
ADNAN



Assistant Professor

Institute of Chemical Sciences, University of Swat,
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EDUCATION

Degree	Year	Department	Institution
Ph.D. (Analytical Chemistry)	2014	Institute of Chemical Sciences	University of Peshawar, Peshawar, Pakistan
M.Sc. (Analytical/Inorganic Chemistry)	2007	Department of Chemistry	Hazara University, Mansehra, Pakistan
B.Sc. (Physical & Biological Sciences)	2004	Govt. Post Graduate Jehanzeb College	University of Malakand, Dir Lower, Pakistan
F.Sc. (Biological Sciences)	2002	Govt. Post Graduate Jehanzeb College	Board of Intermediate & Secondary Education, Swat, Pakistan
S.S.C. (Science)	2000	Govt. Higher Secondary School, Mingora, No.2	Board of Intermediate & Secondary Education, Swat, Pakistan

RESEARCH INTERESTS

- Catalysis
- Waste to valuable chemicals and fuels
- Method development for the determination of toxicants
- Alternate energy production
- Carbon dioxide capture and utilization
- Nano-size particle technology
- Removal of heavy metals, dyes or other toxicant from aqueous media using degradation or adsorption.

RESEARCH PROJECTS COMPLETED

1. Start of Grant Project

Studies on The Co-Pyrolysis of Polystyrene with other Municipal Plastic Wastes into Valued Products using Supported Catalysts.

2. PhD Project

Studies on Impregnated Catalysts for Conversion of Waste Expanded Polystyrene into Value Added Hydrocarbons.

3. IRSIP Project (Columbia University, USA Project)

Synthesis and Characterization of active (Polyethylenimine) impregnated supports (like Zeolite Y) as adsorbent for CO₂ Capture.

4. M.Phil. Start of Project

Method development of spectrophotometric and spectrofluorometric determination of pesticides (like pyroxysulam) in commercial formulations and its applications to the real samples (like wheat grains).

WORK EXPERIENCE

Institution: Institute of Chemical Sciences, University of Swat

Designation: Assistant Professor

Duration: February 12, 2015 up to Date

Address: Swat 19130, Khyber Pakhtunkhwa, Pakistan

Job Description: Demonstrating and elaborating various aspects of Analytical Chemistry. Concise lecture delivering and doing practical procedures in analytical chemistry to the graduate students. Interactive discussions, presentation, seminar and symposia as a part of carrier. Doing research in analytical and environmental chemistry sector with the motive to relief our environment for better future and renewable energy sources.

Institution: HIRA MODEL SCHOOL

Designation: Subject Specialist (Chemistry)

Duration: February 01, 2005 to December 10, 2005

Address: Gulkada No. 2, Saidu Sharif, Swat 19130, Khyber Pakhtunkhwa, Pakistan.

Job Description: Teaching of chemistry and doing relevant practicals to the undergraduate students. Additional supervisory duty as Warden of the hostel of the same institute.

LIST OF PUBLICATIONS

1. Kausar Shaheen, Zarbad Shah*, Behramand Khan, Adnan, Muhammad Omer, Muhammad Alamzeb, and Hongli Suo* Electrical, Photocatalytic, and Humidity Sensing Applications of Mixed Metal Oxide Nanocomposites, ACS Omega, 5(13), 7271–7279 (2020).
2. Muhammad Naeem Khan, Waqar Ali, Zarbad Shah, Muhammad Idrees, Hussain Gulab, **Adnan**, A Validated Spectrofluorimetric Method for the Determination of Moxifloxacin in its Pure Form,

