

EGRWSE-2018

Environmental Geotechnology, Recycled Waste Materials and Sustainable Engineering

29 - 31 March 2018

Dr B R Ambedkar National Institute of Technology

Jalandhar, India

Registration Starts

09.00 hrs, 29 March 2018

Reception Area: Computer Center and IT Park Building

PROGRAMME

Venue			
Computer Centre and IT Park Building			
Opening Ceremony	Thursday, 29 March 2018, 11.20 hrs	NKN Hall (2nd Floor)	
Session 1	Thursday, 29 March 2018	Session 1A, 1B	Conference Hall (2nd Floor): CS 303
		Session 1C, 1D	NKN Hall (2nd Floor)
Session 2	Friday, 30 March 2018	Session 2A, 2B, 2C, 2D	Conference Hall (2nd Floor): CS 303
		Session 2E, 2F, 2G, 2H	NKN Hall (2nd Floor)
Session 3	Saturday, 31 March 2018	Session 3A	Conference Hall (2nd Floor): CS 303
		Session 3B	NKN Hall (2nd Floor)
Panel Discussion (Problems, Solutions and Opportunities) & Closing Ceremony	Saturday, 31 March 2018, 11:20 hrs	NKN Hall (2nd Floor)	

Opening Ceremony		
Thursday, 29 March 2018, 11.20hrs		
ChiefGuest		
Prof. L. K. Awasthi (Director, NIT Jalandhar)		
Time	NKN Hall (2nd Floor)	
11.20 12.00	Welcome Address, Lighting the Lamp, Addresses by the Dignitaries	
12.00 12.30	Conference Opening Paper	Role of Geochemistry in Sustainable Geotechnics <i>Prof. Krishna Reddy, University of Illinois, Chicago, Department of Civil and Materials Engineering, USA</i>
12.30 12.55	Keynote Paper #1	From black liquor to green material: Enzymatic Valorisation of Pulp industry by-products. <i>Dr. Susana Gouveia, Department of Chemical Engineering, University of Vigo, Spain</i>
12.55 14.10	LUNCH	
Time	Conference Hall (2nd Floor): CS 303	Paper Id
Sub-Session: 1A		
Session Chair: Prof. Claudio Cameselle, Spain		
14.10 14.10	Application of response surface methodology to optimize the reaction parameters for grafting of cellulosic fiber <i>Aanchal Mittal, Sangeeta Garg, Shailendra Bajpai, India</i>	203
14.10 14.20	Residence time distribution for packed bed column reactor using a packing of bioadsorbent java plum seed (<i>syzygiumcumini</i>) <i>Tushar Srivastava, Shreyank Goel, Tejpratap Singh, India</i>	209
14.20 14.30	Al-Fe and Al-Ti pillared saponite clay catalysts: Preparation and Characterization <i>Sudha Minz, Renu Gupta, Sangeeta Garg, India</i>	271
14.30 14.40	Synthesis and characterization of the graft copolymers of starch for the application in packaging films <i>Sangeeta Garg, Aanchal Mittal, Anshuman Premi, India</i>	292
14.40 14.50	Application of RSM for optimizing the biodiesel production catalyzed by calcium methoxide <i>Kashish Mehta, Neetu Divya, M K Jha, India</i>	293
14.50 15.00	TiO ₂ assisted photocatalytic degradation of herbicide 4-chlorophenoxyacetic acid: slurry and fixed-bed approach <i>Anoop Verma, Amrit Pal Toor, Palak Bansal and Amit Sobti, India</i>	315
15.00 15.10	Optimization of Electrolyte Concentration on Nitrates Removal from Simulated Groundwater using Electrocoagulation <i>Snigdha Acharya, S.K. Sharma, Vinita Khandegar, India</i>	328
15.10 15.20	Photocatalytic Activity of Bi-Doped TiO ₂ for Phenol Degradation under UV and Sunlight Conditions <i>Rahul Singh, Vivek Kumar, Anoop Verma, Amit Sobti, Amrit Pal Toor, India</i>	325
15.20 15.45	KeynotePaper #2: Quantitative X-Ray Diffraction Technique for Waste Beneficial Use Opportunities <i>Prof. Kaimin Shih, Department of Civil Engineering, The University of Hong Kong, Hong Kong</i>	-
15.45 16.00	TEA/COFFEE	
Sub-Session: 1B		
Session Chair: Prof. B. S. Kaith, India		
16.00 16.10	Degradation of 4-chlorophenol using homogeneous Fenton's oxidation process: kinetic study <i>SudhaMinz, Renu Gupta, SangeetaGarg,India</i>	329
16.10 16.20	Synthesis of rGO/TiO ₂ nanocomposite for the efficient photocatalytic degradation of RhB dye <i>Vikash Kumar, Ajay Bansal, RenuGupta,India</i>	339
16.20 16.30	Study of degradation of pharmaceutical drug cetirizine usingTiO ₂ Photocatalysis <i>Steffi Talwar, PoojaChaudhary, Vikas Kumar Sangal,AnoopVerma,India</i>	345
16.30 16.40	Understanding Speciation and Leaching of Heavy Metals from a Polluted Site, Surat, Gujarat <i>V.Anand Reddy, C.H.Solanki, S. Kumar, Krishna.R. Reddy,India</i>	219
16.40 16.50	Effective Utilization of Construction & Demolition Waste, Pond Ash in Combination with Geosynthetics in Flexible Road Pavement <i>Rohan Deshmukh, Satyajit Patel, Subhodh Kapdnis, Shreya Kumavat, Devashis Kulkarni, Nayana Patil, India</i>	227
16.50 17.00	Enhancement of Shearing Strength of Poorly Graded Sand by using Surface Modified Waste Tyre Rubber Fibres <i>P. Venkateswarlu, E. P. Krishnaveni, D. Bishnoi, C. H.Solanki, S. K. Shukla,India</i>	237

