CURRICULUM VITAE – ACADEMIC

DR. AURANGZEB KHURRAM HAFIZ

Associate Professor and Officiating Director

Centre for Nanoscience and Nanotechnology,
Jamia Millia Islamia (Central University),
Jamia Nagar, New Delhi-110025.

PHONE: +91-9013831875 / 9911787647

EMAIL: akhafiz@gmail.com, ahafiz@jmi.ac.in

ACADEMIC RECORD

- **DOCTOR OF PHILOSOPHY (Ph.D.)**, 2006, School of Physical Sciences, Jawaharlal Nehru University, New Delhi, India.

  Thesis Title: *Study of Some Coherent Processes involving Nonlinear Interactions of Light with Matter*.
  Supervisor: Prof. Rupamanjari Ghosh.

- **Pre-Ph.D.** Courses in Physics, 2000, School of Physical Sciences, Jawaharlal Nehru University, New Delhi, India.

- **CSIR JRF/NET,** December 1999, in Physical Sciences.

- **GATE** 1999.

- **M.Sc.** Physics, 1999, School of Physical Sciences, Jawaharlal Nehru University, New Delhi, India.
  4th Semester Project Title: *Study of Period-doubling and Bifurcation leading to Chaos in a Driven Nonlinear Oscillator.*

- **B.Sc.** (Physics Honors), 1995, Presidency College, Calcutta University, Kolkata, India.

Teaching Experience: **UG: 15 Years** **PG: 13 Years**

Research Experience: **20 Years**

Fields of Specialization: **Quantum Optics, Nanophotonics, Material Science.**

EMPLOYMENT PROFILE

- **March 2017 – Till date:** **Associate Professor**, Centre for Nanoscience and Nanotechnology, Jamia Millia Islamia, New Delhi.
- **December 2006 – March 2017:** **Assistant Professor**, Department of Physics, Jamia Millia Islamia, New Delhi.
- **August 2005 – November 2006:** **Lecturer**, Department of Applied Sciences, Amity School of Engineering and Technology, under GGSIPU, New Delhi.
- **August 2003 – July 2005:** **Senior Research Fellow, CSIR.**
- **August 2000 – July 2003:** **Junior Research Fellow, CSIR.**

TECHNICAL EXPERTISE

- Developing low cost temperature controller, current controller circuits and other laser drive electronics.
- Developing electronically controlled laser pulsing techniques.
- Developing low-noise detection system.
- Building up external as well as extended cavities for diode laser systems to study tunability as well as instabilities.
- Building Coincidence Detection setup and Correlator setup for fast detection.
- Developing GPIB interface programmes for remote operations.
- Working with Diode lasers, Photon Counter, Digital Oscillscope, Photomultiplier Tubes, Power Meter and Photo-diodes, Monochromators, Programmable Function Generator, Lock-in-Amplifiers and various other electronic and optical components used in optical experiments.
- Numerical study using FORTRAN and C.
- Proficient in MATLAB and MATHEMATICA software.

RESEARCH GUIDANCE

Ph.D. Awarded

- **Firas Sabeeh Mohammed (2012)**
  Thesis Title: *Study of instabilities in an external cavity diode laser system*
- **Tho-Alfiqar A. Zaker (2012)**
  Thesis Title: *Carrier dynamics in quantum well lasers in magnetic field*
- **Shereena Joseph (2014)**
  Thesis Title: *Light matter interactions inside nonlinear periodic nanostructures*

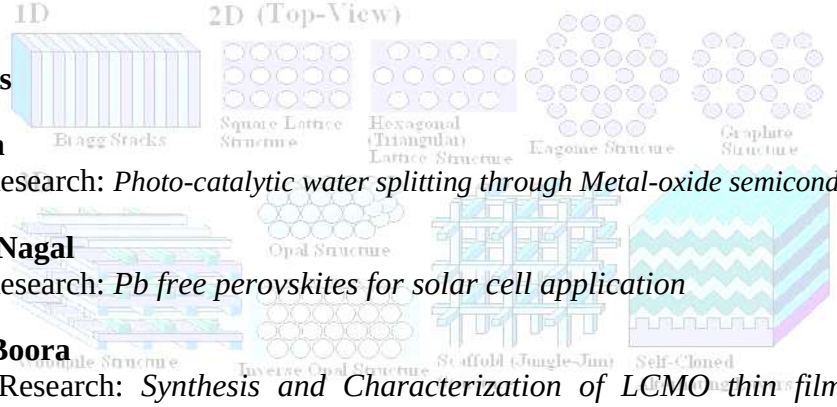
- **Rayees A Zargar (2016)**
  Thesis Title: *Synthesis and characterization of pure and doped iron chalcogenide superconductors*

