

Prof. Dr. Engr. Muddasar Habib

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Current Role

Professor in Chemical Engineering, **QEC Assessor** and **Editor Journal of Engineering and Applied Sciences (JEAS)** at University of Engg. & Tech. Peshawar, KPK, Pakistan.

Taught Courses: Introductory and advance level courses in Chemical Engineering such as, Plant Design, Transport Phenomena, Process Industries, Energy Engineering, Reaction Engineering, Heat Transfer, Mass Transfer and Communication Skills for Engineers.

Research Interests: Environmentally Conscious, Sustainable and Clean Processing systems.

Education and Qualifications

28, November 2006 – 18, July 2011 – University of Nottingham, UK.

PhD. Chemical Engineering supervised by Prof. Nick J. Miles.

Thesis: Designing and Assessing a Novel Vertically Vibrated Particle Separator. This course has provided me a comprehensive understanding of processing fine particulate materials such as multicomponent solid waste mixtures (e.g. WEEE and Compost) and critical scale up issues associated with these separation systems.

- Developed research methodology, report writing, presentation and communication skills.
- Developed and validated a Discreet Element (DEM) and fluid Model for the vibration induced separation of micron sized particles.
- Designed and developed a test rig for the micron sized particle separation in the presence of air only.
- Reviewed solid waste mechanical separation technologies.
- Involved in liaising with industry for commercialisation.
- Overviewed solid waste environmental laws, standards and WEEE directives.
- Demonstrated my work to the internal and external audience.

September 2004-05 – Loughborough University, UK.

M.Sc. Advanced Process Engineering with Distinction.

Dissertation: Mixing in Conical Based Pharmaceutical Reactors Equipped with Retreat Curve Impellers.

Relevant Modules:

- *Concepts of Chemical Product Design*: The module included the development of a chemical product through generic design process from product planning to testing and manufacturing stage.
- *Hazard Identification, Consequence Analysis and Risk Assessment*: The study focused on inherent safety, HAZOP, logic trees, material release, dispersion, fire and explosions.

Other modules: Batch Separations and Downstream Processing, Heterogeneous Catalysis, Colloid Engineering, Applied Engineering Practice.

**September, 1995-00 – NWFP University of Engg. & Tech. Peshawar, Pakistan.
B.Sc. Chemical Engineering, 1st/A.**

This degree made the basis of my theoretical knowledge and laboratory practices in Chemical Engineering.

Relevant Modules: Heat & Mass Transfer, Chemical Reaction Engineering, Thermodynamics, Plant Design, Maintenance Engineering, Process Optimization, Petrochemical Engineering, Unit Operations & Unit Processes.

Awards

- Overseas Research Student Scholarship & The University of Nottingham Award (2006-2010) in Ph.D. Chemical Engineering at The University of Nottingham, UK.
- Department for International Development Scholarship (2004-2005) in M.Sc. Advanced Process Engineering at Loughborough University, UK.
- Merit Scholarships in my B.Sc. Chemical Engineering Degree and Higher Secondary School Certificate Examination.

Membership of Professional Bodies

- Life member of Pakistan Engineering Council.
- The Institution of Chemical Engineers (IChemE) accredited degrees.
- Student member chartered Institution of Waste Management, UK.

Other Skills and Courses Attended

March, 2002- February, 2003: Certificate in Office Automation, e-Commerce, C++ and Visual Basic. Microsoft office, Visio & Project.

Interests

Cricket, Football, Travelling, Newspapers, Technology news.

