

DR. MUSHTAQUE HUSSAIN
Flat # D-2, IInd Floor, Plot # C-8,
Block-7, Gulistan-e Jauhar, Karachi

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OBJECTIVE: *To contribute in the research/academic activities of the university.*

PERSONAL INFORMATION

FATHER'S NAME: FAREED HUSSAIN
DATE OF BIRTH: 18-08-1968
AGE: 50 Years
SEX: MALE
MARITAL STATUS: MARRIED
NATIONALITY: PAKISTANI
RELIGION: ISLAM
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CELL PHONE #: 0336-3044728

ACADEMIC QUALIFICATION

1983 – Matriculation with 1st division from B.I.S.E, Hyderabad.
1985 – Intermediate with 1st division from B.I.S.E, Hyderabad.
1987 – B.Sc (Pass) with 2nd division from Sindh University, Jamshoro.
1991 – M.Sc. (Applied Mathematics) with 1st division from Quaid-e-Azam
University, Islamabad.
2001 – P.G.D.(CS & IT) with 1st division from Karachi University, Karachi.
2014 – **PhD** (Theoretical and applied Mathematical Physics) from Linkoping University,
Sweden.

EXPERIENCE (More than 25 years)

Current status: **Assistant Professor**, Department of Mathematics, NED University
of Engineering & Technology, Karachi, Since Aug 21, 2001.
Previous: **Lecturer**, Education Department, Govt: of Sindh Since Aug 01, 1993 to
Aug 20, 2001

PUBLICATIONS (ISI Journals)

2012.

1. "Potentiometric Zinc ion sensor based on honeycomb-like NiO nanostructures".
Mazhar Ali Abbasi, Zafar Hussain Ibupoto, **Mushtaque Hussain**, Yaqoob Khan, Azam Khan, Omer Nur, Magnus Willander".
Sensors. 2012,11,9; 12(11), 15424-15437.
Impact Factor: 2.677
2. "Piezoelectric nanogenerator based on zinc oxide nanorods grown on textile cotton fabric".
Azam Khan, Mazhar Ali Abbasi, **Mushtaque Hussain**, Zafar Hussain Ibupoto, Jonas Wissting, Omer Nur, Magnus Willander.
Applied Physics Letters. 2012,11,5; 101(19), 193506.
Impact Factor: 3.495

2013.

1. "Study of transport properties of copper-zinc oxide nanorods based schottky diode fabricated on textile fabric".
Azam Khan, **Mushtaque Hussain**, Mazhar Ali Abbasi, Zafar Hussain Ibupoto, Omer Nur, Magnus Willander.
Semiconductor Science and Technology. 2013,10,24; 28(12), 125006.
Impact Factor: 2.305
2. "The fabrication of white light-emitting diodes using the n-ZnO/NiO/p-GaN heterojunction with enhanced luminescence".
Mazhar Ali Abbasi, Zafar Hussain Ibupoto, **Mushtaque Hussain**, Omer Nur, Magnus Willander.
Nanoscale Research Letters. 2013,12; 8(1), 320.
Impact Factor: 2.726

2014.

1. "The improved piezoelectric properties of ZnO nanorods with oxygen plasma treatment on the single layer graphene coated polymer substrate".
Mushtaque Hussain, Mazhar Ali Abbasi, Zafar Hussain Ibupoto, Omer Nur, Magnus Willander.
Physica Status Solidi-A. 2014,2; 211(2), 455-459.
Impact Factor:1.616
2. "Comparative study of Energy harvesting from ZnO nanorods using different flexible substrates".
Mushtaque Hussain, Mazhar Ali Abbasi, Azam Khan, Omer Nur, Magnus Willander.
Energy Harvesting and Systems. 2014,6,1; 1(1-2), 19-26.
Impact Factor: Not assigned yet.
3. "The effect of oxygen-plasma treatment on the mechanical and piezoelectrical properties of ZnO nanorods".
Mushtaque Hussain, Azam Khan, Omer Nur, Magnus Willander, Esteban Broitman.
Chemical Physics Letters. 2014,7,21; 608, 235-238.
Impact Factor:1.860

4. "Use of ZnO nanorods grown AFM tip in the architecture of piezoelectric nanogenerator".
Mushtaque Hussain, Azam Khan, Mazhar Ali Abbasi, Jonas Wissting, Omer Nur, Magnus Willander.
Micro and Nano Letters. 2014,8,18; 9(8), 539– 543.
Impact Factor: 0.723

5. "Effect of anions on the morphology of Co_3O_4 nanostructures grown by hydrothermal method and their pH sensing application".
Mushtaque Hussain, Zafar Hussain Ibupoto, Mazhar Ali Abbasi, Omer Nur, Magnus Willander.
Journal of electro-analytical chemistry. 2014,3,15; 717-718, 78-82.
Impact Factor: 3.012

