Curriculum Vitae of Prof. (Dr.) Javed Mazher

Address:

Office 2137,

Physics Department,

College of Science,

King Faisal University,

Al-Ahsa, 31982,

Kingdom of Saudi Arabia

Tel: 00966-546399225 (Mobile)
Tel: 00966-135899597 (Office), Ext: 9597

Website: http://www.kfu.edu.sa/en/Colleges/Science/jkhan

Emails: jkhan@kfu.edu.sa
javed.mazher2050@gmail.com
Citizenship:-Indian

Occupation & Present Postion:

Professor of Physics, King Faisal University, KSA

Subjects Taught at M.Sc. (Materials Science), M.Tech (Nanotechnology) & B.Tech(Phys) levels

Computational Materials Science, Nanotechnology, Nano-scale devices, Synthesis & Characterization of Nanomaterials, Engineering Physics, Solid-state Physics, Materials Science at Nanoscale, Nanomaterials-simulation Techniques.

Research Field & Interests:

"To control materials and devices at the atomic and molecular level for Innovation of interdisciplinary nature"

Graphene and Carbon Nanotechnology, Nanoelectrocrystalization, Nanostructured Powders and Surfaces, Sensor Nanotechnology, Magnetic and Spintronic nanomaterials, Functional nanomaterials, Nanoelectronics, Nanomaterials' Ab-initio DFT Simulation methods.

Fellowships, Awards and International Patents:

2010	Awarded US Patent vide number US2010/0236706 on Graphene Nanotechnology, Paris University, France.
2009	Awarded World Patent vide number WO 2009/074755 on Graphene Nanotechnology, Paris University, France.
2008	Awarded World Patent vide number WO/2008/029416 on the Cu-Nanowire based Gas-Sensors, TIFR, Mumbai.
2007	Recipient of the CEFIPRA Postdoctoral fellowship, MFA, France. The fellowship was given to pursue research in the field of Materials science and Nanotechnology.
2005	Recipient of the Young Scientist Project from Department of Science and Technology, GOI, New Delhi for instigating Nanotechnology Research.
2004	Recipient of the TIFR Post Doctoral fellowship from Tata Institute of Fundamental Research (DAE National Laboratory), GOI, India. The fellowship was given to pursue research in the field of Nanotechnology.
2003	Recipient of the Senior Research Fellowship from Council of Scientific and Industrial research, GOI, New Delhi. The award was given to pursue research in the field of Nanotechnology.

Membership of professional organizations:

2013 -to date	Materials Research society (MRS), USA
2011 -to date	Member of the American Nano Society (ANS), USA

Professional Career: *"Seventeen Years in the field of Synthesis & Characterization of Semiconductor-, Metallic- & Carbon-Nanostructures and their Devices"*

Academic positions held:

- **Professor** of Physics and Nanotechnology, since 2013, Physics Department, College of Science, King Faisal University, KINGDOM OF SAUDI ARABIA
- **Professor** of Materials Science and Nanotechnology, 2010-onwards, Materials Science Program, College of Natural Sciences, Addis Ababa University, Ethiopia, AFRICA
- **Associate Professor** of Physics and Nanotechnology, during 2009-10, Institute of Technology and Management, Rajiv Gandhi Technical University (RGPV), MP, India
- **Post Doctoral Scientist,** 2007-onwards, Institute of Mineralogy and Condensed Matter Physics, Paris University, France
- **Fellow (V),** 2005-onwards, Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research (TIFR), National Facility of Department of Atomic Energy, Mumbai, India
- **Assistant Professor,** 2004-onwards, Materials Physics and Nanotechnology, JP University of Information Technology, HP, India
- **Senior Research Fellow,** during 2003-onwards, Council of Scientific and Industrial Research & Institute of Physics and Electronics, BU, Bhopal, India
- **Research Associate**, 1999-onwards, Council of Science and Technology, MP, India

Qualifications:

Degree	University	Year	Subjects	Details
PDF	Institute of Mineralogy and Condensed Matter Physics, **Paris University**, France.	2007	Nanotechnology	Training- "Synthesis and Characterization of Graphene monolayers" and "High pressure XRD and EXAFS studies of doped zinc-selenide semiconductors"
PDF	Tata Institute of Fundamental Research (**TIFR**), National Laboratory, Mumbai (Bombay)	2005	Nanotechnology	Training- "Synthesis and Characterization of multilayered Nanowires", "Ultra low voltage gas discharge nano-devices" and "Super-hydrophobic nano-corrugated metals"
Ph.D.	Institute of Physics and Electronics, **BU BHOPAL,** India	1999-04	Materials Physics & Nanotechnology	Awarded: Entitled- "Synthesis and Characterization of II-VI semiconductor Nanostructures"
M.Sc.	Dept of Physics, **BU BHOPAL,** India	1997-99	Physics & Comm. Electronics	Secured Grade-A (First Class)
B. Sc.	Dept of Physics, **BU BHOPAL,** India	1994-97	PCM	Secured Grade-A (First Class)
Hr.Sec.	MP State Board of Education	1992-94	PCM	Secured Grade-A (First Class)

Factual Summary: Published over 20 peer-refereed research papers (mainly as the principal/corresponding author), including 3 international patents in Nanotechnology and over 15 invited talks at conferences.

Research Projects Awarded Recently and Funding Secured:

1 Principle Investigator in the National Science Technology and Innovation Plan (NSTIP) Research Project entitled "Enhancement of Figure of Merit of Diluted Magnetic Oxide Semi-conductors Nano-particles for Thermoelectric Generators", vide number 11-NAN-1818-06, which is funded by the King Abdulaziz City for Science and Technology (KACST), Saudi Arabia. The secured funding amounts to 1,681,000 Saudi Riyals (≈ ½ Million USD). The co-investigators of project are faculty-members from several middle-eastern universities (Egypt and Pakistan).

2 Co-Investigator in the Deanship of Scientific Research (DSR) project entitled "A computational density functional study of hydrogen adsorption on small bimetallic Pd-based clusters", ID-22920/2015, which is funded by King Faisal University, Saudi Arabia. The secured funding amounts to 80,000 Saudi Riyals.

3 Principal-Investigator in the Deanship of Scientific Research (DSR) project entitled "Anodized nano-porous template assisted growth of vertically stacked nano-discs by a wet electro-chemical technique: A study of Cu/Co multilayered nanostructures", ID-160049/2015, which is funded by King Faisal University, Saudi Arabia. The secured funding amounts to 92,000 Saudi Riyals.

4 Co-Investigator in the Deanship of Scientific Research (DSR) project entitled "Study of Giant Magneto-thermo-power and Giant Magneto-resistance of a Single Cu/Co Multilayered Nanowire: Fabrication of a Single Nanowire based Thermometer", ID-160054/2015, which is funded by King Faisal University, Saudi Arabia. The secured funding amounts to 95,000 Saudi Riyals.

Journal Publications:

1. "Precursor-route ZnO films from a mixed casting solvent for high performance aqueous electrolyte -gated transistors", **Phys. Chem. Chem. Phys., 2015,17, 31247-31252**

2. "Hydrogen Oxidation Reaction on Pd(111) Electrode in Alkaline Media: Ab-Initio DFT Study of OH Effects", **Computational and Theoretical Chemistry (Elsevier)**, 1063(63), 2015, **[DOI:10.1016/j.comptc.2015.03.026]**

3. "Hydrogen Evolution Reaction on Pd(111) Electrode in Acidic Media: Ab-initio DFT Study of Approaching H Effects", submitted in **Journal of Theoretical and Computational Chemistry, Jan-2016.**

4. **United States Patent** issued and published on "Method of fastening lamellae of a lamellar material to a suitable substrate", **US2010/0236706**, dt. 23-09-2010, **DOI: US 20130000833A1** (2013)

5. **World Patent** issued and published on "Fixing lamella of layered material e.g. graphite on borosilicate glass substrate, by placing sample of layered material against substrate surface, dissociating oxides of substrate, and subjecting substrate and sample to electric field", **WO 2009/074755**, dt. 18-06-2009. French patent issued (FR2922125-A1) dt.17-4-2009.

