



## AKANKSHA GAVENDRA

Ph.D. in CHEMICAL ENGINEERING  
BITS, PILANI, INDIA

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### PROFILE

PhD researcher with over 7+ years of strong experience in **Rheology** and **Characterization techniques**. Experienced in **laboratory** environment and **project management**.

-Expertise in **polymer science, material science, and nanotechnology**.

-Lectured 500+ undergraduate students and assisted 5+ post graduate students with their thesis.

### WORK EXPERIENCE

#### Faculty - Advance Institute for Professional and Technological Studies

Department - Paint and Coating Technology  
India

July 2024- Present

#### Doctoral Research Fellow - BITS Pilani K.K. Birla Goa campus

India

Jan 2016 – June 2024

**Goal:** The effect of entropic and enthalpic particle-polymer interactions on the dynamic rheology of particle filled polymer melts.

- Investigated the rheological and morphological behavior of different polymer composite systems.
- Conducted comprehensive analysis of viscoelastic responses in polymer composites, examining 5+ parameters to clarify reinforcement effects.
- Designed experiments to analyze bimodal systems of different polymer and investigate their interfacial structure.
- Authored, implemented research plan and paper.

#### Senior Research Fellow - BITS Pilani K.K. Birla Goa campus

India

Jan 2018 - Jan 2019

**Goal:** Investigated the long-term structural evolution of polyisoprene (PI)/clay composites and compared the aging behavior with polyisoprene-grafted-maleic anhydride (PI-g-MA)/clay composites.

#### Junior Research Fellow - BITS Pilani K.K. Birla Goa campus

India

Aug 2015 - Jan 2018

**Goal:** Developed various polymer composite systems by systematically varying parameters such as filler type, concentration, polymer characteristics etc.

- Provided assistance to B.tech/M.tech projects on developing composites, including data analysis and troubleshooting throughout synthesis and testing.
- Conducted comprehensive rheology studies on a range of commercial products (foam, hair gels, toothpaste, grease, etc.).

#### Project Assistant - Indian Institute of Technology Gandhinagar (IIT-Gn)

Gujarat, India

Sept 2014 - Nov 2014

**Goal:** Characterization of fluorescent dye using UV-Visible Spectroscopy and Fluorescence Spectroscopy.

#### Project Trainee - Bhabha Atomic Research Centre, Mumbai

India

Oct 2013-March 2014

**Goal:** Synthesized carbon nanotubes using fluidized bed CVD technique followed by characterization using electron microscopy and Raman spectroscopy.

#### Teaching

Delivered the sessions on "Introduction to Rheology" and provided hands-on training to undergraduate and postgraduate students on the Rheometer.

### SPECIALITIES

- Rheological studies of polymer composites
- Structure/property relationship
- Polymer composite synthesis methods and characterization techniques

### EDUCATION

#### Ph.D. - Chemical Engineering

BITS Pilani K.K. Birla Goa Campus  
India

Jan 2016 – June 2024

#### Integrated B.Tech-M.Tech (Dual Degree) - Nanotechnology

Centre for Converging Technologies,  
University of Rajasthan  
India

Aug 2008 - May 2014

### ANALYTICAL SKILLS

- Rheometer
- Spectroscopy (FTIR, UV-Visible)
- X-Ray Diffraction (XRD)
- Confocal Microscopy
- Scanning Electron Microscope (SEM)
- Rheological data analysis and interpretation

### PROFESSIONAL SKILLS

- Origin
- PowerPoint
- Adobe Photoshop
- MathType
- Matlab
- cellSens

### SOFT SKILLS

- Communication
- Leadership
- Critical thinking
- Team player
- Organization
- Attention to details