Dr. Shamaila Sajjad (Tenured Professor)

Dynamic professional with 14+ years' experience as an academician and researcher in materials synthesis, specializing in nano-composite material, Quantum Dots, Ceramics, 2D Materials, Graphene composites, Solar harvesting, Photo- catalysis, Energy storage, Photocatalysis, Renewable energy and Conversion technologies. Experienced energy scientist with a focus on cutting-edge 2D materials and ceramics for energy storage technologies. Proficient in designing and implementing innovative solutions for energy conversion and storage. Skilled in the synthesis and development of advanced nanomaterials for electrochemical energy storage devices and environment. Committed to driving sustainable energy solutions through continuous research and development.

Institute: Center for Interdisciplinary Research in Basic Sciences, FoS**,** International Islamic University Islamabad
Present Position: Professor (Tenured)/**Chairperson from 2014-2017**
Email: shamaila.sajjad@iiu.edu.pk

Professional Career Highlights

1: PhD scholar in East China university of Science and Technology, Shanghai, China	February 2008 - March2011
2: IPFP Assistant Professor, Department of Physics, IIUI, Islamabad	June 2011-May 2012
3: Assistant Professor, Department of Physics IIUI, Islamabad	May 2012-May 2018
4: Associate Professor, Department of Physics IIUI, Islamabad	May 2018-November 2023
5: Professor, Center for Interdisciplinary Research in Basic Sciences, IIUI, Islamabad	November 2023-To Date
6: Chairperson of the department	**August 2014- September 2017**

Academia

Ph.D: PhD is funded by HEC overseas Scholarship. 2008- 2011
Thesis Title: Synthesis, characterization and applications of Nanomaterials in the field of Photocatalysis.
East China University of Science and Technology Shanghai, China
Throughout 1st class academics career (Matric, F.Sc, B.Sc, and M.Sc).

Languages

1. English: 6 months German language certificate to achieve proficiency
2. Chinese, Chinese 3 month's language certificate from ECUST, China

Funded projects

1. Startup-research grant of **0.5 million** by Higher Education Commission of Pakistan. Titled as Fabrication and characterization of visible light responsive semiconductor Nano composites for environmental applications, , Successfully completed 2nd March 2013- 27th March 2015
2. Grant of **12.0 million** by Higher Education Commission of Pakistan under NRPU program. Title: Development of Low cost routes for modifications of nanomaterials for efficient utilization in photochemical catalytic water splitting., Successfully completed 2016-2022
3. Grant of **0.5 million** by International Islamic University, Pakistan Titled as Study of degradation parameters by tungsten trioxide based photocatalysts, 30th June 2016- 02nd December 2017

Awards and honors

- Among Top 2% Scientists Worldwide 2023 by Stanford University and Elsevier.
- Dr. Shah Jahan **Gold Medal** in Emerging Technologies by Pakistan Academy of Sciences in 2015.
- The research paper selected by Editors of Elsevier as a valuable contribution to their **Virtual Special Issue on the *Earth Day***.
- Selected among **Dynamic Women Researcher of Pakistan** by Pakistan Council Science and Technology in 2013.
- Selected among **Most Productive Scientist of Pakistan** by Pakistan Council Science and Technology in 2013 and 2016.

- **Overseas Scholarship** 2008-11 for Ph. D in ECUST, Shanghai China from HEC, Pakistan
- The **Best Publication Award of 2010** in the East China University of Science and Technology China.
- **Best Scholar Award** of the University of East China University of Science and Technology 2011.
- The paper published in Applied Catalysis B Environmental is selected in the **Top 25 hottest papers**.
- The paper published in Mater. Res. Bull is selected in the **Top 25 hottest papers**.
- The paper published in Chem. A Eur. J. is selected in the **hot Topic of "Mesoporous Materials.**
- The review published in Energy Environ. Sci. (2010): is selected in the **Top ten most-read papers**.
- The paper published in Chemical Engineering Journal (2011): is selected in the **Top 25 hottest papers.**
- A review article (2016): in Chemical Engineering Journal is **most downloaded article in Chemical Engineering *Journal.***

Research Skills

Characterization Techniques

XRD, TEM, SEM, BET, X-ray Photoelectron Spectroscopy, Thermo gravimetric Analysis, Raman spectroscopy, FTIR, UV-Visible Diffused Reflectance Spectroscopy, BET surface Area, Total Organic Carbon Analyzer, PL Spectroscopy, Electron Paramagnetic Resonance Spectroscopy, Energy Dispersive X-ray Spectroscopy, AFM, FTIR, EIS studies.

