



# Dr. Ikram Ahmad

Assistant Professor in Chemistry, University of Sahiwal, Pakistan, 57000.

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A highly successful PhD chemist with in-depth chemistry knowledge, excellent research and publishing skills specifically in the **nano-material synthesis their characterisation and application as heterogeneous catalysis, photocatalysis and making the material retrievable by using different polymeric supports with more than 12 years of teaching experience too. I am Editor of 5 Elsevier books and have 127+ impact factor of my published articles. During last 4 years I have produced 2 Ph.D. 17 MS/M.Phil. Students as supervisor.** I am highly motivated, determined & productive research scientist used to work under the pressure of deadlines either independently or as a part of a research team. I am now seeking to further develop my career with collaboration of excellent group or supervisor as postdoc researcher. For my research and expertise please visit my researchgate and google scholar IDs as given below;

<https://www.researchgate.net/profile/ikram-Ahmad-3>

<https://scholar.google.com/citations?user=pAjz15sAAAAJ&hl=en>



## Skills

- Nano-chemistry.
- Nano-materials
- Catalysis
- Photocatalysis
- Analytical & inorganic synthesis
- Material chemistry
- Structure elucidation using modern analytical techniques.
- Experienced with instruments like Mass, IR, NMR spectrometer, HRTEM, SEM, EDS, XRD, XPS, TGA & HPLC.
- Expert in using Origin-8, Sigmaplot & Chemdraw.
- Expert in multistep synthesis
- Demonstrated skill in lab and project management.
- Research supervision (placement, BS, M. Chem PhD & project students)
- Highly proficient in spoken and written English, Urdu, Arabic and Punjabi.
- Excellent IT skills
- PhD in Chemistry
- Demonstrated skill in leadership, team building and achieving results through influence and negotiation.
- Demonstrated ability to plan, prioritize and manage multiple, complex, time sensitive projects.
- Strong technical and functional skills.
- Strong written and oral communication skills.
- Result driven problem-solving skills.
- Team oriented and independent worker with a drive for success.



## Research Projects

- KAU Creators (International, Worth 0.1 million SAR)**
  - Detection, degradation and transformation of organic pollutant by retrievable zerovalent Nickel (Ni) nanoparticle assisted by microwave oven; a green nanomaterial synthesis method. (Principal Investigator) [Completed].

## 🏠 SRGP (Awarded, Worth 0.5 million PKR)

- 🏠 A green approach for Silver nanoparticles synthesis and its application for environmental remediation. (Ongoing).



## Educational Achievements

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- 🏠 Highest QEC ranking as Assistant Professor in GCUF 2017-2018
- 🏠 Excellent Teacher Award 2008 Superior Group of Colleges
- 🏠 BEST TEACHER 2006 LGS
- 🏠 Won PhD Scholarship from King AbdulAziz University Jeddah (Availed)
- 🏠 Won PhD Scholarship from Chinese Academy of Science.
- 🏠 Awarded PhD Scholarship from University of Science and Technology of China.



