshedpur, India	
CBI.6	Characterisation of low grade iron ores of Bursua iron ore mines	A. K. Prasad, **D. D. Pathak**, Atul K. Varma and S. K. Pan	ISM, Dhanbad, India	
CBI.7	Beneficiation of BHQ with hydro cyclone, WHIMS and Falcon concentrator	Binay Kumar, Ranjit Prasad , **Shishira Bhagavath**, R.K. Rath	NIT, Jamshedpur, India	
CBI.8	Beneficiation of low grade iron ores	**Vidhukesh Vaidehi,** R.J. Singh	NIT, Jamshedpur, India	

HPI.	Hydrometallurgical Processing – I (Leaching)	Hall 2: Main Lecture Hall	January 21, 2015	14:00-16:00
Code	**Title**	**Authors**	**Affiliation**	
HPI.1	Electrochemical and leaching studies of gold in thiosulphate solutions **(Keynote)**	Gamini Senanayake, **Goutam Kumar Das**	Murdoch University, Australia	
HPI.2	Recent advances in trace metal analyses for industrial and environmental applications **(Keynote)**	**V. Balaram**	CSIR-NGRI, Hyderabad, India	
HPI.3	Fluoride assisted acid leaching of Nalco fly ash	**A. K. Tripathy**, C. K. Sarangi, B.C.Tripathy, K. Sanjay, I.N. Bhattacharya, B.K. Mohapatra, B.K. Sathpathy	CSIR-IMMT, Bhubaneswar, India	
HPI.4	Recovery of high pure ZnO from Zn spent catalyst: Its sensing ability	**Debajani Maliick**, Sandhyarani Rana, Lopamudra Giri, B.P. Bag, Kali Sanjay, Mamata Mohapatra	CSIR-IMMT, Bhubaneswar, India	
HPI.5	Studies on estimation of precious metal values and thermal behavior of scrap printed circuit boards	M.R.P Reddy, **D.S. Prasad**, Sandip Chatterjee, P. Parthasarathy, Arbind Kumar, Rajesh Kumar, N.R. Munirathnam	C-MET, Hyderabad, India	
HPI.6	Reactor and heap leaching studies of mixed copper ore	**Sandeep Panda**, Ayonbala Baral, T. Subbaiah, M.K. Ghosh, I.N. Bhattacharya, S. K. Das, Kadambini Sarangi, L. B. Sukla, Barsha Dash, C. K. Sarangi, Kali Sanjay	CSIR-IMMT, Bhubaneswar, India	
HPI.7	Prediction and simulation of REE's recovery from red mud using artificial neural network	**Shivendra Sinha**, S. Ganguly, Abhilash, P. Meshram, B.D. Pandey, P.K. Behera, B.K. Sathpathy	CSIR-NML, Jamshedpur, India	

SW.	Solid Waste Utilization	Hall 3 : DJ Hall	January 21, 2015	14:00-16:00
Code	**Title**	**Authors**	**Affiliation**	
SW.1	Investigation of commercial products conversion from bauxite residue **(Keynote)**	**Brajendra Mishra**	Colorado School of Mines, USA	
SW.2	Recovery of alumina from coal fly ash leach liquor by crystallisation **(Keynote)**	**Lerato Lekhanya**, Sehliselo Ndlovu, Vusumuzi Sibanda	University of Witwatersrand, South Africa	
SW.3	Examination of possible usage of fine ground non-ferrous slag in cement manufacturing	**K. Suresh**, Manish Kuchya, Subrato Chowdhury	Ultratech Cement Ltd. Mumbai, India	
SW.4	Possible exploitation of red mud as additive in portland pozzolana cements	**K. Suresh**, Manish Kuchya, Subrato Chowdhury	Ultratech Cement Ltd. Mumbai, India	
SW.5	The effects of GGBFS blending with fly ash on workability and strength properties of geopolymer concrete cured at ambient temperature	**Rachit Ghosh**, Anil Kumar, Sunil Kumar Gupta, Sanjay Kumar	CSIR-NML, Jamshedpur, India	
SW.6	Utilization of fly ash and iron making slags into geopolymeric materials	**Susanta Kumar Nath**, Sanjay Kumar	CSIR-NML, Jamshedpur, India	
SW.7	Regularities of formation of hydrocarbon cracking catalysts for modification of natural zeolite by acids of various nature	**Kairat Kadirbekov**, S. Konuspaev, R. Nurbaeva, D. Zhambakin	Kazatomprom-sorbent Company, Almaty, Kazakhstan	
SW.8	Binding properties of de-phosphorized LD slag flux powder.	Pande Nishant Prasad, Pankaj Narayan Chaudhary, **I.B. Mishra**, T. Venugopalan	CSIR-NML, Jamshedpur, India	

