



CURRICULUM VITAE **DR. MUHAMMAD ARSHAD KAMRAN**

Associate Professor (BS-20)

Chairperson, Department of Physics & Computational Physics

Director, Quality Enhancement Cell

University of Okara, Pakistan.

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Address: Office No. 318, Academic Block-I, University of Okara, 2-KM
Multan Road Renala Khurd By Pass, Okara-Pakistan.

UNIVERSITY EDUCATION:

PhD (Doctor of Philosophy)

Specialty: Materials Physics and Chemistry (Nanotechnology)

Beijing Institute of Technology, China. **(2014)**

Thesis: *Studies on Synthesis, Characterization, Optical and Magnetic Properties of Transition Metal ions doped CdS Nanostructures.*

MPhil (Master of Philosophy)

Specialty: High Energy Physics

Punjab University, Lahore. Pakistan. **(2005)**

Thesis: *Study of Glueballs and Hybrids.*

MSc (Master of Science)

Specialty: Solid State Physics

Punjab University, Lahore. Pakistan. **(2002)**

BSc (Bachelor of Science)

Specialty: Physics, Mathematics

Punjab University, Lahore. Pakistan. **(2000)**

RESEARCH GRANTS:

1.

Starting date: 01/06/2022

Current Status: **3rd Year-Continued**

Project title: “Graphitic Carbon Nitride-Mixed Transition Metal Sulfides (g-C₃N₄-MTMS) Hierarchical nanostructures for ultra-high retainable supercapacitors.”

Principal Investigator: *Muhammad Arshad Kamran*

Funding Agency: NRPU-HEC, Pakistan.

Grant # Ref No. 20-17267/NRPU/R&D/HEC/2021.

2.

Starting date: 5/5/2019

Current Status: **Completed**

Project title: Substitutional site effects of 3d/4f transition ions on optical and magnetic properties of one-dimensional wide bandgap semiconductor (WBG-SC) nanostructures for optoelectronic applications.

Principal Investigator: *Muhammad Arshad Kamran*

Agency: Basic Science Research Unit, MU, Saudi Arabia.

Grant # 1439-7.

3.

Starting date: 5/5/2019

Current Status: **Completed**

Project title: Carbon materials and composites for electronic and energy applications.

Principal Investigator: *Muhammad Arshad Kamran*

Agency: Basic Science Research Unit, MU, Saudi Arabia.

Grant # RGP-2019-11.

4.

Starting date: 5/5/2019

Current Status: **Completed**

Project title: Experimental and Theoretical Study of 2D Materials Based Optoelectronic Devices.

Co-Principal Investigator: *Muhammad Arshad Kamran*

Agency: Basic Science Research Unit, MU, Saudi Arabia.

Grant # RGP-2019-8.

5.

Starting date: 20/5/2018

Current Status: **Completed**

Project title: Role of Ni^{2+} (d^8) ions on electrical, optical and magnetic properties in CdS nanowires for optoelectronic and spintronic applications.

Principal Investigator: *Muhammad Arshad Kamran*

Agency: Basic Science Research Unit, MU, Saudi Arabia.

Grant # 1440-71.

6.

Starting date: 20/9/2016

Current Status: **Completed**

Project title: Role of 3d-TMs on electronic properties of ZnTe nanowires for optoelectronic applications.

Principal Investigator: *Muhammad Arshad Kamran*

Agency: Basic Science Research Unit, MU, Saudi Arabia.

Grant # 37-16.

7.

Starting date: 7/9/2015

Current Status: **Completed**

Project title: Guided Growth of ZnTe Nanowires and Device Applications.

Principal Investigator: A. Majid, Co-PI: *Muhammad Arshad Kamran*

Agency: King Abdul Aziz City of Science and Technology (KACST), Saudi Arabia

Grant # LGP-36-173.

8.

Starting date: 8/9/2015

Current Status: **Completed**

Project title: Study of diluted magnetic semiconductors: the Case of Transition Metal Doped 1D-CdS nanostructures.

Principal Investigator: *Muhammad Arshad Kamran*

Agency: Basic Science Research Unit, MU, Saudi Arabia.

Grant # 36-16.

