




## HENSHA HANEEFA

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 Dubai, United Arab Emirates

### CORE COMPETENCIES

- Polymer Structure Property Relationship
- Polymer characterization, Fabrication process, product validation process
- Polymer science, material sourcing, surface modification, and product testing techniques

### SCHOLASTIC ACHIEVEMENTS

1<sup>st</sup> rank holder in M.Tech. Polymer Technology.

GATE 2018 all India Rank: 679, Score: 312

2<sup>nd</sup> rank holder in B.Tech. Polymer Science and Engineering.

### LEADERSHIP POSITIONS

Event Coordinator || *INFUCE 2016* || University College of Engineering.

Coordinator || *HESPEROUS 2015* || University College of Engineering.



### CAREER OBJECTIVE

A highly passionate, motivated and experienced polymer engineer well versed in the fundamentals of polymer technology, polymer mechanical properties, and polymer processing methods. Looking for a responsible position to utilize my skills in a dynamic working environment



### WORK EXPERIENCE

#### Research Scientist

March 2019 - October 2020

#### Defence Bio-Engineering and Electromedical Laboratory (DRDO)

#### Proficient in operation and data interpretation of:

- Thermo Gravimetric Analyser (TA TGAQ500)
- Differential Scanning Calorimetry (Mettler Toledo DSC1)
- Universal Testing Machine (Zwick Roell – Z100kN)
- Drop Shape Analyser (Kruss- DSA100)
- Dynamic Mechanical and Thermal Analyser (GABO-Eplexor150)
- Particle Size Analyzer (Malvern NS300)
- Needleless Electrospinning Machine (Nano Spider NS 1S500U)
- UV-Visible spectrophotometer (Thermoscientific)
- Dielectric Thermal Analyzer (Novocontrol BDS)
- Compression Molding Machine
- Thermal Protective Performance (TPP)

Thermal and mechanical characterization of various textiles and polymers using TGA, DSC, DMTA, TPP, and UTM

Evaluation of Contact angle, Surface tension, Interfacial Tension and surface free energy using Drop shape Analyser

Detoxification studies of warfare agents using UV-Visible spectroscopy

#### Projects handled during the tenure:

- Development and testing of high performance hybrid composites for Helmets for use by Indian Air Force
- Development of Linen fabric with Epoxy and Sericin based bio composite for eco-friendly Helmet Applications
- Dye separation Studies of nanofibers
- Ability of nanofibers for self-detoxification of Nerve agent stimulant



### RESEARCH EXPERIENCE

#### Silk Fibroin and Tragacanth gum for bone tissue engineering

Dr.Anuya Nisal: CSIR- National Chemical Laboratory 2018

Cell-based bone tissue engineering has gained eminence in recent years as an alternative treatment strategy for bone associated infirmities. The objective is to prepare the blend of Silk fibroin and Tragacanth gum for bone tissue regeneration. Characterization techniques FTIR, SEM, TGA, DSC, cellculture were used in the project.

#### Study the effect of eggshell on Silk Fibroin

Dr.Anuya Nisal: CSIR- National Chemical Laboratory 2018

Eggshell, a calcium rich material, natural origin, this project focuses on the effect and modifications happening to silk fibroin. The study mainly emphasizes on the property disparities to the fibroin. And also checked the biological parts of the resulted blend

## TECHNICAL SKILLS

**ANALYTICAL:** TGA, DSC, DMTA, UTM, DETA, FTIR, SEM, TPP, Rheometer, Viscometer, Auto CAD

**PROCESSING:** Two Roll mill, UTM, Compression molding, Injection Molding, DIN abraider, Nanospinning machine

## PROFESSIONAL HIGHLIGHTS

Synthesizing and working with various polymers like Polyamides, silicone, PAN, PVDF, PS, PMMA, PVPh, P4VP and UHMWPE.

Handled Fabrics like Nomex, Kevlar, super absorbent polymer, Polyurethane coated FR and non-FR fabrics (Anti- G suit, Hapo, Hydro) for defense applications

## REFERENCES

### Dr.R Indu Shekar

Scientist 'F'  
Defence Bioengineering and Electromedical Laboratory (DRDO)  
Bengaluru- 560093

### Dr. Anuya Nisal

Senior Scientist  
CSIR- National Chemical Laboratory  
Pune, Maharashtra – 411008

### Dr. Geethama V.G

Assistant Professor  
Mahatma Gandhi University College of Engineering Thodupuzha, Kerala.

### Dr. Honey John

Professor, Head of Department  
Department of Polymer science and Rubber Technology, Cochin  
University of Science and Technology

## Electrically conductive RTV Silicone single part adhesive

Dr. R S Rajeev: Vikram Sarabhai Space Center (ISRO)

2016

An electrically conductive adhesive containing metal alloy dispersed in a resin is disclosed. Single part adhesives are a promising candidate for space application. The project was to prepare an adhesive to stick to metals together which can withstand for high temperature for space applications.



## EDUCATION

### Master of Technology || June 2016 – April 2018

Polymer Engineering||Cochin University of Science and Technology||Kerala, India  
CGPA 8.89/10 || 1<sup>st</sup> Rank Holder

### Bachelor of Technology || July 2012 – June 2016

Polymer Science and Rubber Technology||Mahatma Gandhi University||Kerala, India  
CGPA 8.35/10 || 2<sup>nd</sup> Rank Holder



## TRAININGS

### Apollo Tyres, Ernakulam

June 2015

#### Industrial Training

Experienced on various tyre manufacturing techniques includes mixing, compounding, tyre building, curing, final finish process and quality control. Accomplished advance understanding on calendaring and extrusion methods.

### Rubber Research Institute of India (RRII)

June 2017

#### Industrial Training

Formulation, molding, processing and testing of Rubber and Latex Technology,. Hands on manufacture of products like gloves, sealants, Hawai chappals, Tyre treads etc.

Experience in operation equipment's like two roll mill, Rubber process Analyzer, Universal Testing Machine, DIN Abraider, Rheometer and Compression molding techniques etc.



## CONFERENCES

National seminar on “**Frontiers in Nanostructured Materials**” organized by Mahatma Gandhi University on March 2014.

National seminar on Advanced Polymers 2015, in Mahatma Gandhi University.

Secured second prize in poster presentation on “**Green Composites**” for the National Seminar “**HESPEROUS 2015**”.