

Curriculum Vitae



Dr. Iftikhar Ahmed Channa

PhD (Renewable Energy/Organic Photovoltaic)

M.Engg. (Materials Engineering)

B.Engg. (Metallurgy & Materials Engineering)

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PERSONAL INFORMATION

Iftikhar Ahmed Channa

Department of Metallurgical Engineering, NED University, Karachi

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iftikharc@neduet.edu.pk, iftikharchanna@yahoo.com

Sex Male | Date of birth July, 1986 | Marital status Married (2 children)

EDUCATION AND TRAINING

Oct 2014 – Dec 2019



PhD (Renewable Energy/ Organic Photovoltaic))

IMEET, FAU Erlangen-Nuremberg (Germany)

PhD Thesis: "Development of solution processable barriers for encapsulating thin film organic electronics"

Majors: Coatable thin films, oxygen and moisture barriers, weather resisting coatings, thin film organic electronics, Organic solar cell lifetime extension by suitable encapsulation.



Jun 2008–Mar 2011



M.E. (Materials Engineering) (3.62/4.0 CGPA)

NED University of Engineering and Technology, Karachi (Pakistan)

Research Topic: "Synthesis and Characterization of Clay-grafted-Acryl amide-Acrylic acid Superabsorbent Composite"

Majors: Superabsorbent materials, Material characterizations Techniques, Phase transformations in metals & Alloys, Production of Ferrous & Non-ferrous, XRD, Composite Materials, Heat treatment & Microstructure Evolution.

Jan 2004–Mar 2008



B.E. (Metallurgy & Materials Engineering) (3.02/4.0 CGPA)

Mehran University of Engineering & Technology, Jamshoro (Pakistan)

Thesis Topic: "Improvement of the weld quality of AISI 1020 steel"

Majors: Weld quality, weld characterization and testing in terms heat affected zone, Heat treatment & microstructure evaluation, pre and post annealing on weld materials.

WORK EXPERIENCE

Oct 2014–Jan 2019



Guest scientist

ZAE Bayern, Erlangen (Germany)

Research Topic: “Development of coatable barrier for packaging thin film organic electronics”

- To develop system to measure barrier quality
- To sort out various barrier materials
- To characterize various materials on the basis of tortuosity and co-efficient of Diffusion
- To test the effect of developed barriers on lifetime of OPV under Sun and various damp heat conditions.
- Direct coating of developed barriers on OPV and its impact on OPV lifetime

Feb 2019–Dec 2019



Researcher

Institute Materials for Electronic and Energy Technology (i-MMET)

Research Topic: “Direct deposition of solution processable barrier for encapsulation of organic solar cells”

- To develop solution processable barriers
- To enable R2R processing of barriers on top of organic solar cells (OSCs)
- To develop flexible and bendable barriers in the range of 10^{-2} g/m².day
- OSCs stability of over 300 h in accelerated conditions

May 2016–till date



Assistant Professor

Materials & Metallurgical Engineering Department

NED University of Engineering and Technology, Karachi (Pakistan)

Teaching & Research

- To teach various courses at undergraduate level.
- To develop new laboratories in the department.
- Procurement of equipment for Metallurgical Engineering Department's Laboratories.
- To conduct practical(s).
- To supervise final year projects for undergraduate students.

Mar 2009–Apr 2016



Lecturer

Materials & Metallurgical Engineering Department

NED University of Engineering and Technology, Karachi (Pakistan)

Teaching & Research

- Faculty advisor MES
- Lab In charge Metallography.
- Area coordinator MYD
- Teaching various subjects.

