

# Ghulam Nabi, PhD

Astt. Professor



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<http://phy.uok.edu.in/Main/ProfilePage.aspx?Profile=0241>

Department of Physics, University of Kashmir , Srinagar, 190006 • Jammu Kashmir • India

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## Academic Qualifications

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- PhD (Thesis title: Metal Oxide Nanostructures and Their Applications) from Department of Material Science, Faculty of Natural Sciences, University of Patras, Greece (16 th February 2015).
  - Master of Science (M. Sc) in Physics, Aligarh Muslim University, Aligarh, India (2002).(Project in Nuclear Physics)
  - Bachelor of Science (B. Sc.; Hons.) in Physics, Aligarh Muslim University, Aligarh, India (2000)
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## Famous Laboratories/Research Centers worked at

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- Nuclear Physics Laboratory Aligarh UP and Inter University Accelerator Center Delhi during 2002-2004
  - Physical Research Laboratory Ahmadabad Gujrat during 2004-2007
  - Harish Chandra Institute Praygraaj UP during 2010 (Visitor)
  - Inter University Accelerator Center for Astronomy and Astrophysics during 2010 (SERC School)
  - Materials Science Department, Patras University, Greece (With PhD Supervisor, [Prof. S. Baskoutas](#) ) and Promising Center for Sensors and Electronic Devices Najran University, Saudi Arabia during 2011-2014 (with PhD Co supervisor [Prof. Ahmad Umar](#))
  - NanoPhysics Lab , Physics , University of Kashmir Srinagar from 2007
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## Research Interests and Collaborations

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- Study of Various Properties (Optical, Electric And Dielectric, Magnetic Properties) of Nanomaterials.
- Applications In Electro-Chemical Sensing, Photo Catalysis , Waste Water Treatment And Solar Cell Applications.
- Role Of Light And Swift Heavy Ion Irradiations On The Various Aspects Of Nanomaterials.
- Simulations On The Various Properties of Nanomaterials Especially Carbon Nanotubes

### Collaborations

- [Prof. S. Baskoutas](#), Greece
- [Prof.Ahmad Umar](#), USA
- [Prof.K.Asokan](#), Delhi
- [Prof.A Pandith](#), Kashmir
- [Prof.KHursheed A Shah](#),Kashmir
- [Prof.Ashraf A Shah](#), Kashmir
- [Prof.M.Arif](#), Kashmir

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## Research Projects: Completed

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- Title: Study of pure and ion embedded iron oxide nanostructure for sensing and removal of hazardous wastes from water, granted by DST New Delhi ( March 2017) Budget: 31,04,420 INR
  - Title: Effect of light and heavy ion irradiation on pure and transition metal doped iron oxide thin films, sanctioned by Inter University Accelerator Center, New Delhi ( January 2018) . Budget: 948000 INR
  - Title: “Low-temperature facile growth of metal oxides nanostructures for chemical sensor applications “ granted by Promising Center for Sensors and Electronic Devices (PCSED), Najran University, Saudi Arabia Budget: 249,500 SR
  - Title: :Fabrication and characterization of high-performance electronic devices based on doped and undoped ZnO nanostructures” granted by Promising Center for Sensors and Electronic Devices (PCSED), Najran University, Saudi Arabia, Budget: 249,500 SR
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## PhD students

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- **Awarded**
  - **Ruqiya Bhat : Awarded on 10-08-2021**  
*Topic: Studies on Magnetic, Electrical and Optical Properties of Pure and Doped Magnetic Nanostructures*
  - **Arshid Bashir : Awarded on 07-07-2022**  
*Topic: Adsorption studies on some new and novel nanocomposite materials for environmental analysis*
  - **Mubashir Qayoom : Awarded on 18-07-2022**  
*Topic: Transition Metal Doping and Ion Irradiation/Implantation Effects on Iron Oxide Nanostructures*
  - **M. Shunaid : Awarded on 08-06-2023**  
*Modelling and Simulation of Single Walled Carbon Nanotube Based Two-Probe Electronic Devices*
  - **Ongoing**
  - **Ms. Nazarat**  
*Topic: Modelling and performance analysis of molybdenum disulphide based phototransistor*
  - **Mr. S. Irfan**  
*Topic: Studies on Graphene Based Nanocomposite Materials and their Applications.*
  - **Mr. Shazia Showkat**  
*Topic: Under Progress*
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## Teaching Subjects