POSITIONS HELD:

September 2024 – present:

Chairperson, Department of Computational Physics

University of Okara, Pakistan.

April 2020 – present:

Chairperson, Department of Physics

University of Okara, Pakistan.

March 2021 – present:

Director Quality Enhancement Cell
University of Okara, Pakistan.

March 2020 – present:

Associate Professor of Physics
University of Okara, Pakistan.

Jan 2019 – Mar 2020:

Associate Professor of Physics
Majmaah University, Saudi Arabia.

Sep 2014 – Jan 2019:

Assistant Professor of Physics
Majmaah University, Saudi Arabia.

March 2015 – March 2020:

Member of Exam reviewer committee
Majmaah University, Saudi Arabia.

Dec 2014 – March 2020:

Member of International Accreditation committee
Majmaah University, Saudi Arabia.

Dec 2014 – March 2020:

Member of Electronic-Courses committee
Majmaah University, Saudi Arabia.

DISTINCTIONS/AWARDS:

- 2023: **High Achiever Award**-University of Okara (HEC-Pakistan project winner).
- 2021: **Best Researcher Award**-University of Okara (First position).
- 2018: **Distinguished Research Award**- Majmaah University, Saudi Arabia.
- 2017: **Best Researcher Award**- Majmaah University, Saudi Arabia.
- 2016: **Excellence Awards** among Faculty members of College of Science, Zulfi-Majmaah University, Saudi Arabia (**Gold Medal**).
- 2013: Invited as a Guest Scientist by Prof. Michael Farle - **Duisburg-Essen Universtat, Germany**.

- 2013: **“Distinguished Student (PhD) Award”** for excellent performance in academic & research, Beijing Institute of Technology, China.
- 2012: **“Excellent PhD Student Award”** for excellent performance in research, Beijing Institute of Technology, China.
- 2010: **PhD Scholarship** by China Scholarship Council 2010 PhD Scholarships Program (2010-2014).

RESEARCH INTERESTS:

- Nanomaterials Physics and Chemistry (Nanotechnology)
- Synthesis of 1D & 2D nano/micro, hybrid/heterostructured (semiconductors; diluted magnetic semiconductors) materials.
- Investigating nanomaterials for following applications:
 - a. Optoelectronics
 - b. Nanophotonics
 - c. Energy storage and conversion

RECENT RESEARCH COLLABORATION:

- Experimental physik-AG Farle Lotharstr, Duisburg-Essen Universtat, **Germany**.
- Beijing Key Laboratory of Nanophotonics, Beijing Institute of Technology, **China**.

SUPERVISION/CO-SUPERVISION:

PhD Physics

- 2021 –2020 **Sami Ullah** (SP-21-UO-00353)
Graphitic Carbon Nitride Based Electrode Materials
For Next-Generation Energy Applications. (In process)
- 2021 –2024 **Nouman Qurashi** (F21-UO-01358)
Effect Of Metal Doping On Metal Oxide
Nanostructures For Energy Applications. (In process)
- 2022 –2025 **Muhammad Asif** (F23-PhD-PHY-1002),
Course Work continued

MPhil Physics

- 2022-2024 **AREEJ RANI** (F22-UO-1878)
EFFECT OF CADMIUM DOPING ON STRONTIUM
MOLYBDATE (Cd-SrMoO₄) NANOSTRUCTURES FOR
ENERGY APPLICATIONS.
- 2022-2024 **SAAD RAFIQ** (F22-UO-1886)
EFFECT OF IRON DOPING ON COPPER
MOLYBDATE (Fe-CuMoO₄) NANOSTRUCTURES
FOR ENERGY APPLICATIONS.
- 2022-2024 **SAMRA SATTAR** (F22-UO-1895)
EFFECT OF IRON DOPING ON NICKEL ZINCATE
(NiZnO₂) NANOSTRUCTURES FOR ENERGY
APPLICATIONS.
- 2022-2024 **AQSA UMER** (F22-UO-1877)
COPPER DOPPED NICKLE COBALT OXIDE (Cu-
NiCo₂O₄) NANOSTRUCTURES FOR ENERGY
APPLICATIONS.
- 2022-2024 **AMINA KASHAF** (F22-UO-1876)
TAILORING THE PROPERTIES OF VANADIUM
DOPED BARIUM MOLYBDATE (V-BaMoO₄)
NANOSTRUCTURES FOR ENERGY APPLICATIONS.
- 2021-2023 **Muhammad Rashid** (F21-UO-01334)
Effect of molybdenum doping on nickel cobalt sulfide
(Mo-NiCo₂S₄) nanostructures for energy applications