- **Rizwan Husain (2016)**
  Thesis Title: *Study of second and third-order nonlinear interactions inside photonic crystals.*

- **Santosh Chackrabarti (2016)**
  Topic of Research: Study on the properties of pure and doped wide-band gap semiconductor films
- **Poonam Rani (2019)**
  Topic of Research: *Improving the granular coupling of high T_c Cuprates and Pnictides superconductors by suitable metallic composites*

Thesis Submitted

- **Jyoti Bansal**
  Topic of Research: *Investigation of the properties of noble / transition metal - doped titanium dioxide for varied applications*



Ph. D. in Progress

- **Md Imran**
  Topic of Research: *Photo-catalytic water splitting through Metal-oxide semiconductors*

- **Vandana Nagal**
  Topic of Research: *Pb free perovskites for solar cell application*

- **Navjyoti Boora**
  Topic of Research: *Synthesis and Characterization of LCMO thin films for Room-Temperature applications*

- **Shafaque Rahman**
  Topic of Research: *Design and fabrication of anisotropic porous silicon microcavity for various sensing and device applications*
- **Farhan Ahmad**
  Topic of Research: *Study of structural, morphological and optical properties of tricomposite nanolayers for optical sensing applications*

RESEARCH PUBLICATIONS

Refereed Journals

1. *Influence of Rate of Radiation Energy on Charge-Carrier Kinetics Application of All-Inorganic CsPbBr3 Perovskite Nanocrystal*, Virendra Kumar, Vandana Nagal, Rahul Kumar, Shubhda Srivastava, Bipin Kumar Gupta, Mahesh Kumar, **Aurangzeb Khurram Hafiz**, Kedar Singh, **RSC Advances** (2020) (In press).

2. *Screen printed TiO2 film: A candidate for photovoltaic applications*, Rayees Ahmad Zargar, Navjyoti Boora, Malik Mubasher Hassan, Aslam Khan and **Aurangzeb Khurram Hafiz**, **Materials Research Express 7**, 065904 (2020).

3. *A comparative study of micro- and nano-ZnO films fabricated by sol-gel syringe spray method*, Rayees Ahmad Zargar, Malik Mubasher Hassan, Navjyoti Boora, Imran Ahmed, Sajaad Ahmed, Khair-un Nissa, Sushma Kumari and **Aurangzeb Khurram Hafiz**, **International Journal of Ceramic Engineering and Science 2**, 169-176 (2020).

4. *Performance analysis of anomalous photocatalytic activity of Cr-doped TiO_2 nanoparticles [$Cr_{(x)}$ $TiO_{2(1-x)}$]*, Jyoti Bansal, Rana Tabassum, Sanjay Kumar Swami, Swati Bishnoi, Pargam Vashishtha, Govind Gupta, S. N. Sharma and **A. K. Hafiz**, **Applied Physics A 126,** 363 (2020).
5. *Photoreduction of Dye with Noble Metal Gold Permeated with Metal Oxide Titania*, Jyoti Bansal, **A. K. Hafiz** and Shailesh Narain Sharma, **Journal of Nanoscience and Nanotechnology 20 (6)**, 3896-3901, **ISSN:** 1533-4880 (2020).
6. *Eu doped NaYF4@Er:TiO2 nanoparticlesfor tunable ultraviolet light based anti-counterfeiting applications*, Anoop Singh, Sandeep Arya, ManikaKhanuja, **Aurangzeb Khurram Hafiz**, Ram Datt, Vinay Gupta & Ajit Khosla, **Microsystem Technologies** DOI 10.1007/s00542-019-04734-3 (2020).
7. *Electronic structure, thermomechanical and Phonon Properties of Inverse Perovskite Oxide (Na_3OCl): An ab initio Study*, Shakeel Ahmad Khandy, Ishtihadah Islam, Amel Laref, Mathias Gogolin, **Aurangzeb K. Hafiz**, Azher M. Siddiqui, **International Journal of Energy Research** DOI: 10.1002/er.4982, **ISSN:** 1099-114X (2019).

8. *Investigation of fundamental and higher harmonic AC magnetic susceptibility of FeSe0.5Te0.5 Superconductor*, A Pal, P Rani, **A K Hafiz**, Ashok Rao and V P S Awana, **Materials Research Express 6(9)**, 096004, **ISSN:** 20531591 (2019).

9. *Apparatus-dependent sol-gel synthesis of TiO2 nanoparticles for dye-sensitized solar cells*, Jyoti Bansal, Sanjay Kumar Swami, Akanksha Singh, Tarnija Sarao, Viresh Dutta, **A. K. Hafiz** & Shailesh Narain Sharma, **Journal of Dispersion Science and Technology** DOI: 10.1080/01932691.2019.1699427, **ISSN:** 0193-2691 (2019).

