Dr. Aurang Zeb

PERSONAL PROFILE

Name	**Aurang Zeb**
Father's name	Hayat Muhammad
NIC. No.	34301-1741427-9
Date of Birth	15-02-1968
Domicile	Hafizabad, Pakistan.
Religion	Islam
Postal address	Dr. Aurang Zeb, Assistant Professor, Department of Applied Physics, Federal Urdu University of Arts Science and Technology, Near Sector C-2, Bahria Enclave, Islamabad.
E-Mail address	aurangzebbabar@gmail.com aurangzeb.babar@fuuast.edu.pk
Phone Nos.	0092-3335411947

ACADEMIC PROFILE

PhD. Physics

2004 –2009, **Quaid-i-Azam University**, Islamabad, Pakistan.

Title of PhD. Thesis

"Prediction of Effective Thermal Conductivity of Fluid Saturated Porous Media: *in situ* Thermo Physical Measurements"

M.Phil. Physics

1994 –1996, **Quaid-i-Azam University, Islamabad**, Pakistan. (75%) 1st div.

Title of M. Phil. Thesis:

"To Study Thermal Transport Properties of Various Solids"

B. Ed. 1992 – 1993, Punjab University, Lahore, Pakistan. (62%) 1st div.

M.Sc. Physics: 1989 - 1991, Punjab University, Lahore, Pakistan. (68%) 1st div.

B.Sc. 1987- 1989, Punjab University, Lahore, Pakistan.. (65%) 1st div.

Major Subjects: Math (A&B), Physics.

F.Sc. 1985-1987, Govt. Islamia College Civil Lines, Lahore, Pakistan. (63%) 1st div.

Major Subjects: Math, Physics, Chemistry.

S.S.C. 1983-1985, Govt. High School Hafizabad, Pakistan. (79%) 1st div.

Major Subjects: Math, Physics, Chemistry, Biology.

TEACHING EXPERIENCE

1. Assistant Professor, Applied Physics Department, Federal Urdu University of Arts, Science and Technology, Islamabad, Pakistan from 25th February 2010 to date

2. Lecturer in Physics, Punjab Education Department, Pakistan from 26th October, 1995 to 24th February, 2010.

FOREIGN TEACHING EXPERIENCE

Assistant Professor, Department of General Studies, **Jubail University College** (JUC), Kingdom of Saudi Arabia from 18th February 2014 to 2nd July 2017 (availed Ex Pakistani Leave for the said Period).

ADMINISTIVE EXPERIENCE

1. Director Evening Programme, Federal Urdu University, Islamabad Campus (5th April to 6th September 2018)

2. Head of Department of Applied Physics (7th of September 2018 to 6th of September 2021).

3. Member Departmental Council as an external expert in Mirpur University of Science and Technology (Sep 2018 to Sep 2021)

AREAS OF TEACHING INTEREST

Teaching Electrodynamics, Classical Mechanics, Solid State Physics, Nuclear Physics, Thermodynamics and Statistical Mechanics at **M. Sc. level** and Methods and Techniques of Teaching Experimental Physics, Optical Thin Film Technology and Electrodynamics at **M. Phil. Level**.

Teaching General Physics I and General Physics II at **BS** level.

AREAS OF RESEARCH INTEREST

Thermal Properties of Materials, Nano Technology, Thin Film Technology

INTERNATIONAL PUBLICATIONS

1. Simultaneous measurement of thermal conductivity, thermal diffusivity and prediction of effective thermal conductivity of porous consolidated igneous rocks at room temperature.
   Aurangzeb, Z. Ali, S.F. Gurmani and A. Maqsood: J. Phys. D: Appl. Phys. (2006) 39, 3876-388
   (Category "W")
2. Modeling of effective thermal conductivity of consolidated porous media with different saturants: A test case of gabbro rocks.
   Aurangzeb and A. Maqsood**:** Int. J. of Thermophysics (2007) 28, 1371-1386 **(Category "X")**
3. Prediction of effective thermal conductivity of porous consolidated media as a function of temperature: A test example of limestones.
   Aurangzeb, L. A. Khan and A. Maqsood: J. Phys. D: Appl. Phys. (2007) 40, 4953-4958
   (Category "W")
4. Modeling of effective thermal conductivity of dunite rocks as a function of temperature.
   Aurangzeb and A. Maqsood**:** Int. J. of Thermophysics (2008) 29, 1470-1479 **(Category "X")**
5. Thermo physical properties of dunite rocks as a function of temperature along with the prediction of effective thermal conductivity
   Aurang Zeb, Tayyaba Firdous, Asghari Maqsood: Natural Science: (2010) 2, 626-630

