Curriculum Vitae

DR. KASHIF NADEEM

Associate Professor (Tenured),
Department of Physics, FBAS,
International Islamic University, Islamabad,
Pakistan.

Contact Information:

E-mail: kashif.nadeem@iiu.edu.pk
Mailing Address: Department of Physics, FBAS, International Islamic University, H-10, Post Code 44000, Islamabad, Pakistan.

Personal Information:

Gender: Male
S/O: Safdar Ali
Nationality: Pakistani
Religion: Islam
Date / Place of Birth: 11th July 1982 / Rawalpindi, Pakistan
Language: Urdu and English
Marital Status: Married

Research Interests:

Spin-glass freezing at low temperatures in nanoparticles,
Magnetism at nanoscale,
Magnetism and superconductivity in Iron based superconductors,
Nanoparticle synthesis and characterization,
Nanocomposites.

Awards:

1. Research Productivity Award, Pakistan Council for Science and Technology (PCST) 2017, Category D.
2. Research Productivity Award, Pakistan Council for Science and Technology (PCST) 2016, Category C.
3. Fully funded Ph.D. scholarship from Higher Education Commission (HEC) of Pakistan to study in Austria, 2008-2011.
4. Young Scientist Post Doc. Fellowship (CAS-TWAS) at Institute of Physics, Chinese Academy of Sciences, Beijing, 2013-2014.
5. Visiting Scientist (CAS-TWAS) at Institute of Physics, Chinese Academy of Sciences, Beijing, 2016.

Experience:

1. 24-05-2018 to date: Working as **Associate Professor** at Department of Physics, International Islamic University, Islamabad, Pakistan.
2. 01-03-2011 to 23-05-2018: Worked as **Assistant Professor** at Department of Physics, International Islamic University, Islamabad, Pakistan.
3. 01-07-2018 to 01-10-2018: Worked as **Visiting Scientist** at Institute of Physics, Karl-Franzens University, Graz, Austria.
4. 01-06-2016 to 01-08-2016: Worked as **Visiting Scientist** at Institute of Physics, Chinese Academy of Sciences, Beijing, China.
5. 15-09-2013 to 15-09-2014: Worked as **Post Doctorate Scholar** at Institute of Physics, Chinese Academy of Sciences, Beijing, China.
6. 2016-to 2021: **Editorial member of Nature**, **Scientific Reports**.
7. 20-10-2006 to 04-01-2008: Worked as **Assistant Manager** at AWC, NESCOM.

Instrumental Expertise:

1. Superconducting quantum interference device (SQUID)-magnetometer
2. Vibrating sample magnetometer (VSM)
3. Physical Property Measurement System (PPMS)
4. X-ray diffractometer (XRD)
5. Fourier transform infrared (FTIR) spectroscopy
6. Transmission electron microscopy (TEM)
7. Scanning electron microscopy (SEM)

Academic Record:

- **Post Doctorate (Post Doc.)**
  (Physics) (2013-2014)
  Worked on *"Slow Spin Dynamics in Iron-Based 122 Superconductors"*
  Institute of Physics, Chinese Academy of Sciences, Beijing, China.
- **Doctor of Philosophy (Ph.D.)**
  (Physics) (2008-2011)
  (*with distinction*)
  Thesis title: "*Preparation and Characterization of Nanoscaled Magnetic Particles"*
  Institute of Physics, Karl-Franzens University, Graz, Austria.
- **Master of Philosophy (M.Phil.)**
  (Physics) (2005-2007)
  Thesis title: *"AC Susceptibility and Size effects of $NiFe_2O_4$ Nanoparticles"*
  Quaid-i-Azam University, Islamabad, Pakistan.
  Department of Physics, Quaid-i-Azam University, Islamabad, Pakistan
- **Master of Science (M.Sc.)**
  (Physics) (2002-2004)
  Department of Physics, Quaid-i-Azam University, Islamabad, Pakistan
- **Bachelor of Science (B.Sc.)**
  (Physics, Mathematics, Statistics) (2000-2002)

University of the Punjab, Lahore, Pakistan.

- **Higher Secondary School Certificate (F.Sc.) (Pre-Engineering)** (1998-2000)
  Govt. Asgher mall college, Rawalpindi, Board of intermediate and secondary education, Rawalpindi, Pakistan.
- **Secondary School Certificate (Matric) (Science)** (1996-1998)
  Crescent public school, Board of intermediate and secondary education, Rawalpindi, Rawalpindi, Pakistan.

List of Publications (With Impact Factor):

1. "Sol-gel synthesis and characterization of single-phase Ni ferrite nanoparticles dispersed in SiO_2 matrix"
K. Nadeem, T. Traussnig, I. Letofsky-Papst, H. Krenn, U. Brossmann, and R. Würschum
*Journal of Alloys and Compounds **493**, 385-390 (2010).* **Impact Factor: 5.316**

2. "Distinguishing magnetic blocking and surface spin-glass freezing in nickel ferrite nanoparticles"
K. Nadeem, H. Krenn, T. Traussing, and I. Letofsky-Papst
*Journal of Applied Physics **109**, 013912 (2011).* **Impact Factor: 2.546**

3. "Magnetization of Fe-oxide based nanocomposite tuned by surface charging"
T. Traussnig, S. Topolovec, **K. Nadeem**, D.V. Szabo, H. Krenn and R. Würschum
*Physica Status Solidi (Rapid Research Letters) **5**, 150-152 (2011).* **Impact Factor: 2.821**

4. "Effect of dipolar and exchange interactions on magnetic blocking of maghemite nanoparticles"
K. Nadeem, H. Krenn, T. Traussing, R. Würschum, D. V. Szabó**,** and I. Letofsky-Papst
*Journal of Magnetism and Magnetic Materials **323**, 1998-2004 (2011).***Impact Factor: 2.993**

5. "Exchange bias, memory and freezing effects in $NiFe_2O_4$ nanoparticles"
K. Nadeem and H. Krenn
*Journal of Superconductivity and Novel Magnetism **24**, 717-720 (2011).***Impact Factor: 1.506**

6. "Spin-glass freezing of maghemite nanoparticles prepared by microwave plasma synthesis"
K. Nadeem, H. Krenn, T. Traussnig, R. Würschum, D. V. Szabó, and I. Letofsky-Papst
*Journal of Applied Physics, **111**, 113911 (2012).***Impact Factor: 2.546**