10. *Influence of pH and Fe doping on structural and physical properties of Mg0.95Mn0.05-Fe O (x = 0, 0.04) nanoparticles*, Ishtihadah Islam, Azher M. Siddiqui, **Aurangzeb Khurram Hafiz**, Javid Ali and Shakeel Ahmad Khandy, **Journal of Physics and Chemistry of Solids**, DOI: 10.1016/j.jpcs.2019.05.030 (2019).

11. *Broad Inhibition of Transmission Frequency in Multilayered Dielectric One Dimensional Photonic Crystal Nanostructure*, Vinod Chacko, Sonia Bansal and **Aurangzeb Khurram Hafiz, International Journal of Science and Engineering 13(1),** 7-11 (2019).

12. *Effect of anisotropy on the spectral characteristics of one-dimensional porous silicon photonic crystal microcavity for optical sensing applications*, Vinod Chacko, Sonia Bansal and **Aurangzeb Khurram Hafiz**, **Journal of Nanophotonics 13(1),** 016012 (2019).

13. *Enhancement of omnidirectional bandgap in graphene based quasi-periodic one dimensional photonic crystal heterostructures*, Vinod Chacko, Sonia Bansal and **Aurangzeb Khurram Hafiz, Journal for Foundations and Applications of Physics 5 (2)**, 128-140, **ISSN:** 2394-3688 (2018).

14. *Effect of dispersion on omnidirectional reflection band in zinc oxide-based one-dimensional photonic crystal heterostructures*, Vinod Chacko, Sonia Bansal and **Aurangzeb Khurram Hafiz, Journal of Nanophotonics 12(2),** 026012 (2018).

15. *A Comprehensive Review of Properties of Screen-Printed Pure and Doped ZnO and CdO Thick Films*, Santosh Chackrabarti, **Aurangzeb K. Hafiz**, Rayees A. Zargar, **Current Alternative Energy**, **DOI**: 10.2174/2405463102666180704111918 (2018).

16. *Thermally Activated Flux Flow and Upper Critical Field of $SmFeAsO_{0.8}F_{0.2}$ Pnictide Superconductor*, Poonam Rani, **A. K. Hafiz** and V. P. S. Awana, **Asian Journal of Advanced Basic Sciences 6 (3)**, 73-76, **ISSN:** 2347-4114 (2018).

17. *Omnidirectional reflection band in multi-layered graphite film based one-dimensional photonic crystal nanostructure*, Vinod Chacko, Sonia Bansal and **Aurangzeb Khurram Hafiz, Journal for Foundations and Applications of Physics 5(1)**, 35-48, **ISSN:** 2394-3688 (2018).

18. *Effect of 3d transition metal doping (Co, Ni and Cu) on structural, optical, morphological and dielectric properties of sol–gel assisted auto-combusted $Mg_{0.95}Mn_{0.05}O$ nanoparticles*, Ishtihadah Islam, Shakeel Ahmad Khandy, M. Burhanuz Zaman, Dinesh C. Gupta, **Aurangzeb Khurram Hafiz** & Azher Majid Siddiqui, **Journal of Materials Science: Materials in Electronics 29 (5)**, 3952-3956, **ISSN:** 0957-4522 (2018).

19. *Magnetic susceptibility and high field magneto-transport of silver added Bi-2223 superconductor: A Revisit*, P. Rani, R. S. Meena, **A. K. Hafiz**, V. P. S. Awana, **Journal of Superconductivity and Novel Magnetism 30 (7)**, 1737-1747, **ISSN:** 1557-1947 (2017).

20. *Realization of band gap shrinkage to the spectral characteristics of high-luminous-efficiency 658 nm AlGaInP/GaInP multiple quantum well lasers at room temperatures*, Santosh Chakrabarti, Rayees A Zargar, Jyoti Bansal, Tho-Alfiqar A. Zaker, **A. K. Hafiz**, **Optical Materials 58**, 426-431, **ISSN:** 0925-3467 (2016).

21. *Realization of structural and optical properties of CdZnO composite coated films for photovoltaic cell applications*, S. Chackrabarti, R. A. Zargar, S. Joseph, M. Arora, A. Aziz, **A. K. Hafiz**, **Optik 127**, 9966-9973, **ISSN:** 0030-4026 (2016).

22. *Optical properties of ZnO/SnO2 composite coated film*, R A Zargar, M A Bhatt, I R Parrey, M. Arora, J. Kumar, **A. K. Hafiz**, **Optik 127**, 6997-7001, **ISSN:** 0030-4026 (2016).