Other Employments

Feb. 2018 to date	Working as a Professor and QEC Assessor in the Department of Chemical Engineering at University of Engineering and Technology, Peshawar, Pakistan.
May 2016 to date	Working as Editor, Journal of Engineering and Applied Sciences (JEAS) (HEC Recognised Category-X)

May. 2016 to Feb. 2018	Worked as an Associate Professor and QEC Assessor in the Department of Chemical Engineering at University of Engineering and Technology, Peshawar, Pakistan.
Dec.2011 to May. 2016	Worked as Assistant Professor and QEC Assessor in the Department of Chemical Engineering at University of Engineering and Technology, Peshawar, Pakistan.
August 2002 to Nov. 2011	Worked as a Lecturer in the Department of Chemical Engineering at University of Engineering and Technology, Peshawar, Pakistan.
Nov. 2008	Worked with Johnson Matthey PLC, UK on the commercialization of my PhD project.
Nov. 2006 to July 2011	Worked as Exam. Invigilator, Student Ambassador & Laboratory Demonstrator at University of Nottingham, UK.
Jan. To March 2001	Trainee Process Engineer, ICI Soda Ash Limited. Pakistan.
Jan 2001 to Aug. 2002	Worked as Process Design Engineer at Mobashir Engineering Private Ltd., Peshawar.
Aug. 1995 to Dec. 2000	Worked as Marketing Assistant with Marketing Research link Pvt. Ltd., Karachi, Pakistan.

Journal Publications

1. Sohaib, Q., **Habib**, M., Habib, U., (2017), "Fast pyrolysis of locally available green waste at different residence time and temperatures", *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, Accepted Manuscript, Article in Press.
2. Adnan, Z., Mir, S., **Habib**, M., (2017) "Exhaust gases depletion using non-thermal plasma (NTP)", *Atmospheric Pollution Research*, Vol. **8** (2), pp. 338-343, <http://dx.doi.org/10.1016/j.apr.2016.10.005>.
3. Khan, M, I., Shakoor, A., Azam, K., Muhammad, R., **Habib**, M., Shah, S, A., Khan, A., (2016) "Experimental and Numerical Analysis of Nanoindentation of Ti-6246 alloy", *Particulate Science and Technology*, Accepted Manuscript.
4. **Habib**, M., Sohaib, Q., Ullah, A., Habib, U., and Khan, A., (2016), "Mechanical strength evaluation of composites made from Waste Printed Circuit Boards (PCBs)" *Particulate Science and Technology*, Vol. **34**, Issue 3, pp. 301-307, **DOI**:10.1080/02726351.2015.1075638
5. Farid, O., Mansour, F., **Habib**, M., Robinson, J., and Tarleton, S., (2015), "Investigating the sorption influence of poly (vinyl alcohol) (PVA) at different crosslinking content", *Journal of Environmental Chemical Engineering*, Vol. 4, Issue 1, pp.293-298. DOI: <http://dx.doi.org/10.1016/j.jece.2015.08.007>
6. Ullah, A., **Habib**, M., Khan, S.W., Ahmad, M,I., Starov, V.M., (2015) "Membrane oscillation and oil drop rejection during produced water purification", *Separation and Purification Technology*, Vol.**144**, pp.16-22. <http://dx.doi.org/10.1016/j.seppur.2015.02.022>