Research skills

Expertise in the fabrication and characterization of highly efficient visible light semiconductor nano-materials and their composites (Titanium dioxide, Bismuth oxide, Tungsten oxide, Silica, Alumina, Cerium oxide, Iron oxide, Zinc oxide, Copper oxide etc.). Graphene based composite materials, Quantum dots composites, Synthesis of 2D materials, MoS_2, Synthesis of random and ordered meso-porous materials for environmental clean-up, Doping of semiconductor metal oxides via wet chemical methods, sol-gel, hydrothermal, solvothermal, ultra-sonication, Microwave assisted methodologies, wet chemical method, spectroscopic methods, Quantum dots composite materials, Composite materials for dye sensitized solar cells (DSSC), GO/AgO composite for antimicrobial activities, Ceramics composites, Energy storage materials.

Academic Activities

- Establishment of undergraduate laboratories in female campus Department of Physics, FoS, IIUI.
- Establishment of nanotechnology laboratory granted by National Research for Pakistani Universities awarded by HEC i.e. project of worth 11.8 M PKR for department of Physics Female Campus, IIUI.

Curriculum Development of programs

MS/ PhD level Nanoscience and Engineering degree Programs in University 2022
Developed curriculum and course outlines of BS (4 years) degree program in Chemistry 2023

List of Written and Taught Courses at MS/ PhD level

1. Physics at nanoscale
2. Synthesis techniques of nanomaterials
3. Experimental techniques of nanomaterials
4. Nano based materials and their applications
5. Nanostructured Materials
6. Non-conventional energy resources
7. Nano structural characterization techniques
8. Nano chemistry
9. Growth of nanostructured materials
10. Growth of nanostructured materials
11. Basics of Nano science
12. Nano chemistry

Professional Trainings

1: **5-days Supervisor Capacity Building Course** held in Marriott hotel, Islamabad by Coventry University UK, British Council and HEC. 12th June -18th June 2023

2: **5-days Master Trainers Supervisor Capacity Building -** held in Marriott, Islamabad by Coventry University UK, British Council and HEC.7th August -11th August 2023

3: **5-days Advanced level Supervisor Capacity Building Training- held in Coventry University UK**.4th August -8th March 2024.

Publications

List of Publications IF= 500 h-index=31 i-10 index=52 Citations=4000
Total number of publications = 63
Publications as corresponding Author = 44
Publications from supervised MS/PhD Students = 40

Google Scholar Link. https://scholar.google.com/citations?user=S_Sf1PAAAAAJ&hl=en
Scopus: https://www.scopus.com/authid/detail.uri?authorId=57195223625
ORCID ID: https://orcid.org/0000-0002-8739-3788View this author's ORCID profile

1. **S. Shamaila,** A.K.L. Sajjad, F. Chen, J. Zhang, Bi Doped Ordered Mesoporous TiO_2 Visible Light Catalyst for Simultaneous Degradation of Phenol and Chromium **Chem. A Eur. J**. 16 (2010) 13795-13804. **IF=5. 236**
2. **S. Shamaila,** A.K.L. Sajjad, F. Chen, J. Zhang, Study on highly visible light active Bi_2O_3 loaded ordered mesoporous titania. **Appl. Catal. B Environ.** 94 (2010) 272- 280. **IF=24. 319**
3. **S. Shamaila,** A.K.L. Sajjad, F. Chen, J. Zhang, Synthesis and characterization of mesoporous-TiO_2 with enhanced photocatalytic activity for the degradation of chloro-phenol **Mater. Res. Bull.** 45 (2010) 1375-1382. **IF=5.600**
4. **S. Shamaila,** A.K.L. Sajjad, F. Chen, J. Zhang, WO_3/BiOCl a novel heterojunction as visible light photocatalyst. **Journal of Colloid and Interface Science**. 356 (2011) 465–472 **IF=9.965**
5. **S. Shamaila,** A.K.L. Sajjad, F. Chen, J. Zhang, Mesoporous titania with high crystallinity during synthesis by dual template system as an efficient photocatalyst. **Catalysis Today,** 175 (2011) 568-575. **IF=6.562**
6. A.K.L. Sajjad, **S. Shamaila,** B. Tian, F. Chen, J. Zhang, One step activation of WO_x/TiO_2 nanocomposites with enhanced photocatalytic activity**. Appl. Catal. B Environ.** 91 (2009) 397- 405. **IF=24. 319**
7. A.K.L. Sajjad, **S. Shamaila,** B.Tian, F. Chen, J. Zhang, Comparative studies of operational parameters of degradation of azo dyes in visible light by highly efficient WO_x/TiO_2 photocatalyst **J. Hazard. Mater.** 177 (2010) 781- 791. **IF=14.224**
8. J. Zhang, Y. Wu, M. Xing, A.K.L. Sajjad, **S. Shamaila,** Development of modified N doped TiO_2 photocatalyst with metals, nonmetals and metal oxides. A review; **Energy Environ. Sci.** 3 (2010) 715 –726. **IF= 39.714**
9. A.K.L. Sajjad, **S. Shamaila,** F. Chen, J. Zhang, WO_3/TiO_2 composite with morphology change via hydrothermal template-free route as an efficient visible light photo catalyst. **Chemical Engineering Journal,** 166 (2011) 906-915. **IF=16.744**
10. A.K.L. Sajjad, **Shamaila Sajjad*,** J. Zhang, Study of new states in visible light active W, N co-doped TiO_2 photo catalyst. **Material Research Bulletin**. 47 (2012) 3083–3089 **IF=5.600**
11. A.K.L. Sajjad, **Shamaila Sajjad*,** J. Zhang, Tungstate/titanate composite nanorod as an efficient visible light photo catalyst, **Journal of Hazardous Material.** 235– 236 (2012) 307–315 **IF=14.224**
12. **Shamaila Sajjad*,** A.K.L. Sajjad, J. Zhang, 'Nonstoichiometric Bi_2O_3: Efficient Visible Light Photocatalyst'. **RSC Adv**., 3 (2013) 1363–1367 **IF=4.036**
13. **Shamaila Sajjad*,** A.K.L. Sajjad, J. Zhang, Copper impregnated ionic liquid assisted mesoporous titania: visible light photocatalyst**. RSC Adv**. 3 (2013) 12678–12687 **IF=4.036**
14. A.K.L. Sajjad, **Shamaila Sajjad*,** J. Zhang, Large mesoporous microspheres of WO_3/TiO_2 composite with enhanced photocatalytic activity**. RSC Adv**. 3 (2013) 15354–15361 **IF=4.036**
15. A.K.L. Sajjad, **Shamaila Sajjad*,** A time saving and cost effective route for metal oxides activation. **RSC Adv**. 4 (2014)