INTERNSHIP TRAININGS

May 2007–Jun 2007

Fateh Motors Ltd., Hyderabad, (Pakistan)

Motor bike manufacturing, assembly of parts, inspection and testing

Dec 2006–Dec 2006

Precision Engineering Complex (PEC) Karachi (Pakistan)

Investment casting, Destructive & Non destructive testing, heat treatment

Jun 2006–July 2006

Karachi Shipyard and Engineering Works, Karachi (Pakistan)

Melting and Casting, Ship building, Quality Control Department

Dec 2005–Dec 2005

Atlas Cables Kotri (Pakistan)

Melting and drawing operation, Inspection and testing

TRAINING COURSES

Apr 2013–Apr 2013

ISO 9000 Quality management system

Dec 2013–Dec 2013

Thin film coating (NINVEST Islamabad, Pakistan)

Vacuum techniques, PVD, CVD, sputtering etc.

Feb 2014–Feb 2014

Health safety and environment management system (NED University)

TECHNICAL & ORGANIZATIONAL SKILLS

Technical

- Synthesis and preparation of chemical and polymeric solutions
- Preparation of thin film coatings
- Hands on knowledge of common coating techniques
- gas barrier coatings
- Hands on knowledge of characterization and testing including barrier characteristics (OTR, WVTR measurements), OM, SEM, XRD, FTIR, Solar cell measurements, Bendability Tensile testing, hardness testing, fatigue testing etc.

Communication & Teaching:

Good communication & teaching skills acquired through international research environment, working as sales & marketing engineer, education in English, through various online lectures mainly, MIT, Stanford, Yale, Michigan and Cambridge University etc.

Graduate Assessment

I passed Graduate Assessment Test General (80 Percentile score) & Subject (80 Percentile score) taken by National Testing Service (NTS) Pakistan in 2011.

PERSONAL SKILLS

Mother tongue(s)

Sindhi, Urdu

Other language(s)

English (Fluent), German (Basic: A1.1)

Interests

Learning, teaching, exercising for fitness, reading books, watching cricket

Publications

- I.A. Channa, Development of solution processed thin film barriers for encapsulation of electronics, PhD Thesis, *FAU Erlangen Germany*, Dec 2019 (Online)
- A.A. Shah, M.A. Bhatti, I.A.Channa et al., Facile synthesis of copper doped ZnO nanorods for the efficient photo degradation of methylene blue and methyl orange, *Ceramic International*, Dec 2019 (Online).
- A.K Shah, G. Maitlo, I. A. Channa, One pot menthol synthesis via hydrogenations of citral and citronellal over montmorillonite-supported Pd/ Ni-heteropoly acid bifunctional catalysts, *Reaction Kinetics, Mechanism and catalysts*, Oct 2019.(online)
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- I.A. Channa et al., (2019) Thin Film Encapsulation of Organic Solar Cells by Direct Deposition of Polysilazanes from Solution, *Advanced Energy Materials* (Online)
- I.A. Channa et al., (2019) Effect of Tempering Temperature on the Properties of Martensitic stainless steel (AISI 420), *IBA Sukkur Journal of Emerging Technologies*, Vol. 2. No.1 2019 (online)
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- S.H. Abro, A.D Chandio, I.A. Channa, Role of Automotive Industry in Global Warming, *PJSIR*, 2019 (Online)
- S. Ahmad and I.A. Channa, (2013) Mathematical Relationship between Ferritic, Pearlitic and Average Grain Size of Steel (*Journal of Modern Science and Technology*, Vol. 1. No. 1. May 2013, Pp.1-18

Memberships

- Life member Pakistan Engineering council
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- Life member Pakistan Vacuum Society

Countries visited

Austria, Belgium, Czech Republic, France, Germany, Hungary, Italy, Luxembourg, Poland, Switzerland, Spain, Slovakia, the Netherlands, Turkey

Reference:

1- Research project and PhD thesis supervisor.

Prof. Dr. Christoph J. Brabec

Department of Material science and Engineering

Chair of Materials for Electronic and Energy Technology (iMEET)

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2- Research Supervisor at ZAE Bayern

Dr. Hans Joachim Egelhaaf

Head Solar Factory of the Future

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