



THAPAR UNIVERSITY, PATIALA
DEPARTMENT OF CHEMICAL ENGINEERING
NEWSCASTER

Period: January – June 2015.

Date: September 25, 2015

1. Research Projects (Ongoing)

Sr. No.	Project Title	Funding Agency	Year	Amount (Lacs)	Investigator (s)
1	Application software development to evaluate thermal performance of tube type, air to air heat exchangers for caca high rated electrical motors	CG Global R&D, Kanjur Marg, Mumbai	2014	13.5	Dr. D. Gangacharyulu and Dr. Rajiv Sharma
2	Processing and characterization of fiber reinforced polymer nanocomposites and their degradation in marine environments	Naval Research Board (DRDO)	2012-2016	21.54	Dr. Rajeev Mehta Mr. Bikramjit Sharma
3	Studies on STF – nanoclay based composites for personal armour systems	ARMREB (CDSW) DRDO	2014-2017	29.7644	Dr. Rajeev Mehta
4	Acetonitrile dehydration by using salt/organic compound	Thapar University Patiala	2014	5.0	Neetu Singh
5	Tailoring of Nanostructure for Reversible Hydrogen Storage: Molecular Simulation as a Guiding Tool	UGC	2013-2015	6.0	Sudhir K Singh
6	Investigation of Hydrodynamics and RTD of Pulp Digester Using Radiotracer Technique	DAE-BRNS, BARC, Mumbai	2014–17	21.38	Dr. Avinash Chandra Dr. H. Bhunia Dr.P.K. Bajpai
7	Synthesis and characterization of high capacity adsorbents for CO ₂ capture	DST	2014–17	25.34	Dr. H. Bhunia Dr.P.K. Bajpai
8	Development of non-ecotoxic polyolefins with controlled environmental degradation by using high energy radiation and pro-oxidants	DAE-BRNS, BARC, Mumbai	2014–17	19.90	Dr. H. Bhunia Dr.P.K. Bajpai

2. Ph.D. Awarded

S. No.	Name of scholar	Name of supervisor	Thesis Title	Date of Completion
1	Surajit Sengupta	P. K. Bajpai; H. Bhunia; Asit Kumar Das (RIL).	Studies on CO ₂ capture using adsorption from simulated refinery flue gas	05-06-2015

3. Publications (SCI Journals)

Sr. No.	Title of paper	Author(s)	Journal name and other details	Impact factor
1	A review on sugar industry wastewater: sources, treatment technologies, and reuse	J. P. Kushwaha	Desalination and Water Treatment 2015; 53 (2); 309-318	1.173
2	Modeling and evaluation of electro-oxidation of dye wastewater using artificial neural networks	P. Kaur, V. K. Sangal, J. P. Kushwaha	RSC Advances; 2015; 5; 34663-34671	3.840
3	Design of Binary Polymeric Coatings for Minimizing the Residual Solvent Part I: Experimentation	Chitresh Kumar Bhargava and Raj Kumar Arya	Drying Technology, 33, 92 – 102, 2015	1.723
4	Drying of Ternary Polymeric Solution Coatings – Comparative Simulation Study	Raj Kumar Arya and Chitresh Kumar Bhargava	Progress in Organic Coatings, 78, 155 – 167, 2015	2.600
5	Generalized Pinch Analysis Scheme Using MATLAB	Kshitij Tiwari, Sumit Agrawal, and Raj Kumar Arya	Chemical Engineering & Technology, 38, 530 – 536, 2015	2.442
6	Simulation of a Plant Scale Reactive Distillation Column for Esterification of Acetic Acid	Singh D., Gupta Raj Kumar, and Kumar V.	Computers and Chemical Engineering 73, 70-81, 2015	2.452
7	Experimental investigation on heat transfer analysis of conical coil heat exchanger with 90° cone angle	Purandare Pramod S., Lele Mandar, Gupta, R.K.	Heat and Mass Transfer, Volume 51, Issue 3, pp 373-379, March 2015.	0.946
8	Discontinuity Analysis for the Treatment of Nonlinear Lumped-Parameter Systems for Singular Inputs	Ahuja S.	Theor. Found. Chem. Eng., 49, 512-521, 2015.	0.576
9	Experimental Investigation on Adsorption of Amido Black 10B Dye onto Zeolite Synthesized from Fly Ash	A. Garg, M. Mainrai, V.K. Bulasara, S. Barman	Chemical Engineering Communications, Vol. 202 (1), p. 123–130 (January 2015)	1.104
10	Preparation of low-cost microfiltration membranes from fly ash	G. Singh, V.K. Bulasara	Desalination and Water Treatment, Vol. 53 (5), p. 1204–1212 (February 2015)	1.173
11	Adsorption characteristics of jackfruit leaf powder for the removal of Amido black 10B dye	A.K. Ojha, V.K. Bulasara	Environmental Progress & Sustainable Energy, Vol. 34 (2), p. 461–470 (March 2015)	1.403
12	Optimization of Photocatalytic Process Parameters for the Degradation of Acrylonitrile Using Box Behnken Design	Priyanka Singh, Amit Dhir, V. K. Sangal	Desalination and Water Treatment, 2015, 55 (6) 1501-1508	1.173