5248–5253 **IF=4.036**

16. **Shamaila Sajjad*,** A.K.L. Sajjad, Anum Iqbal, Modifications in development of graphene oxide synthetic routes, A review; **Chemical Engineering Journal,** 294 (2016) 458–477 **IF= 16.744**
17. **Shamaila Sajjad*,** A. K. L. Sajjad, N.-ul-A. Ryma, S. A. Farooqi, N. Jabeen, S. Majeed, I. Farooq, Advancements in nanoparticle fabrication by hazard free eco-friendly green routes, **Applied Materials Today** 5 (2016) 150–199, **IF=8.663**
18. N. Jabeen, Q. Maqbool, **Shamaila Sajjad,** A. Minhas, U. Younas, S. Anwaar, M. Nazar, R. Kausar, S. Z. Hussain, Biosynthesis and characterization of nano-silica as potential system for carrying streptomycin at nano-scale drug delivery. **IET Nnaobiotechnology**, 11 (2017) 557-561, **IF=2.050**
19. **Shamaila Sajjad*,** T. Bano, A. K. L. Sajjad, Efficient visible light magnetic modified iron oxide photocatalysts. . **Ceramic International**, 43 (2017) 14672–14677. **IF=5.532**
20. **Shamaila Sajjad*,** A. K. L. Sajjad, Quart-ul-Ain, S. Shaheen, A. Iqbal, S. Noor, G. Sughra and U. Ali, A cost effective and eco-friendly green route of efficient graphene nanosheets photocatalyst, **Journal of Environmental Chemical Engineering**, 5 (2017) 5770-5776, **IF=7.968**
21. **Shamaila Sajjad*,** A. K. L. Sajjad, A. Iqbal, Study of graphene oxide structural features for catalytic, antibacterial and gas sensing environmental applications, **ACS Applied Materials & Interfaces,** 9 (2017) 43393-43414, **IF= 10.383**
22. A. K. L. Sajjad, **Shamaila Sajjad*,** A. Iqbal, N. A. Ryma, ZnO/WO_3 nanostructure as an efficient visible light catalyst, **Ceramic International**, 44(8), (2018), 9364-9371. **IF=5.532**
23. Iqbal Anum, **Shamaila Sajjad***, and Sajjad Ahmed Khan Leghari. "Low Cost Graphene Oxide Modified Alumina Nanocomposite as Solar Light Induced Photocatalyst." **ACS Applied Nano Materials,** 1(9) (2018) 4612-4621. **IF=6.140**
24. Noor, S., **Shamaila Sajjad*,** Leghari, S. A. K., Shaheen, S., & Iqbal, A. (2018). ZnO/TiO_2 nanocomposite photoanode as an effective UV-vis responsive dye sensitized solar cell. **Materials Research Express.** 5, 9 (2018) 095905. **IF=2.025**
25. **Shamaila Sajjad*,** Mahwish Khan, A. K. L. Sajjad, N.-ul-A. Ryma, S. A. Farooqi, Potential visible light WO_3/GO composite photocatalyst" **International Journal of Applied Ceramic Technology,** 16 (2019) 1218-1227**. IF=2.328**
26. **Shamaila Sajjad*,** A. K. L. Sajjad, Nyla Jabeen, Naveeda Riaz, Mahmood Tariq, Ishaq Ahmed, Malik Maaza, Fe_3O_4 nanorods r-GO sheets nanocomposite visible photo catalyst " **Materials Research Express**, 6 (2019) 065013. **IF=2.025**