EWI.	Environmental Issues - I	Hall 4 : Old Conference Room	January 21, 2015	14:00-16:00
Code	**Title**	**Authors**	**Affiliation**	
EWI.1	Groundwater arsenic contamination in India and its remediation: Research and development at CSIR-NML **(Keynote)**	**Santanu Bhattacharjee**	CSIR-NML, Jamshedpur, India	
EWI.2	Environmental pollution and remedies through Governmental policy in steel industries **(Keynote)**	**Purnima Kumar**	Jamshedpur Women's College, India	
EWI.3	SAARC and the environmental issues **(Invited)**	**Rashmi**	Jamshedpur Women's College, India	
EWI.4	Environmental pollution and its remediation	**Rabindra Kumar Ambasta**	B.V. College, Patna, India	
EWI.5	Corrosion and corrosion protection of mild steel in SO_2 environment	**Rajesh Kumar Singh**	J.P. University, Chhapra, India	
EWI.6	Comparative atmospheric corrosion behavior of mild and weathering steel	**J. K. Singh**, D. Saha, Sharma Paswan, D.D.N. Singh	CSIR-NML, Jamshedpur, India	
EWI.7	Exploitation of sponge iron waste for the production of value added products	**B.N. Choudhary**, B.N. Roy, A.K. Vaish, S.D. Singh	RVS College of Engineering, Jamshedpur, India	

CBII.	Characterisation and Beneficiation – II (Nonferrous/Others)	Hall 1: NML Auditorium	January 21, 2015	16:00-18:00
Code	**Title**	**Authors**	**Affiliation**	
CBII.1	Hydraulic classification and its developments in mineral industry **(Keynote)**	**C. Raghu Kumar**, S.K. Tripathy, S.K. Bhoja, N. Suresh	TATA STEEL, Jamshedpur, India	
CBII.2	Agglomeration of chrormite ore fines through direct sintering route	**Sanjay Agarwal**, J. Pal, D.B. Ghosh	CSIR-NML, Jamshedpur, India	
CBII.3	To investigate the effect of crushing with vertical shaft impactor and high pressure grinding rolls on the liberation of gold ore and recovery by flotation at different particle sizes	T. Sindhura, Adam Teague, **Sheila Devasahayam**	Federation University, Australia	
CBII.4	Factors affecting concentrate thickener performance in limestone beneficiation process	**Ashutosh Shandilya**, Lalit Mohan Jha	Ashapura International Ltd., Gujarat, India	
CBII.5	Production of pozzolanic ash from coal fly ash by flotation techniques	**Pooja Kumari**, Vivek. R, N. Pattar, R.Venugopal	ISM Dhanbad, India	
CBII.6	Optimal mining and marketing of lean grade ores	**B.K. Sahu**	IIT Bombay, India	
CBII.7	Chemical aspects of sustainable mineral processing – recent advances and future trends	**D. R. Nagaraj,** R. S. Farinato	Cytec Industries Inc.	
CBII.8	Low Grade Ores & Urban Mining- Rapid quantification of particulated materials by Automated Mineralogy	**Eugene Bekker,** Alan Butcher	FEI Company	

HPII.	Hydrometallurgical Processing – II (Leaching)	Hall 2 : Main Lecture Hall	January 21, 2015	16:00-18:00
Code	**Title**	**Authors**	**Affiliation**	
HPII.1	Effect of the Kinetics and Thermodynamics Properties of Oxide and Sulfide Copper Minerals on its Curing, Agglomeration, and Leaching Behavior **(Keynote)**	**Miguel N. Herrera**	University Adolfo Ibañez Santiago, Chile	
HPII.2	Processing of manganese nodules - A brief overview **(Keynote)**	**R.K. Jana**	CSIR-NML, Jamshedpur, India	
HPII.3	From laboratory to industry, simulation of industrial operation for phosphoric acid production from phosphate ores **(Invited)**	**A.K. Ismail**, E.A. Abdel Aaal, H. El-Shall	Central Metallurgical R&D Institute, Cairo, Egypt	
HPII.4	Selective leaching of Sn using stannic chloride solution **(Invited)**	**Kyoungkeun Yoo**, Kyunghye Moon, Hojin Ryu	Korea Maritime & Ocean University, South Korea	
HPII.5	Surfactant assisted leaching of manganese nodules	**Rasmita Barik**, Kali Sanjay, B. K. Mishra, Mamata Mohapatra	IMMT, Bhubaneswar, India	
HPII.6	Reactor and column leaching studies for extraction of copper from two typical copper sulphides: A comparative study	Sandeep Panda, Geetanjali Mishra, **T. Subbaiah**, S .K. Das, Kadambini Sarangi, M. K. Ghosh, N. Pradhan, C. K. Sarangi, Kali Sanjay	IMMT, Bhubaneswar, India	