Thursday, 29 March 2018		
Time	NKN Hall (2nd Floor)	Paper Id
Sub-Session: 1C Session Chair: Dr. Hanumantha Rao B, India		
14.00 14.10	A New Mixing Technique for Randomly Distributed Fibre-Reinforced Expansive Soil <i>Mohit Mistry, Tejaswani Shukla, Venkat, Shruti Shukla, Chandresh Solanki, Sanjay Kumar Shukla, India</i>	245
14.10 14.20	Effect of zinc Contamination on Engineering Properties of clayey soils <i>Amruta Joshi, Satyajit Patel, Vikas Hiwale, Chirag Khairnar, India</i>	202
14.20 14.30	Seismic Hazard Estimation for Jalandhar City, India <i>Gagan Deep, Sanjeev Naval, India</i>	220
14.30 14.40	Model Study Of Piled Raft Foundation <i>Shaik Alimunnisa, V.K. Arora, India</i>	222
14.40 14.50	Aeration Efficiency Evaluation of Modified Small Parshall flume using M5P and Adaptive Neuro Fuzzy Inference System <i>Sangeeta, Subodh Ranjan, N.K. Tiwari, India</i>	336
14.50 15.00	River Sarasvati: A Study Of Possible Revival <i>Aman Chauhan, Baldev Setia, Arvind Kaushik, India</i>	241
15.00 15.10	Influence Of Stone Columns On The Consolidation Characteristics Of A Clayey Soil <i>Ujjawal Sharma, D.K. Soni, Samadhiya Narendra Kumar, India</i>	242
15.10 15.20	Soil Stabilization Using Microbial Denitrification for Calcite Precipitation <i>Sanoop Suresh Kumar, V.K. Arora, India</i>	246
15.20 15.45	Keynotepaper #2: Quantitative X-Ray Diffraction Technique for Waste Beneficial Use Opportunities <i>Prof. Kaimin Shih, Department of Civil Engineering, The University of Hong Kong, Hong Kong</i>	-
15.45 16.00	TEA/COFFEE	
Sub-Session: 1D Session Chair: Prof. Ravi K. Sharma, India		
16.00 16.10	Microbial Amendment of Remediated Soils for Effective Recycling <i>Soobin Kim, Junboun Park, China</i>	106
16.10 16.20	Design of flexible pavement on black cotton soil stabilized with RBI Grade 81 <i>Vilas Patil, Prathamesh Joshi, Shubham Kale, Tanmay Pingle, India</i>	254
16.20 16.30	A Study on Stripping and Stability Characteristics of Aggregates of Haryana <i>Laxmi Prasad Singh, India</i>	262
16.30 16.40	Influence of l/D on deflection of Offshore Monopiles <i>Jithin P Zachariah, Jagdish Prasad Sahoo, Sima Ghosh, India</i>	310
16.40 16.50	Cement Stabilized Soil with Wire Mesh Reinforcement as a Pavement Layer for Low Volume Roads <i>Jince P Zachariah, Partha Pratim Sarkar, India</i>	311
16.50 17.00	Conversion of cellulose, extracted from forestry waste, to value added chemicals over solid acid catalyst in ionic liquid <i>Uplabdh Tyagi, Neeru Anand, Dinesh Kumar, India</i>	318