- 2021-2023 **Nimra Naeem** (F21-UO-01326)
Tailoring the properties of cobalt molybdenum oxide nanostructures via iron doping (Fe- CoMoO₄) for energy applications
- 2021-2023 **Afshan Sharif** (F21-UO-01322)
Fabrication of strontium doped manganese sulfide (Sr-MnS) nanostructures for optoelectronic applications
- 2021-2023 **Amina Hassan** (F21-UO-01323)
Synthesis and characterization of cobalt doped zinc molybdenum oxide (Co-ZnMoO₄) for energy applications
- 2021-2023 **Wajeeha Sameem** (F21-UO-01346)
Facile synthesis and characterization of strontium sulfide incorporated graphitic carbon nitride (SrS/g-C₃N₄) nanohybrids for optoelectronic applications
- 2020-2022 **Shoaib Siddique** (20-UO-829)
Effects of graphitic carbon nitride on optical properties of gallium oxide nanostructures for optoelectronic applications.
- 2020-2022 **Ayesha Abbas** (20-UO-862)
Synthesis and characterization of strontium doped barium oxide nanostructures for optoelectronic applications.
- 2020-2022 **Mohsin Raza** (20-UO-822)
Tailoring the optical properties of cadmium sulfide/zinc telluride nanocomposites via nickel doping for optoelectronic applications.
- 2020-2022 **Sehrish Malik** (20-UO-840)
Synthesis and characterization of cadmium sulfide/zinc telluride nanocomposites via chromium doping for optoelectronic applications.
- 2020-2022 **Muhammad Usama** (20-UO-853)
Effect of barium doping on the physical properties of strontium oxide nanostructures for energy applications.

- 2020-2022 **Babar Ali** (20-UO-837)
Optical properties of graphitic carbon nitride via doping with different elements (Zn, Ga) by Density Functional Theory.
- 2020-2022 **Wasif Ali** (20-UO-293)
Effect of Gallium (Ga) doping on the Physical Properties of Zinc Oxide (ZnO) Nanoparticles for Optoelectronic Applications
- 2020-2022 **Muhammad Raheel** (20-UO-286)
Facile Synthesis and Characterizations of Graphitic Carbon Nitride-Strontium Oxide Nanohybrids for Energy Applications
- 2020-2022 **Kiran Rasheed** (20-UO-271)
Tailoring the Physical properties of Strontium Oxide (SrO) via Chromium (Cr) doping for Optoelectronic Applications
- 2020-2022 **Sana** (20-UO-273)
Thermo physical characterization of organic (Pectin) & inorganic (ZnO) nano fluids
- 2018 –2019 **Mohsin Amjad** (14001210007)
University of Gujrat, Pakistan.
Title: Optical and Magnetic Properties of Dysprosium Doped Cadmium Sulfide Nanostructures.
- 2018 –2019 **Salsbeel Rehman** (15002210035)
University of Gujrat, Pakistan.
Title: Nickel Oxide Based Electrodes for Hybrid Supercapacitor.
- 2016-2017 **Khayam Ismail Qureshi** (CMS # 400377)
Rifah International, Pakistan.
Title: Synthesis and Characterization of micro/nano Heterostructures.

2016-2017 **Muhammad Waleed Amjad** (CMS # 400357)
Rifah International, Pakistan.
Title: Large Tunable Luminescence by Mn(II)
Aggregates in Mn-doped ZnS Nanobelts.