7. **Habib**, M., Miles,N.J., Mohabuth,N.B., Hall,P., Fan,X., and Parker, D.J., (2014) "PEPT investigation of particle separation in a novel vertically vibrated particle separator" *32*, Vol.**32**, Issue-1, pp.28-38. DOI:10.1080/02726351.2013.79136
8. **Habib**, M., Habib, U., Ahmad, J., Mohabuth, N.B., Langston, P., Miles, N.J., Hall, P., (2014), "Discrete Element Modelling (DEM) of the vertically vibrated particle bed" *Particulate Science and Technology*, Vol. 32, Issue-3, pp.1-18. DOI:10.1080/02726351.2013.855685.
9. Ahmad, J, Deshmukh, K., **Habib**, M., Hägg, M.B., (2014), "Influence of TiO₂ nanoparticles on the morphological, thermal and solution properties of PVA/TiO₂ nano-composite membranes", *The Arabian Journal for Science and Engineering (AJSE)*. Vol **39**, pp.6805–6814, DOI 10.1007/s13369-014-1287-0
10. **Habib**, M., Miles, N.J., Hall, P., (2013), "Recovering metallic fractions from waste electrical and electronic equipment by a novel vibration system", *Waste Management*, Vol.**33**, pp.722-729, DOI: <http://dx.doi.org/10.1016/j.wasman.2012.11.017>
11. **Habib**, M., Miles, N.J., Habib, U., Hall, P., (2013), "Separation of dry particulate mixtures by controlled vertical vibration" *Particulate Science and Technology*, Vol.**31**, Issue-6, pp.555-560. DOI:10.1080/02726351.2013.782935
12. Rielly, C.D., **Habib**, M., Sherlock, J. P., (2007), "Flow and mixing characteristics of a retreat curve impellor in a conical based vessel", *Trans IChemE, Part A Chemical Engineering Research and Design*, **85**(A7), pp.953-962
13. Memon, A.R, Andresen, J., **Habib**, M., Jaffar, M., (2013) "Simulated sugar factory wastewater remediation kinetics using algal-bacterial raceway reactor promoted by Polyacrylate polyalcohol", *Bioresource Technology*, Vol. **157**, pp.37-43, DOI: <http://dx.doi.org/10.1016/j.biortech.2014.01.047>
14. **Habib**, M., Habib, U., Memon, A.R., Amin, U., Khan, A., Hasan, N., Ali, S., and Karim, Z., (2013), "Predicting colloidal fouling of tap water by slit density index (SDI): Pore blocking in a membrane process" *Journal of Environmental Chemical Engineering*, Vol. **1**, Issue-1, pp. 33-37. DOI: <http://dx.doi.org/10.1016/j.jece.2013.03.005>
15. Ahmed, M.I., **Habib**, M., Habib, U., Hai, A., and Khan, A.U., (2016), "Analysis and Treatment of Tannery Waste Water by Using Combined Filtration and Coagulation Treatment Process", *Proceedings of the Pakistan Academy of Sciences: B. Life and Environmental Sciences*, Vol. **53**, No.(3): pp. 179–183 (2016) ISSN: 2518-4261 (print), ISSN 2518-427X (online)
16. Sohaib, Q., Soomro, N., **Habib**, M., Memon, A.R., Tariq, U., (2015), "Comparative Analysis of Recycled PVC composites reinforced with nonmetals of printed Circuit Boards" *Sindh University Research Journal*, Vol. **47** (3), pp.431-436. ISSN 1813-1743.
17. Khan. A.U., Memon, A.R., **Habib**, M., Khan, S.S., Habib, U., (2014), "Characterization of Indigenously Developed KPK Coal Briquettes" *Sindh University Research Journal*, Vol. **46** (4), pp. 515-520. ISSN 1813-1743.
18. **Habib**, M., Habib, U., Memon, A.R., Amin, M.U., Ullah, N., Khan, A.U., Naveed, S., Khurram, M., and Ali, S., (2013), "Mixing characteristics in a conical based