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- Physics of Nanomaterials
- Mathematical Physics
- Renewable Energy Resources
- Physics Education
- Atomic and Molecular Physics
- Environmental Physics
- Solid State Physics
- Nuclear Physics
- Laboratory Course on Physics

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## Invited Lectures

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- 2023: Resource person in HRDC KASHMIR UNIVERSITY *LATEX a powerful tool for documentation* on 29-07-2023
- 2023: Resource person in National Science Day organised by College for Woman Srinagar on 28-02-2023
- 2022: Resource person in Refresher course in Science organised by HRDC KU 9-12-2022 to 23-12-22
- 2022: Resource person in STUTI program at Physics Kashmir University on UV-Vis Spectrophotometer
- 2022: Invited lecture in National Conference cum Scientific Exhibition at Bandipora organised by Jointly SSET North Kashmiri ALigs and IDPS.
- 2021: Invited lecture on Climate Change Spurs aNnew Call for Nuclear Energy on the eve of National Conservation Day 14th december 2021 organised by Environmental Science and DSW KU
- 2019:Invited lecture in DST Sponsored Two Week FDP on Quantum Sci. and Technology at BGSBU , Rajouri
- 2019:Chaired a Session on ON ENERGY CONSERVATION DAY at DD TV KASHMIR SRINAGAR
- 2019:Invited lecture in international conference on Nanotechnology for better living at NIT Srinagar.
- 2018:Invited lecture in Teachers Training Program under RMSA at State Institute of Education Srinagar.
- 2017:Invited lecture in Teachers Training Program under RMSA at State Institute of Education Srinagar.
- 2017:Invited lecture in Physics in 21th Century at Govt Degree College Bemina, Srinagar.
- 2017:Invited lecture in Recent Advances In Nanoscience And Nanotechnolgy at GDC for Women, Anantnag.

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## Refresher cum Orientation Courses

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- 2020:Participated in Rietveld Refinement Metho organised by UGC-DA Consortium Indore
- 2020:Participated in Recent Advances in Nanoscience Nanotechnology organised by NIT Srinagar.
- 2020:Participated in Problem solving and programming with python organised by UGC HRDC Hydrabad University
- 2020:Participated in e-Faculty Development Programme (e-FDP) on Cloud Computing to be conducted by UGC-HRDC, University of Kashmir from July 20-25, 2020 for IT and Computer Science teachers organised by UGC HRDC University of Kashmir Srinagar.
- 2019:Participated in SERC School on Quantum Mechanics conducted by IUST Awantipora.
- 2016:Participated in Refresher course on Experimental Physics organised by Physics KU sponsored by Indian Academy Science .
- 2015:Participated Special Summer School Refresher Course conducted by UGC-HRDC, University of Kashmir
- 2010:Participated in Refresher course (SERC School) conducted National Center for Radio Astrophysics, Tata Institute of Fundamental Research, Pune
- 2007:Participated in Orientation Course conducted by UGC-HRDC, University of Kashmir

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## Book Chapters

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- 2019: Microwave-Assisted Hydrothermal Synthesis of Agglomerated Spherical Zirconium Phosphate for Removal of Cs<sup>+</sup> and Sr<sup>2+</sup> Ions from Aqueous System, Arshid Bashir, Lateef Ahmad Malik, G. N. Dar and Altaf Hussain Pandith, Springer Nature Switzerland AG 2019 Inamuddin et al. (eds.), Applications of Ion Exchange Materials in the Environment.
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## Research Paper