6. Prediction of Effective Thermal Conductivity of Consolidated Porous Materials under Ambient Conditions **Aurang Zeb**, Misbah and Asghari Maqsood: Indian J Phys: (2014) 88(6), 603–607 **(Category "X")**
7. **E**nhanced Grain Growth in the sn Doped Sb_2S_3 Thin Film Absorber Materials for Solar Cell Applications B. Ismail, S. Mushtaq, **A. Zeb**: Chalcogenide Letters: (2014), 11, 37 – 45 **(Category "Y")**
8. Enhanced Grain Growth and Improved Optical Properties of the Sn Doped Thin Films of Sb_2S_3 Orthorhombic Phase
   Bushra Ismail, Saima Mushtaq, Rafaqat Ali Khana, Asad Muhammad Khana, **Aurang Zeb**, Abdur Rahman Khan: Optik: (2014) 125, 6418-6421 **(Category "X")**
9. Low-temperature synthesis and characterization of Sn-doped Sb_2S_3 thin film for solar cell applications Saima Mushtaq , Bushra Ismail , Misbah Aurang Zeb , N.J. Suthan Kissinger , **Aurang Zeb:** Journal of Alloys and Compounds: (2015) 632, 723–728 **(Category "W")**
10. Nickel Antimony Sulphide Thin Films for Solar Cell Application: Study of Optical Constants Saima Mushtaq, Bushra Ismail, Muhammad Raheel, **Aurang Zeb**: Natural Science:(2016) 8, 33-40
11. Effect of Co^{2+} Ions Doping on the Structural and Optical Properties of Magnesium Aluminate Kiran Kanwal, Bushra Ismail, K. S. Rajani, N. J. Suthan Kissinger & **Aurang Zeb:** Journal of Electronic Materials: Journal of Elec Materi (2017) 46: 4206. **(Category "W")**
12. Preparation and physical properties of functional barium carbonate nanostructures by a facile composite-hydroxide-mediated route
    Tauseef Shahid, Muhammad Arfan, **Aurang Zeb**, Tayyaba BiBi, and Taj Muhammad Khan: Nanomaterials and Nanotechnology (2018) 8:1-8 **(Category "X")**
13. Effect of Fe Dopant on Physical Properties of Antimony Sulphide (Sb2 S3) Thin Films Z. U. Abdin, M. H. Alnasir, M. Y. Khan, M. Sajjad, M. T. Qureshi, A. Ullah, **A. Zeb**: Chalcogenide Letters: (2019) 16 (1): 37 – 48 **(Category "Y")**
14. Tailoring of Nanostructures: Al doped CuO Synthesized by Composite-Hydroxide-Mediated Approach Muhammad Arfan, Danial Nawaid Siddiqui, Tauseef Shahid, Zafar Iqbal, Yasir Majeed, Iqra Akram, Noreen, Robabeh Bagheri, ZhenlunSong, **Aurang Zeb**: Results in Physics (2019) 13: 1-6 **(Category "W")**
15. Tailoring of Pyramid Cobalt Doped Nickel Oxide Nanostructures by Composite-Hydroxide-Mediated Approach
    Aurang Zeb, Muhammad Arfan, Tauseef Shahid, Taha Bin Masood, Abdul Ghafar Wattoo, Zhenlun Song, Moazzam Shahzad, Shehzad Munir Ansari: Materials Chemistry and Physics (2019) 239: 122036 **(Category "W")**
16. Measurement and Prediction of Thermal Conductivity of Volcanic Basalt Rocks from Warsak Area **Aurang Zeb**, Muhammad Abid , Misbah Aurang Zeb, Muhammad Omer Qureshi, Usman Younas, and Irem Batool: Advances in Materials Science and Engineering (2020) 2020:1-9 **(Category "W")**
17. Synthesis and characterization of Bi-doped antimony sulphide thin films for solar absorption applications Sara Yaseen, Abdul Ghafar Wattoo, Muhammad Hashim h, Muhammad Bilal Tahir, Raheel Ahmed Janjua, Abdullah A. Al-Kahtani, Saima Mushtaq, Naseeb Ahmad, Muhammad Khalid, Zain ul Abdin, Tauseef Shahid, Muhammad Arfan, Ahmad Zahoor, **Aurang Zeb**, Zhenlun Song: Physica B: Physics of Condensed Matter (2021) 619: **(Category "W")**
18. The synthesis of CdZnTe semiconductor thin films for tandem solar cells Nazar Abbas Shah, Waqar Mahmood, Murrawat Abbas, Nadeem Nazar, Ashfaq H. Khosa, **Aurang Zeb** and Abdul Malik: RSC Advances (2021) 11(63) **(Category "W")**
19. Facile Synthesis and Characterization of CuO–CeO2 Nanostructures for Photocatalytic Applications Muhammad Arfan, Intisar Hussain, Zahoor Ahmad, Andleeb Afzal, Tauseef Shahid, Abdul Ghafar Wattoo, Muhammad Rafi, Aurang Zeb, Muhammad Imran Shahzad, Song Zhenlun: Crystal Research and Technology. (2022)57(2): 39940-39949 **(Category "X")**