BS Physics

- 2019: **Majid bin Abdulaziz bin Ahmed Al-Jahlan** (361102577)
Majmaah University, Saudi Arabia.
Title: Synthesis and characterizations of 2D ZnCdS semiconductor nanosheet for optoelectronic applications.
- 2019: **Mohammed bin Saud bin Mohammed Ghazi** (361102592)
Majmaah University, Saudi Arabia.
Title: Synthesis and characterizations of 2D ZnCdS semiconductor nanosheet for optoelectronic applications.
- 2019: **Zaid Awad Shawey Al-Mutiri** (361103852)
Majmaah University, Saudi Arabia.
Title: Synthesis and optical properties of Mn-doped ZnS semiconductors nanostructures.
- 2019: **Mishar Awad Al-Dhubayb** (361102602)
Majmaah University, Saudi Arabia.
Title: Synthesis and optical properties of Mn-doped ZnS semiconductors nanostructures.
- 2018: **Wael Sabaan Khalf Alsaaibi Almotairi** (351100545)
Majmaah University, Saudi Arabia.
Title: Synthesis and Photoluminescence properties of wide band-gap semiconductors nanostructures.
- 2017: **Abdulelah Hezam M Almutiry** (341100984)
Majmaah University, Saudi Arabia.
Title: Synthesis and Photoluminescence of ZnTe nanostructures prepared by CVD method.
- 2015: **Bader Al Salman** (321120034)
Majmaah University, Saudi Arabia.
Title: Study of Photoluminescence properties of Sea-Urchin like CdS nanostructures prepared by CVD method.

REVIEWER OF INTERNATIONAL JOURNALS:

1. Nanotechnology-IOP Publishing
2. Materials Research Express- IOP Publishing
3. Journal of Physics D: Applied Physics- IOP Publishing
4. Journal of Raman Spectroscopy-Wiley
5. ACS Applied Nano Materials-American Chemical Society

EXPERIMENTAL SCIENTIFIC SKILLS:

Skilled operation of:

- Chemical Vapor Deposition System (CVD)- Single and Three-Zone Tube Furnace.
- Gold Sputtering Unit for coating the substrates.
- FEG-SEM (FEI Quanta 450) and FE-SEM (Zeiss Supra 55).
- X-Ray Diffraction (D8 ADVANCE and DAVINCI design, Bruker).
- UV-visible absorption and Photoluminescence, Photoluminescence excitation, and Photoluminescence mapping, stimulated emission, as well Raman spectroscopic studies.
- Femtosecond laser system to realize the ultrafast dynamics measurement of semiconductor nanomaterials.
- Magneto-optical setup [Magnetic field = 7 Tesla. T = 2K] (attocube).
- AFM (attocube).
- Centrifuge apparatus.

Basic operation of:

- MPMS (SQUID magnetometer)
- Vibrating Sample Magnetometer (VSM)
- Electron paramagnetic resonance (EPR) spectroscopy
- Keithley 4200 and probe station
- Thermal Evaporator (Co-evaporation system) for the growth of 2D-nanostructures.

PUBLICATIONS:

Year	Journal Name	Title
2024	J Mater Sci: Mater Electron	Composite hydroxide mediated synthesis of barium-doped strontium oxide nanostructure for energy storage applications