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61. title=Enhanced supercapacitor performance of Mg-doped SnO<sub>2</sub> nanorods synthesized through the solvothermal method, author=DAR, MOHD ARIF and MALA, NAZIR AHMAD and BHAT, Md YASIR and AHAMED, S RAFI and RATHER, AAFAQ A and BATOO, KHALID MUJASAM and DAR, GN, journal=Bulletin of Materials Science, volume=46, number=2, pages=69, year=2023, publisher=Indian Academy of Sciences Bangalore
60. title=Towards new energy storage devices: Electrochemical and photovoltaic performance of SnSe/Fe, SnSe/Ni nanospherical composites, author=Dar, Mohd Arif and Mala, Nazir Ahmad and Govindarajan, D and Dar, GN and Siva, C and Rather, Aafaq A and Ahamed, S Rafi, journal=Inorganic Chemistry Communications, volume=148, pages=110318, year=2023, publisher=Elsevier
59. title=Modified solution combustion-grown Zn-doped Ni–Mg ferrite nanostructures for room temperature NH<sub>3</sub> sensing, author=Qayoom, Mubashir and Irfan, Sheikh and Malik, Gazala Farooq and Shah, Khurshed Ahmad and Lone, Muzaffar Qadir and Kumar, Ramasamy Thangavelu Rajendra and Dar, Ghulam Nabi, journal=Journal of Materials Science: Materials in Electronics, pages=1–16, year=2022, publisher=Springer US
58. title=Dephasing effects on the low-energy dynamics of  $\phi$  4-model, author=Dar, Irfan A and Lone, Muzaffar Qadir and Najar, Imtiyaz A and Dar, Ghulam N, journal=International Journal of Modern Physics B, volume=36, number=26, pages=2250175, year=2022, publisher=World Scientific Publishing Company
57. title=Photovoltaic and Supercapacitor performance of SnSe nanoparticles prepared through co-precipitation method, author=Dar, Mohd Arif and Govindarajan, D and Batoo, Khalid Mujasam and Hadi, Muhammad and Dar, GN, journal=Materials Technology, volume=37, number=10, pages=1396–1409, year=2022, publisher=Taylor & Francis
56. title=Carbon nanotube logic gates: An interplay of spin and light, author=Shah, Khurshed A and Parvaiz, M Shunaid and Dar, GN and Misra, Prabhakar, journal=Journal of Applied Physics, volume=131, number=20, pages=204301, year=2022, publisher=AIP Publishing LLC
55. title=Modification of structural, topographical and magnetic properties induced by Ag ion irradiations in pure and divalent metal (Zn<sup>2+</sup> and Co<sup>2+</sup>)-doped iron oxide thin films, author=Qayoom, Mubashir and Shah, Khurshed A and Asokan, K and Sulania, Indra and Dar, Ghulam Nabi, journal=Journal of Materials Science: Materials in Electronics, volume=33, number=8, pages=5661–5677, year=2022, publisher=Springer US
54. title=Synthesis of sodium acetate oriented Ni (II)-doped iron oxide nanospheres for efficient acetone sensing, author=Qayoom, Mubashir and Shah, Khurshed A and Firdous, Arfat and Dar, Ghulam Nabi, journal=Sensors International, volume=3, pages=100150, year=2022, publisher=Elsevier
53. title=Modification of structural, topographical and magnetic properties induced by Ag ion irradiations in pure and divalent metal (Zn<sup>2+</sup> and Co<sup>2+</sup>)-doped iron oxide thin films, author=Qayoom, Mubashir and Shah, Khurshed A and Asokan, K and Sulania, Indra and Dar, Ghulam Nabi, journal=Journal of Materials Science: Materials in Electronics, pages=1–17, year=2022, publisher=Springer US
52. title=Modeling and simulation of carbon nanotube amino-acid sensor: A first-principles study, author=Parvaiz, M Shunaid and Shah, Khurshed A and Alrobei, H and Dar, GN and Khanday, Farooq A and Andrabi, S Muzaffar Ali and Hamid, Rabia, journal=Computational and Theoretical Chemistry, volume=1204, pages=113402, year=2021, publisher=Elsevier
51. title=Detection and separation of halogen gases using nano-porous carbon nanotubes, author=Parvaiz, M Shunaid and Shah, Khurshed A and Alrobei, H and Dar, GN, journal=Physica E: Low-dimensional Systems and Nanostructures, volume=129, pages=114636, year=2021, publisher=North-Holland

