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**Qualifications:**

* **Ph. D.** (Physical Chemistry/Nanomaterials) 2012 **Quaid-I-Azam University Islamabad**
* **M. Phil Chemistry**(Physical Chemistry) 2003-2005 **Quaid-I-Azam University Islamabad**
* **M. Sc Chemistry** (Physical Chemistry) 2002 **University of Peshawar**
* **B. Sc** (*Chemistry, Botany and Geography*) 2000 **University of Peshawar**
* **HSSC** (*Pre Medical)* from **(B.I.S.E) Abbottabad** 1998
* **SSC** (Science) **(B.I.S.E) Abbottabad** 1996

**Area of Interests**

* Physical Chemistry
* Synthesis and characterization of nanoparticles and magnetic semiconductors
* Kinetics studies
* Catalytic degradation
* Electrical and magnetic devices

**Publica3tionS: (Total Impact Factor ~231)**

1. Utilizing as-synthesized Reduced Graphene Oxide Decorated with Mn1−xZnxFe2−yCuyO4 Doped Magnetic Nanoparticles for Efficient Electrochemical Sensing of Paracetamol Mehboob Ur Rahman, **Rafaqat Ali Khan**, Asad Muhammad Khan, Paiboon Sreearunothai, Faheem Shah, Haji Muhammad, Ahson Jabbar Shaikh, Bushra Ismail, and Umar Noor, Journal of The Electrochemical Society, Volume 171, Page 037515, **2024 (IF:3.9)**
2. “Exploring moisture adsorption on cobalt-doped ZnFe2O4 for applications in atmospheric water harvesting”, Muhammad Ehtisham, Ahmad K. Badawi, Asad Muhammad Khan, **Rafaqat Ali Khan** and Bushra Ismail, RSC Advances, Page 6165, **2024 (IF:3.9)**
3. “*Correlation between Magnetic and Dielectric Response of CoFe2O4:Li1+/Zn2+ Nanopowders Having Improved Structural and Morphological Properties*” Mahwish Afzia, Rafaqat Ali Khan, Bushra Ismail, Magdi E. A. Zaki, Talal M. Althagafi, Abdulaziz A Alanazi, Affaq Ullah Khan, Molecules, Volume 28 (6), Page 2824 **2023** **(IF: 4.6)**
4. “*Utilization of Multivariate Optimization for Preconcentration and Determination of Lead in Different Water and Food Samples Using Functionalized Activated Carbon*”, Ahmad, Tabinda, Faheem Shah, Rafaqat Ali Khan, and Amel Y. Ahmed. Water, 15(21) 3750 **2023, (IF:3.4)**
5. “*Evaluation of binding compatibility among transition metal nanoparticles towards graphene quantum dots and their magnetic properties*”, Bakht, Khush, Aisha Ishaq, Asad Muhammad Khan, Rafaqat Ali Khan, Muhammad Bilal, Faiz Rabbani, and Ahson Jabbar Shaikh, Journal of Nanoparticles Research, 25(10) 210 **2023 (IF:2.5)**
6. "*Improved magnetic and electrical properties of transition metal doped nickel Spinel ferrite nanoparticles for prospective applications*", Usman Ahmad, Mehwish Afzia, **Rafaqat A. Khan**, Faheem Shah, Bushra Ismail, Abdur Rahim, Materials Science in Semiconductor Processing, Volume 148, Page 106830, **2022** **(IF: 4.1)**
7. "*Enhanced Visible Light Photocatalytic Performance of Sr0.3(Ba,Mn)0.7ZrO3 Perovskites Anchored on Graphene Oxide*", Warda Shahzad, Ahmad K. Badawi, Zulfiqar A. Rehan, Asad M. Khan, **Rafaqat A. Khan**, Faheem Shah, Shahid Ali, Bushra Ismail, Ceramics International, Volume 48(17), Page 24979, **2022** **(IF: 5.2)**
8. "*Supramolecular solvent based microextraction for the preconcentration of Pb2+ and Cd2+ prior to spectrophotometric detection*", Huma Zafar, Faheem Shah, **Rafaqat A. Khan**, Asad M. Khan, Jan Nisar, Bushra Ismail, Turkish Journal of Chemistry, Volume 46, Page 147-156, **2022** **(IF: 1.4)**