RCI.	Recycling – I (E-wastes)	Hall 3: DJ Hall	January 21, 2015	16:00-18:00
Code	**Title**	**Authors**	**Affiliation**	
RCI.1	Metallic copper leaching in the acidic ferric sulphate system: An alternative for electronic waste recycling **(Keynote)**	Darío Bilczuk, Oscar Olvera, **Edouard Asselin**	UBC, Canada	
RCI.2	Cellular phones waste in India, their environmental pollution and proposed remediation **(Keynote)**	**N.R. Munirathnam**	C-MET, Hyderabad, India	
RCI.3	E-waste: Trash to cash-A business prospect **(Invited)**	**Indrajit Shaw**, Mita Tarafder	Xavier Labour Relations Institute (XLRI), Jamshedpur India	
RCI.4	Impact of electronic waste disposal on environment	**Sanjay Prasad**	CSIR-NML, Jamshedpur, India	
RCI.5	Optimizing Printed Circuit Board Recycling : A Modular approach	**Siddharth Shivkumar**	Revive Electronic Waste Pvt. Ltd., Mumbai, India	
RCI.6	E-waste management by proficient recycling system-a review	**Vivek Kumar**, R. Sahu	NIT, Jamshedpur, India	

EWII.	Environmental Issues - II	Hall 4: Old Conference Room	January 21, 2015	16:00-18:00
Code	**Title**	**Authors**	**Affiliation**	
EWII.1	Industrial water pollution needs for prospective remedial plan **(Keynote)**	**Shukla Mahanty**	Kolhan University, Chaibasa, India	
EWII.2	Indoor environmental air quality: Case studies **(Keynote)**	**Ajay Taneja**	Dr. B.R. Ambedkar University, Agra, India	
EWII.3	Removal of Pb(II) and Cr(III) using synthesized graphene oxide-nickel ferrite (GO@$NiFe_2O_4$) as sorbent **(Invited)**	**Lakshmi Prasanna Lingamdinne**, Janardhan Reddy Koduru, Hoon Roh, Daegeun-Yoon, Jae-Kyu Yang, Yoon-Young Chang	Kwangwoon University, South Korea	
EWII.4	Assessment of ground water quality around tailings ponds, Jaduguda uranium mines, Jharkhand	**A. K. Mohanty**, V. V. S. Gurunadha Rao, A. K. Sarangi	CSIR-NGRI, Hyderabad, India	
EWII.5	Removal of zinc from urban waste water using novel adsorbent	**Kavita Parmar**, Santanu Bhattacharjee	Central University of Jharkhand, Ranchi, India	
EWII.6	Recovery of gold from gold ore tailing (GOT) and use of left over residue as source of micronutrients for the growth of plants in agriculture	**Keshav A. Bulbule**, P.Parthasarathy	KLE's Nijalingappa College, Bangalore, India	
EWII.7	LD slag treatment for possible reuse application	**P.N. Prasad**, Ravi Golani, P.N. Chaudhary, T. Venugopalan	TATA STEEL, Jamshedpur, India	

PFI.	Processing of Fines - I (Pelletisation)	Hall 1: NML Auditorium	January 22, 2015	09:30-11:30
Code	**Title**	**Authors**	**Affiliation**	
PFI.1	Importance, challenges and opportunities of using ore petrology in process mineralogy for the exploitation of different ores in India **(Keynote)**	**G. N. Jadhav**	IIT Bombay, India	
PFI.2	Optimization of pellet size & quality parameters for DRI and blast furnace usage **(Invited)**	**K. Karehanumappa**	Orissa Manganese & Mineral Ltd., Jamshedpur, India	
PFI.3	Organic binder: Step towards green pelletization	Pyarilal Serapani, Neelkamal Rongali, **Satish Kumar Kuchimanchi**	Jindal Steel & Power Ltd. Barbil, India	
PFI.4	Texo pellets: Next generation greener pellets	**Dharm Jeet Gavel**, Arijit Biswas, Samik Nag, Indrajit Paul, Srinivas Dwarpudi	TATA STEEL, Jamshedpur, India	
PFI.5	Mathematical modeling of iron ore pelletization in a straight-grate induration process	**Ramanuj Shankar Pandey**	IIT Kharagpur, India	
PFI.6	Studies on different binders and their effects on pelletisation and iron making	**Deepak Kumar Gorai**, K.D. Mehta, B. K. Singh	NIT, Jamshedpur, India	
PFI.7	Influence of iron ore microfines on sinter structure	**V. Suresh**, M.K. Sharma, C. Sarkar, B. Asha, S. Chakraborty	Visakhapatnam Steel Plant, India	
PFI.8	Study on different binders for pelletisation of low grade ore	**Sayed Janishar Anzoom**, K.D. Mehta	Govt. College of Engg. Odisha, India	