50. title=Facile Synthesis of SnS Nanostructures With Different Morphologies for Supercapacitor and Dye-Sensitized Solar Cell Applications, author=Dar, Mohd Arif and Govindarajan, D and Dar, Gulam Nabi, year=2021
49. title=Magnetically recyclable L-cysteine capped Fe<sub>3</sub>O<sub>4</sub> nanoadsorbent: A promising pH guided removal of Pb (II), Zn (II) and HCrO<sub>4</sub>-contaminants., author=Bashir, Arshid and Pandith, Altaf Hussain and Malik, Lateef Ahmad and Qureashi, Aaliya and Ganaie, Firdous Ahmad and Dar, Ghulam Nabi, journal=Journal of Environmental Chemical Engineering, pages=105880, year=2021, publisher=Elsevier
48. title=Photovoltaic and Supercapacitor performance of SnSe nanoparticles prepared through co-precipitation method, author=Dar, Mohd Arif and Govindarajan, D and Batoo, Khalid Mujasam and Hadi, Muhammad and Dar, GN, journal=Materials Technology, pages=1–14, year=2021, publisher=Taylor & Francis
47. title=Synthesis, Structural and Optical Properties of Erbium-Doped  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> Nanoparticles, author=Bhat, Ruqiya and Qayoom, Mubashir and Dar, Ghulam Nabi, journal=Journal of Electronic Materials, volume=49, number=11, pages=6380–6387, year=2020, publisher=Springer US
46. title=Electrical doping in single walled carbon nanotube systems: A new technique, author=Parvaiz, M Shunaid and Shah, Khurshed A and Dar, GN and Khanday, Farooq Ahmad, journal=Computational Condensed Matter, volume=25, pages=e00507, year=2020, publisher=Elsevier
45. title=Structural, optical, antibacterial analysis of Se NPs synthesized by precipitation method, author=Dar, Mohd Arif and Mala, Nazir Ahmad and Dar, GN and Kumar, S Satheesh and Govindarajan, D, journal=Advances in Natural Sciences: Nanoscience and Nanotechnology, volume=11, number=4, pages=045001, year=2020, publisher=IOP Publishing
44. title=Dielectric and electrical studies on iron oxide ( $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>) nanoparticles synthesized by modified solution combustion reaction for microwave applications, author=Qayoom, Mubashir and Shah, Khurshed Ahmad and Pandit, Altaf Hussain and Firdous, Arfat and Dar, Ghulam Nabi, journal=Journal of Electroceramics, pages=1–8, year=2020, publisher=Springer US
43. title=Synthesis, characterizations and optical studies of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>,  $\alpha$ -Ho<sub>0.03</sub>Fe<sub>1.97</sub>O<sub>3</sub> and  $\alpha$ -Dy<sub>0.03</sub>Fe<sub>1.97</sub>O<sub>3</sub> nanoparticles, author=Bhat, Ruqiya and Dar, Ghulam Nabi, booktitle=AIP Conference Proceedings, volume=2276, number=1, pages=020019, year=2020, organization=AIP Publishing LLC
42. title=Revisiting the Old and Golden Inorganic Material, Zirconium Phosphate: Synthesis, Intercalation, Surface Functionalization, and Metal Ion Uptake, author=Bashir, Arshid and Ahad, Sozia and Malik, Lateef Ahmad and Qureashi, Aaliya and Manzoor, Taniya and Dar, Ghulam Nabi and Pandith, Altaf Hussain, journal=Industrial & Engineering Chemistry Research, volume=59, number=52, pages=22353–22397, year=2020, publisher=American Chemical Society
41. title=Crystallite Size and Compressive Lattice Strain in NiFe<sub>2</sub>O<sub>4</sub> Nanoparticles as Calculated in Terms of Various Models: Influence of Annealing Temperature, author=Qayoom, M and Dar, GN, journal=International Journal of Self-Propagating High-Temperature Synthesis, volume=29, number=4, pages=213–219, year=2020, publisher=Pleiades Publishing
40. title=Modified solution combustion synthesis of nickel-doped magnetite nanoparticles and the influence of annealing on their optical, electrical, and magnetic properties, author=Qayoom, Mubashir and Bhat, Ruqiya and Shah, Khurshed A and Pandit, Altaf Hussain and Firdous, Arfat and Dar, Ghulam Nabi, journal=Journal of Electronic Materials, volume=49, number=2, pages=1215–1229, year=2020, publisher=Springer US
39. title=Computational modeling of carbon nanotubes for photoresistor applications, author=Parvaiz, M Shunaid and Shah, Khurshed A and Dar, GN and Misra, Prabhakar, journal=Solid State Communications, volume=309, pages=113831, year=2020, publisher=Pergamon
38. title=Structural, dielectric, optical and magnetic studies of dysprosium doped iron oxide nanostructures, author=Bhat, Ruqiya and Qayoom, Mubashir and Dar, Ghulam Nabi and Want, Basharat, journal=Materials Chemistry and Physics, volume=245, pages=122764, year=2020, publisher=Elsevier
37. title=Unary doping effect of A<sup>2+</sup> (A= Zn, Co, Ni) on the structural, electrical and magnetic properties of substituted iron oxide nanostructures, author=Qayoom, Mubashir and Bhat, Ruqiya and Asokan, K and Shah, MA and Dar, Ghulam Nabi, journal=Journal of Materials Science: Materials in Electronics, volume=31, number=11, pages=8268–8282, year=2020, publisher=Springer US
36. title=Electronic transport in penta-graphene nanoribbon devices using carbon nanotube electrodes: A computational study, author=Shah, Khurshed A and Dar, GN and Chowdhury, Sugata and Farinre, Olasunbo and Misra, Prabhakar and others, journal=: , , , volume=11, number=2, pages=176–182, year=2020,