6. "Synthesis of three dimensional nickel cobalt oxide nano-needles on nickel foam, their characterization and glucose sensing application".
Mushtaque Hussain, Zafar Hussain Ibupoto, Mazhar Ali Abbasi, Xianjie Liu, Omer Nur, Magnus Willander.
Sensors. 2014,3,18; 14(3), 5415-5425.
Impact Factor: 2.677

7. "Synthesis of CuO/ZnO composite nanostructures, their optical characterization and valence band offset determination by X-ray photoelectron spectroscopy".
Mushtaque Hussain, Zafar Hussain Ibupoto, Mazhar Ali Abbasi, Azam Khan, Galia Pozina, Omer Nur, Magnus Willander.
Journal of Nanoelectronics and Optoelectronics. 2014,6,1; 9(3), 348-356. **Impact Factor: 1.069**

8. "Effect of post growth annealing on the structural and electrical properties of ZnO/CuO composite nanostructures".
Mushtaque Hussain, Azam Khan, Omer Nur, Magnus Willander.
Acta Physica Polonica A. 2014,9,1; 126(3), 849-854.
Impact Factor: 0.998

9. "Analysis of junction properties of gold–zinc oxide nanorods-based Schottky diode by means of frequency dependent electrical characterization on textile".
Azam Khan, **Mushtaque Hussain**, Mazhar Ali Abbasi, Zafar Hussain Ibupoto, Omer Nur, Magnus Willander.
Journal of Materials Science. 2014,5,1; 49(9), 3434-3441.
Impact Factor: 2.993

10. "Decoration of ZnO nanorods with coral reefs like NiO nanostructures fabricated by hydrothermal growth method and their luminescence study".
Mazhar Ali Abbasi, Zafar Hussain Ibupoto, **Mushtaque Hussain**, Galia Pozina, Jun Lu, Lars Hultman, Omer Nur, Magnus Willander.
Materials. 2014,1,15; 7(1), 430-440.
Impact Factor: 2.728

11. “Mechanical and piezoelectric properties of ZnO nanorods grown on conductive textile fabric as an alternative substrate”.

Azam Khan, **Mushtaque Hussain**, OmerNur, Magnus Willander.

Journal of Physics D: Applied Physics.2014,7,29; 47(34), 345102.

Impact Factor: 2.373

12. “Fabrication of zinc oxide nanoneedles on conductive textile for harvesting piezoelectric potential”.

Azam Khan, **Mushtaque Hussain**, OmerNur, Magnus Willander.

Chemical Physics Letters. 2014,9,18; 612, 62-67.

Impact Factor: 1.860

13. “UV detectors and LEDs in different metal oxide nanostructures”.

Magnus Willander, Mazhar Ali Abbasi, Kimleang Khun, **Mushtaque Hussain**, Zafar Hussain Ibutoto, Omer Nur.

Proceedings of SPIE. 2014,3,8;8987,89871YDOI:10.1117/12.2038189.

Impact Factor: 0.2 (Conference Paper)

2015.

1. “Analysis of direct and converse piezoelectric effect of zinc oxide nanowires grown on conductive textile”.

Azam Khan, **Mushtaque Hussain**, Omer Nur, Magnus Willander, Esteban Broitman.

Physica Status Solidi-A. 2015,3; 212(3), 579-584.

Impact Factor:1.616

2018.

1. “Mathematical modeling of reaction kinematics of one dimensional Zinc Oxide nanostructures”.

Kaniz Fatima, Azam Khan, **Mushtaque Hussain**,

NED University Journal of Research-Applied Sciences. 2018, 15(4), 117-122

RESEARCH SUPERVISION

Besides teaching, I am actively involved in research activities as well. Details are given below:

- 1. HEC funded project:** I am Co-PI in a HEC funded project.
- 2. Ph.D Level:** One student is working under my supervision.
- 3. MS Level:** Three students have completed their ISP projects under my supervision

FIELDS OF INTEREST

My main areas of research/interest are

- Mathematical Physics*
 - Nano science & Nanotechnology*
 - Energy harvesting*
 - Differential Equations*
 - Research Methodology*
 - Luminescence/physical properties of different materials,*
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- ❑ *Materials synthesis & characterization,*
 - ❑ *Advanced Material Science*
 - ❑ *Device fabrication.*
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LANGUAGES

- *Command in English, Urdu, Punjabi and Sindhi.*
 - *Having good interpersonal communication skills.*
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HOBBIES

- ❑ *Reading of scientific books and journals.*
 - ❑ *Scientific/Quiz Competitions*
 - ❑ *Sports*
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EXTRA CURRICULAR ACTIVITIES

- *Former Chess/Draft/Scrabble Player.*
 - *Former Club Cricketer.*
 - *Badminton and Table Tennis Player.*
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REFERENCES

- ✓ ***Prof. Dr. Magnus Willander***
Department of Science & Technology,
Linkoping University, Sweden.
- ✓ ***Prof. Dr. Omer Nur***
Department of Science & Technology,
Linkoping University, Sweden.