7. "Structural and magnetic properties of ZnMg-ferrite nanoparticles prepared using co-precipitation method"
S. Rahman, **K. Nadeem**, M. Anis-ur-Rehman, M. Mumtaz, S. Naeem, and I. Letofsky-Papst
*Ceramics International **39**, 5235-5239 (2013).* **Impact Factor: 4.527**

8. "Influence of SiO_2 matrix and annealing time on properties of Ni-ferrite nanoparticles"
K. Nadeem, H. Krenn, M. Shahid, I. Letofsky-Papst,
*Solid State Sciences, **19**, 27-31 (2013).***Impact Factor = 3.059**

9. "Study of nano-sized $(ZnFe_2O_4)_y$ particles/CuTl-1223 superconductor composites"
M. Mumtaz, S. Naeem, **K. Nadeem**, F. Naeem, Abdul Jabbar, Y.R. Zheng, Nawazish A. Khan, M. Imran
*Solid State Sciences, **22**, 21-26 (2013).***Impact Factor = 3.059**

10. "Dielectric properties of (CuO, CaO_2, and BaO)$_y$/CuTl-1223 composites"
M. Mumtaz, M. Kamran, **K. Nadeem**, Abdul Jabbar, Nawazish A. Khan, Abida Saleem, S. Tajammul Hussain, and M. Kamran
*Low Temperature Physics, **39**, 622-629 (2013).***Impact Factor = 0.923**

11. "Dielectric properties of oxygen post-annealed $Cu_{0.5}Tl_{0.5}Ba_2Ca_3(Cu_{4-y}Cd_y)O_{12-\delta}$ bulk superconductor"

M. Mumtaz, M. Rahim, Nawazish A. Khan, **K. Nadeem**, Khurram Shehzad
*Ceramics International, **39**, 9591-9598 (2013).***Impact Factor = 4.527**

12. "Study of CuO Nano-particles/CuTl-1223 Superconductor Composite"
M. Mumtaz, Asif I. Bhatti, **K. Nadeem**, Nawazish A. Khan, A. Saleem, and S. Tajammul Hussain
*J. Low Temp. Phys. **170**, 185-204 (2013).* **Impact factor = 1.57**

13. "Comparison of surface effects in SiO_2 coated and uncoated nickel ferrite nanoparticles"
K. Nadeem, H. Krenn, W. Sarwar, and M. Mumtaz
*Applied Surface Science **288**, 677-681 (2014).***Impact Factor = 6.707**

14. "Effect of amorphous silica matrix on structural, magnetic, and dielectric properties of cobalt ferrite/silica nanocomposites"
K. Nadeem, F. Zeb, M. Azeem Abid, M. Mumtaz, and M. Anis-ur-Rehman
*Journal of Non-Crystalline Solids **400**, 45-50 (2014).* **Impact Factor = 3.531**

15. "Effect of silica coating on the structural, dielectric, and magnetic properties of maghemite nanoparticles"
K. Nadeem, L. Ali, I. Gul, S. Rizwan, M. Mumtaz
*Journal of Non-Crystalline Solids **404**, 72–77 (2014).* **Impact Factor = 3.531**

16. "Synthesis and characterization of core-shell Ni/NiO nanoparticles/CuTl-1223 superconductor composites"
K. Nadeem, F. Naeem, M. Mumtaz, S. Naeem, A. Jabbar, Nawazish A. Khan, and M. Imran
*Ceramics International **40**, 13819–13825 (2014).***Impact Factor = 4.527**

17. "Competing crystallite size and zinc concentration in silica coated cobalt ferrite nanoparticles"
K. Nadeem, M. Shahid, and M. Mumtaz
*Progress in Natural Science: Materials International **24**, 199–204 (2014).* **Impact Factor = 3.607**

18. "Suppression of activation energy and superconductivity by the addition of Al_2O_3 nanoparticles in CuTl- 1223 matrix"
A. Jabbar, I. Qasim, M. Mumtaz, M. Zubair, **K. Nadeem**, and A. A. Khurram
*Journal of Applied Physics, **115**, 203904 (2014).***Impact Factor = 2.546**

19. "Activation energy and excess conductivity analysis of (Ag)x/CuTl-1223 nano-superconductor composites"
G. Hussain, A. Jabbar, I. Qasim, M. Mumtaz, **K. Nadeem**, M. Zubair, S. Q. Abbas, and A. A. Khurram,
*Journal of Applied Physics **116**, 103911 (2014).***Impact Factor = 2.546**

20. "Infrared absorption spectroscopy and fluctuations induced conductivity (FIC) analysis of Be-doped $TlBa_2Ca_2Cu_3O_{10-\delta}$ superconductor"
M. Mumtaz, M. Zubair, Nawazish A. Khan, and **K. Nadeem**
*Ceramics International **40**, 6655–6662 (2014).* **Impact Factor = 4.527**

21. "Synthesis and superconducting properties of $(Au)_x$/CuTl-1223 composites"
A. Jabbar, I. Qasim, K. M. Khan, Z. Ali, **K. Nadeem**, M. Mumtaz
*Journal of Alloys and Compounds **618**, 110–114 (2015).***Impact Factor = 5.316**

22. "Highly coercive $CoFe_2O_4$ nanoparticles-CuTl-1223 superconductor composites"
A. Jabbar, I. Qasim, Shahid A. Khan, **K. Nadeem**, M. Waqee-ur-Rehman, M. Mumtaz, and F. Zeb
*Journal of Magnetism and Magnetic Materials **377**, 6-11 (2015).* **Impact Factor = 2.993**

23. "Structural and superconducting properties of $(Al_2O_3)_y$/CuTl-1223 composites"
A. Jabbar, I. Qasim, M. Waqee-ur-Rehman, M. Zaman, **K. Nadeem**, M. Mumtaz
*Journal of Electronic Materials, **44**, 110-116 (2015).* **Impact Factor = 1.938**

24. "Effect of annealing on properties of Mg doped Zn-ferrite nanoparticles"
K. Nadeem, S. Rahman, and M. Mumtaz
*Progress in Natural Science: Materials International, 25**,** 111-116 (2015).***Impact Factor = 3.607**