35. title=Spin transport in carbon nanotube magnetic tunnel junctions: A first principle study, author=Parvaiz, M Shunaid and Shah, Khurshed A and Dar, GN and Chowdhury, Sugata and Farinre, Olanunbo and Misra, Prabhakar, journal=Computational Condensed Matter, volume=24, pages=e00486, **year=2020**, publisher=Elsevier
34. title=Removal of heavy metal ions from aqueous system by ion-exchange and biosorption methods, author=Bashir, Arshid and Malik, Lateef Ahmad and Ahad, Sozia and Manzoor, Taniya and Bhat, Mudasir Ahmad and Dar, GN and Pandith, Altaf Hussain, journal=Environmental Chemistry Letters, volume=17, number=2, pages=729–754, **year=2019**, publisher=Springer International Publishing
33. title=Microwave-Assisted Hydrothermal Synthesis of Agglomerated Spherical Zirconium Phosphate for Removal of Cs<sup>+</sup> and Sr<sup>2+</sup> Ions from Aqueous System, author=Bashir, Arshid and Malik, Lateef Ahmad and Dar, GN and Pandith, Altaf Hussain, booktitle=Applications of Ion Exchange Materials in the Environment, pages=95–108, **year=2019**, publisher=Springer, Cham
32. title=X-Ray analysis of ZnFe<sub>2</sub>O<sub>4</sub> nanoparticles by Williamson-Hall plot method, author=Qayoom, Mubashir and Malik, Shuja Bashir and Dar, Ghulam Nabi, **year=2019**,
31. title=Advances in waste-water treatment technology using iron oxide nanomaterials, author=Malik, Shuja Bashir and Qayoom, Mubashir and Dar, Ghulam Nabi, **year=2019**,
30. title=Effect of rare earth doping on dielectric properties of ferric oxide nanograins, author=Bhat, Ruqiya and Dar, GN, **year=2019**,
29. title=Effect of Holmium Ion Doping on Structural and Photo-Physical Properties of Iron Oxide Nanoparticles, author=Bhat, Ruqiya and Dar, GN, journal=Journal of Nanoelectronics and Optoelectronics, volume=14, number=8, pages=1183–1188, **year=2019**, publisher=American Scientific Publishers
28. title=Improved dielectric, conductivity and magnetic properties of erbium doped  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> nanoparticles, author=Bhat, Ruqiya and Qayoom, Mubashir and Dar, Ghulam Nabi and Want, Basharat, journal=Journal of Materials Science: Materials in Electronics, volume=30, number=24, pages=20914–20934, **year=2019**, publisher=Springer US
27. title=Photocurrent in single walled carbon nanotubes, author=Shah, Khurshed A and Parvaiz, M Shunaid and Dar, GN, journal=Physics Letters A, volume=383, number=18, pages=2207–2212, **year=2019**, publisher=North-Holland
26. title=Probing of electric and magnetic properties of holmium doped iron oxide nanoparticles, author=Bhat, Ruqiya and Want, Basharat and Firdous, Arfat and Dar, GN, journal=Journal of Materials Science: Materials in Electronics, volume=29, number=22, pages=19472–19483, **year=2018**, publisher=Springer US
25. title=Enhanced photocatalytic degradation of harmful dye and phenyl hydrazine chemical sensing using ZnO nanourchins, author=Umar, Ahmad and Akhtar, MS and Al-Hajry, A and Al-Assiri, MS and Dar, GN and Islam, M Saif, journal=Chemical Engineering Journal, volume=262, pages=588–596, **year=2015**, publisher=Elsevier
24. title=Fabrication and Characterization of Field Effect Transistor Based on High-Aspect Ratio Sulfur-Doped ZnO Nanowires, author=Kim, Sang Hoon and Umar, Ahmad and Al-Hajry, A and Dar, GN and Abaker, M and Hwang, SW, journal=Journal of nanoscience and nanotechnology, volume=15, number=5, pages=3956–3961, **year=2015**, publisher=American Scientific Publishers
23. title=Synthesis and characterization of Gd-doped ZnO nanopencils for acetone sensing application, author=Ibrahim, Ahmed A and Hwang, Sang Woon and Dar, GN and Kim, SH and Abaker, M and Ansari, SG, journal=Science of Advanced Materials, volume=7, number=7, pages=1241–1246, **year=2015**, publisher=American Scientific Publishers
22. phd thesis title=Metal oxide nanostructures and their applications, author=Dar, Ghulam Nabi, **year=2015**,
21. title=Fabrication and Characterization of Smart Chemical Sensor Based on CoAl<sub>0.7</sub>Fe<sub>1.3</sub>O<sub>4</sub> Ferrite Nanoparticles, author=Zaki, HM and Al-Heniti, Saleh and Haddon, Robert and Umar, Ahmad and Dar, GN and Al-Hadeethi, Y and Alsanoosi, AM and others, journal=Sensor Letters, volume=12, number=10, pages=1534–1539, **year=2014**, publisher=American Scientific Publishers
20. title=ZnO nanoparticles: Efficient material for the detection of hazardous chemical, author=Kumar, R and Chauhan, MS and Dar, GN and Ansari, SG and Wilson, J and Umar, Ahmad and Chauhan, S and Rana, DS and Sharma, P, journal=Sensor letters, volume=12, number=9, pages=1393–1398, **year=2014**, publisher=American Scientific Publishers