HPIII.	Hydrometallurgical Processing – III (Separation Processes)	Hall 2: Main Lecture Hall	January 22, 2015	09:30-11:30
Code	**Title**	**Authors**	**Affiliation**	
HPIII.1	Highlights on uranium recovery from conventional and non-conventional resources **(Keynote)**	**Alexandre Chagnes**, Gerard Cote	PSL Research University, France	
HPIII.2	New highlights in uranium (VI) production from wet phosphoric acid **(Keynote)**	Denis Beltrami, **Alexandre Chagnes**, Hamid Mokhtari, Bruno Courtaud, Gerard Cote	PSL Research University, France	
HPIII.3	Recovery of cobalt from copper-cobalt oxide ore leach solutions using solvent extraction **(Keynote)**	D.M. Kyembo **Sehliselo Ndlovu**	University of the Witwatersrand, South Africa	
HPIII.4	Recovery of cobalt from waste Li-ion mobile phone batteries of Delhi Municipality	**Divika Gupta,** M.K. Jha, V.K. Jha	CSIR-NML, Jamshedpur, India	
HPIII.5	Extraction of lanthanum and neodymium from leach liquor containing rare earth metals (REMs)	**Rekha Panda,** M.K. Jha, Jhumki Hait, Girendra Kumar, R.J. Singh	CSIR-NML, Jamshedpur, India	
HPIII.6	Effect of acid and alkaline leaching on removal of phosphate present in rare earth minerals	**Archana Kumari**, M.K. Jha, Jhumki Hait, S.K. Sahu, J.R. Kumar, J.Y. Lee	CSIR-NML, Jamshedpur, India	

RCII.	Recycling – II (E-wastes)	Hall 3: DJ Hall	January 22, 2015	09:30-11:30
Code	**Title**	**Authors**	**Affiliation**	
RCII.1	Sustainable recycling technology for electronic waste **(Keynote)**	**S. Chatterjee**	DeitY, New Delhi, India	
RCII.2	E-waste recycling **(Keynote)**	**S.K. Chakraborty**	DSIR, New Delhi, India	
RCII.3	Education for sustainable development- an approach in reducing e-waste generation	**R. Sabesh**, U.T.Arasu	CPR Environmental Edn. Centre, Chennai, India	
RCII.4	Recovery of precious metals from scrap PCB's: Some studies	M.R.P. Reddy, **D.S. Prasad**, Sandip Chatterjee, P. Parthasarathy , Arbind Kumar, Rajesh Kumar, N.R. Munirathnam	C-MET, Hyderabad, India	
RCII.5	Novel process for the recovery of copper from poly-cracker ash of PCBs	**Anjan Kumari**, M.K. Jha, Vinod Kumar, Jhumki Hait, R.P. Singh	CSIR-NML, Jamshedpur, India	