- Pharmaceutical Preparations and Biological Samples, *Analytical Sciences* (<https://doi.org/10.2116/analsci.19P370>) (**Accepted**)
3. Jasmin Shah, Muhammad Rasul Jan, **Adnan**, Metal Decorated Montmorillonite as a Catalyst for the Degradation of Polystyrene, *Journal of Taiwan Institute of Chemical Engineers*, 80, 391-398 (2017).
 4. Adnan, Jasmin Shah, Muhammad Rasul Jan, Recovery of Valuable Hydrocarbons from Waste Polystyrene Using Zinc Supported Catalysts, *Journal of the polymer and the Environment*, 25(3), 759-769 (2017).
 5. Javed Nawab, Sharafat Ali, **Adnan**, Ubaid Ur Rehman, Akbar Ali Khan, Muhammad Sajjad and Wajid Khan, Health risk associated with heavy metals via consumption of surface and groundwater in District Shangla, Pakistan, *Journal of Himalayan Earth Sciences* 48(2), 62-73 (2015).
 6. Jasmin Shah, Muhammad Rasul Jan, **Adnan**, Tertiary recycling of waste polystyrene using magnesium impregnated catalysts into valuable products, *Journal of Analytical and Applied Pyrolysis* 114, 163-171 (2015).
 7. Jasmin Shah, Muhammad Rasul Jan, **Adnan**, Muhammad Zada, Effect of Carbon Supported Metals on the Tertiary Recycling of Waste Expanded Polystyrene, *Journal of Process Safety and Environmental Protection* 96, 149-155 (2015).
 8. **Adnan**, Jasmin Shah, Muhammad Rasul Jan, Effect of polyethylene terephthalate on the pyrolysis of polystyrene using supported catalyst; investigation of the liquid products, *Journal of the Taiwan Institute of Chemical Engineers* 51, 96-102 (2015).
 9. **Adnan**, Jasmin Shah, Muhammad Rasul Jan, Polystyrene Degradation Studies using Cu Supported Catalysts, *Journal of Analytical and Applied Pyrolysis* 109, 196-204 (2014).
 10. Jasmin Shah, Muhammad Rasul Jan, **Adnan**, Catalytic Activity of Aluminium Impregnated Catalysts for the Degradation of Waste Polystyrene, *International Journal of Chemical, Nuclear, Metallurgical and Materials Engineering* 8(4) 344-350 (2014).
 11. **Adnan**, Jasmin Shah, Muhammad Rasul Jan, Thermo-Catalytic Pyrolysis of Polystyrene in the Presence of Zinc Bulk Catalysts, *Journal of the Taiwan Institute of Chemical Engineers* 45, 2494-2500 (2014).
 12. Jasmin Shah, Muhammad Rasul Jan, **Adnan**, Conversion of Waste Polystyrene through Catalytic Degradation into Valuable Products, *Korean Journal of Chemical Engineering* 31(8), 1389-1398 (2014).
 13. Jasmin Shah, Muhammad Rasul Jan, **Adnan**, Catalytic activity of metal impregnated catalysts for degradation of waste polystyrene, *Journal of Industrial and Engineering Chemistry* 20 (5) 3604-3611 (2014).

PAPERS IN PREPARATION

Note: In the following some paper will be combined from two or three.

1. **Adnan**, Jasmin Shah, Muhammad Rasul Jan, Saddam Hussain, Degradation of Polystyrene – Review.
2. **Adnan**, Shadab, Zavia, Jasmin Shah, Fatima Khitab, Photo catalytic degradation of Methylene Blue in aqueous solution using Cu impregnated ZnO catalysts.
3. **Adnan**, Nisar, Hanzala, Jasmin Shah, Studies on Ni impregnated ZnO catalyst for the removal of malachite green from aqueous solutions.
4. Adnan, Kalsoom, Jasmin Shah, Degradative removal of methythyonium chloride from aqueous solutions in the presence of Cr/ZnO catalyst.
5. **Adnan**, Shaheen Zeb, Ubaidullah, Jasmin Shah, photocatalytic enhanced degradation of methyle violet with Ni/ZnO supported catalyst
6. **Adnan**, Muhammad Omar, Mehboob Alam, Nawab Ali Khan, Jasmin Shah, studies on Fe/Al₂O₃ photocatalyst for the decomposition of methylene blue in aqueous solution.
7. **Adnan**, Muhammad Omar, Shaukat Aziz & Muhammad Farooq, Jasmin Shah, adsorption studies on the removal of metanil yellow from aqueous solution using pistachio shell carbonized magnetic nanoparticles.
8. **Adnan**, Rahimullah, Akhtar Ali, Asaf Khan, photo degradation of 4-nitrophenol in aqueous solution using fenton reagent.
9. **Adnan**, Fazlur Rehman, Inayatullah, removal of toxic phenols from aqueous solutions using supported photocatalysts.
10. **Adnan**, Israel Khan, Shahab Khan, synthesis of niobium pentoxide (Nb₂O₅) based catalyst with iron (Fe), copper (Cu) and manganese (Mn).
11. **Adnan**, Jasmin Shah, Muhammad Rasul Jan, Cracking of Waste Expanded Polystyrene using Supported Fe Catalysts, (**In preparation**)
12. **Adnan**, Jasmin Shah, Muhammad Rasul Jan, Thermo-Catalytic Decomposition of Waste Polystyrene Plastic using Aluminium bulk catalyst, (**In preparation**)
13. **Adnan**, Jasmin Shah, Muhammad Rasul Jan, Catalytic degradation of waste expanded polystyrene using Cu, CuO and CuCl₂ catalysts. (**In preparation**)
14. **Adnan**, Jasmin Shah, Muhammad Rasul Jan, Study of Expanded Polystyrene Pyrolysis using Iron bulk Catalysts. (**In preparation**)

AWARDS & HONORS

1. Awarded fellowship for PhD Studies under Indigenous 5000 PhD Fellowship Program of Higher Education Commission (HEC) of Pakistan at Institute of Chemical Sciences, University of Peshawar, Peshawar, Pakistan under HEC Personal identification number (PIN): 106-1039-Ps6-033 awarded via letter No. 17-5-6(Ps6-033)/HEC/Sch/2010, Dated: June 09-2011.