19. title=Fabrication and Characterization of Smart Chemical Sensor Based on CoAl, author=Zaki12, HM and Al-Heniti, Saleh H and Haddon, Robert and Umar45, Ahmad and Dar, GN and Al-Hadeethi, Y and Alsanoosi, AM, journal=SENSOR LETTERS, volume=12, pages=1–6  
**year=2014,**
18. title=Synthesis and characterizations of ferrite nanomaterials for phenyl hydrazine chemical sensor applications, authors=Dar, GN and Al-Ghamdi, AA and Kim, SH, journal=Journal of nanoscience and nanotechnology, volume=14, number=5, pages=3765–3770, **year=2014,** publisher=American Scientific Publishers
17. title=Synthesis and characterization of iron oxide nanoparticles for phenyl hydrazine sensor applications, author=Hwang, SW and Umar, Ahmad and Dar, GN and Kim, SH and Badran, RI, journal=Sensor Letters, volume=12, number=1, pages=97–101, **year=2014,** publisher=American Scientific Publishers
16. title=ZnO Balls Made of Intermingled Nanocrystalline Nanosheets for Photovoltaic Device Application, author=Kim, Sang Hoon and Umar, Ahmad and Akhtar, MS and Dar, GN and Hwang, Sang Woon, volume=6, number=3, pages=562–568, **year=2014,** publisher=American Scientific Publishers
15. title=Low-temperature synthesis of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> hexagonal nanoparticles for environmental remediation and smart sensor applications, author=Umar, Ahmad and Akhtar, MS and Dar, GN Baskoutas, S, journal=Talanta, volume=116, pages=1060–1066, **year=2013,** publisher=Elsevier
14. title=Visible-light-driven photocatalytic and chemical sensing properties of SnS<sub>2</sub> nanoflakes, author=Umar, Ahmad and Akhtar, MS and Dar, GN and Abaker, M and Al-Hajry, A and Baskoutas, S, journal=Talanta, volume=114, pages=183–190, **year=2013** publisher=Elsevier
13. title=Growth of In-Doped ZnO Hollow Spheres Composed of Nanosheets Networks and Nanocones: Structural and Optical Properties, author=Kim, SH and Dar, GN and Umar, Ahmad, journal=Journal of nanoscience and nanotechnology, volume=13, number=7, pages=4639–4644, **year=2013,** publisher=American Scientific Publishers
12. nanosheet networks for ethanol chemical sensor application, author=Al-Hazmi, Faten and Umar, Ahmad and Dar, GN and Al-Ghamdi, AA and Al-Sayari, SA and Al-Hajry, A and Kim, SH and Al-Tuwirqi, Reem M and Alnowaiserb, Fowzia and El-Tantawy, Farid, journal=Journal of Alloys and Compounds, volume=519, pages=4–8, **year=2012,** publisher=Elsevier
11. title=CuO nanocubes based highly-sensitive 4-nitrophenol chemical sensor, author=Abaker, M and Dar, GN and Umar, Ahmad and Zaidi, SA and Ibrahim, Ahmed A and Baskoutas, S and Al-Hajry, A, journal=Science of Advanced Materials, volume=4, number=8, pages=893–900, **year=2012,** publisher=American Scientific Publishers
10. title=Ultra-sensitive ethanol sensor based on rapidly synthesized Mg (OH) <sub>2</sub> hexagonal nanodisks, author=Umar, Ahmad and Al-Hazmi, Faten and Dar, Ghulam Nabi and Zaidi, Shabi Abbas and Al-Tuwirqi, Reem M and Alnowaiserb, Fowzia and Al-Ghamdi, Ahmad A and Hwang, SW, journal=Sensors and Actuators B: Chemical, volume=166, pages=97–102, **year=2012,** publisher=Elsevier
9. title=Growth and photocatalytic properties of Sb-doped ZnO nanoneedles by hydrothermal process, author=Abaker, M and Umar, Ahmad and Al-Sayari, SA and Dar, GN and Faisal, M and Kim, SH and Hwang, SW, booktitle=AIP Conference Proceedings, volume=1370, number=1, pages=121–127, **year=2012,** organization=American Institute of Physics
8. title=La<sub>0.7</sub>Sr<sub>0.3</sub>MnO<sub>3</sub> nanoparticles based ultra-high sensitive ammonia chemical sensor, author=Al-Dossary, O and Umar, Ahmad and Al-Harbi, AA and Zaidi, Shabi Abbas and Dar, GN, journal=Journal of nanoscience and nanotechnology, volume=12, number=8, pages=6368–6373, **year=2012,** publisher=American Scientific Publishers
7. title=Growth and properties of Ag-doped ZnO nanoflowers for highly sensitive phenyl hydrazine chemical sensor application, author=Ibrahim, Ahmed A and Dar, GN and Zaidi, Shabi Abbas and Umar, Ahmad and Abaker, M and Bouzid, H and Baskoutas, S, journal=Talanta, volume=93, pages=257–263, **year=2012,** publisher=Elsevier
6. title=Ultra-high sensitive ammonia chemical sensor based on ZnO nanopencils, author=Dar, GN and Umar, Ahmad and Zaidi, Shabi Abbas and Baskoutas, S and Hwang, SW and Abaker, M and Al-Hajry, A and Al-Sayari, SA, journal=Talanta, volume=89, pages=155–161, **year=2012,** publisher=Elsevier