PP.	Pyrometallurgical Processing	Hall 4: Old Conference Room	January 22, 2015	09:30-11:30
Code	**Title**	**Authors**	**Affiliation**	
PP.1	Reduction of oxide minerals by hydrogen plasma **(Keynote)**	**Raja Kishore Paramguru**	KIITs, Bhubaneswar, India	
PP.2	Hydrogen reduction of single pellet nickel oxide under microwave irradiation	**Suresh. S,** N.N. Viswanathan	IIT, Bombay, India	
PP.3	Reduction behaviour of iron ore pellets with addition of plastics in direct reduction of iron	**Ankit**, Shubham Sethi, G.S. Mahobia, O.P. Sinha	IIT, Kharagpur, India	
PP.4	Experimental investigation for conversion of hematite to magnetite with high ash Jhama coal	**D.C. Sau**, Amit Banerjee, Manoj Kumar, Rakesh Kumar	CSIR-NML, Jamshedpur, India	
PP.5	Raw material quality parameter search for a functional reactor	**Madan Mohan Mahato**	JAMIPOL, Jamshedpur, India	
PP.6	Iron ore- from hematite to magnetite	**R.J. Singh**, Vidhukesh Vaidehi, Priya Kumari	NIT, Jamshedpur, India	
PP.7	A step towards the iron making with banded hematite quartzite pellets	K.D. Mehta, **M. Jay Prakash**	CSIR-NML, Jamshedpur, India	
PP.8	Reduction kinetics of lean grade iron ore – An inspiration to bring innovative improvements in an ancient iron making process	**C.B. Singh**, R.N. Gupta, A.K.Vaish, M.C. Goswami	OP Jindal Institute of Technology, Raigarh, India	

PFII.	Processing of Fines - II (Sintering)	Hall 1: NML Auditorium	January 22, 2015	11:30-13:30
Code	**Title**	**Authors**	**Affiliation**	
PFII.1	Technology for processing of low and lean grade iron ores waste dump fines and plant tailings for iron and steel making (Keynote)	**Ratnakar Singh**	CSIR-NML, Jamshedpur, India	
PFII.2	National scenario of availability of low grade iron ore fines	**Rakesh Giri**	Adhunik Group of Industries, India	
PFII.3	Technology challenges in comminution practices.	**Uday Mukherjee,** Vishweshwar Madhav	Turnkey Engineers, Kolkata, India	
PFII.4	Effect of inert gas injection on sinter RDI	**Moni Sinha**, Harsha Nistala, Arijit Biswas	TATA STEEL, Jamshedpur, India	
PFII.5	Microstructural analysis of sinter breakage	**Moni Sinha**, Harsha Nistala	TATA STEEL, Jamshedpur, India	
PFII.6	Effect of flux granulometry on the sintering process using thermodynamic analysis	**Arijit Biswas,** Harsha Nistala**,** Moni Sinha	TATA STEEL, Jamshedpur, India	
PFII.7	Heating index: Estimation through numerical modeling of the sintering process and its relationship with sinter quality	**Harsha Nistala,** Arijit Biswas**,** Moni Sinha	TATA STEEL, Jamshedpur, India	

HPIV.	Hydrometallurgical Processing – IV (Separation Processes)	Hall 2: Main Lecture Hall	January 22, 2015	11:30-13:30
Code	**Title**	**Authors**	**Affiliation**	
HPIV.1	Ionic liquids role in metal extraction **(Keynote)**	**Jyothi Rajesh Kumar**, Jin-Young Lee, Shun-Myung Shin, Kyeong-Woo Chung	KIGAM, South Korea	
HPIV.2	Study on Remove of Thorium and Uranium from Yenphu RE leaching solution by solvent extraction using primary- and tertiary-amine mixture as extractives **(Keynote)**	**Nguyen Trong Hung,** Le Ba Thuan	Institute for Technology of Radioactive and Rare Elements (ITRRE), Dong Da, Hanoi, Vietnam	
HPIV.3	Gold and silver extraction from leach solutions obtained by leaching using combined electrochemical reactions **(Invited)**	B.K. Kenzhaliyev, **Renata R. Iskhakova**, Z.D. Dosymbaeva	Kazakh British University, Kazakhstan	
HPIV.4	Hydrothermal synthesis and characterization of iron oxide powders from spent pickle liquor	**M. K. Sinha**, S.K. Sahu, Pratima Meshram, L.B. Prasad, B.D. Pandey	CSIR-NML, Jamshedpur, India	
HPIV.5	Influence of sodium lauryl sulphate on cobalt electrodeposition from sulphate solutions	**Pinak Patnaik**, S.K.Padhy, B.C. Tripath, I.N. Bhattacharya, R.K. Paramguru	IMMT, Bhubaneswar, India	
HPIV.6	Solvent extraction of acid from leach solutions of rare earths with Cyphos IL 104	**Aarti Kumari**, M.K. Sinha, S.K. Sahu, B.D. Pandey	CSIR-NML, Jamshedpur, India	
HPIV.7	Electrodeposition of manganese metal from sulphate solutions in the presence of sodium octyl sulphate	**Subrat Kumar Padhy**, S. R. Bhatta, P. Patnaik, B. C. Tripathy	IMMT, Bhubaneswar, India	