25. "Noble metals (Ag, Au) nanoparticles addition effects on superconducting properties of CuTl-1223 phase"
A. Jabbar, M. Mumtaz, **K. Nadeem**
The European Physical Journal Applied Physics, 69, 30601, (2015). **Impact Factor: 0.874**
26. "Slow Spin Dynamics in Superconducting $Ca_{0.9}Ce_{0.1}Fe_2As_2$"
K. Nadeem, W. Zhang, D.Y. Chen, Z.A. Ren and X. G. Qiu
*Nature, Scientific Reports, Nature **5**, 10700 (2015).* **Impact Factor: 5.133**
27. "Spin-flop transition and magnetic phase diagram in $CaCo_2As_2$ revealed by torque measurements"
W. Zhang, **K. Nadeem**, H. Xiao, R. Yang, B. Xu, H. Yang, and X. G. Qiu
*Physical Review B **92**, 144416 (2015).* **Impact Factor: 4.036**
28. "Formation of As-As bond and its effect on absence of superconductivity in the collapsed tetragonal phase of $Ca_{0.86}Pr_{0.14}Fe_2As_2$: An optical spectroscopy study"
R. Yang, C. Le, L. Zhang, B. Xu, W. Zhang, **K. Nadeem**, H. Xiao, J. Hu, and X. Qiu
*Physical Review B, **91**, 224507 (2015).* **Impact Factor: 4.036**
29. "Memory effect versus exchange bias for maghemite nanoparticles"
K. Nadeem, H. Krenn, and D. V. Szabo
*Journal of Magnetism and Magnetic Materials **393**, 239-242 (2015).* **Impact Factor: 2.993**
30. "Role of magnetic $NiFe_2O_4$ nanoparticles in CuTl-1223 superconductor"
K. Nadeem, G. Hussain, M. Mumtaz, A. Haider, and S. Ahmed
*Ceramics International **41**, 15041-15047 (2015).* **Impact Factor: 4.527**
31. "Infield response of $(Al_2O_3)_x$/CuTl-1223 nanoparticles-superconductor composites"
M. Waqee-ur-Rehman, Irfan Qasim, M. Mumtaz, **K. Nadeem**, and A. A. Khurram
*Physica B **476**, 320-326 (2015).* **Impact Factor: 2.436**
32. "Role of anti-ferromagnetic Cr nanoparticles in CuTl-1223 superconducting matrix"
Irfan Qasim, M. Waqee-ur-Rehman, M. Mumtaz, Ghulam Hussain, **K. Nadeem**, and Nawazish A. Khan,
*Journal of Alloys and Compounds **649**, 320-326 (2015).* **Impact Factor: 5.316**
33. "Two percolation thresholds and remarkably high dielectric permittivity in pristine carbon nanotube/elastomer composites"
K. Shehzad, A. A. Hakro, Y. Zeng, Shang-Hong Yao, Yi Xiao-Hong, M. Mumtaz, **K. Nadeem**, N. S. Khisro, and Zhi-Min Dang
*Applied Nanoscience **5**, 969–974 (2015).* **Impact Factor: 3.674**
34. "Effect of air annealing on structural and magnetic properties of Ni/NiO nanoparticles"
K. Nadeem, Asmat Ullah, M. Mushtaq, M. Kamran, S.S. Hussain, and M. Mumtaz
*Journal of Magnetism and Magnetic Materials **417** (2016) 6-10.* **Impact Factor: 2.993**
35. "Surface spin-glass in cobalt ferrite nanoparticles dispersed in silica matrix"
F. Zeb, W. Sarwer, **K. Nadeem**, M. Kamran, M. Mumtaz, H. Krenn, and I. Letofsky-Papst
*Journal of Magnetism and Magnetic Materials **407** (2016) 241–246.* **Impact Factor: 2.993**
36. "Surface effects in uncoated and amorphous SiO_2 coated cobalt ferrite nanoparticles"
F. Zeb, A. R. Qureshi, **K. Nadeem**, M. Mumtaz, and H. Krenn
*Journal of Non-Crystalline Solids, **435** (2016), 69-75.***Impact Factor: 3.531**
37. "Infield superconducting properties of Ni nanoparticles added CuTl-1223 phase"
M. Waqee-ur-Rehman, M. Mumtaz, Irfan Qasim, and **K. Nadeem**
*Solid State Communications **228,** 32-35 (2016).* **Impact Factor: 1.804**
38. "Resistive transition and flux flow mechanism in $CoFe_2O_4$ nanoparticles added $Cu_{0.5}Tl_{0.5}Ba_2Ca_2Cu_3O_{10-\delta}$ superconductor"
M. Waqee-ur-Rehman, Irfan Qasim, M. Mumtaz, **K. Nadeem**, and S. Qamar
*Journal of Alloys and Compounds **657**, 348–352 (2016).* **Impact Factor: 5.316**
39. "Infield response of $(Co)_x$/CuTl-1223 nanoparticles-superconductor composites"
M. Waqee-ur-Rehman, M. Mumtaz, Irfan Qasim, and **K. Nadeem**

*Cryogenics **73,** 68-72 (2016).* **Impact Factor: 2.226**

40. "Ferromagnetic (Ni) nanoparticles-CuTl-1223 superconductor composites"
Irfan Qasim, M. Waqee-ur-Rehman, M. Mumtaz, Ghulam Hussain, **K. Nadeem**, and Khurram Shehzad
*Journal of Magnetism and Magnetic Materials **403,** 60-67 (2016).* **Impact Factor: 2.993**

41. "Role of Co nanoparticles in CuTl-1223 superconductor"
Irfan Qasim, M. Waqee-ur-Rehman, M. Mumtaz, and **K. Nadeem**
*Ceramics International **42,** 1122–1127 (2016).***Impact Factor: 4.527**

42. "Zinc Nanoparticles at Intercrystallite Sites of $(Cu_{0.5}Tl_{0.5})Ba_2Ca_3Cu_4O_{12-\delta}$ superconductor"
Irfan Qasim, M. Mumtaz, **K. Nadeem**, and S. Qamar Abbas
*Journal of Nanomaterials **2016,** 6 (2016).* **Impact Factor = 2.986**

