

# WORK EXPERIENCE

17 OCT 2019 – 06 NOV 2021 – Swabi, Pakistan

**LAB ENGINEER AND TEACHER ASSISTANT –** GIK INSTITUTEOF ENGINEERING SCIENCES AND TECHNOLOGY

* Teaching Introduction to Materials Engineering Lab to 110+ freshmen students
* Managedand instructed labs of Electron Microscopy, Mechanical Testing, Metallography, Heat Treatment, and Powder Metallurgy
* Acquired hands-on experience with metal and polymer manufacturing processes: Injection molding, additive manufacturing, powder metallurgy, sputter deposition and casting
* Acquired hands-on experience withmechanical testing ofengineering materials: Tensile, compression, fatigue, creep & hardness
* Operated, maintained and troubleshooteda Philips X-ray Diﬀractometer for thestructural identification of engineering materials
* Acquired hands-on experience with GAMRY instrument, Vacuum Oven, Box furnace, centrifuge

and Sonicater.

28 JUN 2019 – 4 AUG 2019

# MANAGEMENT TRAINEE AT KSB PUMPS COMPANY LIMITED

* Troubleshooting problems or flaws in the item provided for testing using Non-Destructive Techniques (DPT, UT).
* Meeting with members of the production team to oﬀer recommendations and share results.
* Participating in teams to help make necessary improvements and changes to all process related issues in the production department.

Hasanabdal, Pakistan

19 AUG 2018 – 27 SEP 2018

# INTERNSHIP AT HEAVY INDUSTRIES TAXILA -H.I. T

* Assigned and completed a project to develop a lightweight bullet proof vest from Kevlar fibers, inserts with ceramic material to Obtain increased protectioncapability.

Taxila, Pakistan

9 JUN 2018 – 18 JUL 2018

# RESEARCH INTERNSHIP AT COMPOSITE LAB -GIK INSTITUTE OF SCIENCE AND TECHNOLOGY

Fabrication and Characterization of Copper/Graphene Nanocomposite Film by Electrochemical Co- deposition for Analysis of Electrical Properties

* Fabricated pure copper and copper/graphene composite films for analysis of potential application in batteries and supercapacitors.
* Results showed more than two times increase in capacitance than pure copper electrode with increased lifetime and corrosion resistance
* Learnt and applied various characterization techniques i.e
* , Cyclic Voltammetry, Electrochemical Impedance Spectroscopy ▪ Project funded by Higher Education Commission (HEC), Pakistan

Topi, Swabi, Pakistan

# EDUCATION AND TRAINING

JUL 2015 – JUN 2019 – Swabi, Pakistan

**BACHELOR OF SCIENCE IN MATERIALS ENGINEERING –** Ghulam Ishaq Khan

## Institute of Engineering Sciences and Technology (GIKI),

### CGPA: 3.62/4.00 Rank: 2nd

2012 – 2015 – Khyber Agency, Pakistan

# INTERMEDIATE LEVEL (FSC. PRE-ENGINEERING BISE PESHAWAR) – Afridi model

## college

### Result: 861/1100

* **Calculus**

### Physics

* **Chemistry**

2011 – 2013 – Khyber Agency, Pakistan

**SECONDARY SCHOOL CERTIFICATES (BISE PESHAWAR) –** Afridi Model School

**Result: 931/1050**

# LANGUAGE SKILLS

Mother tongue(s): **PASHTO**

Other language(s): **ENGLISH, URDU, JAPANESE**

# PROJECTS

### Green synthesis of silver nanoparticles in aloe vera plant extract prepared via a hydrothermal method

* + Silver nitrate was reduced in an aloe vera plant-extract solution under a hydrothermal condition.
  + Aloe vera plant extract solutions were used as both reducing and stabilizing agents.
  + Fine spherically shaped nanoparticles wereobtained.