RCIII.	Recycling – III (General)	Hall 3: DJ Hall	January 22, 2015	11:30-13:30
Code	**Title**	**Authors**	**Affiliation**	
RCIII.1	Resources of rare earth metals and prospects of processing secondary resources in India **(Keynote)**	**B. D. Pandey**	CSIR-NML, Jamshedpur, India	
RCIII.2	Extraction of Pd and Pt from dead catalysts using the leaching reagents (sodium thiocompounds) **(Invited)**	B.K. Kenzhalziyev **Ainur N. Berkinbayeva** Z.D. Dosymbaev	Kazakh British University, Kazakhstan	
RCIII.3	Processing of zinc spent catalyst: Optimization of process parameters using Doehlert design	H. Afzal Hussain, **A. R. Sheik**, V. Sankar, Kali Sanjay, Sayani Adhikari	IMMT, Bhubaneswar, India	
RCIII.4	Recovery and reuse of palladium from spent glucometer electrochemical test strips	**Thomson A. Fernandes**, Anant C, Radha V. Jayaram	Institute of Chemical Technology, Mumbai, India	
RCIII.5	Leaching kinetics of spent nickel-cadmium (Ni-Cd) batteries in sulphuric acid	**Navneet Singh Randhawa**, Kalpataru Gharami, Manoj Kumar	CSIR-NML, Jamshedpur, India	
RCIII.6	Parameter optimization on the recovery of tungsten and nickel from spent HDS catalyst	**Barsha Dash**, Smita Mahakud, A. R. Sheik, I. N. Bhattacharya, Kali Sanjay, B. K. Mishra	IMMT, Bhubaneswar, India	

BPI.	Bioprocessing – I	Hall 4: Old Conference Room	January 22, 2015	11:30-13:30
Code	**Title**	**Authors**	**Affiliation**	
BPI.1	Low-cost magnetized Lonicera Japonica flower biochar for the treatment of heavy metals **(Keynote)**	L. P. Lingamdinne, Jae-Kyu Yang, Yoon-Young Chang, **Janardhan Reddy Koduru**	Kwangwoon University, South Korea	
BPI.2	Characterization of bacillus cereus bacterium isolated from Egyptian iron ore surface **(Keynote)**	Nagui A. Abdel-Khalek, **Khaled A. Selim**, Samah S. Abdallah	Central Metallurgical R&D Institute, Egypt	
BPI.3	Comparison of leaching of metal values by chemical and bioleaching from spent lithium ion batteries	**Pratima Meshram**, Anirban Ghosh, Abhilash, B.D.Pandey	CSIR-NML, Jamshedpur, India	
BPI.4	An attempt to bioleach monazite minerals using Aspergillis niger	**K. Keekan** , J.C. Jalondhara, Padmnaban Narayana	Yenepoya University, Mangalore, Karnataka, India	
BPI.5	Decolourization of anaerobically digested distillery effluent by Phanerochaete chrysosporium in internal loop airlift bioreactor	**S.K. Shukla**, Kavita Parmar	Central University of Jharkhand, Ranchi, India	

CBIII.	Characterisation and Beneficiation – III (Coal)	Hall 2: Main Lecture Hall	January 22, 2015	14:30-16:30
Code	**Title**	**Authors**	**Affiliation**	
CBIII.1	Brown coal dewatering using poly-acrylic based, pH-sensitive super absorbent polymers **(Keynote)**	M.A. Ameen, **Sheila Devasahayam**, T.V. Verheyen, S. Bandyopadhyay	Federation University, Australia	
CBIII.2	A case study of Tata Steel Bhelatand coal washery- replacement of conventional flotation reagent from a novel collector to improve clean coal yield **(Invited)**	Sanjay Singh, **M.P Sinha**, Md. Zahid Ahmad	TATA STEEL, Jamshedpur, India	
CBIII.3	Application of column flotation for the collection of coal ash cenospheres and its testing as a sorbents in uranium solutions **(Invited)**	**Tlek Ketegenov** T. Oserov, K. Kadirbekov	National Engg. Academy of Republic of Kazakhstan	
CBIII.4	Control limit for misplacement of clean coal to middlings (seam wise) at different clean coal ash regimes for washery-III	**Bhargav Dhavala**, Ajay Gupta, P.R. Ray, B.S. Tiwari, D.P. Chakraborty, Ashok Kumar	TATA STEEL, Jamshedpur, India	
CBIII.5	Major and trace elements distribution in coal ash of Talcher coalfields	**Rupa Das Biswas**, A. Banerjee, J. Konar, S. Chakravarty	CSIR-NML, Jamshedpur, India	
CBIII.6	Comparative studies on washability characteristics of coking & non-coking coal	**A. Banerjee**, R. Das Biswas, S. Chakravarty	CSIR-NML, Jamshedpur, India	
CBIII.7	Characterization of coal-core samples from Ib-Valley Coalfield, Odisha	**Anita Kumari**, S. Chakravarty	CSIR-NML, Jamshedpur, India	
CBIII.8	Beneficiation of hig ash fine coal using Kelsey centrifugal jig	**Saurabh Shekhar**, R.K. Singh	CSIR-NML, Jamshedpur, India	