2024	Journal of Energy Storage	Facile Synthesis of Novel Cobalt Molybdenum Sulfide-Graphitic Carbon Nitride (CoMoS ₄ /g-C ₃ N ₄) Nanocomposite Electrode for Improved Supercapacitor and Photocatalytic Applications.
2024	Materials Chemistry and Physics	Facile synthesis of chromium doped cadmium sulfide/zinc telluride nanocomposites for enhanced electrochemical energy storage and photocatalytic applications
2024	Physica E: Low-dimensional Systems and Nanostructures	Enhancing the electrochemical performance of nickel cobalt sulfide nanostructures via molybdenum doping for supercapacitor applications
2024	Materials Today Communications	Tailoring electrochemical and dielectric properties of SrO nanostructures through Cr-doping for energy storage applications
2024	Materials Science & Engineering B	Boosting electrochemical and photocatalytic performance of Cadmium Sulfide/Zinc Telluride nanocomposites via Nickel doping
2023	Journal of Energy Storage	Facile preparation of Ga-doped ZnO nanostructures by composite-hydroxide-mediated synthesis route for high-performance pseudocapacitors
2023	Journal of Energy Storage	Powering up the energy storage: Exploring the potential of Graphitic Carbon Nitride-Strontium Oxide Nanohybrid for next-generation energy and photocatalytic applications
2023	Journal of Molecular Graphics and Modelling	Insight on the structural, electronic and optical properties of Zn, Ga-doped/dual-doped graphitic carbon nitride for visible-light applications
2023	Journal of Energy Storage	Bifunctional strontium-doped barium oxide nanorods as promising photocatalysts and electrodes for energy storage applications
2023	Ceramics International	Enhanced thermoelectric power generation performance of mixed-phase FeS/FeS ₂ nanostructures by controlling the reaction time duration
2022	Journal of Science: Advanced Materials and Devices	Effect of Al doping on photoluminescence and conductivity of 1D CdS nanobelts synthesized by CVD for optoelectronic applications
2022	Physica Scripta	Entropy variation of rotating BTZ black hole under Hawking radiation
2022	Surface Review and Letters	INFLUENCE OF BEAM ENERGY OF IONS ON PROPERTIES OF NICKEL NANOWIRES
2021	Inorganic Chemistry Communication	Green synthesis of spherical TiO ₂ nanoparticles using Citrus Limetta extract: Excellent photocatalytic water decontamination agent for RhB dye.
2021	Physica B: Condensed Matter	Tunable emission in ferromagnetic CdS:Dy ³⁺ nanostructures for optoelectronic and spintronic applications
2020	Inorganic Chemistry Communications	Substitutional site effects of Cr(II) ions on optical and magnetic properties of 1D CdS semiconductor nanoneedles for optoelectronic and spintronic applications
2020	Physica B: Physics of Condensed Matter	Structural, electronic, optoelectronic and transport properties of LuZnCuAs ₂ compound: First principle calculations under DFT
2020	Physica B: Physics of Condensed Matter	Activation of infrared emission in (iodine, nickel) Co-Doped CdS nanobelts for solar cells and optoelectronic applications.

2020	Bulletin of Materials Science	A first-principles investigation on electronic, optical and thermoelectric properties of La ₂ Pd ₂ O ₅ compound.
2020	Microelectronic Engineering	Study of electrical attributes of molybdenum ditelluride (MoTe ₂) FET using experimental and theoretical evidences.
2020	Journal of Molecular Modeling	Revealing the optoelectronic properties of Re-based double perovskites using the Tran-Blaha modified Becke-Johnson with density functional theory
2020	Ceramics International	Electrodeposited CuMnS and CoMnS electrodes for high-performance asymmetric supercapacitor devices.
2020	Journal of Energy Storage	Role of cerium-doping in CoFe ₂ O ₄ electrodes for high performance supercapacitors
2020	Chemical Physics Letters	Effect of post-deposition annealing temperature on the charge carrier mobility and morphology of DPPDTT based Organic Field Effect Transistors
2020	Diamond and Related Materials	An effectual enhancement to the electrical conductivity of graphene FET by Silver Nanoparticles.
2020	Journal of Energy Storage	Capacitive and diffusive contribution in strontium phosphide-polyaniline based supercapattery.
2020	Solid State Ionics	Binary composites of strontium oxide/polyaniline for high performance asymmetric supercapacitors
2020	Physica E: Low-dimensional Systems and Nanostructures	Ultraviolet-light-driven current modulation of Au/WS ₂ /Gr Schottky barrier.
2020	Materials Science in Semiconductor Processing	Probing of Mechanical, Optical and Thermoelectric Characteristics of Double Perovskites Cs ₂ GeCl/Br ₆ by DFT Method
2020	Journal of Solid-State Chemistry	Ab-initio study of Cu-based oxychalcogenides: A new class of materials for optoelectronic applications.
2020	European Polymer Journal	Stimuli-responsive fluorescent hyperbranched poly(amido amine)s for biosensing applications.
2020	Ceramics International	Strontium phosphide-polyaniline composites for high performance supercapattery devices.
2020	International Journal of Hydrogen Energy	Gallium vacancies role in hydrogen storage of Gallium vacancies role in hydrogen storage of single-crystalline GaN hexagonal micro-sheets.
2019	Materials Science in Semiconductor Processing	Cation effect on electronic, optical and thermoelectric properties of perovskite oxynitrides: Density functional theory.
2019	Journal of Energy Storage	Capacitive and diffusion-controlled mechanism of strontium oxide based symmetric and asymmetric devices.
2019	RESEARCH	Dual Color Lasing Lines from EMPs in Diluted Magnetic Semiconductor CdS:NiI Structure.
2019	Superlattices and Microstructure	Enhancement in the mobility of solution processable polymer based FET by incorporating graphene interlayer.
2019	Materials Research Express	Gate Dependent Phonon Shift in Tungsten Disulfide (WS ₂) Field Effect Transistor.
2019	Optical Materials	Enhanced photoresponse and surface charge transfer mechanism of graphene-tungsten disulfide heterojunction.
2019	Superlattices and Microstructure	Tailoring the electrical properties of MoTe ₂ field effect transistor via chemical doping.
2019	Journal of Physics and Chemistry of Solids	Single-channel dual tunable emission in the visible and near-infrared region using aggregations of Mn(II) ions in an individual Mn-doped CdS nanosheet.