27. **Shamaila Sajjad***, Bushra Uzair, Anum Shoukat, Madeha Jamshed, Sajjad Ahmed Khan Leghari, Muhammad Ismail, Qaisar Mansoor, Synergistic evaluation of silver oxide nanoparticles with ceftriaxone against CTXM and blaSHV genes positive ESBL producing clinical strains of Uropathogenic E. coli, **IET Nanobiotechnology**, 13 (2019) 435-440. **IF=2.050**
28. **Shamaila Sajjad***, Farwa Arshad, Bushra Uzair, Sajjad Ahmed Khan Leghari, Saima Noor, GO/Ag_2O Composite Nanostructure as an Effective Antibacterial Agent, **Chemistry Select**, 4 (35) (2019) 10365-10371. **IF=2.307**
29. Saima Noor, **Shamaila Sajjad*,** Sajjad Ahmad Khan Leghari, Tariq Mahmood, Visible efficient and photo stable nanostructure of GO/CuO/m-TiO_2 ternary composite, **Materials Research Express.** 6(12) (2019) 1250d8. **IF=2.025**
30. Yumna Naz, **Shamaila Sajjad***, Sajjad Ahmed Khan Leghari, Maria Masood, Aatika Malik, Bushara Uzair, Development of green and chemical processes as eco-friendly and cost effective route for exfoliation of graphite" **Materials Research Express.** 6 (12) (2019) 125620. **IF=2.025**
31. Ghulam Sughra Jamila, **Shamaila Sajjad*,** Sajjad Ahmed Khan Leghari, Tariq Mahmood, Role of nitrogen doped carbon quantum dots on CuO nano-leaves as solar induced photo catalyst , **Journal of Physics and Chemistry of Solids**, 138 (2020) 109233, **IF=4.383**
32. Bushra Uzair, Nousheen Akhtar, **Shamaila Sajjad*,** Asma Bano, Fehmida Fasim, Naheed Zafa, Sajjad Ahmed Khan Leghari, Targeting microbial biofilms: by *Arctium lappa l* synthesized biocompatible CeO_2-NPs encapsulated in nano chitosan, **IET Nanobiotechnology**, 14(3), (2020) 217-223**. IF=2.050**
33. Ghulam Sughra Jamila, **Shamaila Sajjad***, Sajjad Ahmed Khan Leghari, Mingce Long, Nitrogen doped carbon quantum dots and GO modified WO_3 nanosheets combination as an effective visible photo catalyst**, J. Hazard. Mater.** 382 (2020) 121087. **IF=14.224**
34. Naheed Zafar, Bushra Uzair, Muhammad Bilal Khan Niazi, **Shamaila Sajjad**, Ghufrana Samin, Muhammad Javed Arshed, Sikander Rafiq, Fabrication and Characterization Of Chitosan Coated Biologically Synthesized TiO_2 Nanoparticles Against E.Coli Of Veterinary Origin" **Advances in Polymer Technology,** 2020 (2020)**. IF=2.502**
35. Rimsha. Komal, B. Uzair, **S. Shamaila**, S. Butt, A. Kanwal, I. Ahmed, N. Riaz, S.A. K. Leghari, S. Abbas, Skirmishing

MDR strain of Candida albicans by effective antifungal CeO_2 nanostructures using Aspergillus terreus and Talaromyces purpurogenus, **Materials Research Express**, 2020 (2020) **IF=2.025**