EE.	Energy and Energy Materials	Hall 3: DJ Hall	January 22, 2015	14:30-16:30
Code	**Title**	**Authors**	**Affiliation**	
EE.1	Technological challenges for viable lignocellulosic feedstock pretreatment options in biofuel production **(Keynote)**	**Ajay K. Tyagi**, Utpal K. Niyogi, Khushboo Kapoor, Neelima Garg	Shriram Institute for Industrial Research, Delhi, India	
EE.2	Design optimization of a sustainable hydrogen fuel cell powered vehicle for low power consumption	Sachin Mishra, Brajesh Tripathi, **Ajay Kumar**, Pradeep Kumar, Ish Hunar Sharma	Gautam Buddha University, Greater Noida, UP, India	
EE.3	Green technology options for generation of power in India in the age of climate change	Subhendu Poddar, **Amar Nath Bhadra**	Boilers WB, India	
EE.4	Break the darkness by using green energy	**K.V. Subba Reddy**	ZPH School Kurnool, AP, India	
EE.5	Role of ex-situ addition of lanthanum on the electrochemical properties of EMD prepared from manganese cake	A. Biswal, S. Paul, **B.C. Tripathy**, I.N. Bhattacharya, R.K. Paramguru	IMMT, Bhubaneswar, India	
EE.6	Energy material Sm^{3+} modified lead zirconate titanate (PZT) ceramics: preparation, characterisation and application	**Sweta Sharma**, Md Shoaib Khan, Banarji Behera, Rajiv Ranjan, R.N.P. Choudhary	Jamshedpur Co-Operative College, India	
EE.7	Gas utilization improvement in blast furnace through process optimization	**R.R. Kumar**, R.K. Singh, V.K.Jha, B.K. Das, Ajay Arora, T.K. Haldar, B.P. Sinha	RDCIS, SAIL Ranchi, India	
EE.8	Ethical Procurement Policies for Brand Building	**Tushar Kant Pattnayak**	Adhunik Group of Industries, New Delhi	

BPII.	Bioprocessing – II	Hall 4 : Old Conference Room	January 22, 2015	14:30-16:30
Code	**Title**	**Authors**	**Affiliation**	
BPII.1	A study on sulphur oxidation by Acidithiobacillus caldus dominated culture in growth medium supplemented with variable cations of SO_4^{2-} ion **(Keynote/ Invited)**	**Sadiqa Zaki,** Chandra Sekhar Gahan, Ata Akcil	Central University of Rajasthan, India	
BPII.2	Bio-adsorption of Cr(vi) using native fungal species - Aspergillus Fumigatus Fresenius: A novel process to treat chromite mine drainage	**Biswaranjan Dhal**, Abhilash and Banshi Dhar Pandey	CSIR-NML, Jamshedpur, India	
BPII.3	Assessment of the biological sulfate reduction efficiency of desulfovibrio vulgaris using marine waste extract as nitrogen sources	**Subhabrata Dev**, Aditya Kumar Patra, Jayanta Bhattacharya	IIT, Kharagpur, India	
BPII.4	Microbial sulfate reduction to treat mine water: inclusion of food waste	**Bidus Kanti Das**, Jayanta Bhattacharya	IIT, Kharagpur, India	
BPII.5	Biotreatment of industrial wastewater of coke-chemical and resin plants	**Yu.L. Gurevich**, M.I. Teremova	Siberian Branch of Russian Academy of Science, Russia	

Poster Session [Inauguration: 21st January 2015, 12:45 PM]

