

Curriculum vitae

PERSONAL INFORMATION



Dr. Mirza Khurram Baig

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🔗 <https://scholar.google.com.pk/citations?user=kZLzeioAAAAJ&hl=en&oi=ao>

Sex Male | Date of birth 31 Jan 1987 | Nationality Pakistani

EDUCATION AND TRAINING

- Sep 2014–Jan 2019 **PhD Applied Science (Physics)**
Universiti Teknologi PETRONAS, Perak (Malaysia)
- Oct 2011–Dec 2013 **M.Phil. Solid State Physics**
University of the PUNJAB
54000 LAHORE (Pakistan)
- Sep 2008–Jan 2011 **M.Sc. Physics (Special Electronics)**
University of the PUNJAB, LAHORE (Pakistan)
- Sep 2005–Aug 2007 **B.Sc**
University of the Punjab, Lahore (Pakistan)
Computer Science, Physics, Mathematics
- Aug 2003–Jul 2005 **FSc (Pre-Eng)**
FG Degree college Lahore Cantt., Lahore (Pakistan)
- Apr 2001–Jun 2003 **Matriculation**
Lahore Board, LAHORE (Pakistan)
Biology, Chemistry, Physics, Mathematics
- 2009–2013 **Bachelor of Education (B.Ed)**
Allama Iqbal Open University, Islamabad (Pakistan)

WORK EXPERIENCE

- Oct 2014–Aug 2018 **Graduate Research Assistant**
Universiti Teknologi PETRONAS, Perak (Malaysia)

1. Comply with department related assignments such as jobs related to teaching and/or tutoring and/or lab demonstration and/or other administrative tasks as required by the department and Project Leader.
2. Assists with academic research.
3. Assists in administrative duties such as completing reports for budget, project expenditures, in the maintenance of project records
4. Assists with the editing and preparation of research manuscripts.

5. Prepares research project articles, reports, and presentations.
6. Assists with duties related to the preparation and production of academic journals.
7. Performs research work in archives, through interviews, online, or whatever may be appropriate to assist the PL and PI.
8. Prepares literature reviews.
9. Gathers and analysis of data.
10. Prepares materials for submission to agencies and foundations that fund research.
11. Assist PL and PI in project-related correspondence.
12. Attends project meetings if requested by PL and PI.
13. Assists in the acquisition of research project materials in campus facilities.
14. Prepares research project articles, reports, and presentations.

1 Feb 2014–6 Sep 2014

District Teacher Educator (DTE)

Directorate of staff Development, Government of the Punjab, LAHORE (Pakistan)

Monitoring of Schools

Mentoring of Teachers

Teachers Training as a Master Trainer

Teachers Evaluation and Assessment

Continuous Professional Development of Teachers

Monthly Performance of Teachers according to Goals and Targets set by District Teacher Educator

Apr 2012–Jan 2014

Science Teacher

Govt. High School Walton Lahore, School Education Department, LAHORE (Pakistan)

Dec 2010–Oct 2011

Subject specialist

American Lycetuff School and College Walton Branch, LAHORE (Pakistan)

PERSONAL SKILLS

Mother tongue(s)

Urdu, Pakistan

Organisational / managerial skills

Leadership

Good organizational skills gained as a President of the UTP Pakistani Student Council (UPSC 2017)

Responsible for organizing National Events

Complete Guidance for new students

Financial support for deserving students

Organizing short courses for research students

Social Media group Administration

News and updates for students

Degree verification from MOHE, MOFA and High Commission Pakistan Malaysia

Job-related skills

RESEARCH SKILLS

- Chemical Synthesis of Nanomaterials
- Thin Film Deposition and Laser

- Carbon Based Nanostructures
- Accelrys Material Studio based Materials Simulations
- Density Functional Theory
- Magnetism in Condensed Matter
- Enhanced Oil Recovery (EOR)
- Surface Physics
- Nanotechnology in Enhanced Oil Recovery
- Fluid Flow
- Nano-Magnetism
- Electromagnetics in EOR
- Photovoltaics and Solar Cell

MATERIAL CHARACTERIZATION SKILLS

- X-Ray Diffraction
- Vibrating Sample Magnetometer
- Field Emission-Scanning Electron Microscope
- Transmission Electron Microscope
- Atomic Force Microscope
- Raman Spectroscopy
- Fourier Transform Infrared Spectroscopy
- UV-VIS Spectroscopy
- X-Ray Photo-electron Spectroscopy
- Dynamic Light Scattering
- Pendant Drop Method for IFT
- Core Flooding for EOR