36. S. Noor, **S. Shamaila*,** A.K.L. Sajjad, C. Flox, T. Kallio, Efficient electrochemical hydrogen evolution reaction and solar activity via bi-functional GO/Co_3O_4-TiO_2 nano hybrid structure, **International Journal of Hydrogen Energy**. 35(45) (2020). 17410-17421, **IF=7.139**
37. Ghulam Sughra Jamila, **Shamaila Sajjad*,** Sajjad Ahmed Khan Leghari, Yongdan Li, Pivotal role of N and Bi doping in CQDs/Mn_3O_4 composite structure with outstanding visible photoactivity, **New Journal of Chemistry**, 44 (**2020)** 11631-11642, **IF=3. 925**
38. Saima. Noor, **Shamaila Sajjad*,** A.K.L. Sajjad, M. long, Energy harvesting for electrochemical OER and solar photo catalysis via dual functional GO/TiO_2-NiO nanocomposite, **Journal of Cleaner Production**, 277 (2020) 123280, **IF=11.072**
39. Zameela Yousaf, **Shamaila Sajjad*,** Sajjad Ahmad Khan Leghari, Maria Mehboob, Interfacial charge transfer via 2D-NiO and 2D-Graphene nanosheets combination for significant visible photo catalysis, **Journal of Solid State Chemistry**, 291 (2020) 121606. **IF=3.656**
40. Aisha Kanwal, **Shamaila Sajjad*,** Sajjad Ahmed Khan Leghari, Strong interfacial charge transfer between hausmannite (Mn_3O_4) and Al_2O_3 for efficient photocatalysis, **Chinese Journal of Chemical Engineering**, 33 (2021) 147-159, **IF=3.898**
41. Aisha Kanwal, **Shamaila Sajjad*,** S A. K Leghari, Cascade electron transfer in ternary CuO/α-Fe_2O_3/γ-Al_2O_3 nanocomposite as an effective visible photocatalyst, **Journal of Physics and Chemistry of Solids**, 151, 2021, 109899, **IF=4.383**
42. S Abid, B Uzair, MBK Niazi, F Fasim, SA Bano, N Jamil, R. Batool, **Shamaila Sajjad,** Bursting the Virulence Traits of MDR strain of C.albicans using Sodium Alginate based Microspheres Containing Nystatin Loaded MgO/CuO Nanocomposites, **International Journal of Nanomedicine, 16 (**2021) 1157**, IF=6.4**
43. Saima Noor, **Shamaila Sajjad*,** S. A. K. Leghari, C. Flox, T. Kallio, E. I Kauppinen and S. Ahmad, Electronic transitions of SWCNTs in comparison to GO on Mn_3O_4/TiO_2 nanocomposite for hydrogen energy generation and solar photocatalysis, **New Journal of Chemistry**, 45, (2021) 2431-2442, **IF=3.392**
44. Saima Noor, **Shamaila Sajjad*,** S. A. K. Leghari, C. Flox and S. Ahmad, Competitive role of nitrogen functionalities of N doped GO and sensitizing effect of Bi_2O_3 QDs on TiO_2 for water remediation**, Journal of Enviromental Sciences**, 108, (2021) 107-119 **IF=6.796**
45. Attika Malik, **Shamaila Sajjad*,** Sajjad Ahmed Khan Leghari, Youmna Naza, Maria Masood, Marvelous oleophillic adsorption ability of SiO_2/activated carbon and GO composite nanostructure using polyurethane for fast oil spill cleanup, **Applied Nanoacience**, 11(4), (2021) 1211-1223, **IF=3.869**
46. Haroon Iqbal, Anam Razzaq, Bushra Uzair, Noor Ul Ain, **Shamaila Sajjad,----**Breast cancer inhibition by biosynthesized titanium dioxide nanoparticles is comparable to free doxorubicin but appeared safer in BALB/c Mice, **Materials**, (2021), 14, 3155, **IF=3.748**
47. N. Zafar, B. Uzair, M. B. K. Niazi, G. Samin, A. Bano, N. Jamil, W.- Un-Nisa, **Shamaila Sajjad** Synthesis and Characterization of Potent and Safe Ciprofloxacin Loaded-Ag/Tio2/CS Nanohybrid against Mastitis Causing E. coli, **Crystals**, (**2021)**, 11, 319**, IF=2.670**
48. Zameela Yousaf, **Shamaila Sajjad*,** Sajjad Ahmed Khan Leghari, Saima Noor, Aisha Kanwal, Sajjad Hussain Bhatti, Khaled H Mahmoud, Zeinhom M ElBahy, Influence of integrated nitrogen functionalities in nitrogen doped graphene modified WO_3 functional visible photocatalyst, **Journal of Environmental Chemical Engineering**, (**2021)**, 9, 106746, **IF=7.968**
49. Sehrish Abbas, Bushra Uzair, **Shamila Sajjad*,** Sajjad Ahmed Khan Leghari, Saima Noor, Muhammad Bilal Khan Niazi, Ecra Farooq, Haroon Iqbal, Dual functional green facile CuO/MgO nanosheets composite as efficient antimicrobial agent and photocatalyst, **Arabian Journal for Science and Engineering, DOI:** https://doi.org/10.1007/s13369-021-05741-1, (2022) 47:5895–5909, **IF=2.807**
50. Amna Kanwal, Bushra Uzair, **Shamila Sajjad**, Ghufrana Samin, Barkat Ali Khan, Muhammad Bilal Khan Niazi, Sehrish Abbas, Sajjad Ahmed Khan Leghari, Synthesis and characterization of CDs coated $CaCO_3$ Nanocarrier for levofloxacin against MDR ESBL *E. coli*. **Microbial Drug Resistance,** (2022) 28**, IF=2.706**
51. Ghulam Sughra Jamila, **Shamaila Sajjad*,** Sajjad Ahmed Khan Leghari, C. Flox, T. Kallio, Glucose derived carbon