## Research Publications (Books & Manuscripts with total published Impact, 127+)

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- 🏠 Textiles and Clothing: Environmental Concerns and Solutions, Jul **2019**, **Scrivener Publishing** (Wiley).
  - 🏠 Remediation of Textile Effluents via Physical and Chemical Methods for a Safe Environment
  - 🏠 The Impact and Prospects of Green Chemistry for Textile Technology. **The Textile Institute Book Series 2019**, Pages 1-20
  - 🏠 Nanomedicine manufacturing and application (**Elsevier micro and nanotechnology**), Paperback ISBN: 9780128207734  
<https://www.elsevier.com/books/nanomedicines-manufacturing-and-applications/verpoort/978-0-12-820773-4>
  - 🏠 Sodium alginate base nanomaterials for wastewater treatment (**Elsevier micro and nanotechnology**)
  - 🏠 Nanomaterial base metal organic framework as single atom Catalysis (**Elsevier micro and nanotechnology**)
  - 🏠 Sodium Alginate base composite material for target Drug Delivery (**Material Research, USA, LLA Publisher**).
1. Ahmad, I.; Khan, S. B.; Asiri, A. M.; Arshad, M. N.; Khan, S. A. La–Sn Oxide Nanocatalyst: Efficient Materials for the Synthesis of Cyclohexanones. *J. Mol. Liq.* **2016**, *224*, 359–365.
  2. Ahmad, I.; Kamal, T.; Khan, S. B.; Asiri, A. M. An Efficient and Easily Retrievable Dip Catalyst Based on Silver Nanoparticles/Chitosan-Coated Cellulose Filter Paper. *Cellulose* **2016**, *23* (6), 3577–3588.
  3. Khan, S. A.; Khan, S. B.; Asiri, A. M.; Ahmad, I. Zirconia-Based Catalyst for the One-Pot Synthesis of Coumarin through Pechmann Reaction. *Nanoscale Res. Lett.* **2016**, *11* (1).
  4. Kamal, T.; Ahmad, I.; Khan, S. B.; Asiri, A. M. Synthesis and Catalytic Properties of Silver Nanoparticles Supported on Porous Cellulose Acetate Sheets and Wet-Spun Fibers. *Carbohydr. Polym.* **2017**, *157*, 294–302.
  5. Ahmad, I.; Khan, S. B.; Kamal, T.; Asiri, A. M. Visible Light Activated Degradation of Organic Pollutants Using Zinc–Iron Selenide. *J. Mol. Liq.* **2017**, *229*, 429–435.
  6. Ahmad, I.; Arshad, M. N.; Rahman, M. M.; Asiri, A. M.; Sheikh, T. A.; Aqlan, F. M. Crystal Structure of N'-[(E)-(2-Hydroxynaphthalen-1-Yl) Methylidene] Benzenesulfonohydrazide (HNMBSH) and Its Application as Pb<sup>2+</sup> Ion Sensor by Its Fabrication onto Glassy Carbon Electrode. *Inorganica Chim. Acta* **2017**, *467*, 297–306.
  7. Qamar, M. T.; Aslam, M.; Rehan, Z. A.; Soomro, M. T.; Ahmad, I.; Ishaq, M.; Ismail, I. M. I.; Fornasiero, P.; Hameed, A. MoO<sub>3</sub> Altered ZnO: A Suitable Choice for the Photocatalytic Removal of Chloro-Acetic Acids in Natural Sunlight Exposure. *Chem. Eng. J.* **2017**, *330*, 322–336.