5. title=Ce-doped ZnO nanorods for the detection of hazardous chemical, author=Dar, GN and Umar, Ahmad and Zaidi, SA and Ibrahim, Ahmed A and Abaker, M and Baskoutas, S and Al-Assiri, MS, journal=Sensors and Actuators B: Chemical, volume=173, pages=72-78, year=2012, publisher=Elsevier
4. title=A highly sensitive ammonia chemical sensor based on  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> nanoellipsoids, author=Abaker, M and Umar, Ahmad and Baskoutas, S and Dar, GN and Zaidi, SA and Al-Sayari, SA and Al-Hajry, A and Kim, SH and Hwang, SW, journal=Journal of Physics D: Applied Physics, volume=44, number=42, pages=425401, year=2012, publisher=IOP Publishing
3. title=Fabrication of highly sensitive non-enzymatic glucose biosensor based on ZnO nanorods, author=Dar, GN and Umar, Ahmad and Zaidi, Shabi Abbas and Baskoutas, S and Kim, SH and Abaker, M and Al-Hajry, A and Al-Sayari, SA, journal=Science of Advanced Materials, volume=3, number=6, pages=901-906, year=2011, publisher=American Scientific Publishers
2. title=Growth of branched In-doped ZnO nanowires: Structural and Optical Properties, author=Kim, SH and Umar, Ahmad and Hwang, SW and Al-Garni, H and Abaker, M and Al-Sayari, SA and Dar, GN and Al-Hajry, A, booktitle=AIP Conference Proceedings, volume=1370, number=1, pages=142-148, year=2011, organization=American Institute of Physics
1. title=MICRO-MECHANICAL STUDIES ON PURE AND Ni DOPED ZnS NANOSTRUCTURED CRYSTALS, author=FIRDOUS, ARFAT and RASOOL, TANVEER and DARd, GN and Ahmad, MM, journal=Journal of Optoelectronics and Biomedical Materials Vol, volume=2, number=4, pages=175-184, year=2010,