43. "Dielectric properties of $(Zn)_x$/CuTl-1223 nanoparticles-superconductor composites"
M. Mumtaz, Liaqat Ali, Shoaib Azeem, Saad Ullah, G. Hussain, M. W. Rabbani, Abdul Jabbar, and **K. Nadeem**
*Journal of Advanced Ceramics **5,** 159-166 (2016).* **Impact Factor = 6.707**

44. "Flux pinning by Cr nanoparticles in $Cu_{0.5}Tl_{0.5}Ba_2Ca_2Cu_3O_{10-\delta}$ superconductor"
M. Waqee-ur-Rehman, M. Mumtaz**,** Irfan Qasim, and **K. Nadeem**
*Journal of Low Temperature Physics, **184,** 997-1006 (2016).* **Impact Factor = 1.57**

45. "Magnetic behavior of NiO nanoparticles determined by SQUID Magnetometry"
Farrakh Shahzad, **Kashif Nadeem,** Julia Weber, Heinz Krenn, and Peter Knoll.
*Materials Research Express **4,** 086102 (2017).***Impact Factor: 1.609**

46. "Negative and anomalous T-dependent magnetization trend in $CoCr_2O_4$ nanoparticles"
M. Kamran, **K. Nadeem** and M. Mumtaz
*Solid State Sciences **72**, 21-27 (2017).* **Impact Factor: 3.059**

47. "Improvement in Superconducting Properties of $Cu_{0.5}Tl_{0.5}Ba_2Ca_2Cu_3O_{10-\delta}$ Phase by addition of γ-Fe_2O_3 nanoparticles"
M. Mumtaz, Liaqat Ali, Waqee-ur-Rehman, **K. Nadeem**, G. Hussain, G. Abbas, and Bilal Majeed
Journal of Superconductivity and Novel Magnetism 1-9 (2017). **Impact Factor: 1.48**

48. "Structural, magnetic, and dielectric properties of multiferroic $Co_{1-x}Mg_xCr_2O_4$ nanoparticles"
M. Kamran, A. Ullah, S. Rahman, A. Tahir, **K. Nadeem**, M. Anis ur Rehman, and S. Hussain
*Journal of Magnetism and Magnetic Materials **433,** 178-186 (2017).* **Impact Factor: 2.993**

49. "Massive dielectric properties enhancement of MWCNTs/$CoFe_2O_4$ nanohybrid for super capacitor applications"
M. Z. Khan, I. H. Gul, H. Anwar, S. Ameer, A. N. Khan, A. A. Khurram, **K. Nadeem**, and M. Mumtaz
*Journal of Magnetism and Magnetic Materials **424,** 382-387 (2017).* **Impact Factor: 2.993**

50. "Surface spins disorder in uncoated and SiO_2 coated maghemite nanoparticles"
F. Zeb, **K. Nadeem**, S. K. A. Shah, M. Kamran, I. H. Gul, and L. Ali
*Journal of Magnetism and Magnetic Materials **429,** 270-275 (2017).* **Impact Factor: 2.993**

51. "Role of SiO_2 coating in multiferroic $CoCr_2O_4$ nanoparticles"
M. Kamran, Asmat Ullah, Y. Mehmood, **K. Nadeem**, and H. Krenn
*AIP Advances **7,** 025011 (2017).* **Impact Factor: 1.579**

52."Role of surface spins on magnetization of Cr_2O_3 coated γ-Fe_2O_3 nanoparticles"
K. Nadeem, M. Kamran, A. Javed, F. Zeb, S.S. Hussain, M. Mumtaz, H. Krenn, D.V. Szabo, U. Brossmann and Xiaoke Mu
*Solid State Sciences **83,** 43-48 (2018).* **Impact Factor: 3.059**

53. "Surface effects and spin glass state in Co_3O_4 coated $MnFe_2O_4$ nanoparticles"
F. Zeb, M. Ishaque, **K. Nadeem**, M. Kamran, H. Krenn and D. V. Szabo
*Materials Research Express **5**, 086109 (2018).* **Impact Factor: 1.6109**

54. "Magnetic and dielectric properties of $NiCr_xFe_{2-x}O_4$ nanoparticles"
M. Kamran, W. Shoukat, **K. Nadeem**, S. Salman Hussain, F. Zeb and S. Hussain
*Materials Research Express **6**, 076106 (2019).* **Impact Factor: 1.609**

55. "Photocatalytic activity and two-magnon behaviour in nickel oxide nanoparticles with different silica concentration"
Hur Abbas, **K. Nadeem**, N. Saeed, A. Hassan, S. Rahman, H. Krenn, *and* I. Letofsky-Papst
Journal of Applied Physics 125, 144305 (2019). **Impact Factor: 2.546**

56. "Reduced surface effects in weakly interacting ZrO_2 coated $MnFe_2O_4$"
F. Zeb, M. Ishaque, **K. Nadeem**, M. Kamran, H. Krenn, D.V. Szabo, U. Brossmann, I. Letofsky-Papst
*Journal of Magnetism and Magnetic Materials **469**, 580-586 (2019).* **Impact Factor: 2.993**

57. "Infield superconductivity in Au nanoparticles added $Cu_{0.5}Tl_{0.5}Ba_2Ca_2Cu_3O_{10-\delta}$ phase"
M. Mumtaz, Waqas Ahmad Khan, Liaqat Ali, M. Waqee-Ur-Rehman, **K. Nadeem**
*Physica C: Superconductivity and its Applications **559**, 21-24 (2019).* **Impact Factor: 1.241**

58. "Comparison of temperature dependent magnetic properties of uncoated and SiO_2 coated $BaFe_{12}O_{19}$ nanoparticles"
K Nadeem, J Z Minhas, F Zeb, Misbah Sajjad, H Abbas and M Zareef Khan
*Material Research Express, **6,** 116117(2019).* **Impact Factor: 1.609**

59. "A comparative study of magnetic, photocatalytic and dielectric properties of NiO nanoparticles synthesized by sol-gel and composite hydroxide mediated method"
Hur Abbas, **K. Nadeem**, A. Hafeez, A.Hassan, N. Saeed, H.Krenn
Ceramics International, Volume 45, Issue 14, (2019), Pages 17289-17297.
Impact Factor: 4.527

60. "Vortex dynamics in $(NiFe_2O_4)_x$/CuTl-1223 nanoparticles-superconductor composites"
S. Ahmed, M. Zareef Khan, **K. Nadeem**, Hur Abbas, M. Mumtaz
Physica B: Condensed Matter, Volume 581, (2020), 41195. **Impact Factor: 2.436**