- pharmaceutical reactor fitted with a retreat curve impellor”, Sindh University Research Journal, Vol. **45** (2), pp. 365-372. ISSN 1813-1743.
19. **Habib**, M., Khan, A.U., Memon, A.R., Habib, U., (2013)“ Production of indigenous Khyber Pukhtunkhwa (KPK) coal briquettes: combustion and disintegration strength analysis”, Pak. J. Anal. Environ. Chem. Vol. **13**, No. 1, pp. 68-74. ISSN-1996-918X.
 20. **Habib**, M., Habib, U., Memon, A.R., Khan, A.U., Rehman, Z., Zeb, A., Moeed, A., Pasha, M.K., (2013)., “Bio-chemicals derived from waste: Building on the concept of a bio-refinery” Pak. J. Anal. Environ. Chem. Vol. **14**, No.2, pp.1-7. ISSN-1996-918X.
 21. **Habib**, M., Ahmed, J., Jaffar, M., Habib, U., Memon, A.R., Mohabuth, N.B., Kaka Khel, T.A., Khalil, F.K., Abbasi, F., and Nisar, M.H., (2014), “Experimental investigation of power draw, solid suspension, and liquid mixing with a retreat curve impellor in a conical base vessel” Proceedings of the Pak. Academy of Sciences, Vol. **51**, No.1, pp.31-42.
 22. ARBAB, A., SOOMRO, N., **HABIB**, M., (2013), “Effect of Process Parameters and Bath Composition on the Dyeing of Cotton in Catalases Treated Bleaching Bath”, Sindh University Research Journal, Vol. 45 (4), pp. 711-714. ISSN 1813-1743.
 23. **Habib**, M., Memon, A.R., Habib, U., Khan, A., Amin, U., Naveed, S., and Ali, S., (2012), “Energy-efficient and environmentally sound technique of emulsification and phase inversion for producing stable droplets–application of membrane emulsification to polymerization: A review” Pak. J. Anal. Environ. Chem. Vol. **13**, No. 2, pp. 1-16. ISSN-1996-918X.
 24. Memon, A.R., Memon, N.A., **Habib**, M., (2012), “End-of-pipe waste water disposal and quality comparison of old and new sugar mills in Sindh”, Quaid-e-Awam University Research Journal of Engineering, Science & Technology, Vol.11, Issue-2. pp.1-7. ISSN 1605-8607.
 25. Arshad, M., **Habib**, M., Bano, S., (2015), “ Designing and Assessment of a Dry Based Physical Separator for Recovery of Metal Fractions from Used Tyres”, International Journal of Science and Research (IJSR), Volume **4** Issue 11, pp.1110-1117.
 26. Habib, U., Khan, A.U., **Habib**, M., (2013), “Compressive strength and heating values evaluation of the indigenous coal briquettes of Pakistan (KPK Province)”, Int. Journal of Res. Rev., Vol. **5**, no.7, pp.126-133.
 27. **Habib**, U., Habib, M., and Khan, A.U., (2013) “Factors Influencing the Performance of Coal Briquettes”, Walailak Journal of Science & Technology, Vol. **11**, Issue-1, pp.1-5.

Conferences

1. Participated and Presented in **2nd Editor’s Cafe Conference** at Pakistan Academy of Sciences Islamabad on 21 November, 2016.
2. Participated and Presented in **6th Invention to Innovation Summit**, 16-17 Nov. 2016, at University of Engineering and Technology Peshawar, KPK.
3. Participated and Presented in **5th Invention to Innovation Summit**, 3-4 Nov. 2015, at University of Haripur, KPK.

4. Presented in "**2nd International Conference on power generation systems and renewable energy technologies**" 10-11/06/2015, International Islamic University, Islamabad.
5. Participated in Introduction to **WEEE and EPR conference** held at Wolverhampton University UK on 22/01/2015.
6. Participated and presented in **2nd Sustainability in Process Industries Conference** in University of Engg. and Tech. Peshawar, Pakistan (22/05/2014).
7. Invited Lecture on "**Sustainable Resource Recovery and Recycling**", ICAMS & ICIEM 2014, held at Leeds, UK, 15-17Aug. 2014.
8. Participated and presented in **1st International Coal Conference** in Mehran University of Engg. and Tech. Jamshoro, Sindh, Pakistan (7-9 Nov. 2013).
9. Participated and presented in **1st Sustainability in Process Industries Conference** in University of Engg. and Tech. Peshawar, Pakistan (10/08/2012).
10. Poster presentation at **Process and Environmental Engineering Research Conference** held on 29th of June 2009 at the University of Nottingham, UK.
11. Participated and presented in **Tackling Waste 2007, A WARMNET Conference**, University of Nottingham, UK, 4 and 5th July 2007.
12. **Habib, M., Rielly, C.D. and Sherlock, J. P., (2006), "Power draw, solids suspension and liquid mixing with a retreat curve impeller in a conical-based vessel", *Proceedings of 12th European Conference on Mixing, 27-30 June 2006, Bologna, pp.279-286, ISBN 88-901915-9-7.***

Reviewer

1. The Journal of Chemical Engineering (I.F=3.473), Print ISSN: 1385-8947
 2. The Journal of Environmental Engineering and Management (I.F=1.0), Print ISSN:1582-9596 eISSN: 1843-3707
 3. The Polish Journal of Chemical Technology.
 4. Particulate Science and Technology (I.F=0.5)
 5. Journal of the Taiwan Institute of Chemical Engineering (I.F 3.0)
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