23. *Improvement in granularity of $NdFeAsO_{0.8}F_{0.2}$ superconductor through Ag_x doping (x=0.0-0.3)*, Poonam Rani, **A. K. Hafiz**, V. P. S. Awana, **Physica C 520,**1, **ISSN:** 0921-4534(2016).

24. *An Intercomparison of the Upper Critical fields (H_{c2})of different Superconductors – $YBa_2Cu_3O_7$, MgB_2 , $NdFeAsO_{0.8}F_{0.2}$, $FeSe_{0.5}Te_{0.5}$ and Nb_2PdS_5*, R. Sultana, P. Rani, **A. K. Hafiz**, Reena Goyal and V.P.S. Awana, **Journal of Superconductivity and Novel Magnetism 29**, 1399-1404, **ISSN:** 1557-1947 (2016).

25. *Experimental study on the mechanism governing spectral shifts inlow power 670nm AlGaInP multiple quantum well (MQW) laser diodes at temperature range (5℃ - 45℃)*, Santosh Chackrabarti, Dhrub Sharma, Shereena Joseph, Tho-Alfiqar A. Zaker, **Aurangzeb Khurram Hafiz**, Ram Kafle, **Canadian Journal of Physics 94**, 640-644, DOI: 10.1139/cjp-2015-0588, **ISSN:** 1208-6045 (2016).

26. *Investigation on the physical properties of $Zn_{0.94}Cu_{0.06}O$ coated film*, S. Chackrabarti, R. A. Zargar, D. Ali, M. Arora, A. Aziz and **A. K. Hafiz**, **Optik 127,** 2911, **ISSN:** 0030-4026 (2016).

27. *Structural and optical characteristics of transparent conducting yttrium doped ZnO films using screen printing technology*, S. Chakrabarti, R. A. Zargar, A. Aziz and **A. K. Hafiz**, **Journal of Materials Science: Materials in Electronics 27**, 5271-5276, ISSN: 0957-4522 (2016).

28. *Synthesis, characterization and interpretation of screen-printed nanocrystalline CdO thick film for optoelectronic applications*, Rayees Ahmad Zargar, Santosh Chackrabarti, Manju Arora, **Aurangzeb Khurram Hafiz, International Nano Letters 6,** 99-104, **ISSN:** 2008-9297 (2016).

29. *Alcohol Vapor Sensing By Cadmium Doped Zinc Oxide Thick Films Based Chemical Sensor***,** R.A. Zargar, M. Arora, S. Chackrabarti, S. Ahmad, M. Ganaie and **A. K. Hafiz, Modern Physics Letters (B) 30**, 1650244, DOI: 10.1142/s0217984916502444, **ISSN:** 1793-6640 (2016).

30. *Compression of ultra-short pulses due to cascaded second order nonlinearities in photonic bandgap structures*, Shereena Joseph, Mohd. Shahid Khan and **Aurangzeb Khurram Hafiz, European Physical Journal D 70**, 1, **ISSN:** 1434-6060 (2016).

31. *Novel Composites of $Zn_{1-x}Cd_xO$ (x = 0, 0.05, 0.1) Thick Films for Optoelectronic Device Application*, R .A. Zargar, S. Chackrabarti, M. Shahabuddin, J. Kumar, M. Arora and **Aurangzeb Khurram Hafiz, Journal of Materials Science: Materials in Electronics 26**,120027, **ISSN:** 0957-4522 (2015).

32. *Investigation of Physical Properties of Screen Printed nanosized ZnO Films for Optoelectronic Applications*, R. A. Zargar, M. Arora and **Aurangzeb Khurram Hafiz**, **European Physical Journal Applied Physics 70,** 10403, **ISSN**: 1286-0042 (2015).

33. *Synthesis and Characterization of Screen Printed ZnO Films for Solar Cell Applications*, R. A. Zargar, S. Chackrabarti, S. Joseph, R.Husain and **A. K. Hafiz**, **Optik 126**, 4171, **ISSN:** 0030-4026 (2015).

34. *Synthesis and Characterization of Vanadium Doped Zinc Oxide Thick Film for Chemical Sensor Application*, R. A. Zargar, M. Arora, M. Ahmad and **Aurangzeb Khurram Hafiz**, **Journal of Materials** DOI: 10.1155/2015/196545, **ISSN** 1996-1944 (2015).

35. *Omnidirectional reflector using one-dimensional dispersive Photonic Heterostructure*, Shereena Joseph and **Aurangzeb Khurram Hafiz**, **Optik 125,** 2734, **ISSN:** 0030-4026 (2014).