ADDITIONAL INFORMATION

Publications

[1] Soleimani, H., Yahya, N., Baig, M., Khodapanah, L., Sabet, M., Bhat, A., & Awang, M. Catalytic Effect of Zinc Oxide Nanoparticles on Oil-Water Interfacial Tension. **(I.F = 0.83)**

[2] Baig, Mirza Khurram, et al. "Pulsed laser deposition of SmCo thin films for MEMS applications." *Journal of Applied Research and Technology* (2016). **(Scopus Indexed)**

[3] Soleimani, Hassan, Mirza Khurram Baig, Noorhana Yahya, Leila Khodapanah, Maziyar Sabet, Birol MR Demiral, and Marek Burda. "Synthesis of ZnO nanoparticles for oil–water interfacial tension reduction in enhanced oil recovery." *Applied Physics A* 124, no. 2 (2018): 128. **(I.F = 1.6)**

[4] Soleimani, Hassan, Mirza Khurram Baig, Noorhana Yahya, Leila Khodapanah, Maziyar Sabet, Birol MR Demiral, and Marek Burda. "Impact of carbon nanotubes based nanofluid on oil recovery efficiency using core flooding." *Results in Physics* 9 (2018): 39-48. **(I.F = 2.12)**

[5] Ahmed, Afaque, Ismail Mohd Saaid, Rashidah M Pilus, Abdelazim Abbas Ahmed, Abdul Haque Tunio, and Mirza Khurram Baig. "Development of surface treated nanosilica for wettability alteration and interfacial tension reduction." *Journal of Dispersion Science and Technology* (2017): 1-7. **(I.F = 1.45)**

[6] Alnarabiji, Mohamad Sahban, Noorhana Yahya, Saad Nadeem, Muhammad Adil, Mirza Khurram

Baig, Ouahid Ben Ghanem, Khairun Azizi et al. "Nanofluid enhanced oil recovery using induced ZnO nanocrystals by electromagnetic energy: Viscosity increment." *Fuel* 233 (2018): 632-643. (I.F = 4.90)

[7] Mirza Khurram Baig, Hassan Soleimani, Noorhana Yaha, Maziyar Sabet, "Magnetic Behavior of Ni/NiO Core-shell nanoparticles for Interfacial Tension Reduction Under Electromagnetic Waves" *Journal of Materials Engineering and Performance*, Accepted Manuscript. (I.F 1.34)

[8] Hassan Soleimani, Mirza Khurram Baig, Noorhana Yahya" CASTEP Study on Electronic and Optical Properties of Zinc Oxide" *Recent Adv in Petrochem Sci.* 2017; 1(3): 555563

[9] Soleimani, H., et al. "Synthesis of Carbon Nanotubes for Oil-water Interfacial Tension Reduction." *Oil Gas Res* 1 (2015): 104.

Conferences

[1] Baig, Mirza Khurram, et al "Domain wall Motion and Barkhausen Effect in Magnetic Nanoparticles for EOR Applications." *AIP Proceedings* 2016

[2] Baig, Mirza Khurram, et al. "Thickness Dependent Optimization of 1-5 Phase of SmCo Thin Films Deposited by Pulsed Laser." *Materials Today: Proceedings* 2.10 (2015): 5582-5586.

[3] Baig, Mirza Khurram, et al. "Electronic polarization in zinc nitride nanoparticles for interfacial tension reduction in enhanced oil recovery" *Journal of physics: Conference series* 2018.

[4] Ali, H., Soleimani, H., Yahya, N., Baig, M. K., & Rostami, A. (2018, November). Finite element method for modelling of two phase fluid flow in porous media. In *Journal of Physics: Conference Series* (Vol. 1123, No. 1, p. 012002). IOP Publishing.

Citations

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Courses Can Teach

Research Methodology for M.Phil. and Ph.D. students Only

Computational Physics

Basic Electronics

Digital Electronics

Electromagnetic Theory

Mathematical Methods of Physics

Magnetism in Condensed Matter

Quantum Mechanics

Optical Properties of Solids

Semi-Conductor Physics

X-ray Diffraction

Nanotechnology

Chemical Synthesis of Nanomaterials

Solid State Physics

Experimental Techniques

Special Relativity