

Niya Mary Jacob

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PROFESSIONAL SYNOPSIS

M.Sc Chemistry with 10 years of experience in Research & Development, handling Analytical instruments, and Cambridge – Chemistry-Facilitator since Aug 2024

- Chemistry Facilitator in PNCCS for Grade 5 to 9 IGCSE board. Grade facilitator for grade 8. Activity based teaching, part of science Expo, report writing, conduct remedial classes for science.
- Part of Curriculum Development team (Lesson Plans/Teaching Aids creation) for grades 5 to 9.
- Experience in handling Checkpoint exams for Math and Physics for Grades 5 to 8.

Organization: PNC Cognitio School (IGCSE)– (Aug 2023 –Till date)

Designation: Chemistry- Facilitator

Roles & Responsibilities:

- Grade 5 to grade 9 chemistry teacher
- Class teacher for grade 8, conducting QCT (quality circle time, dear time -to develop reading habits).
- Gyan Pro activity-based teaching
- Question paper preparation of semester exam.
- Conducting exam, valuation and generating progress report on soft skills and subject marks.

Organization: Shell India Markets Pvt. Ltd– (May 2018 –July 2022)

Designation: Associate Researcher

Roles & Responsibilities:

- Technical responsibility for analysis of inhouse and ASTM methods, method development, evaluation, and implementation of new capability in spectroscopy and thermal analytical techniques.
- Team player: Collaborate with global analytical team and internal customers for enhanced problem solving or for new projects.
- Application development: responsible for optimizing and validating new analytical methods in the field of spectroscopy and thermal analysis to develop new business opportunities.
- Responsible for capital budget spends, run and maintain the analytical instruments as per Shell quality protocols.
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- Collaborate with internal analytical team for publishing Technical analytical highlight within team VP ship.
- Provide training and develop the OSSP team for executing the documented methods.
- Worked as an Emergency response team member, closely collaborate with Shell Health for identifying and mitigating risks arising from new chemicals and document it as Health risk Assessment (HRA).

Organization: Saint-Gobain Abrasives, Bangalore (March 2015 – April 2018)

Designation: Executive – R&D & Quality

Roles & Responsibilities:

- Development of new test methods for bench marking and chemical analysis to support coated, Nonwoven and super abrasives business.
- Bench marking and technical analysis using Analytical instruments in thermal /Mechanical /Spectroscopic domain.
- Extensively worked in Reverse analysis of Complaint Products to arrive at root causes and action plans to eradicate the same in future.

- Review and bringing comprehensiveness in raw material specifications & test methods. Provide support for process, product development and purchase team for alternate raw material.
- Conducting supplier audit/evaluation on a regular basis to maintain the consistent quality of raw materials. Systematic raw material complaint handling and their effective closure with CAPA. Revision and development of QMS

Achievements:

- Published Highlights under VP ship for test method implementation for polyol thermal stability and oxidative stability, hydrogen peroxide estimation via UV-Vis spectrometry.
- Business Impact- High saving- Annual Award-2016 for 'development of alternate source for HT grains for improved quality and consistency.
- Novel Test method developed to determine free phenol content in Resol PF resin by UV-Vis spectrometry.
- System development for effective tracking of lab analysis, handling of raw material complaints and supplier evaluation.

Organization: Indian Institute of Science (IISc), Bangalore (May 2012 – March 2015)

Designation: Project Assistant

Roles & Responsibilities:

- Carried out novel research projects and journal publication internationally.
- Development of photo functional material via **low cost synthesis methods**.
- **Water remediation** using the photo functional material via degradation of organic pollutants such as dyes under visible light.
- Development of **stable-ultra small particle**.
- Development of materials which are highly efficient towards adsorption of organic pollutants.

Publications:

- "Purifying water containing both anionic and cationic species using (Zn, Cu)O, ZnO, and cobalt ferrite based multi-phase adsorbent system" **Ind. Eng. Chem. Res. ACS** (2013).
- "Multivalent Cu doped ZnO nanoparticles with full solar spectrum absorbance and enhanced photoactivity" **Ind. Eng. Chem. Res. ACS** (2014).
- "Digestive ripening and green synthesis of ultra-small (2 nm) stable ZnO quantum dots" **Ceramics International. Elsevier** (2014).
- "Nanorod to quantum dot conversion in ZnO dispersions with co-surfactants", **RSC Advances** (2014).

Technical Skills:

- UV- Visible Spectrometry, Differential Scanning Calorimetry (DSC), Thermo Gravimetric Analysis (TGA), FTIR, X-ray Diffraction (XRD), Specific Surface Area (SSA) Analysis, Particle Size Analysis, Zeta Potential Analysis, Optical Microscope, Stiffness Tester, Impact Tester and UTM.

Academia:

- **M.Sc Chemistry** - Mahatma Gandhi University, Kerala (2012)
- **B.Sc Chemistry** - Mahatma Gandhi University, Kerala (2010)

Personal Details:

Date of Birth	:	04 April 1990
Nationality	:	Indian
Marital status	:	Married
Languages Known	:	English, Malayalam and Tamil
Resident Location	:	Bangalore

Declaration:

I hereby declare that the details furnished above are true to the best of my knowledge and belief.