61. "Magnetic phase diagram and dielectric properties of Mn doped $CoCr_2O_4$ nanoparticles"
K. Nadeem, Habib Ur Rehman, F. Zeb, E. Ali, M. Kamran, N. A. Noshahi, H. Abbas
Journal of Alloys and Compounds, Volume 832, (2020), 155031. **Impact Factor: 5.316**

62. "Comparison of surface effects in bare and titanium oxide coated $CoFe_2O_4$ nanoparticles"
M. Zareef Khan, **K. Nadeem**, F. Zeb, H. Abbas, Basit Ali, I. Letofsky-Papst
Solid State Sciences, Volume 103, (2020), 106186. **Impact Factor: 3.059**

63. "Fabrication of bifunctional nanocomposite for dye degradation"
W. Khalid, M. A. Abbasi, F. Ullah, M. Atif, Z. Ali, **K. Nadeem**, U. Farooq, F. Amin
Ceramics International, Volume 46, Issue 3, (2020), 2823-2828. **Impact Factor: 4.527**

64. "Enhanced photocatalytic Activity of Ferromagnetic Fe-doped NiO nanoparticles"
Hur Abbas, **K. Nadeem**, A. Hassan, S. Rahman, H. Krenn
Optik, Volume 202, (2020), 163637. **Impact Factor: 2.187**

65. "Ferrimagnetic to antiferromagnetic transition and complex impedance analysis of Cr-doped magnesium ferrite nanoparticles"
K. Khan, Z. Iqbal, Hur Abbas, A. Hassan and **K. Nadeem**
*Journal of Materials Science: Materials in Electronics **31**, 8578–8588 (2020).*
Impact Factor: 2.478

66. "Comparative study of frequency-dependent dielectric properties of ferrites MFe_2O_4 (M = Co, Mg, Cr and Mn) nanoparticles"
Mubasher, M. Mumtaz, Mehwish Hassan, Liaqat Ali, Zubair Ahmad, M. Awais Imtiaz, M. Fahad Aamir, Abdul Rehman and **K. Nadeem**
*Applied Physics A **126**, 334 (2020).* **Impact Factor: 2.584**

67. "Role of Co_3O_4 nanoparticles addition in infield superconducting properties of CuTl-1223 phase"
M. Imran, M. Zareef Khan, M. Waqee-Ur-Rehman, Asmat Ullah, S. Ahmed, **K. Nadeem**, M. Mumtaz
*Journal of Low Temperature Physics **200**:152–163 (2020).* **Impact Factor: 1.57**

68. "Magnetic homogeneity in Fe-Mn co-doped NiO nanoparticles"
Hur Abbas, **K. Nadeem**, H. Krenn, M. Kostylev, J. Hester, A. T. Murdock, S. Yick, Ilse Letofsky-Papst and C. Ulrich
*Nanotechnology **31**, 475701 (2020).* **Impact Factor: 3.874**

69. "Comparison of anomalous magnetic properties of non-collinear $CoCr_2O_4$ and $NiCr_2O_4$ nanoparticles"
R. Zohaib Rasool, **K. Nadeem**, M. Kamran, F. Zeb, Naman Ahmad, M. Mumtaz
*Journal of Magnetism and Magnetic Materials **514**, 167225 (2020).* **Impact Factor: 2.993**

List of Publications (Without Impact Factor):

1. "Influence of surface spins on the magnetization of fine maghemite nanoparticles"
K. Nadeem, H. Krenn, and D. V. Szabo
*American Institute of Physics Conference Proceedings **1569**, 347-350 (2013).*
Conference Proceeding

2. "Surface spin-glass freezing and blocking in nickel ferrite nanoparticles"
K. Nadeem and H. Krenn
*Materials Research Society, proc. vol. **1256**, 1256-N06-06 (2010).*
Conference Proceeding

3. "Two-magnon behavior of NiO nanoparticles"
F. Shahzad, P. Knoll, K. Ettinger, **K. Nadeem**, H. Krenn, K. Pressl, P. Granitzer, A. Kukovecz, G. Kozma, Z. Konya, and I. Letofsky-Papst
*American Institute of Physics Conference Proceedings, 22th International Conference on Raman Spectroscopy, proc. vol. **1267**, 255-256 (2010).*
Conference Proceeding

Conference/Seminars Contributions:

1. "Disordered and Frustrated Magnetization in Coated $MnFe_2O_4$ Nanoparticles Prepared by Microwave Plasma Synthesis"
Oral Presentation
K. Nadeem, M. Kamran, H. Krenn, D. V. Szabo, U. Brossmann and R. Wurschum
21st International Conference on Solid Compounds of Transition Elements (SCTE 18), 25-29 March 2018, Vienna, Austria.

2. "Poster Competition 2018"
Chief Organizer
10 May 2018, Department of Physics, International Islamic University, Islamabad, Pakistan.

3. "Magnetic transitions and negative magnetization in $CoCr_2O_4$ nanoparticles"
Oral Presentation
K. Nadeem and M. Kamran
International Conference on Nano-composites & Multi-Functional Materials (ICNMM)", August 21-23, 2017, at School of Natural Sciences, National University of Sciences and Technology, H-12, Islamabad, Pakistan.