8. Kamal, T.; Ahmad, I.; Khan, S. B.; Asiri, A. M. Agar Hydrogel Supported Metal Nanoparticles Catalyst for Pollutants Degradation in Water. *Desalin. Water Treat.* **2018**, *136*, 290–298.
9. Aslam, M.; Qamar, M. T.; Ahmed, I.; Rehman, A. U.; Ali, S.; Ismail, I. M. I.; Hameed, A. The Suitability of Silicon Carbide for Photocatalytic Water Oxidation. *Appl. Nanosci.* **2018**, *8* (5), 987–999.
10. Aslam, M.; Qamar, M. T.; Ali, S.; Rehman, A. U.; Soomro, M. T.; Ahmed, I.; Ismail, I. M. I.; Hameed, A. Evaluation of SnO<sub>2</sub> for Sunlight Photocatalytic Decontamination of Water. *J. Environ. Manage.* **2018**, *217*, 805–814.
11. Gulzar, T.; Farooq, T.; Kiran, S.; Ahmad, I.; Hameed, A. Green Chemistry in the Wet Processing of Textiles. *Impact Prospect. Green Chem. Text. Technol.* **2018**, 1–20.
12. Gulzar, T.; Farooq, T.; Kiran, S.; Ahmad, I.; Hameed, A. Green Chemistry in the Wet Processing of Textiles. In *The Impact and Prospects of Green Chemistry for Textile Technology*; Elsevier, 2019; pp 1–20.
13. Pervaiz, M.; Ahmad, I.; Yousaf, M.; Kirn, S.; Munawar, A.; Saeed, Z.; Adnan, A.; Gulzar, T.; Kamal, T.; Ahmad, A.; Rashid, A. Synthesis, Spectral and Antimicrobial Studies of Amino Acid Derivative Schiff Base Metal (Co, Mn, Cu, and Cd) Complexes. *Spectrochim. Acta - Part A Mol. Biomol. Spectrosc.* **2019**, *206*, 642–649.
14. Zaman, A. uz; Ahmad, I.; Pervaiz, M.; Ahmad, S.; Kiran, S.; Khan, M. A.; Gulzar, T.; Kamal, T. A Novel Synthetic Approach for the Synthesis of Pyrano[3,2-c] Quinolone-3carbaldehydes by Using Modified Vilsmeier Haack Reaction, as Potent Antimicrobial Agents. *J. Mol. Struct.* **2019**, *1180*, 227–236.
15. Kiran, S.; Nosheen, S.; Abrar, S.; Javed, S.; Aslam, N.; Afzal, G.; Ahmad, I.; Ijaz, F. Remediation of Textile Effluents via Physical and Chemical Methods for a Safe Environment. *Text. Cloth. Environ. Concerns Solut.* **2019**, 191–234.
16. Kamal, T.; Ahmad, I.; Khan, S. B.; Asiri, A. M. Bacterial Cellulose as Support for Biopolymer Stabilized Catalytic Cobalt Nanoparticles. *Int. J. Biol. Macromol.* **2019**, *135*, 1162–1170.
17. Rizwan, K.; Khan, S. A.; Ahmad, I.; Rasool, N.; Ibrahim, M.; Zubair, M.; Jaafar, H. Z. E.; Manea, R. A Comprehensive Review on Chemical and Pharmacological Potential of Viola Betonicifolia: A Plant with Multiple Benefits. *Molecules* **2019**, *24* (17).
18. Kamal, T.; Ahmad, I.; Khan, S. B.; Ul-Islam, M.; Asiri, A. M. Microwave Assisted Synthesis and Carboxymethyl Cellulose Stabilized Copper Nanoparticles on Bacterial Cellulose Nanofibers Support for Pollutants Degradation. *J. Polym. Environ.* **2019**, *27* (12), 2867–2877.
19. Kamal, T.; Ahmad, I.; Khan, S. B.; Asiri, A. M. Anionic Polysaccharide Stabilized Nickel Nanoparticles-Coated Bacterial Cellulose as a Highly Efficient Dip-Catalyst for Pollutants Reduction. *React. Funct. Polym.* **2019**, 145.
20. Ahmad, I.; Ahmad, A.; Iftekhhar, S.; Khalid, S.; Aftab, A.; Abbas Raza, S. Role of Nanoparticle in Cosmetics Industries. *Biol. Synth. Nanoparticles Their Appl.* **2020**, 173–204.
21. Siddique, K.; Hussain, S.; Shahid, M.; Shahzad, T.; Mahmood, F.; Sadak, O.; Gunasekaran, S.; Kamal, T.; Ahmad, I. Comparative Efficacy of Biogenic Silver Nanoparticles Synthesized by *Pseudochrobactrum* Spp. C5 and Chemically Synthesized Silver Nanoparticles for Catalytic Degradation of Methylene Blue and 4-Nitrophenol Dyes. *Int. J. Agric. Biol.* **2021**, *25* (1), 201–210.
22. Ahmad, I.; Nascimento, J. H. O. do; Tabassum, S.; Mumtaz, A.; Khalid, S.; Ahmad, A. Hydrogel Scaffold-Based Fiber Composites for Engineering Applications. *Hybrid Fiber Compos.* **2020**, 307–350.
23. Aravind, M.; Ahmad, A.; Ahmad, I.; Amalanathan, M.; Naseem, K.; Mary, S. M. M.; Parvathiraja, C.; Hussain, S.; Algarni, T. S.; Pervaiz, M.; Zuber, M. Critical Green Routing Synthesis of Silver NPs Using Jasmine Flower Extract for Biological Activities and Photocatalytic Degradation of Methylene Blue. *J. Environ. Chem. Eng.* **2021**, *9* (1).
24. Saleem, M.; Irfan, M.; Tabassum, S.; Albaqami, M. D.; Javed, M. S.; Hussain, S.; Pervaiz, M.; Ahmad, I.; Ahmad, A.; Zuber, M. Experimental and Theoretical Study of Highly Porous Lignocellulose Assisted Metal Oxide Photoelectrodes for Dye-Sensitized Solar Cells. *Arab. J. Chem.* **2021**, *14* (2).
25. Thou, C. Z.; Khan, F. S. A.; Mubarak, N. M.; Ahmad, A.; Khalid, M.; Jagadish, P.; Walvekar, R.; Abdullah, E. C.; Khan, S.; Khan, M.; Hussain, S.; Ahmad, I.; Algarni, T. S. Surface Charge on Chitosan/Cellulose Nanowhiskers Composite via Functionalized and Untreated Carbon Nanotube. *Arab. J. Chem.* **2021**, *14* (3).