2. Awarded International research grant to US under International Research Support Initiative Program (IRSIP) of Higher Education Commission (HEC) of Pakistan for 6 month research at Department of Earth and Environmental Engineering, Columbia University, New York, NY, USA under HEC Personal identification number (PIN): IRSIP 24 PS 13 awarded via letter No. 1-8/HEC/HRD/2013/2807, Dated: July 26-2013.
3. Awarded internship as Assistant Professor on TTS Interim Placement Program of Fresh PhD's (IPFP) at Institute of Chemical Sciences, University of Swat, Swat, Khyber Pakhtunkhwa, Pakistan awarded via letter No. 2541/IPFP/HRD/HEC/2016/559, Dated: February 11-2015.
4. Awarded research grant under Start-Up Grant of PKR. 0.5 Million for fresh Assistant Professor appointed on TTS having title, "Studies on Impregnated Catalysts for the Conversion of Waste Expanded Polystyrene into Value Added Hydrocarbons" granted by Higher Education Commission (HEC) of Pakistan awarded via letter No. 21-445 SRGP/R&D/HEC/2014, Dated: June 3, 2015.

COUNTRIES TRAVELLED

USA A six months (from 22-10-2013 to 22-04-2014) visit for research to *the Earth and Environmental Engineering, Columbia University, In the City of New York, NY, USA.*

RESPONSIBILITIES

- Coordinator BS program
- Coordinator MPhil program
- Member graduate studies committee, ICS, UoS
- Member board of studies, ICS, UoS
- Member purchase committee of ICS, UoS
- Member admissions committee, ICS, UoS
- Member curriculum development of ICS, UoS
- Member departmental semester committee of ICS, UoS

CONFERENCES/SYMPOSIUM PAPERS

S.No	Subject	Details
01.	Title of the paper	Conversion of Waste Polystyrene into Value Added Products using Catalytic Degradation
	Invited for	Poster Presentation

	Name of the event	2 st Spring Research Poster Symposium-2011
	Date	March 9, 2011
	Venue & Organized by	Lawn of Institute of Chemical Sciences, University of Peshawar, Peshawar, Khyber Pakhtunkhwa, Pakistan.
	Sponsoring agency	Institute of Chemical Sciences, University of Peshawar
02.	Title of the paper	Catalytic Degradation of Polystyrene into Value Added Products
	Invited for	Poster Presentation
	Name of the event	10 th International & 22 nd National Chemistry Conference
	Date	21 st -23 rd November, 2011
	Venue & Organized by	Agricultural University, Faisalabad
	Sponsoring agency	The Chemical Society of Pakistan & USDA
03.	Title of the paper	Catalytic Degradation of Polystyrene into Value Added Products
	Invited for	Poster Presentation
	Name of the event	National Centre of Excellence in Physical Chemistry One Day Research Poster Symposium
	Date	22 nd December, 2011
	Venue & Organized by	NCE in PC UOP, Peshawar
	Sponsoring agency	NCE in PC UOP, Peshawar
04.	Title of the paper	Catalytic Degradation of Polystyrene into Value Added Products
	Invited for	Poster Presentation
	Name of the event	3 rd Spring Research Poster Symposium-2012
	Date	7 th March, 2012
	Venue & Organized by	Institute of Chemical Sciences, University of Peshawar
	Sponsoring agency	Institute of Chemical Sciences, University of Peshawar
05.	Title of the paper	Waste Expanded Polystyrene into Selected Valuable Products Through Catalytic Degradation
	Invited for	Oral Presentation
	Name of the event	2nd Symposium on Recent Trends in Indigenous Chemical Research and Awareness on Data Presentation Skills
	Date	July 01-05, 2012
	Venue & Organized by	Baragali Summer Campus, University of Peshawar, Baragali, Abbottabad.
	Sponsoring agency	Institute of Chemical Sciences, University of Peshawar and Funded by Higher Education Commission of Pakistan.
06.	Title of the paper	Degradation of Polystyrene with Magnesium Impregnated on Alumina and Charcoal for the Recovery of Selected Hydrocarbons
	Invited for	Oral Presentation
	Name of the event	11 th International and 23 rd National Chemistry Conference
	Date	October 15-17, 2012
	Venue & Organized by	National Center of Excellence in Physical Chemistry, University of Peshawar, Khyber Pakhtunkhwa, Peshawar.
	Sponsoring agency	The Chemical Society of Pakistan & USDA
07.	Title of the paper	Effect of polyethylene terephthalate on the catalytic pyrolysis of polystyrene: Investigation of the liquid products
	Invited for	Poster Presentation