9. *QuEChERS sample preparation Integrated to Dispersive Liquid-liquid microextraction based on Solidified Floating Organic Droplet for Spectrometric Determination of Sudan Dyes: A Synergistic Approach*, Uzma Sulaiman, Faheem Shah, Rafaqat Ali Khan, Food and Chemical Toxicology, Volume 159, Page 112742, **2022 (IF: 5.2)**
10. "*Preconcentration of Rifampicin Prior to its Efficient Spectroscopic Determination in the Water Samples based on Non-ionic surfactant*", Afaqullah Khan, [F. Shah](http://old.cuiatd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=618), [**Rafaqat A. Khan**](http://old.cuiatd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=329), [B.Ismail](http://old.cuiatd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=23), [Asad M. Khan](http://old.cuiatd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=328), Haji Muhammad, Turkish Journal of Chemistry, Volume 45, Page 1201-1209, **2021** **(IF:1.4)**
11. "*Hydrophobic deep eutectic solvent based dispersive liquid-liquid microextraction for the determination of zinc in aqueous samples: A multivariate study*" B. Al Sayeda, Faheem Shah, N. Ullah, **Rafaqat A. Khan**, Bushra Ismail, Asad M. Khan, Jan Nisar, International Journal of Environmental Science and Technology, **2021** **(IF:3.1)**
12. "*Doped MgAl2O4 semiconductor host nanopowders for tunable primary color emission for application as white LEDs*” Qurat Ul Ain, Bushra Ismail, Asad Muhammad Khan, **Rafaqat Ali Khan**, Faheem Shah, Hafiz Ur Rehman, Farkhanda Shahid, Semiconductor Science and Technology, Volume 36, Page 125010, **2021 (IF: 1.9)**
13. *Pyrolysis of waste tire rubber: a comparative kinetic study using different models*, Jan Nisar, Ghulam Ali, Afzal Shah, Zahoor Hussain Farooqi, Rafaqat Ali Khan, Munawar Iqbal, Muhammad Gul, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, Page 1-11, **2020 (IF: 2.9)**
14. *Investigation of counterion effects of transition metal cations (Fe3+, Cu2+, Zn2+) on cetrimonium bromide using cyclic voltammetry*, Asad M. Khan, Sania Khizer, Safyan Akram Khan, Shahid Ali, Afzal Shah, Muhammad Faizan Nazar, Faiza Jan Iftikhar, Faheem Shah, Rafaqat Ali Khan, Abdur Rahman Khan, Journal of Molecular Liquids, Volume 313, Page 11599, **2020 (IF: 6)**
15. *Cost effective way of tuning physical properties of MgAl2O4 spinel nanomaterials by Sr+2/ Mn2+ cations doped at the T-Sites* Farkhanda Shahid, Bushra Ismail, Asad Muhammad Khan, Qurat Ul Ain, **Rafaqat Ali Khan**, Faheem Shah, Tanzeela Fazal, Muhammad Nadeem Asghar Ceramics International Volume 46(8), Page 10710-10717 **2020 (IF: 5.2)**
16. "*Extraction of lead through functionalized carbon nanotubes and estimation of measurement uncertainty*" F. Shah, Naeemullah, **Rafaqat A. Khan**, A. M. Khan, Jan Nisar, Analytical Letters, Volume 53(10), Page 1566-1579 **2020 (IF: 2)**
17. “*Thermo-catalytic decomposition of polystyrene waste: Comparative analysis using different kinetic models”* Ghulam Ali, Jan Nisar, Munawar Iqbal, Afzal Shah, Mazhar Abbas, Muhammad Raza Shah, Umar Rashid, Ijaz Ahmad Bhatti, Rafaqat Ali Khan and Faheem Shah, Waste Management and Research, Volume 38(2), Page 202-212 **2020**, **(IF: 3.9)**