PS:	Place : Auditorium Foyer		
Code	**Title**	**Authors**	**Affiliation**
PS. 1	Fluoride assisted acid leaching of Nalco fly ash	**A. K. Tripathy**, C. K. Sarangi, B.C.Tripathy, K. Sanjay, I.N. Bhattacharya, B.K. Mohapatra, B.K. Satpathy	CSIR-IMMT, Bhubaneswar, India
PS. 2	Design optimization of a sustainable hydrogen fuel cell powered vehicle for low power consumption	Sachin Mishra, Brajesh Tripathi, **Ajay Kumar**, Pradeep Kumar, Ish Hunar Sharma	Gautam Buddha University, Greater Noida, UP, India
PS. 3	Characterization of coal-core samples from Ib-Valley Coalfield, Odisha	**Anita Kumari**, S. Chakravarty	CSIR-NML, Jamshedpur, India
PS. 4	Reduction behaviour of iron ore pellets with addition of plastics in direct reduction of iron	**Ankit**, Shubham Sethi, G.S. Mahobia, O.P. Sinha	IIT, Kharagpur, India
PS. 5	Parameter optimization on the recovery of tungsten and nickel from spent HDS catalyst	**Barsha Dash**, Smita Mahakud, A. R. Sheik, I. N. Bhattacharya, Kali Sanjay, B. K. Mishra	IMMT, Bhubaneswar, India
PS. 6	Examination of possible usage of fine ground non-ferrous slag in cement manufacturing	**K. Suresh**, Manish Kuchya, Subrato Chowdhury	Ultratech Cement Ltd. Mumbai, India
PS. 7	Break the darkness by using green energy	**K.V. Subba Reddy**	ZPH School Kurnool, AP, India
PS. 8	Microstructural analysis of sinter breakage	**Moni Sinha**, Harsha Nistala	TATA STEEL, Jamshedpur, India
PS. 9	Production of pozzolanic ash from coal fly ash by flotation techniques	**Pooja Kumari**, Vivek. R, N. Pattar, R.Venugopal	ISM Dhanbad, India
PS. 10	Beneficiation of BHQ with hydro cyclone, WHIMS and Falcon concentrator	Binay Kumar, Ranjit Prasad , **Shishira Bhagavath**, R.K. Rath	NIT, Jamshedpur, India

PS:	Place : Auditorium Foyer		
Code	**Title**	**Authors**	**Affiliation**
PS. 11	Study on different binders for pelletisation of low grade ore	**Sayed Janishar Anzoom**, K.D. Mehta	Govt. College of Engg. Odisha, India
PS. 12	Prediction and simulation of REE's recovery from red mud using artificial neural network	**Shivendra Sinha**, S. Ganguly, Abhilash, P. Meshram, B.D. Pandey, P.K. Behera, B.K. Satpathy	CSIR-NML, Jamshedpur, India
PS. 13	Assessment of the biological sulfate reduction efficiency of desulfovibrio vulgaris using marine waste extract as nitrogen sources	**Subhabrata Dev**, Aditya Kumar Patra, Jayanta Bhattacharya	IIT, Kharagpur, India
PS. 14	E-waste management by proficient recycling system-a review	**Vivek Kumar**, R. Sahu	NIT, Jamshedpur, India
PS. 15	An alternative method to IEC 62554 for the estimation of mercury in compact fluorescence lamps (CFLS) – A fast and commercially viable technique	**U. Rambabu,** K. Ramaswamy, B. Mahender, M. Kishore Babu, B. Divya, R. Govindaiah, M. R. P. Reddy and N. R. Munirathnam	C-MET, Hyderabad, India
PS. 16	Solvent Extraction Processing of the Dysprosium and Selective Stripping of the Neodymium from Permanent Magnet Scrap	**Ho-Sung Yoon**, Chul-Joo Kim, Kyeong-Woo Chung, Sung-Don Kim, Jyothi Rajesh Kumar*	KIGAM, South Korea
PS. 17	Precious Metals Extraction Processing in Chloride Media by using Ionic Liquids as Novel Extractant Systems	**Jin-Young Lee**, Shun-Myung Shin, Kyeong-Woo Chung, Jyothi Rajesh Kumar*	KIGAM, South Korea
PS. 18	Removal of Co(II) from waste water using Graphene Oxide	Lakshmi Prasanna Lingamdinne, Janardhan Reddy Koduru, Hoon Roh, Tae-Il-Kim, Yoon-Young Chang, **Jae-Kyu Yang**	Kwangwoon University, South Korea
PS. 19	Novel process for the recovery of copper from poly-cracker ash of PCBs	**Anjan Kumari**, M.K. Jha, Vinod Kumar, Jhumki hait, R.P. Singh	CSIR-NML Jamshedpur, India
PS. 20	SAARC and Environmental issues	**Rashmi**	Jamshedpur Women's College, India