	Name of the event	RCN-CCUS workshop and annual meeting
	Date	March 9, 2014
	Venue & Organized by	CEPSR Building, Columbia University, 500 West, 120th Street, New York 10027, NY, USA.
	Sponsoring agency	Lanfest Centre of Sustainable Energy, Earth and Environmental Engineering, Columbia University, SW Mudd, 500 West, 120th Street, New York 10027, NY, USA.
08.	Title of the paper	Effect of polyethylene terephthalate on the catalytic pyrolysis of polystyrene: Investigation of the liquid products
	Invited for	Oral Presentation
	Name of the event	25 National & 13 International Chemistry Conference
	Date	October 20-22, 2014
	Venue & Organized by	Institute of Chemistry, University of the Punjab, Quid-i-Azam Campus, Lahore 54590, The Punjab, Pakistan.
	Sponsoring agency	The Chemical Society of Pakistan
09.	Title of the workshop	Writing Effective Post-Doctoral Research Proposal Relevant to National Needs
	Invited for	Participation
	Name of the event	HEC-Post Doctoral Fellowship Program
	Date	Thursday, 17 th December, 2015
	Venue & Organized by	Convocation Hall, University of Malakand, Chakdara, Dir Lower, Khyber Pakhtunkhwa, Pakistan
	Sponsoring agency	Higher Education Commission of Pakistan
10.	Title of the paper	Catalytic Degradation of Municipal Waste Expanded Polystyrene using Cu, CuO and CuCl₂ Catalysts
	Invited for	Oral Presentation
	Name of the event	Second International Conference on Energy and Environment
	Date	April 12-14, 2016
	Venue & Organized by	Department of Physics, Allama Iqbal Open University, Islamabad, Pakistan
	Sponsoring agency	Department of Physics
11.	Title of the paper	Catalytic Degradation of Municipal Waste Expanded Polystyrene using Cu, CuO and CuCl₂ Catalysts
	Invited for	Oral Presentation
	Name of the event	27 th National and 15 th International Chemistry Conference
	Date	22-25.08.2016
	Venue & Organized by	Department of Chemistry, University of Malakand, Dir Lower, Khyber Pakhtunkhwa, Pakistan
	Sponsoring agency	The Chemical Society of Pakistan
12.	Title of the paper	Quantitative Research Methods and Applications
	Invited for	Participation
	Name of the event	One Day Workshop
	Date	27-06-2018
	Venue & Organized by	Fizagat, Swat
	Sponsoring agency	University of Bunir
13.	Title of the presentation	Possible Remedial Measures Against Environmental Degradation,
	Invited for	Invited Speaker
	Name of the event	One Day Seminar
	Date	18-12-2018

	Venue & Organized by Sponsoring agency	Govt. Afzal Khan Lala Degree College, Matta, Swat, Khyber Pakhtunkhwa, Pakistan Pak Army
14.	Title of the presentation	Possible Ways to Keep the Environment Clean & Green (Clean and Green Pakistan)
	Invited for Name of the event Date Venue & Organized by Sponsoring agency	Invited Speaker One Day Seminar 21-12-2018 PTCL Hall, Sector C, University of Swat Institute of Agricultural Sciences & Forestry, University of Swat
15.	Title of the presentation	Organic Contaminants & Their Remedies - Studies on Advanced Materials
	Invited for Name of the event Date Venue & Organized by Sponsoring agency	Invited Speaker One Day Seminar 28-12-2018 PTCL Hall, Sector C, University of Swat Institute of Chemical Sciences, University of Swat
16.	Title of the conference	Nanomaterials: New Trends in Development and Application
	Invited for Name of the event Date Venue & Organized by Sponsoring agency	Participant Conference 29 to 31-01-2019 Forman Christian College University Conference, Lahore, Punjab, Pakistan. Department of Chemistry and Department of Pharmacy, Forman Christian College University
17.	Title of the conference	30th National & 18th International Chemistry Conference on Recent Trends in Chemistry
	Invited for Name of the event Date Venue & Organized by Sponsoring agency	Participant Conference 27 to 29-11-2019 University of Management and Technology, Lahore, Punjab, Pakistan. Pakistan Chemical Society, Department of Chemistry University of Management and Technology, Lahore

REFERENCES

01. **Dr. Behramand**

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02. **Dr. Ihsan Ullah**

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03. **Dr. Muhammad Omer**

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