### Development and Characterization of Electro-less Nickel-Phosphorous coating on Al 7075-t6 substrate for aerospace application

* + Electroless Ni-P coating was developed from a bath usingsodium hypophosphite as a reducing agent and Nickel Chloride as a source of Nickel ions
  + The Ni-P coating displaysahomogeneous, smooth morphology with spherical grains structure.
  + The Ni-P coated samples have a high corrosion and wear resistance compared to uncoated sample

### Fabrication and characterization of carbon/glass ﬁber reinforced epoxy hybrid polymer composites

* + To fabricate and analyze the carbon/glass fiber reinforced epoxy hybrid composite with diﬀerent carbon/fiber proportions and then to demonstrate the inﬂuence of glass and carbon fibers individually on Mechanical properties of resulting composite.

### Phase identiﬁcation, microstructure analysis of NiTi shape memory alloy

* + Microstructure analysis of equi-atomic NiTi shape memory alloy and to find the varies parameters that affect the properties of this alloy.

### Computer Aided Design of Crankshaft

* + Designed a Crankshaft using Creo and analyzed the design for stress concentration using ANSYS

### Precipitation Hardening of Aluminum-copper alloy

* + Strengthening of Al-Cu alloy usingprecipitation Hardening technique and to determinethe eﬀectof aging temperature and Agingtimeonthehardness ofaprecipitationhardening aluminum-copper alloy.

# HONOURS AND AWARDS

* + Dean's Honor list (GPA equal or exceed 3.50), college of Engineering Fall 2016, Spring 2017, Fall 2017, Spring 2018, Fall 2018, Spring 2019
  + Awarded FATAMerit scholarship worth 600,000 Pkr (5,000 USD) for four years studies at

bachelor’s level

* + Secured all FATA 1st and all KPK 17th position in ETEA Test 2015
  + University Silver Medal for highest academic standing atthe undergraduate level inthe Faculty of Material Science

# ORGANISATIONAL SKILLS

* + Project Management; Time Management; Leadership; Adaptability

# COMMUNICATION AND INTERPERSONAL SKILLS

* + Pashto (native); Urdu (conversant); English (Fluent)

# JOB-RELATED SKILLS

* + Scanning Electron Microscope (SEM); X-Ray Diﬀraction (XRD); Atomic Force Microscopy; Nano- Indentation; Spectroscopy; Vickers Hardness Testing; Charpy Testing; Soldering; Mill; Lathes; Drill press; Welding; Potentio dynamic Polarization test; NDT

### Other computer skills:

* + C/C++, MATLAB, Solidworks, Creo, ANSYS, Abacus Microsoft office, Photoshop, Lindo

# NETWORKS AND MEMBERSHIPS

* + Member, American society of materiel (ASM)
  + Event coordinator, Team Green Energy development (Team GED)
  + Head of Education department, Bara Educational society (BES)
  + Afridi model college |Cricket team captain
  + Campus ambassador for Youth Intellects Society (YIS)

# CERTIFICATIONS

* + Awarded certificate of Participation for attending the webinar on Introduction to welding procedures qualification for industrial applications
  + Awarded certificate of Participation for best performance in MOLFREASHHH 2018
  + Awarded certificate of Participation for attending one day short seminar on Photo- lithography
  + Awarded certificate of Appreciation for donating blood three times in Blood donation camp.
  + Awarded Certificate of Participation for attending First Aid Training, arranged by Pakistan Red Crescent Society

# ONLINE COURSES

### Graphene Science and Technology

Chalmers University of Technology, Sweden, on edX Writing

### Scientiﬁc Papers and Making Presentations in English

Tsinghua University, China, on edX

### Nanotechnology - A Makers Course

Duke University, North Carolina State University & The University of North Carolina at Chapel Hill Coursera

### Physics of silicon solar cells

Taught by:Pr. Bernard Drevillon, Professor at Ecole polytechnique

### Absolute Beginners Guide to CFD simulation in ANSYS

Sijal Ahmed (CFD Engineer, CFD Instructor), on Udemy

### Data Visualization in Excel: All Excel Charts and Graphs

Start-Tech Academy on Udemy

# RECOMMENDATIONS

### Dr. Fahd Nawaz Khan

Dean and Associate Professor Email:

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### Dr. Rashid Ali

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