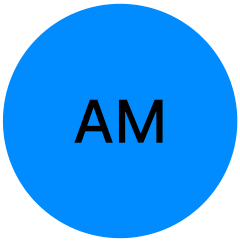
ARJUN S. MEHTA

Polymeric Nanoparticle & Biological Delivery Researcher

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Mumbai, Maharashtra, India



EXPERIENCE

Doctoral Research

ICAR–Indian Veterinary Research Institute

2020 - 2025

- Designed and optimized chitosan nanoparticle formulations for encapsulation of live and inactivated ΔgE infectious bovine rhinotracheitis virus, investigating polymer–virus interactions and formulation stability
- Standardized nanoparticle formulation conditions using live viral systems to evaluate encapsulation efficiency and release kinetics, and applied optimized conditions to inactivated virus
- Characterized nanoparticle formulations using particle-size analysis, PDI, zeta potential, FTIR spectroscopy, TEM, and cytotoxicity assays
- Investigated cellular uptake and nanoparticle internalization using FITC-conjugated chitosan nanoparticles and confocal microscopy
- Evaluated functional stability of encapsulated viral systems using TCID50 titration, plaque assays, virus inactivation studies, ELISA, and virus neutralization tests
- Conducted in-vivo evaluation in a guinea pig model, including immunogenicity, protective responses, histopathological analysis, and cytokine-expression profiling by qPCR

Junior Research Fellow

ICAR–Indian Veterinary Research Institute

2025 - 2025

- Developed chitosan nanoparticle-based systems for encapsulation of bioactive compounds (thymol, eugenol, carvacrol) and evaluated antimicrobial activity

Master's Research

ICAR–National Dairy Research Institute

2018 - 2020

- Cloned and expressed recombinant buffalo pregnancy-associated glycoprotein-8 (BuPAG-8) in E. coli
- Performed PCR amplification, restriction digestion, ligation, and bacterial transformation for recombinant protein production
- Conducted protein expression and purification, followed by analysis using SDS-PAGE

EDUCATION

PhD Animal Biotechnology

ICAR–Indian Veterinary Research Institute

2025

SUMMARY

PhD-trained Veterinary Biotechnologist specializing in polymer-based nanoparticle formulation and biological cargo delivery. Experienced in chitosan nanoparticle formulation, encapsulation efficiency, controlled-release studies, and physicochemical characterization using particle-size analysis, zeta potential, PDI, FTIR, and TEM. Experienced in mammalian cell-based evaluation, confocal imaging, cytotoxicity assessment, and in-vivo studies in a guinea pig model. Interested in extending polymeric carrier formulation expertise toward targeted delivery of therapeutics and biologics

SKILLS

Nanoparticle Formulation & Delivery

- Chitosan nanoparticle formulation
- Encapsulation efficiency
- Controlled release
- Release kinetics
- Bioactive compound encapsulation

Physicochemical Characterization

- Particle-size analysis
- PDI
- Zeta potential
- FTIR spectroscopy
- TEM

Cell Biology & Imaging

- Mammalian cell culture
- Cytotoxicity assays
- Confocal microscopy
- Cellular uptake studies

EDUCATION

Master's Animal Biotechnology

ICAR–National Dairy Research Institute

2020

Bachelor of Veterinary Science

Maharashtra Animal & Fisheries Science University

2018

SKILLS

Virology & Immunology

- Virus propagation
- TCID50 titration
- Plaque assay
- Virus inactivation
- ELISA
- Virus neutralization test
- qPCR

In-vivo Research

- Guinea pig studies
- Immunogenicity evaluation
- Histopathology
- Cytokine profiling