Friday, 30 March 2018		
Time	Computer Center and IT Park Building Conference Hall (2nd Floor): CS 303	Paper Id
Sub-Session: 2A Session Chair: Prof. Arvind K Agnihotri, India		
09.10 09.20	Evaluation of Compressibility and Drainage Characteristics of Highly Plastic clay stabilized with Fly ash and Stone quarry dust <i>HimanshuYadav, Haidar Ali, V.P. Singh,India</i>	204
09.20 09.30	Experimental Investigation of Geotechnical Properties of Clay-Rubber Fibres Mixtures <i>J. S. Yadav, R. Budania, S. K. Tiwari,India</i>	212
09.30 09.40	Strength Characteristics of Clayey Soil Stabilized with Nano - Silica <i>AbhayMalik,Sanjeev Naval, Shiv Om Puri,India</i>	214
09.40 09.50	Chemical Analysis Procedures for Determining the Dispersion Behavior of Bauxite Residue <i>N. Gangadhara Reddy, B. HanumanthaRao, Krishna R. Reddy,India</i>	215
09.50 10.00	Study and Analysis of Characteristics of Construction and Demolition Waste in Highway Pavements <i>NupurJain,TriptaGoyal,India</i>	216
10.00 10.10	Effect of Cement Kiln Dust and RBI Grade 81 on Engineering Properties of Plastic Clay <i>J. Sudheer Kumar, PankajSharma,India</i>	217
10.10 10.20	Stabilization Of Silty Soil With Marble Dust And Sugarcane Bagasse Ash <i>PriyankaMishra,V.K.Arora,India</i>	223
10.20 10.30	Liquefaction Potential of sub surficial soil based on GRA of smart city Jalandhar <i>NehaKhanna, Manish Khanna, India</i>	349
10.30 11.00	Keynote Paper #3:Development on the Technology for Offshore Waste Final Disposal in S. Korea <i>Prof. Junboun Park, Department of Civil and Environmental Engineering, Seoul National University, Seoul, Korea</i> NKN Hall (2nd Floor)	-
11.00 11.30	TEA/COFFEE	
Sub-Session: 2B Session Chair: Prof. Krishna Reddy, USA		
11.30 11.40	Strength Improvement of Silt Loam using Egg Shell Powder and Quarry Dust <i>Vaangmayaa Singh, V.K. Arora,India</i>	233
11.40 11.50	Stabilization Of Fine Grained Soil Using Plastic Waste Materials <i>Naveen Kumar,D.K. Soni,India</i>	238
11.50 12.00	Studies on stabilization of soil using granulated ground blast furnace slag <i>ArshadTyagi, D. K. Soni,India</i>	240
12.00 12.10	Soil Stabilisation using Plastic Waste <i>Kamal Singh, AnupamMittal,India</i>	255
12.10 12.20	Aeration performance of labyrinth weir-A Review <i>Aradhana, N.K. Tiwari, SubodhRanjan, India</i>	347
12.20 12.30	Effect of fly ash on permeability of soil <i>SouravDebnath, Anupam Mittal, India</i>	259
12.30 12.40	Emerging technology of sustainable interlining production for eco-friendly garment construction <i>Sheena Bansal, A. K. Choudhary, India</i>	277
12.40 14.00	LUNCH	
Sub-Session: 2C Session Chair: Prof. S. P. Singh, India		
14.00 14.10	Mechanical and Durability Properties of Recycled Aggregate Self-Compacting Concrete Along with Basalt Fibers <i>Davinder Singh, Kasilingam Senthil, P.C. Emmanuel, India</i>	353
14.10 14.20	Review paper on partial replacement of cement and aggregates with various industrial waste material and its effect on concrete properties <i>Babita Saini, Saurabh Upadhyay, Abhishek K. Gupta, Manoj Yadav, Sumit, Pranjal Bindal, Ravi K. Meena, Pankaj Kumar, India</i>	306
14.20 14.30	Optimizing waste material:- slum development <i>Manpreet Singh, Rajvir Singh, Sohrab Chatrath, India</i>	285