36. *Parameters for efficient growth of second harmonic field in nonlinear photonic crystals*, Shereena Joseph, Mohd. Shahid Khan and **Aurangzeb Khurram Hafiz**, **Physics Letter A 378**, 1296, ISSN: 0375-9601(2014).

37. *Structural, Electrical and Magnetic Behaviour of $FeTe_{0.5}Se_{0.5}$ Superconductor***,** Rayees A. Zargar, Anand Pal, **A. K. Hafiz**, V.P.S.Awana, **Journal of Superconductivity and Novel Magnetism 27**, 897, ISSN: 1557-1947 (2014).

38. *Superconductivity at 25K under hydrostatic pressure for FeTe0.5Se0.5*, Rajveer Jha, Rayees A. Zargar, **A. K. Hafiz**, H. Kishan and V.P.S. Awana, **Journal of Superconductivity and Novel Magnetism 27,** 1599, ISSN: 1557-1947(2014).

39. *Synthesis and Characterization of Screen Printed $Zn_{0.97}Cu_{0.03}O$ Thick Film for Semiconductor Device applications*, Rayees A. Zargar, Sharief ud Din Khan, Mohd Shahid Khan, Manju Arora and **A. K. Hafiz**, **Physics Research International** DOI: 10.1155/2014/464809 **ISSN:** 2090-2220 (2014).

40. *Construction of a Stabilized Diode Laser System*, Tho-Alfiqar A. Zaker, Firas S. Mohammed, and **Aurangzeb Khurram Hafiz**, **Int. J. of Innovative Adv. in Science and Tech. Res.** Vol.1 p. 6-14, ISSN: 2076-3301 (2011).

41. *A low cost Novel Technique to suppress the vibrations of a Cutting tool*, **A. K. Hafiz** and Basant Agrawal, **Int. J. of Innovative Adv. in Science and Tech. Res.** Vol.1 p. 69-76, ISSN: 2076-3301 (2011).

42. *Strange Behavior in Semiconductor Laser Subjected to Optical Feedback at Different Temperatures*, Firas Sabeeh Mohammed and **Aurangzeb Khurram Hafiz**, **Canadian Journal of Pure and Applied Sciences**, Vol. 5 p. 1533-1540, ISSN:1715-9997,E-ISSN:1920-3853 (2011).

43. *Influence of Magnetic Field on the Threshold Current, Temperature Characteristics, and on the Output Power in AlGaInP Multiple Quantum Well Laser*, Tho-Alfiqar A. Zaker and **Aurangzeb Khurram Hafiz**, **Applied Physics Research**, Vol. 3 p. 143-151 (2011).

44. *Reflection and transmission spectra for ultrashort pulse propagation in a one-dimensional nonlinear photonic crystal*, **A. Khurram Hafiz** and R. Ghosh, **Journal of Optical Society of America B**, **23**, 1091(2006).

45. *Theory of the Fundamental linewidth of a two-mode laser*, **A. K. Hafiz** and R. Ghosh, **Journal of Optics B, 6**, 276 (2004).

Books

1. *Proceedings of International Conference on Advanced Materials (ICAM-2019)*, Editors: S. S. Islam, S. Ahmad, M. Khanuja, P. Mishra, S. Husain and **A. K. Hafiz**, Bharti Publications, New Delhi, **ISBN 978-93-86608-87-1 (2019).**
2. *Study of some Coherent Nonlinear Optical Interactions*, **Aurangzeb Khurram Hafiz**, Lambert Academic Publishing, Germany, **ISBN: 978-3-659-96848-8** (2016).

Book Chapters

1. *Temperature Dependent Charge/Energy Transfer Studies of PEDOT: PSS-TiO2 Composite*, Jyoti Bansal , Tarnija Sarao, Reena Kumari, Ritu Srivastav, **A. K. Hafiz** , Shailesh Narain Sharma, **Physics of Semiconductor Devices (IWPSD 2017)**, Springer International Publishing, p 387-390, ISBN: 978-3-319-97603-7 (2019).
2. *Spectral Peak Shift in One-Dimensional Nonlinear Photonic Crystal*, Shereena Joseph and **Aurangzeb Khurram Hafiz**, **Physics of Semiconductor Devices (IWPSD 2013)**, Springer International Publishing, p 277-279, ISBN: 978-3-319-03002-9 (2014).