quantum dots on tungstate-titanate nanocomposite for hydrogen energy evolution and solar light catalysis, **Journal of Nanostructure in Chemistry,** DOI: https://doi.org/10.1007/s40097-021-00433-6, (2022) 12:611–623**, IF=8.00**

52. Tayaba Muzaffar, R. Yasmin Khosa, U. Iftikhar, R. M. Obodo, **Shamaila Sajjad**, M. Usman, Synthesis and characterization of WO_3/GO nanocomposites for antimicrobial Properties. **Journal of Cluster Science**, **DOI**: https://doi.org/10.1007/s10876-021-02116-2, (2022), 33:1987–1996 **IF=3.447**
53. Naheed Zafar, Bushra Uzair, Farid Menaa, Barkat Ali Khan, Muhammad Bilal Khan Niazi, Fatima S. Alaryani, Kamlah Ali Majrashi and **Shamaila Sajjad**, Moringa concanensis-Mediated Synthesis and Characterizations of Ciprofloxacin Encapsulated into Ag/TiO_2/Fe_2O_3/CS Nanocomposite: A Therapeutic Solution against Multidrug Resistant E. coli Strains of Livestock Infectious Diseases, **Pharmaceutics,** 2022, 14, 1719.**, IF=6.525.**
54. Ghulam Sughra Jamila, **Shamaila Sajjad*,** Sajjad Ahmed Khan Leghari, Maria Mehboob, C. Flox, Enhanced electron transport by Fe_2O_3 on NCQDs-MgO nanostructure for solar photocatalysis and electrocatalytic water splitting, **Applied Nanoscience**, 2022, 12:1815–1827**, IF=3.869.**
55. Aisha Kanwal, **Shamaila Sajjad*,** nanostructure Sajjad Ahmed Khan Leghari Photo-induced charge separation Z-scheme mechanism in ternary Bi_2S_3 coupled SnS/Al_2O_3**, New Journal of Chemistry, 2022, 46,** 18271-18284, **IF=3.869**
56. Sunble Noor, Rida Shahzadi Haider, Saima Noor**, Shamaila Sajjad*,** Sajjad Ahmed Khan Leghari, Maria Mehboob. Role of conductive channels via CQDs on NiO/g-C_3N_4 Z-scheme composite as a bi-functional Photocatalyst**, International Journal of Hydrogen Energy**, 47(86), **2022,** 36517-36529**, IF=7.139.**
57. Maria Mehboob, Rida Shahzadi Haider, **Shamaila Sajjad*,** Sajjad Ahmed Khan Leghari, Competent Two Dimensional Charge Transfer Kinetics Via Single Layered Molybdenum Sulphide with Nitrogen Doped Graphene Oxide for Water Treatment, **Journal of Cluster Science,** 34, 2023, 199-210, **IF=3.447**.
58. Sidra Anis Farooqi, Ahmad Salam Farooqi, **Shamaila Sajjad*,** Chenglin Yan, Ayodele Bamidele Victor, Electrochemical reduction of carbon dioxide into valuable chemicals: a review, Environmental Chemistry Letters, (2023) 1-35, DOI: https://doi.org/10.1007/s10311-023-01565-7, **IF=13.615**
59. Iqra Farooq, Saima Noor, **Shamaila Sajjad*,** Saman Ashraf, Saima Sadaf, Functionalization of Biosynthesized CQDs Capped AgO/ZnO Ternary Composite Against Microbes and Targeted Drug Delivery to Tumor Cells, **Journal of Cluster Science,** (2023) 1-13, DOI: https://doi.org/10.1007/s10876-023-02417, **IF=3.447**
60. Maria Mehboob, Rida Shahzadi Haider, **Shamaila Sajjad*,** Sajjad Ahmed Khan Leghari, Ghulam Sughra Jamila, Bi-functional role of high charge mobility with 2D/2D interactions for effective PEC and visible photo catalysis in NiO/MoS2 nanocomposite, **New Journal of Chemistry, 39 (2023) IF=3.869**
61. Hira Jabeen, Rida Shahzadi Haider, **Shamaila Sajjad*,** Sajjad Ahmed Khan Leghari, Advances in modifications of Ag/g-C_3N_4 for stable and effective photoanode for OER, **Optical Materials**, 145, (2023) 114376, **IF=3.754**
62. Sehrish Abbas, Bushra Uzair, Abida Raza, Shamaila Sajjad, Muhammad Bilal Khan Niazi, Chitosan encapsulation of fluconazole-loaded MgO/CuO nanocomposite for biofilm inhibition of contact lens, **Material Chemistry and Physics**, 317 (2024) 129164, **, IF=4.6**
63. Saima Noor, **Shamaila Sajjad*,** Sajjad Ahmed Khan Leghari, Ag or Ce Comparative insight on WO_3 and modified GO nanostructures as bi-functional electro and photo catalyst for energy and environmental remediation, **Journal of Physics and Chemistry of Solids** 193, (2024), 112183 **IF=4.3**
64. Rida Shahzadi Haider, **Shamaila Sajjad*,** Sajjad Ahmed Khan Leghari, M. Yaqoob Khan, Khurram Shahzad, Ashraf Y. Elnaggar, Charge dynamic interface Z-Scheme on r-GO/WO_3/α-Fe_2O_3 composite surface for hydrogen production, **Chemistry Select**, (2024) **IF=2.1**