26. Raees, A.; Jamal, M. A.; Ahmed, I.; Silanpaa, M.; Algarni, T. S. Synthesis and Characterization of CeO<sub>2</sub>/CuO Nanocomposites for Photocatalytic Degradation of Methylene Blue in Visible Light. *Coatings* **2021**, *11* (3).

27. Ahmad, I.; Jamal, M. A.; Iftikhar, M.; Ahmad, A.; Hussain, S.; Asghar, H.; Saeed, M.; Yousaf, A. Bin; Karri, R. R.; Al-Kadhi, N. S.; Ouladsmame, M.; Ghfar, A.; Khan, S. Lanthanum-Zinc Binary Oxide Nanocomposite with Promising Heterogeneous Catalysis Performance for the Active Conversion of 4-Nitrophenol into 4-Aminophenol. *Coatings* **2021**, *11* (5).



## Poster Presentation & Conference attendance

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- Attended **“Royal Society of Chemistry’s Second Gulf Symposium on Design and Application of Advanced Materials”** in King Abdul Aziz University Jeddah Kingdom of Saudi Arabia on Thursday 4<sup>th</sup> December 2014.
- Attended a four days’ workshop with the participation of University of Rostock, Germany entitled: **“Molecular Structure and Dynamics III (Theoretic approaches for X-ray Spectra)”** in King Abdul Aziz University Jeddah Kingdom of Saudi Arabia from 14<sup>th</sup>-17<sup>th</sup> December 2014.
- Attended a workshop entitled **“Direct Catalytic Decomposition of Nitrous Oxide: New Horizons”** in King Abdul Aziz University Jeddah Kingdom of Saudi Arabia on 25<sup>th</sup> October 2015.
- Attended a four days Symposium entitled **“Solar Future Symposium”** in King Abdullah University of Science and Technology (KAUST). Kingdom of Saudi Arabia from 8<sup>th</sup>–11<sup>th</sup> November 2015.
- Poster presented entitled **“Enormously proficient La-Sn based nanocatalysts for the formation of versatile functionalized Cyclohexanones”** at the 1<sup>st</sup> International Conference on Applied Chemistry-ICAC 2015 18<sup>th</sup> & 19<sup>th</sup> November 2015, King Abdul Aziz University Jeddah Kingdom of Saudi Arabia.
- Poster presented entitled **“Synthesis, crystal structure of N'-[(E)-(3-hydroxynaphthalen-2-yl)methylidene]benzenesulfonohydrazide (HNMBSH) and its applications in metal complexation”** at the 1<sup>st</sup> International Conference on Applied Chemistry-ICAC 2015 18<sup>th</sup> & 19<sup>th</sup> November 2015, King Abdul Aziz University Jeddah Kingdom of Saudi Arabia.
- Attended **“Synthesis of cyclic peptides natural products using “traceless chemical ligation”** in King Abdul Aziz University Jeddah Kingdom of Saudi Arabia on 4<sup>th</sup> April 2016.
- Oral presentation entitled **“Easily retrievable silver nanocatalysts supported by different polymeric materials.”** At Eighth scientific Forum for King Abdul Aziz Students 7<sup>th</sup>, December, 2016.
- Poster presented entitled **“Decontamination of water by using SnO<sub>2</sub> as sunlight photocatalyst”** at Conference on “Changing Paradigms of Wastewater Treatment –From Waste to Resource 27<sup>th</sup>–29<sup>th</sup> March 2017, KAUST Research Conference 2017, Jeddah Kingdom of Saudi Arabia.



## Education

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- June 2017**      **Doctor of Philosophy**      **King Abdul Aziz University, Jeddah** — Saudi Arabia  
My PhD dissertation was based on the *“Design & synthesis of metallic and bimetallic nano-catalysts for photo degradation and organic transformations”*
- March 2012**      **M.Phil. Chemistry**      **Govt. College University** Faisalabad, Pakistan  
Obtained Master of Philosophy in Chemistry (18 years Masters) qualification from Govt. College University, Faisalabad, Pakistan in 2012. During my time there I worked on a research project *“Synthesis and characterisation of sterically encumbered stilbene based optical brightening agents”*.

I obtained two years Master's in chemistry (16 years Masters) qualification from Govt. College University, Faisalabad, Pakistan in 2008. My masters research project was "Antibacterial activity of ether extract of *Mentha arvensis L.* extracted via steam distillation.