18. *“A method for determination of acetaldehyde in bottled waters and the effect of time and temperature on concentrations”* Jan Nisar, Ghulam Ali, Munawar Iqbal, Afzal Shah, Muhammad Raza Shah, Sirajuddin, **Rafaqat Ali Khan**, Faheem Shah, Haq Nawaz Bhatti and Tariq Mahmood, International Journal of Environmental Analytical Chemistry, Volume 100(1), Page 55-64 **2020**, **(IF: 2.6)**
19. "*Decomposition Kinetics of Levofloxacin: Drug-Excipient Interaction*" Mudassir Iqbal, Munawar Iqbal, Afzal Shah, Mohammad Salim Akhter, Sirajuddin, **Rafaqat A. Khan**, Israr Uddin, Luqman Ali Shah, Muhammad Sufaid Khan, Jan Nisar, Zeitschrift Fur Physikalische Chemie-International Journal of Research in Physical Chemistry & Chemical Physics, Volume 234(1), Page 117-128, **2020 (IF: 2.5)**
20. *“Pyrolysis of polypropylene over a LZ‑Y52 molecular sieve: kinetics and the product distribution”* Muhammad Anas Khan, Jan Nisar, Munawar Iqbal, Afzal Shah, Rafaqat Ali Khan, Sirajuddin,·Ijaz Ahmad Bhatti, Roohul Amin, Iranian Polymer Journal, Volume 28(10), Page 839-847 **2019**, **(IF: 3.1)**
21. "*Improved electrical, dielectric and magnetic properties of Al-Sm co-doped NiFe2O4 spinel ferrites nanoparticles*" Hafiz Sartaj Aziz, **Rafaqat A. Khan**, F. Shah, B. Ismail, Jan Nisar, Syed Mujtaba Shah, Abdur Rahim, A. R. Khan, Materials Science and Engineering B ,Volume 243 ,Page 47-53 , **2019** **(IF: 3.6)**
22. "*Fuel production from waste polystyrene via pyrolysis: Kinetics and products distribution*" Jan Nisar, Ghulam Ali, Afzal Shah, Munawar Iqbal, **Rafaqat A. Khan**, Sirajuddin, Farooq Anwar, Raqeeb Ullah, Mohammad Salim Akhter, Waste Management ,Volume 88 ,Page 236-247 , **2019 (IF: 8.1)**
23. "*Enhancement of Electrical and Magnetic Properties of cobalt ferrite nanoparticles by cosubstitution of Li-Cd ions*" Saadia Rasheed, **Rafaqat A. Khan**, F. Shah, B. Ismail, Jan Nisar, Syed Mujtaba Shah, Abdur Rahim, A.R. Khan, Journal of Magnetism and Magnetic Materials, 471, 236-241, **2019** **(IF: 2.7)**
24. "*Pyrolysis of Polystyrene: The Influence of Commercially Available Oxides as Catalysts*" Jan Nisar, Muhammad Sufaid Khan, Ghulam Ali, Afzal Shah, **Rafaqat A. Khan**, F. Shah, Sirajuddin, Syed Tufail Hussain Sherazi, Munawar Iqbal, Journal of the Chemical Society of Pakistan, Volume 41(5), Page 779-787 **2019 (IF: 0.7)**
25. "*Magnetic oxide nanoparticles (Fe3O4) impregnated bentonite clay as a potential adsorbent for Cr(III) adsorption*" K.H. Shah, Shahid Ali, F. Shah, Muhammad Waseem, B. Ismail, **Rafaqat A. Khan**, A. M. Khan, A. R. Khan, Materials Research Express, 5 (9), 096102 **2018 (IF: 2.3)**
26. "*Thermal decomposition study of polyvinyl chloride in the presence of commercially available oxides catalysts*", Jan Nisar, Muhammad Sufaid Khan, Munawar Iqbal, Afzal Shah, Ghulam Ali, Murtaza Sayed, **Rafaqat A. Khan**, F. Shah, Tariq Mahmood, Advances in Polymer Technology, 37(6) 2336-2343 **2018 (IF: 3.1)**
27. “*Comparative Study of Kinetics of the Thermal Decomposition of Polypropylene Using Different Methods*”, Jan Nisar, Muhammad Anas Khan, Munawar Iqbal, Afzal Shah, **Rafaqat Ali Khan**, M. Syed, Tariq Mahmood, Advances in Polymer Technology, 37 (4), 1168-1175 **2018** **(IF: 3.1)**