Book and Chapters

1. S. Shamaila, A. Iqbal, S. A. K. Leghari, Book chapter entitled "Role of Metal Based Nanomaterials in Photocatalysis" to book entitled “Development and Prospective Applications of Nanoscience and Nanotechnology”“Volume 2: Nanomaterials in Environmental Applications and their Fascinating Attributes in Bentham Graham publishers 2018.
2. S. Shamaila, S. A. K. Leghari, N.-Ul-A. Ryma, S. A. Farooqi, Book chapter entitled "Green Synthesis of Metal-Based

Nanoparticles and Their Applications " to book entitled "Green Metal Nanoparticles," Volume 2, 2018 Scrivener Publishing LLC, 23-78

3. S. Shamaila*, Synthesis, characterization and applications of nanomaterials in the field of photocatalysis by Shamaila Sajjad (2011-08-26), Paperback: 176 pages, Publisher: GRIN Verlag (26 Aug. 2011), Language: English, ISBN-10: 3640986342, ISBN-13: 978-36409863

Conferences proceedings

1. 6th International Conference on Environmental Catalysis, 13-15th September 2010, Beijing China. P-096
2. Unilever-RSC International Symposium on Functional Materials Science Shanghai China. 11th November 2010.
3. Nano synthesis and assembly organized by RSC in Chicago USA on April 20-22, 2015. Visible light utilization via micro/mesoporous tungstate titanate composite.
4. 2nd International Conference on "Recent Trends in Chemistry" Oral presentation on November
5. 24-25, 2016 in Allama Iqbal Open University, Islamabad.
6. Nanotech ME 2017, on 4-6 December 2017 in World Trade Centre, Dubai
7. Workshop on "Green nanotechnology", **Invited Talk,** July 11-16 2018, International Islamic University, Islamabad
8. National conference "The current usage of nano-therapeutics and bio drugs, 12-13 December 2018, International Islamic University, Islamabad
9. Online ISCR Lab Festival 2020 organized by International Center for the study of Research, 3 December 2020
10. Attended webinar MXenes: Looking Ahead to the Next Ten Years, organized by Wiley, 18th ***October 2021***
11. Attended webinar; Eco Ma: **Green fuels from molecules around you** organized by Wiley on December 14, 2021.
12. Online Invited Lecture in Haoqiao, University, China as distinguished Professor on Mechanistic Insight into Nanocomposites Photocatalysts For Multifunctional Application, Islamabad on August 07 2024
13. 4Th Virtual **Chem Bio Talks** by Chemistry Europe, September 24, 2024

Organizer of events

14. Organizer of one day Lecture, Era of Nanotechnology, By Dr. NM Butt, Preston University, Pakistan, in 2016.
15. Organizer of convocation 11th convocation IIUI held on 13-14 March 2019.
16. Organizer of symposium on scholarship hunt held on 28 March 2019.
17. Organizer of one day symposium on Role of microbes in preventing unemployment on 08 April 2019.
18. Organizer of one day Lecture, Unraveling Advanced Materials Properties Using State of the Art Soft X-Ray Spectroscopic Techniques by Dr. Zahid Hussain Stanford University, UK on 04 May 2023.
19. Organizer one day workshop, Energizing the Future: Flexible Devices and Systems for Versatile Application, on 14 May 2024.