13	Development of Nitrogen Enriched Nanostructured Carbon Adsorbents for CO ₂ Capture	Goel , C., Bhunia, H., Bajpai, P. K.	Journal of Environmental Management, 162, 20-29, 2015	2.723
14	Synthesis of Nitrogen Doped Mesoporous Carbons for Carbon Dioxide Capture	Goel , C., Bhunia, H., Bajpai, P. K.	RSC Advances, 5, 46568 – 46582, 2015	3.840
15	Mesoporous carbon adsorbents from melamine-formaldehyde resin using nanocasting technique for CO ₂ adsorption	Goel , C., Bhunia, H., Bajpai, P. K.	Journal of Environmental Sciences, 32, 238-248, 2015	2.002
16	Physico-mechanical characterization and biodegradability behavior of polypropylene/poly (L-lactide) polymer blends	Kimi Jain, Gaurav Madhu, H. Bhunia, Pramod K. Bajpai, M. Sudhakar Reddy and G. B. Nando	Journal of Polymer Engineering, 35(5), 407-415, 2015	0.456
17	Effects of adsorbent preparation method for CO ₂ Capture from flue gas using K ₂ CO ₃ Al ₂ O ₃ adsorbents	Sengupta, S., Amte, V., Dongara, R., Das, A., Bhunia, H., Bajpai, P.K.	Energy & Fuels; 29, 87–97, 2015	2.790
18	Synergistic Effects of Clay and GNPs on Electrical and Mechanical Properties of PU/GNP/OMMT Ternary Composite	Pooja Puri, Rajeev Mehta, Sunita Rattan	Journal of Optoelectronics and Advanced Materials, Vol. 17, No. 3-4, March – April 2015, p. 477 - 483	0.563
19	Pristine and amino functionalized carbon nanotubes reinforced glass fiber epoxy composites	Mohit Garg, Shruti Sharma, Rajeev Mehta	Composites Part A: Applied Science and Manufacturing Vol. 76, 2015, 92-101	3.012

4. Placement (On-Campus & Off-Campus)

- **M.Tech. Chemical Engineering:**

Ms. Mehak Bali was placed on-campus in Max India Ltd., Nawanshahr.