Proceedings of International / National Conferences

1. *Optical study of ZnO Nanorods grown via vapour solid growth method for Energy harvesting applications*, Vandana Nagal, Mohd.Salman Khan, Virendra Kumar, Navjyoti Boora, Zishan H Khan, Kedar Singh and **Aurangzeb Khurram Hafiz, AIP Conf. Proc. (In press).**

2. *CVD synthesis and Characterization of ultrathin MoS2 Film*, Mohammad Imran Khan, Nahid Chaudhary, **Aurangzeb Khurram Hafiz**, Bharti Singh, Manika Khanuja, **AIP Conf. Proc. (In press).**

3. *Synthesis and Characterization of LCMO composite and Fabrication of its thin films by R.f Magnetron Sputtering for Room temperature applications*, Navjyoti Boora, Poonam

Rani, Vandana Nagal, Shafaque Rahman, VPS Awana, and **Aurangzeb Khurram Hafiz, AIP Conf. Proc. (In press).**

4. *Higher Harmonics AC Susceptibility Analysis of $FeSe_{0.5}Te_{0.5}$ Superconductor*, Poonam Rani, **A. K. Hafiz** and V.P.S. Awana, **AIP Conf. Proc. 2115(1),** 03050 (2019), DOI: 10.1063/1.5113344.
5. *Chemical analysis and non-linear optical properties of TiO2 thin film*, Firdous Ahmad Tantray, M. Saleem, Mukul Gupta, Azher M Siddiqui, **Aurangzeb Khurram Hafiz**, and Pratima Sen, **AIP Conference Proceedings 2100**, 020199 (2019), DOI : 10.1063/1.509875.
6. *Synthesis and structural characterization of transition metal doped MgO: Mg0.95Mn0.01TM0.04O (TM = Co, Ni, Cu)*, Ishtihadah Islam, Shakeel Ahmad Khandy and Aurangzeb Khurram Hafiz, **AIP Conf. Proc. 1953**, 030015 (2018), DOI: 10.1063/1.5032350.
7. *Temperature dependence of lower critical field of YBCO superconductor*, **AIP Conf. Proc. 1953,** 120026 (2018), DOI: 10.1063/1.5033091.
8. *Temperature dependent spectral characteristics of AlGaInP multiple quantum well (MQW) laser diodes*, Tho-Alfiqar A. Zaker, Jyoti Bansal, Santosh Chackrabarti, Shereena Joseph, **Aurangzeb Khurram Hafiz**, Proceedings of the National Conference on Role of Science and Technology Towards 'Make in India' (RSTTMI-2016), pp 27-30, March 05-07, 2016. YMCA University of Science and Technology, Faridabad, **ISBN: 978-93-5265-441-3.**
9. *Improvement in grains connectivity of $NdFeAsO_{0.8}F_{0.2}$ pnictide superconductor by Ag_x addition (x = 0.0 & 0.2)*, Poonam Rani, **A. K. Hafiz** and V. P. S. Awana, Proceedings of the National Conference on Role of Science and Technology Towards 'Make in India' (RSTTMI-2016), pp 41-42, March 05-07, 2016. YMCA University of Science and Technology, Faridabad, **ISBN: 978-93-5265-441-3.**
10. *Upper critical Field and AC-susceptibility studies on $FeTe_{0.5}Se_{0.5}$ superconductor*, Rayees A. Zargar, Anand Pal, **A. K. Hafiz**, and V. P. S. Awana , **AIP Conf. Proc. 1665**, 130043 (2015).
11. *Synthesis and Characterization of $FeSe_{1-x}Te_x$ (x = 0, 0.5, 1) Superconductors* Rayees A. Zargar**, A. K. Hafiz** and V.P.S. Awana, **AIP Conf. Proc. 1675**, 020044 (2015).
12. *Femto-Second Pulse Compression in One Dimensional Photonic Crystal* P-351, Shereena Joseph and **Aurangzeb Khurram Hafiz,** XXXIX Conference of Optical Society of India International Conference on Optics and Photonics (ICOP-2015), held at University of Kolkata (20-22 February 2015).
13. *Cadmium doped Zinc oxide thick films for alcohol sensor*, Rayees A. Zargar, Shabir Ahmad, Manju Arora, Mohsin Ganaie and **A. K. Hafiz**, Proceedings of Second International Symposium on Physics and Technology of Sensors (ISPTS), held at Pune, March 8-10, 2015.

14. *Phase Matching Condition for High Conversion Efficiency in Quadratic Photonic Bandgap Structure P 250*, Shereena Joseph and **Aurangzeb Khurram Hafiz**, Proceedings of International Conference on Optics and Optoelectronic (ICOL 2014), held at Dehradun (05-08 March 2014).

15. *Intensity dependent spectral filtering at the band edge of a one-dimensional periodic nanostructure*, Shereena Joseph and **Aurangzeb Khurram Hafiz**, Proceedings of International conference on nanoscience and technology (ICONSAT 2014), held at Mohali, Chandigarh (03-05 March 2014).