## Research & Teaching Experience

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- **Jan 2019 — To date Assistant Professor University of Sahiwal, Sahiwal — Pakistan**
  - Teaching Inorganic chemistry, Organometallics, Pi-Acceptor Ligands, Magneto-chemistry, Inorganic Polymers and Nanochemistry to MS & BS classes. Laboratory practical courses and research supervision of BS and MS Students. Currently supervising 3 MPhil research students. Previously, 9 researchers completed their BS research under my supervision.
- **Feb 2019 — Jan 2020 Assistant Professor University of Lahore (UOL)— Pakistan**
  - Taught Inorganic chemistry, Organometallics, Pi-Acceptor Ligands, Magneto-chemistry, Inorganic Polymers and Nanochemistry to MS & BS classes. Laboratory practical courses and research supervision of BS and MS Students. 6 M.Phil. & 11 BS researchers completed their research under my supervision in UOL.
- **Sep 2017 — Sep 2019 Assistant Professor Govt. College University (GCUF) Faisalabad, Pakistan**
  - Taught Inorganic chemistry, Organometallics, Pi-Acceptor Ligands, Magneto-chemistry, Inorganic Polymers and Nanochemistry to MS & BS classes. Laboratory practical courses and research supervision of BS, MS & Ph.D. Students. 2. Ph.D., 1M.Phil. & 16 BS researchers completed their research under my supervision in GCUF.
- **Sep 2011 — June 2014 Chemistry Lecturer (Visiting) King Saud University, Riyadh — Saudi Arabia**
  - Taught basic and general chemistry
  - Demonstrated use of practical equipment, conducted experiments, exercises, workshops and/or processes and answered questions related to those demonstrations.
  - Assisted students with their practical exercises, ran day-to-day operation of the lab, ensured health and safety protocols are being followed to maintain a safe working environment.
- **Mar 2011 — Jun 2014 Chemistry Teacher Sager International School, Riyadh — Saudi Arabia**
  - Taught students of A-levels & O-levels (Cambridge & Oxford) building blocks of physics, chemistry and biology as well as advanced concepts and tricks to simplify processes.
  - Aligned teaching techniques and devised personalised support strategies to help students with differing ability levels and grasp of materials.

⬡ **Sep 2013 – Sep 2014 Chemistry Lecturer Shiblee College of Science & Commerce, Faisalabad –**  
Pakistan

- ⬡ Engaged and enthused students in diverse chemistry principles and theoretical concepts.
- ⬡ Prepared and implemented lesson plans covering required course topics.
- ⬡ Led interesting and diverse group activities to engage students in course material.
- ⬡ Utilised multimedia strategies and technology to convey information in fresh and interesting ways.

⬡ **Nov 2013 – Apr 2014 Lecturer in Chemistry (Visiting) Axis College of Science & Commerce –**  
Faisalabad

- ⬡ Taught chemistry to intermediate (A-levels) students.
- ⬡ Carefully prepared laboratories for chemistry experiments, ensuring necessary structures were in place for optimised student safety.
- ⬡ Created comprehensive curriculum resources, aiding student understanding and competence in various chemistry principles.
- ⬡ Engaged and enthused students in diverse chemistry theories and methods.

⬡ **Jan 2010 – Mar 2011 Section head & Chemistry Lecturer Lahore Giants School—** Faisalabad, Pak

- ⬡ Main duties included leading a substantial academic section and associated staff within the school
- ⬡ Developed the research and teaching activities within the section.
- ⬡ Managed/monitored resources for the section, as delegated by the Head of School
- ⬡ Managed the section's daily affairs
- ⬡ Taught chemistry to O-levels and A-level students.

⬡ **Jan 2010 – Mar 2011 Principal Lahore Giants School—** Faisalabad, Pak

- ⬡ Main responsibilities were to develop standardized curricula, to assess teaching methods, monitor student achievement, encourage parent involvement, revise policies and procedures, administer the budget, hire and evaluate staff and oversee facilities.



## References

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- ⬡ **Prof. Dr. Abdullah Asiri** King Abdulaziz University, SA email: [aasiri2@kau.edu.sa](mailto:aasiri2@kau.edu.sa)
- ⬡ **Dr. M. Amin Abid** University of Sahiwal, Pak email: [mabiduet@gmail.com](mailto:mabiduet@gmail.com)
- ⬡ **Dr. Sher Bahadur Khan** King Abdulaziz University, SA email: [drkhanmarwat@gmail.com](mailto:drkhanmarwat@gmail.com)