28. "*Water treatment by photodegradation on orthorhombic antimony sulfide powder and effect of key operational parameters using methyl orange as a model pollutant*" Muhammad Muneeb, [B. Ismail](http://www.ciit-atd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=23), Tanzeela Fazal, [**Rafaqat A. Khan**](http://www.ciit-atd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=329), [A. M. Khan](http://www.ciit-atd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=328), [M. Bilal](http://www.ciit-atd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=114), Bakhtiar Muhammad, [A.R. Khan](http://www.ciit-atd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=11), Arabian Journal of Chemistry, 11 (7), 1117-1125, **(2018) (IF: 6)**
29. “*Sonochemically synthesized green sorbent for the simultaneous removal of trace metal ions: application and estimation of measurement uncertainty through bottom-up approach*”, F. Shah, Naeemullah, Muhammad Raza Shah, **Rafaqat A. Khan**, B. Ismail, A. M. Khan, A.R. Khan, Humayun Ajaz, New Journal of Chemistry, 41, 11695-11700 , **2017 (IF:3.3)**
30. “*Influence of acids, bases and surfactancts on the photocatalytic degradation of a model dye Rhodamine B*”, A. M. Khan, Abid Mehmood, Murtaza Sayed, Muhammad Faizan Nazar, Bushra Ismail, **Rafaqat Ali Khan**, Hameed Ullah, Hafiz M. A. Rahman, A. Y. Khan, A. R. Khan, Journal of Molecular Liquids, 236, 395-403, **2017** **(IF:6)**
31. “*Enhanced Biodiesel production from Jatropha oil using calcined waste animal bones as catalyst*”, Jan Nisar, Rameez Razaq, Muhammad Farooq, Munawar Iqbal, **Rafaqat Ali Khan**, M. Syed, Afzal Shah, Inayat ur Rahman, Renewable Energy, 101, 111-119, **2017** **(IF: 8.7)**
32. "*The effects of nanoclay on thermal, mechanical and rheological properties of LLDPE/chitosan blend*" S. Mir, Abida K Khan, R. Rashid, Ahson J. Shaikh, **Rafaqat A. Khan**, G. Murtaza, Bisma Asghar, Journal of Polymer Engineering, 37, 2, 143-149, **2017 (IF: 2)**
33. “*Influence of Fe2+ and Ni2+ contents on the optical and electrical properties of ZnS quantum dots*”, Shahid Iqbal, **Rafaqat Ali Khan**, Muhammad Javed Iqbal, Muhammad Waqas, Jan Nisar, Fahim Shah, Abdur Rahman Khan, Journal of Materials Science: Materials in Electronics, 28, 5, 4449-4457, **2017** **(IF: 3.7)**
34. “*Preconcentration of cadmium and manganese in biological samples based on a novel restricted access sorbents*”, Faheem Shah, Naeemullah, Tasneem Gul Kazi, **Rafaqat Ali Khan**, Murtaza Sayed, Hassan Imran Afridi, Khizer Hussain Shah, Jan Nisar, Journal of Industrial and Engineering Chemistry, 48, 180-185, **2017** **(IF:6.1)**
35. “*Synthesis and Characterization of Uniform Particles pure and chromium Substituted Manganese Ferrite with Low Dielectric Losses*”, Khalida Akhtar, Muhammad Gul, Ikramul Haq, **Rafaqat Ali Khan**, Zia Ullah Khan, Abid Hussain, Ceramics International, 42, 16, 18064-18073, **2016** **(IF: 5.2)**
36. *“Restricted access-activated carbon clothes-based lead extraction from human serum: skipping the samplepreparation step for biological media”* Naeem Ullah, Faheem Shah, **Rafaqat Ali Khan**, Muhammad Ateeq, Haji Muhammad and Abdur Rahman Khan, International Journal of Environmental Analytical Chemistry, 96 (11) 1048-1058 **2016** **(IF: 2.6)**
37. “*Kinetics of the gas-phase thermal decomposition of 3-chloropropene*”, Jan Nisar, Iftikhar Ahmad Awan, Munawar Iqbal, **Rafaqat Ali Khan**, Afzal Shah, Rameez Razaq, Chemical Physics Letters, 661, 200-205 **2016** **(IF: 2.8)**