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## Conferences

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1. Attended and presented a paper in Topical Conference on Atomic Molecular and Optical physics organized by Indian Association for the Cultivation of Science at Kolkata India in 2005.
2. Participated in International Symposium On Aerosol Chemistry Climate Interaction 20-22 Nov.2007 at Physical Research laboratory (PRL) Ahmadabad India.
3. Attended and presented two papers in National Conference on "Two day national level conference entitled "Earthquake Prediction: Recent Developments and Challenges" during August 06 - 07, 2008 organized by Dept. of Physics University Of Kashmir .
4. Participated in International One day workshop on " Advanced Computing for Statistics and Optimization for young statisticians and scientists using software on October 22,2008 "organized by Dept. Of Statistics, University of Kashmir.
5. Participated in Telescope/Spectroscope making workshop 6,7 October 2009 organized by Dept. of physics in collaboration with IUCAA Pune.
6. Participated in 4 day National Workshop on Advances in Astronomy and Astrophysics on November 3 to November 6 2009,organized by Dept. Of physics in collaboration with IUCAA Pune.
7. Participated and presented a poster on "Growth and properties of Ag-Doped ZnO nanoflowers for highly sensitive phenyl hydrazine chemical sensor application" in 3-day International Workshop on Sensors and electronic devices May 13 – 15 2012, organized by Promising Center for Electronic Devices and Sensor Applications Najran University, Najran Saudi Arabia.
8. Presented a paper in 4 th National Symposium on Recent Advances in Analytical Sciences and Applications on held at Jamia Hamdard on February 9-10 , 2015.
9. Presented a poster in 3- Day Lecture Program on Mathematical Modelling on Biological Systems (LPMMBS-2015) (April 02- 04, 2015) organized by Dept. of Mathematics, University of Kashmir in collaboration with National Network for Mathematical and Computational Biology (NNMCB).
10. Presented a paper in the "11 th JK Science Congress 2015" organized by University of Kashmir, Srinagar during October 12-14-2015.
11. Participated in the National Seminar on "Growth Points in Physics (GPP- 2017)" organised by Department of Physics, Kashmir University ( 21-10-2017 to 23-10- 2017)
12. Presented a paper in 13 th Science Congress JK 2 nd April to 4 th April 2018
13. Participated in National 63rd Accelerator User Workshop organized by Inter University Accelerator Center , New Delhi, ( 16-12-2018 to 18-12-2018)

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## Awards and Achievements

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1. Awarded creative work award on " La<sub>0.7</sub> Sr<sub>0.3</sub> MnO<sub>3</sub> Nanoparticles based Ultra-high sensitive Ammonia Chemical Sensor" by Almarai Prize for Scientific Innovation in 2012, Saudi Arabia.
2. Worked as Senior Research Fellow in 2006 ( for about four months) in Physical Research Laboratory Ahmadabad on " Laser Produced Plasma Plumes".
3. Worked as Junior Research Fellow from July 2004 – August 2006 in Physical Research Laboratory, Ahmadabad on " Laser Produced Plasma Plumes".
4. Qualified Pre PhD Course work in Physical Sciences at Physical Research Laboratory Ahmadabad in 2004.
5. Qualified NET-JRF in Physical Sciences conducted jointly by CSIR-UGC in June 2003
6. Awarded Post Graduate Merit Scholarship by the Dean Students Welfare, AMU Aligarh in the year 2001-2002.

(Dr. Ghulam Nabi Dar , Srinagar )