2019	Journal of Molecular Graphics and Modelling	Electronic structure and optical properties of TaNO: An ab initio study.
2019	Journal of Nanoscience and Nanotechnology	Mn(II) ions assisted near-infrared single-mode lasing from an individual Mn-doped CdS nanobelts.
2019	Microelectronic Engineering	Effect of E-beam irradiation on graphene sandwiched between h-BN layers.
2019	RSC Advances	Formation of MoTe ₂ Based Schottky Junction Employing Ultra-low and High Resistive Metal Contacts.
2019	ACTA PHYSICA SINICA	Excitonic magnetic polarons and their luminescence in II-VI diluted magnetic semiconductor micro-nanostructures.
2018	Nanotechnology	The aggregation of Mn ²⁺ , its dd transition in CdS: Mn (II) nanobelts and bound magnetic polaron formation at room temperature.
2018	Journal of Science: Advanced Materials and Devices	Novel low-temperature synthesis and optical properties of 1D-ZnTe Nanowires.
2018	Nanotechnology	Role of Ni ²⁺ (d ⁸) ions in electrical, optical and magnetic properties of CdS nanowires for optoelectronic and spintronic applications.
2017	Optical Materials	Novel Cd-CdS micro/nano heterostructures: Synthesis and luminescence properties.
2017	Journal of Materials Chemistry C	Large tunable luminescence by Mn(II) aggregates in Mn-doped ZnS nanobelts.
2017	PHYSICA E LOW DIMENSIONAL SYSTEMS & NANOSTRUCTURES	Tunable emission and conductivity enhancement by tellurium doping in CdS nanowires for optoelectronic applications.
2016	ACS Photonics	Bosonic Lasing from Collective Exciton Magnetic Polarons in Diluted Magnetic Nanowires and Nanobelts.
2016	Journal of Nanoscience and Nanotechnology	Synthesis and Photoluminescence of Single-Crystalline Fe(III)-doped CdS Nanobelts.
2016	RSC Advances	Tailoring the electrical and Photo-electrical properties of WS ₂ Field effect transistor by selective n-type chemical doping.
2015	Journal of Nano Research	Morphology-Controlled Synthesis of Single Crystalline α -Mn ₂ O ₃ Sea-Urchins Assembled with Pen-Type Nanoneedles and Broad Absorption Spectrum.
2015	Journal of Nanoscience and Nanotechnology	Synthesis of Novel Sea-Urchin-like CdS and their Optical Properties.
2014	Science of Advanced Materials	Large-Scale Synthesis of Highly Pure Cadmium Semi-Spheres and their Anomalous Optical Properties.
2014	Nanotechnology	Tunable Emission Properties by Ferromagnetic Coupling Mn(II) aggregates in Mn-doped CdS nanowires.
2014	Nanoscience and Nanotechnology Letters	Photoluminescence and magnetic properties of Mn-doped ZnS nanobelts.
2014	Chinese Physics Letters	A Model on the Mn ²⁺ Luminescence band redshift with Mn(II) doping and aggregation within CdS:Mn microwires.

