

# Curriculum Vitae



**Dr.-Ing Laraib Sarfraz Khanzada**

<b>Ph.D.</b>	Materials Engineering
<b>Master</b>	Materials Engineering
<b>Bachelor</b>	Metallurgy and Materials Engineering
<b>Quality Assurance and Development</b>	2 years 3 months
<b>Researcher</b>	More than 5 years

## EDUCATION

- 04/2013 - 02/2018 **Doctor of Philosophy (PhD)**  
Friedrich-Alexander-University, Erlangen-Nuremberg (Germany)  
Materials Engineering, Materials for electronics and energy technology  
Research Topic: "Low cost, abundant, non-toxic and low temperature solution processable inorganic semiconductors for Photovoltaic Applications"
- 06/2008 - 12/2010 **Masters of Engineering (M.E)**  
NED University of Engineering and Technology, Karachi  
Materials Engineering  
Research Topic: "Heat Treatment of Tool Steel Aisi-H-13 and its Quantitative Metallography"
- 01/2004 - 03/2008 **Bachelor of Engineering (B.E), Stood 2nd in class**  
Mehran University of Engineering and Technology, Jamshoro  
Metallurgy and Materials Engineering  
Thesis Topic: "Microscopic Studies of Austenitic Stainless Steel before and after Rolling and Welding"

## PUBLICATIONS

- Optimization of synthesis and compositional parameters of magnesium germanate and fluoro-germanate thermographic phosphors  
**Journal of Alloys and Compounds** DOI: 10.1016/j.jallcom.2017.10.259
- Effective ligand engineering of  $\text{Cu}_2\text{ZnSnS}_4$  nanocrystals surface increasing hole transport efficiency in Perovskite Solar cell  
**Advanced Functional Materials** DOI: 10.1002/adfm.201603441
- Exploring the Limiting Open-Circuit Voltage and the Voltage Loss Mechanism in Planar  $\text{CH}_3\text{NH}_3\text{PbBr}_3$  Perovskite Solar Cells  
**Advanced Energy Materials** DOI: 10.1002/aenm.201600132
- Low-temperature Solution-Processed Kesterite Solar Cell Based on in Situ Deposition of Ultrathin Absorber Layer  
**ACS Applied Materials and Interfaces.** DOI: 10.1021/acsami.5b04468
- Effective Ligand Passivation of  $\text{Cu}_2\text{O}$  Nanoparticles through Solid- State Treatment with Mercaptopropionic Acid  
**Journal of American Chemical Society (JACS)** DOI: 10.1021/ja502221r

## WORK EXPERIENCE

- 05/2016 To date **Assistant Professor**
- 01/2011 - 12/2012 **Lecturer**  
NED University of Engineering and Technology, Karachi  
**Taught Subjects:** Advances in Special Steels, Welding Metallurgy
- Supervision of undergraduate final year projects
  - Design and implementation of experiments
  - Management of semester schedule, counselling and mentoring
  - Provision of practical training to undergraduate students

- 04/2013 - 12-2018 **Researcher**  
 Friedrich-Alexander-University, Erlangen-Nuremberg (Germany)  
**Research focus:** Inorganic nanoparticles (Chalcopyrite, Kesterite, Perovskite)
- Development of novel solution processed thin films and PV solar cells
  - Experience with various deposition methods and characterization techniques
  - Experience of working in clean room and glovebox environments
  - Management of industrial projects with the end goal of improving quality and performance of solar cells
- 09/2008 - 11/2010 **Assistant Manager (Quality Assurance and Development)**  
 Peoples Steel Mills, Karachi
- Experience of working within a Quality Management System in the steel industry
  - Implemented online production quality control and sampling of final rolled and forged products
  - Hands on experience of destructive testing, non-destructive testing, corrosion test and metallography/ microscopy.
  - Development of continuous improvement initiatives and implementation
  - Oversight Customer complaints and non-conformities
- 02/2008 - 06-2008 **Lab Lecturer**  
 Mehran University of Engineering and Technology, Jamshoro  
**Taught Subjects:** Introduction to Engineering Materials
- Provision of practical training to undergraduate students