4. Three Poster Presentations
1st International Conference on Mathematics and Physics, 14-02. 2017,
Air University (AU), Islamabad, Pakistan
5. "Fundamentals to Nanoparticle Magnetism"
Invited talk
15 Dec. 2014, Department of Physics, School of Natural Sciences, NUST, Islamabad, Pakistan.
6. "Torque Magnetometry and dc Magnetization of $CaCo_2As_2$"
(Oral Presentation)
K. Nadeem, W. Zhang, D. Y. Chen, Z. A. Ren and X. G. Qiu
International Scientific Spring Conference, March 16-19, 2015, Islamabad, Pakistan.
7. "Influence of surface spins on the magnetization of fine maghemite nanoparticles"
Oral Presentation
K. Nadeem, H. Krenn, and D. V. Szabó
APMAS conference (3rd International Advances in Applied Physics & Materials Science Congress), 24-28 April, 2013, Antalya, Turkey
8. Four Poster Presentations
International Conference and Workshop on Nano Science and Technology, 1-5 Oct. 2012, Quaid-i-Azam University, Islamabad, Pakistan.
9. "Cross-over between spin-glass freezing and blocking in $NiFe_2O_4$ nanoparticles"
Oral Presentation
K. Nadeem and H. Krenn
74th German Physical Society meeting (DPG meeting), 21-26 March 2010, Regensburg, Germany.
10. "Surface spin-glass freezing and blocking in nickel ferrite nanoparticles"
Poster Presentation
K. Nadeem and H. Krenn
MRS spring meeting, 05-09 April 2010, San Francisco, USA.
11. "Transmission electron microscopy and characterization of $NiFe_2O_4$ nanoparticles dispersed in SiO_2 matrix"
Poster Presentation
K. Nadeem, I. Letofsky-Papst, T. Traussnig, R. Wuerschum, and H. Krenn
Microscopy conference 2009 (MC 2009), 30th Aug - 4th Sept. 2009, Graz, Austria.
12. "Multi-phase to single-phase $NiFe_2O_4$ nanoparticles dispersed in SiO_2 matrix"
Poster Presentation
K. Nadeem, T. Traussnig, H. Krenn, P. Granitzer, I. Letofsky-Pepst, Pedro Traar
European Workshop on Self-Organized Nanomagnets, March 29th - April 3rd 2009, Aussois, France.
13. "Charge-induced tuning of the magnetic moment of nanocrystalline maghemite/platinum composites"
Oral Presentation
T. Traußnig, S. Topolovec, D. V. Szabo, S. Landgraf, **K. Nadeem**, H. Krenn, R. Würschum
International Conference on Nanostructured Materials, 13-19 Sep. 2010, Rome, Italy.
14. "Reversible tuning of the magnetic moment of nanocrystalline maghemite/platinum composites by electrochemical charging"

Oral Presentation
T. Traußnig, S. Topolovec, **K. Nadeem**, D. V. Szabo, H. Krenn, and R. Würschum
75th German Physical Society meeting (DPG meeting), 13-18 March 2011, Dresden, Germany.
15. "Exchange bias, memory and freezing effects in $NiFe_2O_4$ nanoparticles"
K. Nadeem and H. Krenn
Oral Presentation
International Conference on Superconductivity and Magnetism (ICSM 2010), 25-30 April, Antalya, Turkey.
16. "Synthesis and magnetic characterization of $NiFe_2O_4$ nanoparticles and its nanocomposites"
Poster Presentation
K. Nadeem and H. Krenn
58 Jahrestagung der Österreichischen , Physikalischen Gesellschaft, 22-26 September 2008 an der Montanuniversität Leoben, Austria.
17. "Magnetic properties of NiO nanoparticles investigated by SQUID and magnetic Raman scattering"
Oral Presentation
F. Shahzad, P. Knoll, K. Ettinger, **K. Nadeem**, H. Krenn, G. Kozma, A. Kukovecz, Z. Konya, I. Letofsky-papst, K. Pressl, and P. Granitzer
74 th German Physical Society meeting (DPG meeting), 21-26 March 2010, Regensburg, Germany.
18. "Magnetic studies of fine maghemite nanoparticles prepared by microwave plasma synthesis"
Oral Presentation
K. Nadeem, H. Krenn, T. Traussing, R. Würschum, and D. V. Szabo
60th Annual meeting of Austrian Physical Society, 6-10 September 2010, Salzburg, Austria.
Invited Talk
19. "How to stabilize the magnetization of ultrasmall nanomagnets?"
H. Krenn and **K. Nadeem**
60th Annual meeting of Austrian Physical Society, 6-10 September 2010, Salzburg, Austria.
20. "Temperature and size dependent properties of NiO nanoparticles"
Oral Presentation
F. Shahzad, P. Knoll, K. Ettinger, **K. Nadeem**, I. Letofsky-papst, H. Krenn, K. Pressl, A. Kukovecz, G. Kozma, and Z. Konya
60th Annual meeting of Austrian Physical Society, 6-10 September 2010, Salzburg, Austria.

Projects:

1. HEC research project, Higher Education Commission 2013, Pakistan.
   Titled: "Synthesis and characterization of nanoparticles/ superconductor composites"
2. International Islamic University Research Project 2016, Pakistan.
   Titled: "Synthesis and Dielectric properties of Nanoparticles and Nanocomposites"
3. Australian Centre for Neutron Scattering Project, 2019-20, Australia.

Titled: “Competing Magnetic Interaction in Core/Shell Magnetic Structure of NiO Nanoparticles Dispersed in Silica Matrix”.

MS Students Supervised:

1. Mr. Tall-e-mund Abdullah
MS (Physics) thesis 2021, Department of Physics, IIUI, Pakistan
Thesis title: *“Temperature dependent DC magnetic properties of $Ni_{1-x}(FeMn)_xO$ nanoparticles”*

2. Mr. Asad Iqbal
MS (Physics) thesis 2021, Department of Physics, IIUI, Pakistan
Thesis title: *“Temperature dependent magnetic properties of $NiFe_2O_4/BaFe_{12}O_{19}$ nanocomposites”*

3. Mr. Muhammad Yasir
MS (Physics) thesis 2021, Department of Physics, IIUI, Pakistan
Thesis title: *“AC susceptibility and magnetic relaxation of $Ni_{1-x}(FeMn)_xO$ nanoparticles”*

4. Mr. Hafiz Muhammad Usman
MS (Physics) thesis 2021, Department of Physics, IIUI, Pakistan
Thesis title: *“Temperature dependent magnetic properties of $Ni_{1-x}(FeCo)_xO$ nanoparticles”*

5. Mr. Basit Ali
MS (Physics) thesis 2020, Department of Physics, IIUI, Pakistan
Thesis title: *“Structural and magnetic properties of NiO nanoparticles dispersed in SiO_2 matrix.”*

6. Mr. Umair Ahmed
MS (Physics) thesis 2020, Department of Physics, IIUI, Pakistan
Thesis title: *“Effect of Transition Metals Doping on Magnetic and Optical Properties of NiO Nanoparticles.”*

7. Mr. Shiraz Munir
MS (Physics) thesis 2020, Department of Physics, IIUI, Pakistan
Thesis title: *“Co-Doping Effect of Fe and Co on Magnetic Properties of NiO Nanoparticles”*