38. "*The Interaction of a Model Active Pharmaceutical with Cationic Surfactant and the Subsequent Design of Drug Based Ionic Liquid Surfactants*”, Sara Qamar, Paul Brown, Steven Ferguson, **Rafaqat A. Khan**, B.Ismail, M. Sayed, A.R. Khan, A. M. Khan, Journal of Colloid & Interface Science, 481, 117-124, **2016 (IF: 9.9)**
39. "*Effect of Nd3+ and Cd2+ ions co-substitution on the dielectric and electron transport properties of spinel strontium nanoferrites*", Iqbal Ahmad, Syed Mujtaba Shah, Muhammad Naeem Ashiq, **Rafaqat A. Khan**, Ceramics International, 42 12763-12770, **2016 (IF:5.2)**
40. "*Hydroxyl radical based degradation of ciprofloxacin in aqueous solution*", Noor Samad Shah, Luqman Ali Shah, Hasan Mahmood Khan, M. Sayed, **Rafaqat A. Khan**, A. M. Khan, A.R. Khan, Javed Ali Khan, Journal of the Chilean Chemical Society, 61, 2, 2949, **2016 (IF:1.6)**
41. "*Decomposition of Clofibric Acid in Aqueous Media by Advance Oxidation Techniques: Kinetics study and Degradation Pathway*", Hasan Mahmood Khan, M. Sayed, A. M. Khan, **Rafaqat A. Khan**, A.R. Khan, Luqman Ali Shah, Journal of the Chemical Society of Pakistan, 8, 4, 638-645**, 2016 (IF:0.7)**
42. "*Gamma–irradiation induced degradation of diclofenac in aqueous solution: Kinetics, role of reactive species and influence of natural water parameters*", Jan Nisar, M. Sayed, Farman Ullah Khan, Hasan Mahmood Khan, Munawar Iqbal, **Rafaqat A. Khan**, Muhammad Anas, Journal of Environmental Chemical Engineering ,4, 2573–2584, **2016 (IF:7.7)**
43. “*Effect of carrier concentration on the optical band gap of TiO2 nanoparticles*” Shamsa Munir, Syed Mujtaba Shah, Hazrat Hussain, **Rafaqat Ali Khan**, Materials & Design, 92, 64-72, **2016 (IF: 8.4)**
44. “*Effect of Li-Cu doping on structural, electrical and magnetic properties of cobalt ferrite nanoparticles*” Saadia Rasheed, Hafiz Sartaj Aziz, **Rafaqat Ali Khan**, Asad Muhammad Khan, Abdur Rahim, Jan Nisar, Syed Mujtaba Shah, Farasat Iqbal, Abdur Rahman Khan, Ceramics International, 42(2) Part B, 3666-3672, **2016 (IF:5.2)**
45. *"Comparative studies on the use of binary and ternary combinations of various acidifying agents for the reduction of soil pH"* Tanzeela Fazal, [B.Ismail](http://www.ciit-atd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=23), [A. M. Khan](http://www.ciit-atd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=328), [**Rafaqat A. Khan**](http://www.ciit-atd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=329), Amir Abbas Shah Naqvi, Farrukh Siyar Hamid, [A. R. Khan](http://www.ciit-atd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=11), Communications in Soil Science and Plant Analysis, 47(1) 11-18 **2016 (IF: 1.8)**
46. *Evaluation of electrical, dielectric and magnetic characteristics of Al-La doped nickel spinel ferrites,* Hafiz Sartaj Aziz, Saadia Rasheed, **Rafaqat Ali Khan**, Abdur Rahim, Jan Nisar, Syed Mujtaba Shah, Farasat Iqbal, Abdur Rahman Khan, RSC Advances, 6, 6589-6597, **2016 (IF: 3.9)**