## INTERNSHIP TRAININGS

- 06/2007 - 07/2007 **Pakistan Steel Mill, Karachi**  
 Steel making, Charge Preparation, Coke Oven, Blast furnace, Laboratories
- 12/2006 - 12/2006 **Bolan Casting Limited, Hub**  
 Pattern making, Moulding Line, Quality and Control laboratories, Finishing Shop
- 06/2006 - 07/2006 **International Industries Limited (IIL), Karachi**  
 Pipe Manufacturing by HF Welding, Quality Control, Process Annealing
- 12/2005 - 12/2005 **Karachi Shipyard and Engineering Works, Karachi**  
 Melting and Casting, Ship building, Quality Control Department
- 06/2005 - 07/2005 **Metropolitan Steel Corporation, Karachi**  
 Bar and structural sections Rolling, Quality Control Department, Wire drawing

## LANGUAGES

FOREIGN LANGUAGE(S) **German** (Intermediate, B1), **English** (Fluent)

## COMPUTER AND SOFTWARE KNOWLEDGE

- MS Office (Microsoft Word, Excel, Power Point) (Professional user), Origin (Professional User)
- Basic Knowledge of C++
- Windows, MAC (Advanced User)
- Working knowledge of Minitab, ImageJ (Proficient user)

## AWARDS AND HONOURS

- DAAD-HEC PhD Scholarship
- Second Position in Bachelor of Engineering

**Reviewer in Peer Review Scientific Journals**      Advanced Science (Wiley)  
European Journal of Inorganic Chemistry

**Engineering skills**      Destructive testing, Corrosion test, Weld testing, non-destructive testing and metallography/ Microscopy, XRD, UV-Vis spectroscopy, Photoluminescence, Raman Spectroscopy, Photoconductivity, Temperature dependent Conductivity, Sulfurization-Selenization, Photovoltaic cell fabrication and testing

**Membership**      Pakistan engineering council, The association of German engineers (VDI)

## SHORT COURSES

Sep-Oct 2018      Research Writing in the Sciences (8 Weeks)

August 23-31 2018      1<sup>st</sup> Sino-German Summer School “Material-Oriented Micro/Nano Manufacturing, Bochum, Germany

Jan-Mar 2017      Presentation Skills in English, Erlangen, Germany

12-13th Dec 2016      Confidence Drive, Erlangen, Germany

Nov-Dec 2016      Intelligent Conversation in English, Erlangen, Germany

19-20 Sep 2016      Academic Writing: A Workshop for Doctoral Candidates, Erlangen, Germany

18-21 July 2016      2nd CENEM Summer School for X-ray Scattering at the Chair for Crystallography and Structural Physics, Erlangen, Germany

## CONFERENCES, SEMINAR AND SYMPOSIUM

August 27-29 2018      2nd Sino-German Symposium “Material-oriented Micro/Nano Manufacturing: Modeling, Experiment and Application”

July 19-21 2017      28th Symposium and Colloquium on Fatigue Mechanisms

Dec 14-15 2015      **Advance Materials & Process Engineering (AMPE-2015)** NED University

Oct 29-30 2016      Celebration of 50 Years of Materials Research in Erlangen & International Symposium, Erlangen, Germany

Nov 23-25 2015      **7th EAM Symposium**, Kloster Banz, Bad Staffelstein, Germany

17 Feb 2014      **Young Researcher Day 2014** Organized by EAM Graduate School, Erlangen

09-11 Dec 2013      **2nd International Congress "Next Generation Solar Energy**, Erlangen

07-08 Oct 2013      **Colloquium on Particle Synthesis** organized by Cluster of Excellence Engineering of Advanced Materials, Erlangen, Germany