8. Mr. Shahab ud Din
MS (Physics) thesis 2020, Department of Physics, IIUI, Pakistan
Thesis title: *“Structural, vibrational and dielectric properties of $Ni_{1-x}Mn_xCr_2O_4$ nanoparticles.”*

9. Mr. Farhan Farooq Sidiqui
MS (Physics) thesis 2019, Department of Physics, IIUI, Pakistan
Thesis title: *“Analysis of AC and DC magnetic properties of Cr_2O_3 coated $MnFe_2O_4$ nanoparticles”*

10. Mr. Raja Zohaib Rasool
MS (Physics) thesis 2019, Department of Physics, IIUI, Pakistan
Thesis title: *“Temperature dependent magnetic properties of multiferroic (MCr_2O_4, M= Co and Ni) nanoparticles.”*

11. Mr. Faheem Ullah
MS (Physics) thesis 2019, Department of Physics, IIUI, Pakistan

Thesis title: *"Fabrication of bifunctional GO/ZnO/MnPs nanocomposites for dye degradation"*

12. Mr. Hamid Zahid Khokhar

MS (Physics) thesis 2019, Department of Physics, IIUI, Pakistan

Thesis title: *"Structural and magnetic properties of Mg doped multiferroic $NiCr_2O_4$ nanoparticles"*

13. Mr. Ehtesham Ali

MS (Physics) thesis 2018, Department of Physics, IIUI, Pakistan

Thesis title: *"Magnetic properties of $Co_{1-x}Mn_xCr_2O_4$ nanoparticles."*

14. Mr. Zafar Iqbal

MS (Physics) thesis 2018, Department of Physics, IIUI, Pakistan

Thesis title: *"Temperature dependent magnetic response of spinel $MgFe_2O_4$ nanoparticles"*

15. Mr. Naman Ahmed

MS (Physics) thesis 2018, Department of Physics, IIUI, Pakistan

Thesis title: *"Structural and magnetic properties of $Ni_{1-x}Mn_xCr_2O_4$ nanoparticles."*

16. Mr. Habib Ur Rahman

MS (Physics) thesis 2018, Department of Physics, IIUI, Pakistan

Thesis title: *"Dielectric properties of $Co_{1-x}Mn_xCr_2O_4$ nanoparticles."*

17. Mr. Noman Saeed

MS (Physics) thesis 2018, Department of Physics, IIUI, Pakistan

Thesis title: *"Effect of SiO_2 coating on dielectric properties of NiO nanoparticles."*

18. Mr. Ghaznfar Mehboob

MS (Physics) thesis 2017, Department of Physics, IIUI, Pakistan

Thesis title: *"Temperature dependent magnetic properties of uncoated and SiO_2 coated $CoCr_2O_4$ nanoparticles"*

19. Mr. Irfan Ahmed

MS (Physics) thesis 2017, Department of Physics, IIUI, Pakistan

Thesis title: *"Effect of Mg doping on physical properties of $NiCr_2O_4$ nanoparticles."*

20. Mr. Muhammad Ishaq

MS (Physics) thesis 2017, Department of Physics, IIUI, Pakistan

Thesis title: *"Study of spin-glass behavior in CoO coated $MnFe_2O_4$ nanoparticles."*

21. Mr. Syed Zaeem Ul Hassan

MS (Physics) thesis 2017, Department of Physics, IIUI, Pakistan

Thesis title: *"Temperature dependent magnetic properties of ZrO_2 coated $CoFe_2O_4$ nanoparticles."*

22. Mr. Aaqib Javed

MS (Physics) thesis 2017, Department of Physics, IIUI, Pakistan

Thesis title: *"Magnetic properties of Cr_2O_3 coated iron oxide nanoparticles."*

23. Mr. Waqas Shoukat

(as co-supervisor)

MS (Physics) thesis 2017, Department of Physics, IIUI, Pakistan.

Thesis title: *"Synthesis and Characterization of $NiFe_2O_4$ Nanoparticles by wet chemical sol-gel method."*

24. Mr. Jabir Zamir Minhas

MS (Physics) thesis 2016, Department of Physics, IIUI, Pakistan

Thesis title: *"Structural and magnetic properties of $BaFe_{12}O_{19}$ nanoparticles."*

25. Mr. Muhammad Shoaib Khan
MS (Physics) thesis 2016, Department of Physics, IIUI, Pakistan
Thesis title: *"AC and DC magnetic properties of zirconium dioxide coated iron oxide nanoparticles"*
26. Mr. Syed Fahad Ali Shah
MS (Physics) thesis 2016, Department of Physics, IIUI, Pakistan
Thesis title: *"Synthesis and characterization of iron chromite nanoparticles"*
27. Mr. Shah Fahad
MS (Physics) thesis 2016, Department of Physics, IIUI, Pakistan
Thesis title: *"Synthesis and characterization of barium ferrite based nanocomposites"*
28. Mr. Yasir Mehmood
MS (Physics) thesis 2016, Department of Physics, IIUI, Pakistan
Thesis title: *"Magnetic properties of SiO_2 coated $CoCr_2O_4$ nanoparticles"*
29. Mr. Umair Rashid
MS (Physics) thesis 2016, Department of Physics, IIUI, Pakistan
Thesis title: *"Synthesis and characterization of $CoCr_2O_4$ nanoparticles"*
30. Mr. Asmat Ullah
MS (Physics) thesis 2016, Department of Physics, IIUI, Pakistan
Thesis title: *"Structural, dielectric and magnetic properties of $Co_{1-x}Mg_xCr_2O_4$ Nanoparticles"*
31. Mr. Muhammad Zareef Khan
MS (Physics) thesis 2016, Department of Physics, IIUI, Pakistan
Thesis title: *"Role of cobalt oxide nanoparticles in CuTl-superconductor"*
32. Mr. Shehzad Ahmed
MS (Physics) thesis 2016, Department of Physics, IIUI, Pakistan
Thesis title: *"*Vortex dynamics in $NiFe_2O_4$ nanoparticles/CuTl-1223 superconductor composites*"*
33. Ms. Misbah Sajjad
MS (Physics) thesis 2016, Department of Physics, IIUI, Pakistan
Thesis title: *"*Synthesis and characterization of M-type hexa-ferrites nanostructured materials*"*
34. Mr. Shahid Iqbal
MS (Physics) thesis 2015, Department of Physics, IIUI, Pakistan
Thesis title: "Temperature dependent magnetic properties of silica coated maghemite nanoparticles"
35. Mr. Syed Kaman Ali Shah
MS (Physics) thesis 2015, Department of Physics, IIUI, Pakistan
Thesis title: "Comparison of magnetic properties of uncoated and silica coated maghemite nanoparticles"
36. Mr. Abdul Mateen
MS (Physics) thesis 2015, Department of Physics, IIUI, Pakistan
Thesis title: "Manufacturing of nanocomposites filled with carbon nanofibers for electromagnetic wave absorption"
37. Mr. Adnan Razaq Qureshi
MS (Physics) thesis 2014, Department of Physics, IIUI, Pakistan