14.30 14.40	Influence of Waste Marble Powder and Metakaolin on Strength Properties of Concrete : A Short Review <i>Shubham Saini, Sudhir Arora, Ranjodh Singh, India</i>	287
14.40 14.50	Study of Shear Behavior of Concrete by using Recycled Coarse aggregates and fibers <i>Sudhir Arora, Ranjodh Singh, Rohin Kaushik, India</i>	280
14.50 15.00	Sustainable Use of Municipal Solid Waste Incinerator (MSWI) Ash in Concrete Construction <i>Rizwan A Khan, India</i>	239
15.00 15.30	Keynote Paper #4: Environmental Impact of Mine Wastes: An Overview of Problems with Mining Sites in Turkey, Remediation Possibilities, and An Example from Turkey Prof. Oznur Karaca , Department of Geological Engineering, Canakkale Onsekiz Mart University, Canakkale, Turkey NKN Hall (2nd Floor)	-
15.30 16.00	TEA/COFFEE	
Sub-Session: 2D Session Chair: Prof. Junboun Park, Korea		
16.00 16.10	Size effect of fiber on mechanical properties of mud earth blocks <i>Sangketa Sangma, Lumlangki Pohti, Deb Dulal Tripura, India</i>	309
16.10 16.20	Investigation on Potential Use of EAF Dust and RSA for Sustainable Concrete Production <i>Rajwinder Singh, Amanpreet Kaur Sodhi, Neeraj Bhanot, India</i>	313
16.20 16.30	A study on strength behaviour of alkali contaminated soils treated with fly ash <i>G. MD. Ashfaq, M. Heeralal, P. Hari Prasad Reddy, India</i>	316
16.30 16.40	Study on performance of concrete using sugarcane bagasse ash (SCBA) <i>Mahavir Singh Rawat, India</i>	340
16.40 16.50	A Proposed Multi-barrier Option for Removing Iron and Microbial Contamination from Yenagoa Borehole Waters <i>Okoh Elechi, Oruabena Bernard, Amgbari Charles, Ebitei Sintei, Nigeria</i>	103
16.50 17.00	Bioproducts Route to Sustainable Energy – The Journey so Far <i>Okoh Elechi, Oruabena Bernard, Sintei Ebitei, Nigeria</i>	104
19.30	Conference Dinner (WJ Grand Hotel near Verka Milk Plant Jalandhar)	