Students Supervision

PhD Students Supervision completed	5
PhD Students Under-Supervision	3
MS Students Supervised	67
BS Students Supervised	210
M.Sc Students Supervised	145

Professional Skills

• Reviewer of Journal of Hazardous Materials (Elsevier).	2011, 2018
• Reviewer of Journal of Applied Materials and Interface (ACS)	2014
• Reviewer of Journal of RSC Advances (RSC)	2015
• Reviewer of Journal of Songklanakarin Journal of Science and Technology	2016
• Reviewer of Journal of The European Physical Journal - Plus (Springer)	2016
• Reviewer of Journal of Nanotechnology	2016
• Reviewer of Journal of Ceramics International	2017
	2017

- Reviewer of Journal of Photochemistry & Photobiology, B: Biology 2018
- Reviewer of Journal of Chemistry Select 2018 (2)
- Reviewer of Material Research Express Reviewer of Research on Chemical Intermediates 2018
- Reviewer of Journal of Hazardous Materials (Elsevier) 2019
- Reviewer of Journal of Materials Science: Materials in Electronics 2019
- Reviewer of Micro & Nano Letters 2020
- Reviewer of Journal of Chemosphere 2020
- Reviewer of Journal of Materials Science: Materials in Electronics 2020 (3)
- Reviewer of Journal of Chemistry Select 2020
- Reviewer of Journal of Hazardous Materials (Elsevier) 2020
- Reviewer of Journal of 2D Materials (IOP) 2020
- Reviewer of Journal of IEEE Transaction nanotechnology 2020
- Reviewer of Journal of bioprocess and biosystems engineering 2021
- Reviewer of Journal of Materials Science: Materials in Electronics 2021
- Reviewer of journal of nanostructure in chemistry 2021
- Reviewer of journal of Catalysis letter 2021 (2)
- Reviewer of Journal of Materials Science: Materials in Electronics 2021
- Reviewer of Journal of Hazardous Materials (Elsevier) 2021
- Reviewer of Journal of Alloys and Compounds 2021
- Reviewer of Journal of Chemistry Select 2021
- Reviewer of Journal of Applied Surface Science 2021
- Reviewer of Journal of Applied Surface Science 2021
- Reviewer of Environmental: Nano 2022
- Reviewer of Material Research Express: 2022
- Reviewer of Inorganic and Nano-Metal Chemistry (Elsevier) 2022
- Reviewer of Journal of Hazardous Materials (Elsevier) 2022
- Reviewer of Journal of Materials Science: Materials in Electronics 2022
- Reviewer of Journal of Applied Surface Science 2022
- Reviewer of Journal of Optical Materials 2023
- Reviewer of Journal of ACS Applied materials and Interfaces (ACS) 2023
- Reviewer of Journal of Photochemistry & Photobiology, A 2023
- Reviewer of Journal of Optical Materials 2023
- Reviewer of Journal of Applied Surface Science 2023
- Reviewer of Ceramic International 2023
- Reviewer of Chemical Engineering Journal 2023
- Reviewer of Energy Conversion and Management 2023
- Reviewer of International Journal of Hydrogen Energy 2023
- Reviewer of Applied Physics A 2023
- Reviewer of Chemical Engineering Research and Design 2023
- Reviewer of Journal of Rare Earth 2023
- Reviewer of Inorganic Chemistry Communications 2024(2)
- Reviewer of Arabian Journal of Chemistry 2024
- Reviewer of Chemical Engineering Science 2024(3)
- Reviewer of Heliyon 2024(3)
- Reviewer of Plos One 2024
- Reviewer of RSC Advances 2024
- Reviewer of Inorganic Chemistry Communications 2024
- Ceramics International 2024(2)
- Reviewer of Journal of Environmental Chemical Engineering 2024
- Reviewer of Materials Research Bulletin 2024(2)
- Reviewer of Materials Science & Engineering B 2024
- Reviewer of Journal of Drug Delivery Science and Technology 2024
- Reviewer of Chemosphere 2024
- Reviewer of Surfaces and Interfaces 2024
- Reviewer of International Journal of Biological Macromolecules 2024

• Reviewer of New Journal of Chemistry	2024
• Reviewer of Optical Materials	2024
• Reviewer of Carbohydrate Polymers	2024
• Reviewer of Case Studies in Chemical and Environmental Engineering	2024
• Reviewer of Journal of Optics and Photonics Research	2024
• Reviewer of Journal of Medical Microbiology	2024
• Reviewer of Journal of Materials Science	2024
• Reviewer of Biomass and Bioenergy	2024
• Reviewer of Next Materials	2024
• Reviewer of Journal of Alloys and Compounds	2024
• Reviewer of Fuel	