6. **World Patent** issued and published on "A nanorod-based device for obtaining a self-sustaining gas discharge at very low voltages", **WO/2008/029416** dt 08-03-2008

7. "Ambient Zinc K-Edge Extended X-Ray Absorption Fine Structure Studies on Solid Solution Hardening of the $Zn_{1-x}Be_xSe$ Ternary Alloys", **ISRN Spectroscopy** (Hindawi), vol.2012, 623409, 2012, [**DOI:**10.1155/2013/623409]

8. "EXAFS studies of novel impulsive hardening in the Be–Zn–Se semiconductor alloys", Accepted in **Advances in Synchrotron Radiation**, World Scientific (Singapore and USA), Volume 03, 1450004 (2014) [13 pages] [**DOI:** 10.1142/S179361791450004X]

9. "Synthesis and characterization of two dimensional graphene lamellae based PAn nanocomposites", **Thin Solid Films**, Vol. 519, Issue 3, 1059-1065, 2010 [**DOI:** 10.1016/j.tsf.2010.08.044]

10. "High pressure x-ray diffraction and extended x-ray absorption fine structure studies on ternary alloy $Zn_{(1-x)}Be_xSe$", **J. Appl. Phys**. 108, 083533 (2010) [**DOI:**10.1063/1.3493850]
11. "Lattice relaxation in the highly-contrasted $Zn_{(1-x)}Be_xSe$ alloy: An extended x-ray absorption fine structure study", **J. Appl. Phys.** 108, 083539 (2010) [**DOI:**10.1063/1.3483944]
12. "An EXAFS study of the structure of the $Zn_{1-x}Be_xSe$ alloy system", **J. Phys. Condensed Matter** 190, 012064, 2009 [**DOI:** 10.1088/1742-6596/190/1/012064]
13. "Graphene made easy: High quality, large-area samples", **Solid State Communications**, Vol 149, Issues 17-18, 718-721, 2009 [**DOI:**10.1016/j.ssc.2009.02.007]
14. "Universal, geometry-driven hydrophobic behavior of bare metal nanowire clusters", **Nanotechnology**, 19, 075709, 2008 [**DOI:** 10.1088/0957-4484/19/7/075709]
15. "Strained ZnSe nanostructures investigated by x-ray diffraction, atomic force microscopy, transmission electron microscopy and optical absorption and luminescence spectroscopy", **Nanotechnology**, 15(5), 572-580, 2004 [**DOI:** 10.1088/0957-4484/15/5/030]
16. "In-situ atomic force microscopic study of reverse pulse plated Cu/Co-Ni-Cu films ", **Journal of Material Science**, Volume 39, Issue 5, pp. 1615-1620, 2004 [**DOI:** 10.1023/B:JMSC.0000016160.97771.44]
17. "Investigation of Size Dependent Optical and Morphological Properties of Nanocrystalline ZnSe Films", **Physica (E)**, 16, 209, 2003 [**DOI:**10.1016/S1386-9477(02)00664-1]
18. "Investigations of the alloy hardening among the Zinc-Beryllium-Selenide ternary solid solutions", **Ultra Scientist (Phy. Sc.)**, 24 (3)B, 445-451, 2012, [**ISSN** 2231-346X]
19. "Studies of extended x-ray absorption fine structures of the Zinc-Beryllium-Selenide", **Ultra Scientist (Phy. Sc.)**, 24 (3)B, 405-410, 2012, [**ISSN** 2231-346]
20. **"**Extended X-ray Absorption Fine Structure Studies of Impulsive-type Hardening in the Heavily Be-doped ZnSe Ternaries"**, Journal of Korean Physical Society (Springer**), Vol. 64, No. 4, 548-590, 2014 [**DOI:**10.3938/jkps.64.584]

Books and Chapters Published:

1. **Javed Mazher** (2012), "Energy bands and transport phenomena among Graphene Nanostructures: Towards understanding the Nanoelectronics of novel Graphene Nanoribbons", pp 1-196, ***Academic Verlag, Germany*****,** ***ISBN: 978-3-659-28957-6,*** 2012
2. **Javed Mazher**, Asefa A. Desta and Shabina Khan, Chapter: "PAn-Graphene-nanoribbon composite materials for Organic Photovoltaics: A DFT Study of their electronic and charge transport properties", ***Solar Cell Nanotechnology, Wiley (USA)*** (Ed. A Tiwari et. al.), pp 357-407, ***ISBN-13: 978-1118686256,*** 2014