Friday, 30 March 2018		
Time	Computer Center and IT Park Building NKN Hall (2nd Floor)	Paper Id
Sub-Session: 2E Session Chair: Prof. Kaimin Shih, HongKong		
09.10 09.20	Towards Sustainable Municipal Solid Waste Management In Indian Cities <i>Amandeep Kaur, Surinder Deswal, India</i>	290
09.20 09.30	Studies on Transport of Reactive and Non-Reactive Elements in Fractured Media <i>S. Rupali, V.A. Sawant, India</i>	351
09.30 09.40	Effect of Oil Contaminated Soil on Geo technical Properties and its Stabilization: A Review <i>Manish Kumar Singh, Anupam Mital, India</i>	213
09.40 09.50	Rain Garden, A Solution to Urban Flooding: A Review <i>Osheen, Krishna Kumar Singh, India</i>	226
09.50 10.00	Influence of Strip Footing Resting on Geogrid Reinforced Induction Furnace Slag beneath Silty Clay <i>J. Sudheer Kumar, Sumanav Wadhwa, India</i>	247
10.00 10.10	Comparative Study on the Seismic Behavior of RCC and Composite Structure <i>AtriTyagi, S.K.Madan,India</i>	260
10.10 10.20	Design of N-H10 by IRC method and its comparison with AASHTO method <i>YatinChaudhary, Praveen Aggarwal,India</i>	264
10.20 10.30	A Comparative Study of Road Accidents in India <i>PrashantYadav,India</i>	272
10.30 11.00	Keynote Paper #3: Development on the Technology for Offshore Waste Final Disposal in S. Korea Prof. Junboun Park , Department of Civil and Environmental Engineering, Seoul National University, <i>Seoul, Korea</i>	-
11.00 11.30	TEA/COFFEE	
Sub-Session: 2F Session Chair: Prof. A. P. Singh, India		
11.30 11.40	Modelling of punching strength of concrete slab: A Review <i>Sachin Kumar, Paratibha Aggarwal, India</i>	281
11.40 11.50	Performance Based Seismic Evaluation of Multi Storey R.C.C Building <i>Sumit, S.M. Gupta, India</i>	282
11.50 12.00	Experimental Study on Bubble Deck slab: A review <i>Manish Singh, Babita Saini, India</i>	283
12.00 12.10	Assessing the Performance of Self Compacting Concrete made with Recycled Concrete Aggregates and Coal Bottom Ash using Ultrasonic Pulse Velocity <i>Navdeep Singh, Shubham Arya, Mithul Raj M, India</i>	337
12.10 12.20	Experimental Study of Ultra High Performance Concrete Flexural Member under Impact Loading: A Review Paper <i>Shivam Gangwar, H. K. Sharma, India</i>	284
12.20 12.30	Rainfall trend analysis of various districts of Haryana, India <i>Deeksha Malik, K. K. Singh, India</i>	297
12.30 12.40	A Review of Urban Flood Protection Techniques <i>Manjeet, K. K. Singh, India</i>	298
12.40 14.00	LUNCH	
Sub-Session: 2G Session Chair: Prof. Umesh Sharma, India		
14.00 14.10	Evaluation of Aeration performance of Piano Key Weir through Random Forest, Bagging, GP & M5P <i>Komal, Subodh Ranjan, N. K. Tiwari, India</i>	334
14.10 14.20	Review on study of infiltration process and calculation of infiltration rate <i>Satyam Garg, Arun Goel, India</i>	302
14.20 14.30	Utilization of Municipal Solid Waste Ash for Stabilization of Cohesive Soil <i>Arun Kmar, Anupam Mittal, India</i>	230
14.30 14.40	Analysis of Design of Dowel and Tie bars for different Shoulders Conditions <i>Pooja Singh, S. N. Sachdeva, India</i>	305

14.40 14.50	Application of Aspergillus Niger for Biomachining of Aluminum Alloy 4004 <i>Pallyi Verma, Amanpreet Kaur Sodhi, Neeraj Bhanot, India</i>	312
14.50 15.00	Pervious Concrete- A Review on its Properties and Applications <i>Rekha Singh, Sanjay Goel, India</i>	320
15.00 15.30	Keynote Paper #4: Environmental Impact of Mine Wastes: An Overview of Problems with Mining Sites in Turkey, Remediation Possibilities, and An Example from Turkey Prof. Oznur Karaca , Department of Geological Engineering, Canakkale Onsekiz Mart University, Canakkale, Turkey	-
15.30 16.00	TEA/COFFEE	
Sub-Session: 2H Session Chair: Prof. Oznur Karaca, Turkey		
16.00 16.10	Reclamation of waterlogged saline lands in Haryana through Subsurface Drainage Technology-A Review <i>Hemant Raheja, Arun Goel, D. S. Bundela, India</i>	321
16.10 16.20	Aeration through weirs- a critical review. <i>Akash Jaiswal, Arun Goel, India</i>	324
16.20 16.30	Effectiveness of remote sensing and GIS based landslide susceptibility zonation mapping using information value method <i>Virender Kumar, Kanwarpreet Singh, India</i>	331
16.30 16.40	Effect of modulus of elasticity and water table on uplift capacity of granular anchor pile: An FEM approach <i>Abhishek Kumar, Ravi Kumar Sharma, India</i>	332
16.40 16.50	Modelling and analysis of sustainable green building design using Autodesk Ecotect Analysis <i>Shristi Khosla, Umesh Sharma, India</i>	333
16.50 17.00	Neuro Fuzzy Approach for Predicting the Infiltration of Soil <i>Saurabh Gautam, Praveen Sihag, N. K. Tiwari, Subodh Ranjan, India</i>	330
19.30	Conference Dinner (WJ Grand Hotel near Verka Milk Plant Jalandhar)	