5. Invited Lectures

Sl. No.	Name of the Guest	Date	Invited Lecture
1	Dr. Ajay K. Dalai Professor and Canada Research Chair in Bioenergy and Environmentally Friendly Chemical Processing, University of Saskatchewan, Canada	June 5, 2015 CILP Seminar Hall	Development of Novel Carbon Nanotubes Supported Catalysts for Fisher-Tropsch and Higher Alcohol Synthesis
2	Dr. Asit K. Das Head, Refining R&D Centre Reliance Industries Limited, Jamnagar, Gujarat	June 6, 2015 CILP Seminar Hall	New Process/Product Development: Key Factors for Success

6. Post-Graduate (M.Tech.) Theses Completed:

S. No.	Title of the Thesis/Dissertation	Name of the Supervisor(s)
1	Experimental studies on entrainment characteristics of alumina-water nanofluids	Dr. D. Gangacharyulu & Dr. V. K. Bulasara
2	Adsorption of Indole and ortho-phenylenediamine on activated carbon	Dr. J. P. Kushwaha; Dr. V. K. Sangal
3	Microwave in-situ polymerization of PLA/CNT and study of its electrical conductivity	Dr. R. Mehta Dr. S.K. Ahuja
4	Removal of copper from aqueous solutions using reactive extraction	Dr. Dipaloy Datta, Dr. Avinash Chandra
5	Removal of methylene blue by advanced oxidation using Fenton's reagent and microfiltration	Dr. R.K. Gupta, Dr. Manoj Kumar
6	Carbon dioxide adsorption on metal organic framework Basolite C300	Dr. Pramod K. Bajpai Dr. Haripada Bhunia

7. Conferences Attended

S. No.	Name of the Faculty member	Name of the Conference	Place and Dates
1	D. Gangacharyulu	IEEE 10th Conference on Industrial Electronics & Applications (ICIEA 2015)	June 15-17, 2015, Auckland, New Zealand
2	Neetu Singh	CHEMCON-2014	Punjab University, Chandigarh 27th -30th Dec 2014
3	Rakesh Kumar Gupta	STP: Advances in computational heat transfer	IITD, 21-23 May 2015
4	Dr. Raj Kumar Arya	Short Term Course on Advances in Computational Heat Transfer	Department of Mechanical Engineering, IIT Delhi , India, May 21 – 23,
5	Dr. Sudhir K Singh	CHEMCON 2014	Dr. S.S. Bhatnagar University Institute of Chemical Engineering & Technology, Punjab University, Chandigarh; December 27-30, 2014.
6	Dr. V K Sangal	Short Term Course on Nanotechnology: Basics and Applications in Chemical Engineering	IIT Roorkee, June 22 - 26, 2015.
7	Dr V K Sangal	CHEMCON-2014	Punjab University, Chandigarh, Dec 27-30, 2014
8	Dr. Avinash Chandra	CHEMCON-2014	Punjab University, Chandigarh, INDIA, December 27-30, 2014
9	Dr. Avinash Chandra	CHT-15, 6th International Symposium on Computational Heat Transfer	Rutgers University, New Brunswick, NJ, USA, May 25-29, 2015.

8. Editorial Board

Dr. Rajeev Mehta has joined the Editorial Board of American Journal of Macromolecular Science, Columbia International Publishing (CIP), USA.

9. Any Other information

- Dr. Raj Kumar Gupta, Associate Professor & Head, delivered an invited talk on 'Fluidization and Liquid Mixing' at Chandigarh University, Gharuan, Punjab, on April 28, 2015.
- Dr. Rajeev Mehta, professor, received a National award for Technology Innovation in Petrochemicals & Downstream Plastics Processing Industry from Ministry of Chemicals & Fertilizers, Government of India, on Feb 21, 2015.
- The following three faculty members of the department went abroad as per the details below.

S. No.	Name of the faculty	Host University/ Organization	Nature of work	Month and Year of visit
1	Dr. D. Gangacharyulu	IEEE, Auckland, New Zealand	International Conference	June 15-17, 2015
2	Dr. Neetu Singh	College of Science and Technology, Royal University of Bhutan, Thimphu, Bhutan	International Conference	June 2015
3	Dr. Avinash Chandra	Rutgers University, New Brunswick, NJ, USA	International Conference	May, 2015