47. ["*Static and dynamic magnetic characteristics of Mg substituted Ba–Co2 W-type hexaferrites*"](http://www.sciencedirect.com/science/article/pii/S0925838815007197) [**Rafaqat A. Khan**](http://www.ciit-atd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=329), Shigemi Mizukami, [A. M. Khan](http://www.ciit-atd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=328), [B. Ismail](http://www.ciit-atd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=23), [A.R. Khan](http://www.ciit-atd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=11), Terunobu Miyazaki, Journal of Alloys and Compounds, 637, 197-202, **2015 (IF: 6.2)**
48. "*Investigation of Adsorption of Lead(II) onto a Montmorillonite Clay modified by Humic Acid*" Iffat Aziz, [M. Sirajuddin](http://www.ciit-atd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=520), Muhammad Haleem Khan, Shafqat Nadeem, Syed Ahmad Tirmizi, [**Rafaqat A. Khan**](http://www.ciit-atd.edu.pk/secure/ResearchGroups/MemberDetails.aspx?memberID=329), Journal of the Chemical Society of Pakistan, 37(5), 894-902, **2015 (IF: 0.7)**
49. “*Doping magnesium ion to tune electrical and dielectric properties of BaCo2 hexaferrites*” **Rafaqat Ali Khan**, Sadullah Mir, Asad Muhammad Khan, Bushra Ismail, Abdur Rahman Khan. Ceramics International, 40, 11205-11211, **2014 (IF:5.2)**
50. “*Doping effect of Zr–Zn binary mixture on the structural and electrical properties of SrCo2-W type hexaferrites*” **Rafaqat Ali Khan**, Asad Muhammad Khan, Bushra Ismail, Abdur Rahman Khan. Ceramics International, 40, 13257-13262, **2014** **(IF:5.2)**
51. “*Enhanced grain growth and improved optical properties of the Sn doped thin films of Sb2S3 orthorhombic phase*” Bushra Ismail, Saima Mushtaq, **Rafaqat Ali Khan**, Asad Muhammad Khan, Aurang Zeb, Abdur Rahman Khan. Optik: International Journal for light and electron optics, 125, 6418-6421, **2014 (IF: 3.1)**
52. “*Mossbauer, magnetic and microwave characteristics of substituted W-type hexaferrite nanoparticles*” Muhammad Javed Iqbal, **Rafaqat Ali Khan**, Shigemi Mizukami, Terunobu Miyazaki. Ceramics International, 38, 4097-4103, **2012 (IF:5.2)**
53. “*Mossbauer and magnetic study of Mn, Zr and Cd substituted W-type hexaferrites prepared by co-precipitation method*” Muhammad Javed Iqbal, **Rafaqat Ali Khan**, Shigemi Mizukami, Terunobu. Materials Research Bulletin, 46, 1980-1986, **2011** **(IF: 5.4)**
54. “*W-type hexaferrite nanoparticles: A Consideration for microwave attenuation at wide frequency band of 0.5 to 10 GHz*” Muhammad Javed Iqbal, **Rafaqat Ali Khan**, Shigeru Takeda, Shigemi Mizukami, Terunobu Miyazaki. Journal of Alloys and Compounds, 509, 7618-7624, **2011** **(IF: 6.2)**
55. “*Tailoring of structural, electrical and magnetic properties of BaCo2-W type hexaferrites by doping with Zr-Mn binary mixtures for useful applications*” Muhammad Javed Iqbal, **Rafaqat Ali Khan**, Shigemi Mizukami, Terunobu Miyazaki. Journal of Magnetism and Magnetic Materials, 323, 2137-2144, **2011** **(IF: 2.7)**
56. “*Enhancement of electrical and dielectric properties of Cr doped BaZn2W-type hexaferrite for potential application in high frequency devices*. Muhammad Javed Iqbal and **Rafaqat Ali Khan**. Journal of Alloys and Compounds, 478, 847-852 **2009 (IF: 6.2)**
57. “*Kinetics of thermal isomerization of cis-methylcyclopropane carboxylic acid*”. Jan Nisar, Mukhtiar Ali, Iftikhar Awan, amir Badshah, Sadullah Mir, **Rafaqat Ali Khan** Reaction Kinetics and catalysis Letters Now Reactions Kinetics, Mechanisms and catalysis, 98, 375-381, **2009 (IF: 1.8)**