16. *Study of Efficient Second Harmonic Generation In a One Dimensional Nonlinear Photonic Crystal*, Shereena Joseph and **Aurangzeb Khurram Hafiz**, Proceedings of International Conference on Nanoscience and Nanotechnology (ICNN – 2013), held at BBAU Lucknow (16-18 December 2013).

17. *Controlling Laser Diode Characteristics via Novel Temperature Controller*, Firas Sabeeh Mohammed, Tho-Alfiqar A. Zaker and **A. K. Hafiz**, Proceedings of India International Conference on Power Electronics (IICPE)-2010, IEEE Xplore ID 21, NSIT, New Delhi, January 2011.

18. *Construction and Performance of Current Diver for Diode Lasers*, Tho-Alfiqar A. Zaker, Firas Sabeeh Mohammed and **A.K. Hafiz**, Proceedings of India International Conference on Power Electronics (IICPE)-2010, IEEE Xplore ID 22, NSIT, New Delhi, January 2011.

19. *Electrical Characteristics of AlGaInP Index Guided Multiple Quantum Well Laser Exposed to Magnetic Field*, Tho-Alfiqar A. Zaker, Firas Sabeeh Mohammed, and **A. K. Hafiz**, Proceedings of Tenth International Conference on Optoelectronics, Fiber Optics and Photonics, PHOTONICS 2010, PSW-89, Guwahati, India (11-15 December 2010).

20. *Controlling the Non-linearity of Diode Laser Operating in the Low Frequency Fluctuation Regime*, Firas Sabeeh Mohammed, Tho-Alfiqar A. Zaker and **A. K. Hafiz**, Proceedings of Tenth International Conference on Optoelectronics, Fiber Optics and Photonics, Photonics 2010, PSW-37, Guwahati, December 2010.

21. *Blue shift in a one-dimensional photonic crystal due to interference of second- and third-order nonlinearities*, R. Ghosh, **A. K. Hafiz**, P. Monnier, C. Cojocaru, F. Rainery, A. Levenson and R. Raj, Proceedings of the Seventh International Conference on Optoelectronics, Fiber Optics and Photonics: Photonics-2004, *Kochi, India, December 2004.*

LECTURES / TALKS / PAPERS PRESENTED

- *Blue shift in a one-dimensional photonic crystal due to interference of second- and third-order nonlinearities*, at the Seventh International Conference on Optoelectronics, Fiber Optics and Photonics: Photonics-2004, *Kochi, India, December 2004.*
- *Study of some coherent nonlinear optical interactions*, at Indo-French CEFIPRA workshop for young scientists on Laser Physics and Quantum Optics, 4 to 8 January, 2006, RRI, Bangalore, India.
- *Quantum noise properties of a two-mode laser*, at the 2nd International Conference on "Current Developments in Atomic, Molecular and Optical Physics", *New Delhi, India, March 2006*.
- *Atomic memory effect in a two-mode laser*, at the 2nd International Conference on "Current Developments in Atomic, Molecular and Optical Physics", *New Delhi, India, March 2006*.
- *Careers in Physics*, Physics Association Lecture Series, Department of Physics, JMI, January 28, 2008.
- *Light-Matter interaction inside periodic nanostructures*, Physics Association Lecture Series, Department of Physics, JMI, June 09, 2008.
- *Photonic Crystals: Moulding the flow of light*, Physics Association Lecture Series, Department of Physics, JMI, August 13, 2008.
- *Chandrayan I: Mission to the Moon*, Physics Association Lecture Series, Department of Physics, JMI, November 19, 2008.
- *Multiple Quantum Well laser systems*, Physics Association Lecture Series, Department of Physics, JMI, February 13, 2009.
- *Photonic Crystals: Road to Nanophotonics*, Physics Association Lecture Series, Department of Physics, JMI, August 29, 2014.
- *Retrospection*, Physics Association Lecture Series, Department of Physics, JMI, October 29, 2014.
- *Photonic structure based devices*, Seminar on 'Smart Materials and Integrated Circuits', organized by YMCAUST, Faridabad, November 08, 2016.
- *Effect of Self interaction of an ultra short pulse in a one-dimensional Nonlinear Chalcogenide based Photonic Crystal*, National Conference on Advanced Materials and Nanotechnology (AMN-2018), Organized by: Jaypee Institute of Information Technology, Noida, India, March 15 – 17, 2018.
- *Technological Emergence between Academia and Industry*, NSTC Nanotech 2018 Industry Innovations, Organized by: STM Conferences, November 28, 2018
- Lecture on '*Nanotechnology*', 124th 4-week OP organized by the UGC-HRDC, JMI, March 05, 2019.