2013	Materials Research Bulletin	The length controllable synthesis and near-infrared photoluminescence of one-dimensional ternary $\text{Cu}_4\text{Bi}_4\text{S}_9$ semiconductor nanobelts.
2013	Journal of Physical Chemistry C	Near Infrared Emission Band and Origin in Ni(II)-Doped CdS Nanoribbons by CVD Technique.
2013	Nano Letters	Single-Step Synthesis of Monolithic Comb-like CdS Nanostructures with Tunable Waveguide Properties.
2013	Journal of Applied Physics	Group delay of single-photon transmission in a waveguide side coupled with a Jaynes-Cummings chain.
2013	Journal of Nanoscience and Nanotechnology	Preparation, Characterizations and Optical Property of Single Crystalline ZnMn_2O_4 Nanoflowers via Hydrothermal Synthesis.
2013	Sains Malaysiana	Pressure Induced Structural and Electronic Bandgap properties of Anatase and Rutile TiO_2 .
2012	Optics Letters	Tailoring of optical modes of semiconductor microcavities via metal and dielectric gratings.

BOOK CHAPTER:

1. Honey, Shehla, Kaviyarasu Kasinathan, Muhammad Ehsan Mazhar, Atif Rasool, **Muhammad Arshad Kamran**, Amjad Ali, Jamil Asim, and M. Maaza. "Argon Ions Beam Irradiation of Copper Nanowires for Transparent Electrodes." *Nanomaterials for Energy Conversion, Biomedical and Environmental Applications*, pp. 37-49. Singapore: Springer Nature Singapore, 2022. https://doi.org/10.1007/978-981-19-2639-6_2

SELECTED CONFERENCES:

- RTNS-2024 (3rd International Conference Recent Trends in Natural Sciences), April 24-25, 2025, Influence of transition metal ions on optical and magnetic properties of CdS/ZnS nanostructures.
- Aims-2024 (5th International Conference), November 27-28, 2024, Designing High-Performance $\text{CoMoS}_4/\text{g-C}_3\text{N}_4$ Nanocomposite Electrodes for Supercapacitors.
- Aims-2023 (4th International Conference), November, 29-30, 2023, Effect of Exciton magnetic polarons (EMPs) and localized exciton magnetic polarons (LEMP) in tuning optical and magnetic properties of wideband gap semiconductors nanostructures.

- 3rd International Conference on Physical Science and Engineering (ICPSE-2023), May 16-18, 2023, Boosting electrochemical performance of Cadmium Sulfide based nanocomposites via TM-ions doping.
- Aims-2022 (3rd International Conference), December 15-16, 2022, Role of Transition-Metal Ions in Tuning the Optical and Magnetic Properties of Wideband Gap Wideband Gap.
- Aims-2021 (2nd International Conference), October, 5-6, 2021
Green synthesis of TiO₂-based nanostructures as a Promising Material for Diverse Environmental Applications.
- AIMS-2020, (1st International Conference), July 23-24, 2020
Substitutional effects of TM ions on optical and magnetic properties of Wideband Gap semiconductor nanostructures for optoelectronic and spintronic.
- Invited Speaker in Ist Colloquium, June 26, 2022, Room #1 Science Block, University of Management and Technology, Iqbal Premises, Sialkot.
- Participated in “**Nanotechnology Seminars**” arranged by training & Community Service Unit, College of Science, Majmaah University. April 13, 2015.
- International Conference for Top and Emerging Materials Scientists, IC-TEMS 2013, “*Tuning Structural and Optical Properties by Doping Proper Metal Ion in CdS-based Nanostructures*” presented on 14/08/2013 by Muhammad Arshad Kamran (**Invited Presenter**), organized by **ASIA PACIFIC SOCIETY for Materials Research**, 11-15 August, 2013 ZHUHAI, China.

REFERENCES:

Professor Dr. Bingsuo Zou

Changjiang Distinguished Professor

Director of Guangxi Key Laboratory of Processing for Non-Ferrous Metals and Featured Materials, Guangxi University, Nanning, 530004 P. R. China.

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Professor Dr. Ruibin Liu

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Optoelectronic Systems, Beijing Institute of Technology, China
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