**Books published**

Metal doped W-type hexaferrite nanoparticles: Structural and Technical Evaluation for Potential Applications in Electrical and Magnetic Devices, Rafaqat Ali Khan, Muhammad Javed Iqbal, LAP LAMBERT Academic Publishing , 2015

**Research supervised/Co-Supervised**

* Nagina Masood (MS, **2014**), Investigation of Metal Based Complex Ions Interaction with Dyes and Surfactants
* Tayyab Bashir (MS, **2014**), Adsorption Studies for the Removal of Arsenic from Aqueous Solutions on Different Biosorbents an Other Materials
* Saadia Rasheed (MS, **SP** **2015**), Enhancement of electrical and magnetic properties of Co-ferrite nanoparticles by co-substitution of metal ions
* Hafiz Sartaj Aziz (MS, **2015**), Synthesis and characterization of metal doped nickel ferrite derivatives for electrical devices
* Rubi Zaman (MS, **2016**), Synthesis and Study of Optical and Electrical Properties of Pure and Transition Metals Doped Magnesium Sulphide Quantum Dots
* Rabia Sultana (MS, **2016**), Role of Surfactant in Adsorption and Degradation of Medicinal Compounds in Soil and Water
* Abid Mehmood (MS, **FA** **2016**), Synthesis of Silica Supported Metal/Metal Oxide Structures and their Photo Catalytic Responses
* Gul Rehman (MS, **SP** **2017**), Properties Optimization of Spinel Magnesium Ferrites through Doping of Metal ions for Various Applications
* Hina Naz (MS, **FA** **2017**), Synthesis and Characterization of Aluminum and Rare Earth Metals Co-doped Cobalt Ferrites and their Role in Dyes Degradation
* Samyia Khan (MS, **FA** **2017**),Doping of Cobalt Ferrite to Tune the Electrical, Dielectric and Magnetic Properties
* Abid Rafiq (MS, **FA** **2017**), Preconcentration of Anti-tubercular Drugs through Miniaturized Extraction Techniques Prior to their Spectrophotometric Determination
* Uzma Sulaiman (MS, **SP** **2018**), Determination of Sudan Dyes in Different Spices Using QuEChERS Extraction Technique Prior to Spectrophotometric Detection
* Aimen Nawaz (MS, **FA** **2018**),Controlled Size Synthesis and Characterization of Metal Doped Ni-Co Spinel Ferrite for Various Applications
* Belquies Al Sayeda (MS **2019**), Multivariate Optimization of Dispersive Liquid-Liquid Microextraction for the Preconcentration of Zinc
* Urooj Mehtab Abbasi (MS **2019**), Transition Metal Doped Manganese Dioxide Reinforced CNTs Composite for Adsorption Assisted Photocatalysis Under Visible Light
* Rizwana Ghazi, (MS, **SP** **2019**), Synthesis and Characterization of Ternary Transition Metal Ferrites based Composites for Application in Supercapacitors
* Warda Shahzad, (MS **2019**), Visible Light Driven Photocatalysis based on Alkaline Earth Metal Zirconates Perovskite Graphene Oxide Composite for Wastewater Treatment
* Saba Khalid (MS, **SP** **2019**), Tuning Nickel Spinel Ferrite using Metal Ions as Dopants for Potential Applications in Electrical and Magnetic Devices
* Muhammad Saad Bilal Khan (MS, **FA** **2019**) Properties Optimization of Metals Doped CdFe2O4 for Applications in Electrical and Magnetic Devices
* Kanwal Shehzadi (MS, **FA 2019**) Synthesis of Co-doped NiFe2O4 and investigation of their electrical and Magnetic Properties
* Usman Ahmad (MS, **SP** **2020**) Tuning Nickel Ferrite by Co-doping with Metal ions for Applications in Electrical and Magnetic Devices
* Sadia Khan (MS, **SP** **2020**) Influence of Dopants on Electric and Magnetic Properties of CdFe2O4
* Arishma Ali Baqir Awan (MS **2020**) Determination of Sudan IV Dye in Wastewater Samples through Magnetic Solid Phase Extraction Based on Magnesium Spinel Ferrites
* Muhammad Saud Khan (MS, **FA** **2020**) Synthesis of Co-Doped Cobalt-Manganese Ferrite with Metal Ions for Electrical and Magnetic Applications
* Qudsia Mukhtar (MS, **SP** **2021**) Modification of Spinel Ferrites by using Different Capping Agents
* Mehboob ur Rahman (MS, **SP** **2021**), Synthesis and characterization of Doped Transition Metal Ferrites Based Composite for Sensing Applications
* Muhammad Idress (MS, **FA 2021**) Synthesis of Doped CoFe2O4 and its Composite with Reduced Graphene Oxide and Polyaniline for High Performance Super Capacitor Application
* Muhammad Ilyas (MS, **FA** **2021**) Synthesis and Characterization of Mn2+ and Mn2+/Cu2+ Doped Ferrite based Composites for Electrochemical Sensing
* Hafsa Ayaz (MS **2022**), Synthesis and characterization of Magnetic Nano-composite of GO-SiO2/Fe3O4 and its application for Dyes Removal
* Asifa Iqbal (MS, **SP** **2022**), Synthesis of Mixed Metal Oxides and Evaluation of their Optical and Magnetic Properties
* Rafia Marium (MS, **FA** **2022**), Synthesis, Characterization and Electrochemical Properties of Transition Metal Doped Manganese Oxide Nanoparticles
* Mahnoor Zahoor (MS, **FA** **2022**), Optical and Magnetic Performance of Binary Metal Doped Cobalt Oxide Nanoparticles
* Mishaal Ejaz (MS, **SP** **2023**) Synthesis and Characterization of Mixed Metal Ferrite Nanocomposites and their Drug Loading Capacities
* Maria (MS, **SP** **2023**) Evaluation of Electrochemical Properties of CuO Based Nanocomposites
* Areej Fatima(MS, **FA** **2023**) Metal Doped Zinc Oxide Nanoparticles for Photocatalytic Degradation of Dye Pollutants
* Irsa Gul(MS, **FA** **2023**) Fabrication of Doped Superparamagnetic Iron Oxide and Hydroxyapatite Nanocomposites
* Kainat(MS, **FA** **2023**) Manipulation of Magnetic and Electric Properties by T- and O-Sites Doping of Transition Metals in Cobalt Ferrites