Thesis title: "*Temperature dependent magnetic properties of uncoated and coated cobalt ferrite nanoparticles*"

38. Mr. Shahid Ahmed Khan

MS (Physics) thesis 2014, Department of Physics, IIUI, Pakistan

Thesis title: "*Study of cobalt ferrite nanoparticles/CuTl-based superconductor composites*"

39. Mr. Muhammad Mushtaq

MS (Physics) thesis 2014, Department of Physics, IIUI, Pakistan

Thesis title: "*Synthesis and characterization of nickel oxide nanostructures*"

40. Mr. Abrar Ahmed Khan

(as co-supervisor)

MS (Physics) thesis 2014, Department of Physics, IIUI, Pakistan

Thesis title: "*Berezinskii-Kosterlitz-Thouless (BKT) Transition in K-doped Fe-based superconductor*"

41. Mr. Munawar Zaman

(as co-supervisor)

MS (Physics) thesis 2014, Department of Physics, IIUI, Pakistan

Thesis title: "*Effect of Al_2O_3 nanoparticles in CuTl-based superconductor*"

42. Mr. Ghulam Hussain

(as co-supervisor)

MS (Physics) thesis 2014, Department of Physics, IIUI, Pakistan

Thesis title: "*Study of critical regime of nano $(Ag)_x$/CuTl-1223 superconductor composites via excess conductivity analyses*"

43. Mr. Liaqat Ali

MS (Physics) thesis 2014, Department of Physics, IIUI, Pakistan.

Thesis title: *"Study of iron oxide nanoparticles"*

44. Mr. Waseem Serwar

MS (Physics) thesis 2014, Department of Physics, IIUI, Pakistan.

Thesis title: *"Surface effects in ferrite nanoparticles"*

45. Mr. Khalid Khan

(as co-supervisor)

MS (Physics) thesis 2014, Department of Physics, IIUI, Pakistan.

Thesis title: *"Synthesis and characterization of Gold nanoparticles/superconductor composites"*

46. Mr. Faisal Zeb

MS (Physics) thesis 2013 at Department of Physics, IIUI, Pakistan.

Thesis title: "*Synthesis and characterization of Co-ferrite/SiO_2 nanocomposites*"

47. Mr. Saqib Rehman

MS (Physics) thesis 2012, Department of Physics, IIUI, Pakistan.

Thesis title: "*Synthesis and characterization of spinel ferrite nanoparticles*"

48. Ms. Sumayyah Naeem

MS (Physics) thesis 2012, Department of Physics, IIUI, Pakistan.

Thesis title: "*Synthesis and characterization of ferrite nanoparticles/superconductor composites*"

49. Ms. Farah Naeem

(as co-supervisor)

MS (Physics) thesis 2012, Department of Physics, IIUI, Pakistan.
Thesis title: "*Synthesis and characterization of oxide nanoparticles/superconductor composites*"

50. Mr. Muhammad Shahid
(as co-supervisor)
MS (Physics) thesis 2012, Department of Physics, IIUI, Pakistan.
Thesis title: *"Dielectric and magnetic studies of Co-Zn ferrite/SiO_2 nanocomposites"*

PhD Students Supervised:

1. **Dr. Hur Abbas**

(As supervisor)
PhD (Physics) thesis 2020, Department of Physics, IIUI, Pakistan
Thesis Title: "Effect of Coating and Doping on Magnetic and Optical Properties of NiO Nanoparticles"

2. **Dr. Faisal Zeb**

(As supervisor)
PhD (Physics) thesis 2019, Department of Physics, IIUI, Pakistan
Thesis Title: *"Synthesis and Characterization of Coated and Uncoated Ferrite Magnetic Nanoparticles"*

3. **Dr. Muhammad Kamran**

(As supervisor)
PhD (Physics) thesis 2018, Department of Physics, IIUI, Pakistan
Thesis Title: *"Study of Structural, Dielectric, and Magnetic Properties of Ferrite/Chromite Nanoparticles"*

4. **Dr. Liaqat Ali**

(As co-supervisor)
PhD (Physics) thesis 2020, Department of Physics, IIUI, Pakistan.
Thesis Title: *"Metallic Nanoparticles Effects on Physical Properties of CuTl-1223 Superconductor"*

5. **Dr. Irfan Qasim**

(As co-supervisor)
PhD (Physics) thesis 2016, Department of Physics, IIUI, Pakistan.
Thesis Title: *"Structural and superconducting properties of CuTl-12(n-1)n; n = 3, 4/nanostructures composites"*

6. **Dr. Abdul Jabbar**

(As co-supervisor)
PhD (Physics) thesis 2015, Department of Physics, IIUI, Pakistan.
Thesis title: *"Synthesis and characterization of metal-oxide nanoparticles doped CuTl-based superconductor"*

References:

1. Prof. Dr. Heinz Krenn, Institute for Physics, Karl-Franzens University, Graz, Austria.
E-mail: heinz.krenn@uni-graz.at
2. Prof. Xianggang Qiu
Institute of Physics, SC03, Chinese Academy of Sciences, Beijing, China.

E-mail: xgqiu@iphy.ac.cn
3. Prof. Dr. Peter Knoll, Institute for Physics, Karl-Franzens University, Graz, Austria.
E-mail: peter.knoll@uni-graz.at
4. Prof. Dr. Gunther Paltauf, Institute for Physics, Karl-Franzens University, Graz, Austria.
E-mail: guenther.paltauf@uni-graz.at