RESEARCH SUPERVISION EXPERIENCE

M. Phil. Students Supervised

1. Saima Mushtaq. Session 2010-2012
"Fabrication and Characterization of Sn and Ni Doped Nano-Structured Sb_2S_3 Thin Films for Solar Cell Application"

2. Mubashir Ahmed Siddiqui Session 2010-2012
"Thermo-physical Properties of Igneous Rocks"

3. Usman Younas Session 2010-2012
"Prediction of Effective Thermal Conductivity of Volcanic Rocks at Room Temperature"

4. Muhammad Omer Qureshi Session 2010-2012
"Prediction of Thermal Conductivity of Porous Materials and its Comparison with Experimental Results"

5. Kiran Kanwal Session 2010-2012
"Characterization of Photoluminescence Properties of Magnesium Aluminate $MgAl_2O_4$ Doped with Transition Metal Based nano-Materials"

6. Nadeem Nazar Session 2010-2012
"Growth and Characterization of CdZnTe Ternary Semiconductor Compound Thin Films by Thermal Evaporation Method"

7. Syed Hubby Ali Naqvi Session 2010-2012
Fabrication and Characterization of Doped Zinc Selenide ZnSe Semiconductor Thin Films

8. Zain Ul Abdin Session 2011-2013
"Analysis of Iron Doped Antimony Sulphide (Sb_2S_3) Thin Films by Chemical Bath Deposition Method"

9. Adnan Javed Session 2011-2013
"Optimization of Time and Temperature for Synthesis of Barium Oxide (BaO) Nanoparticles using Composite- Hydroxide-Mediated (CHM) Approach"

10. Muhammad Jamshed Amjad Session 2011-2013
"Thermal Conductivity Prediction of Granite Rocks under Ambient Conditions"

11. Kamran ullah shah Session 2011-2013
"Optimization of Various Parameters Effecting the Growth of Sb_2S_3 Thin Films Using Chemical Bath Deposition (CBD) Technique"

12. Muhammad Arfan Session 2012-2014
"Prepration and Characterization of Magnesium Aluminate $MgAl_2O_4$ Doped with Transition Metal Based Nano-materials"

13. Muhammad Idrees Session 2012-2014
"Prediction of Effective Thermal Conductivity of Porous Sandstones under Ambient Conditions"

14. Muhammad Irfan Session 2012-2014
"Characterization and Preparation of Polymer Based Nano-Composites for Organic Solar Cell"

15. Mehvish Khan Session 2017-2019
"Synthesis and Characterization of Lead Zirconate Titanate (PZT) Nanofibers by Electrospinning"
Department of Physics, Allama Iqbal Open University, Islamabad

16. Muhammad Naveed
Irradiation-induced magnetism in diamond-graphite nano rod thin films

17. Muhammad Rajab
Facile Synthesis and Characterization of Calcium Cobalt Oxide for Thermoelectric Applications

18. Farhan Ali
Modification of Multiferroic Properties of Bismuth with Rare Earth and Transition Dopants

19. Zulfiqar Ali
Synthesis and Characterizations of Silver Doped Copper Oxide Nano Composites by Electrospinning Technique

Currently four students have started working under my supervision.