- *Light – Matter interaction at the Nanoscale: Photonic Crystal microcavity for optical sensing applications*, Webinar on Zoom organized by PES University, Bengaluru, July 09, 2020.

CONFERENCES / SYMPOSIUM / WORKSHOPS ATTENDED

- Seventh International Conference on Optoelectronics, Fiber Optics and Photonics: Photonics-2004, *Kochi, India, December 2004*.
- Indo-French CEFIPRA workshop for young scientists on Laser Physics and Quantum Optics, 4 to 8 January, 2006, RRI, Bangalore, India.
- 2nd International Conference on "Current Developments in Atomic, Molecular and Optical Physics", *New Delhi, India, March 2006*.
- Symposium on Quantum Information, School of Physical Sciences, JNU, New Delhi, March 2007.
- National Seminar on Nano-Materials & Devices, held at JMI on January 30, 2008.
- Natural Science Info-Fest, JMI, March 03-05, 2008.
- National Seminar on Condensed Matter, High Energy and Nuclear Physics, Department of Physics, JMI, New Delhi-25, March 23-24, 2009.
- National Workshop on FIBER OPTICS & APPLICATIONS held at South Campus, Delhi University, New Delhi, November 28-29, 2009.
- National Seminar on Advances in Materials and Devices held at ITM University, Gurgaon, on May 15, 2010.
- XV International Workshop on the Physics of Semiconductor Devices (IWPSD-2009) held at JMI, New Delhi, December 15-19, 2009.
- National Seminar on Developments in Materials, Theoretical and High Energy Physics held at JMI during February 19-20, 2010.
- "SPS@25", Organized by School of Physical Sciences, JNU, March 10-11, 2011.
- 7th Dynamics Day Delhi, School of Physical Sciences, JNU, December 13, 2011.
- 8th Dynamics Day Delhi, Centre for Theoretical Physics, JMI, November 10, 2012.
- National Conference on Role of Science and Technology Towards 'Make in India' (RSTTMI-2016), organized by J. C. Bose University (formerly YMCAUST), Faridabad,, March 05-07, 2016.

- National Seminar on 'Smart Materials and Integrated Circuits', organized by J. C. Bose University (formerly YMCAUST), Faridabad, November 08, 2016.
- Global Meet on Advances in Design, Materials & Thermal Engineering (GMADMT – 2018), organized by Saraswati College of Engineering, Navi Mumbai, January 11-12, 2018.
- National Conference on Advanced Materials and Nanotechnology (AMN-2018), organized by Jaypee Institute of Information Technology (JIIT) University, Noida, March 15 – 17, 2018.
- NSTC Nanotech 2018, Industry Innovations, organised by STM Conferences, New Delhi, November 28, 2018.
- National Conference on Nano-polysachcharides for Environmental Sustainability, organised by Department of Chemistry, JMI, September 25, 2019.

SEMINARS & CONFERENCES ORGANISED

- **Joint Secretary:** National Seminar on Condensed Matter, High Energy and Nuclear Physics, Department of Physics, JMI, New Delhi-25 (March 23-24, 2009).
- **Member Local Organizing Committee:** International Workshop on **Physics of Semiconductor Devices**, IWPSD-2009 Jamia Millia Islamia, December 15-19, 2009.
- **Organizing Committee Member:** Salaam Memorial Lectures (2007-2015).
- **Organized** Extension Lectures, Jamia Physics Association (2007-2010, 2013-2014).
- **Treasurer:** ***International Conference on Advanced Materials*** **(ICAM 2019)**, organized by Centre for Nanoscience and Nanotechnology, Jamia Millia Islamia, New Delhi, March 06-07, 2019.

ORIENTATION PROGRAMME / REFRESHER COURSE

- 5th Three-week Special Summer School, UGC-HRDC, JMI, New Delhi (May 26 – June 15, 2016).
- 3rd Refresher Course in Basic Sciences (Interdisciplinary), UGC-HRDC, JMI, New Delhi (May 9-30, 2013).
- 102nd Orientation Programme, UGC-HRDC, JMI, New Delhi, (Oct. 10 – Nov. 09, 2012).
- Faculty Development Program I, Academic Staff College, Amity University, Noida, 2006.
- Faculty Development Program II, Academic Staff College, Amity University, Noida, 2006.

CONTRIBUTION TO CORPORATE LIFE

- Officiating Director, Centre for Nanoscience and Nanotechnology, JMI (Nov. 2019 – till date).
- Hony. Deputy Director, Games & Sports, JMI (Nov. 2015 – Feb. 2019).
- Advisor, Jamia Physics Association (2007-2010, 2013-2015).

MEMBERSHIP OF ACADEMIC AND PROFESSIONAL BODIES

- Life Member, Optical Society of India