**Research Projects:**

* Controlled size synthesis of transition metal ions doped spinel ferrite nanoparticles and functionalizing them for MRI applications, No: 5305/Federal/NRPU/R&D/HEC/2016 **(8.23 Million Pak Rs.)**
* Transport of drug molecules through biomembranes (**M. Phil thesis research topic**)
* Investigation of Properties of Transition Metals Doped W-type Hexaferrite Nanoparticles (**Ph. D. research topic**)
* Structure and magnetic properties of W-type hexaferrites thin film synthesized using RF sputtering
* Synthesis & characterization of nanostructured metal (Cr, Al) doped spinel ferrite for hi-tech applications (HEC, Pakistan approved # PM-IPFP/HRD/HEC/2012/3545) **(0.5Million Pak Rs.)**
* Exploring quantum dots for increasing the efficiency of dye-sensitized solar cell (DSSC) (Submitted to HEC Pakistan)

**Conferences and seminars attended**

* International Conference on Physical and Environmental Chemistry-(September 2013)
* 11th international and 23rd national chemistry conference (October 15-17, 2012)
* 8th international and 20th national chemistry conference (February 15-17, 2010)
* 34th international Nathiagali summer college on physics and contemporary needs (June 22nd –July 4th)
* One day workshop on crystallography by Prof. Dr. Vickee McKee (Loughborgh University) in Department of Chemistry QAU, Islamabad.
* Three days national conference on, “Frontiers of Chemistry” held in Department of Chemistry QAU, Islamabad in April 2009
* 5th international and 15th national chemistry conference (November 24-27, 2004).

**Courses taught post ph. D**

* Statistical Mechanics and Thermodynamics
* Molecular Spectroscopy
* Chemistry of Solid state and Semiconductors
* Environmental Chemistry
* Advanced Analytical Techniques
* Research Methodology and Chemical Data Handling

**REsearch and Technical skills**

* Mossbauer spectrometer (MS)
* Vibrating Sample Magnetometer (VSM)
* X-ray diffraction (XRD)
* LCR meter/impedance analyzer
* Vector Network analyzer (VNA)
* Electrochemical workstation
* Sputtering techniques
* Scanning electron microscopy (SEM)
* UV/Vis Spectrophotometer

**Experience:**

* Associate Professor, COMSATS University Islamabad, Abbottabad Campus Since April 2022 to date
* Assistant Professor, COMSATS Institute of Information Technology, Abbottabad, August 2013 to April 2022.
* Assistant Professor, NCEPC, University of Peshawar, under Interim Placement for Fresh Ph. D (IPFP), Higher Education Commission (HEC) of Pakistan. May 2012 to May 2013.
* Worked visit as a research scientist to WPI Advanced institute of Material Research, **Tohoku University, Japan** (15th July 2010 till 14th January 2011)
* Worked as Quality Control chemist in Shaigan Pharmaceuticals ISO 9001 & 14001 QMS, EMS Certified company, Rawalpindi (1st September 2005 till August 2006).

## References

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