Saturday, 31 March 2018		
Time	Computer Center and IT Park Building Conference Hall (2nd Floor): CS 303	Paper Id
Sub-Session: 3A		
Session Chair: Prof. N. K. Samadhiya		
09.10 09.20	Equivalent linear ground response analysis of some typical sites in proposed smart city Ludhiana <i>Manish Bhutani, Sanjeev Naval, India</i>	338
09.20 09.30	Compression and Shear Resistance of Self-Compacting Concrete with Arch-type Steel and Polypropylene Fibres <i>Kasilingam Senthil, Davinder Singh, Ivjot Singh, India</i>	350
09.30 09.40	Comparative study on the Photocatalytic degradation of Paraquat using tungsten doped TiO ₂ under Sunlight <i>Manpreet Kaur, Anoop Verma, Amrit Pal Toor, Hema Setia, India</i>	317
09.40 09.50	Use of Geosynthetics for Sustainable Pavements <i>G. R. Harish, K. Madesh, N. Swathi, G. R. Vijayabhaskara Reddy, H. Deepak, India</i>	342
09.50 10.00	Bearing Capacity improvement of Sand Bed Reinforced with 3D Geogrids of Rectangular Pattern. <i>Femy M. Makkar, S. Chandrakaran, N. Sankar, India</i>	211
10.00 10.10	Study on the Influence of Attached Mortar Content on the Properties of Recycled Concrete Aggregate <i>Kanish Kapoor, Amad Ur Rehman Bohroo, India</i>	268
10.10 10.20	Prediction of flexural behaviour of fibre reinforced high performance concrete <i>Umesh Chand, India</i>	352
10.20 10.50	Keynote Paper #5: Sustainable Soil Remediation. Phytoremediation Amended with Electric Current Prof. Claudio Cameselle , Associate Professor, Department of Chemical Engineering, University of Vigo, Spain NKN Hall (2nd Floor)	-
10.50 11.20	TEA/COFFEE	
11.20 13.00	Panel Discussion (Problems, Solutions and Opportunities) Closing Ceremony (Chief Guest: Er. G. S. Majithia, Chief Engineer, PCB Punjab) NKN Hall (2nd Floor)	
13.00 14.00	LUNCH	

Saturday, 31 March 2018		
Time	Computer Center and IT Park Building NKN Hall (2nd Floor)	Paper Id
Sub-Session: 3B		Session Chair: Prof. Amrit Pal Toor, India
09.10 09.20	Leak Detection Practices in Australia for Sustainable Landfill Management <i>Lopa Mudra S. Pandey, Sanjay Kumar Shukla, Daryoush Habibi, Australia</i>	105
09.20 09.30	Mechanical Strength of Natural and Recycled Aggregate Concretes with Meta-kaolin and Silica Fume <i>P. K. Kolay, T. O.Alshammari, V. K.Puri, S. Kumar, S. Burra,USA</i>	107
09.30 09.40	Groundwater contamination by organic compounds: a case study of Łubna landfill site in Warsaw, Poland <i>Eugeniusz Koda, Anna Sieczka, Anna Miskowska, Piotr Osiński, Poland</i>	110
09.40 09.50	Oxygen Transfer by solid jet Aerator <i>Chandra Prakash Meena, N.K. Tiwari, Subodh Ranjan, India</i>	343
09.50 10.00	Organic contamination of natural waters by leachates from ugwuaji dumpsite, enugu, southeastern Nigeria <i>D.C. Ozoko, I.L. Onyekwelu, Nigeria</i>	112
10.00 10.10	Compression properties of elastane knitted fabrics used in sportswear - A critical review <i>Ramratan, A. K. Choudhary, India</i>	253
10.10 10.20	Bioregeneration of granular activated carbon adsorbent with analytical grade hydroquinone compound using mixed bacterial culture <i>Varun Kumar Agarwal, Kaushik Nath, Nikul Maliya, Mufaddal Nathani, Chintan Ghava, India</i>	205
10.20 10.50	Keynote Paper #5: Sustainable Soil Remediation. Phytoremediation Amended with Electric Current Prof. Claudio Camezelle , Associate Professor, Department of Chemical Engineering, University of Vigo, Spain	-
10.50 11.20	TEA/COFFEE	
11.20 13.00	Panel Discussion (Problems, Solutions and Opportunities) Closing Ceremony (Chief Guest: Er. G. S. Majithia, Chief Engineer, PCB Punjab)	
13.00 14.00	LUNCH	