

Training Opportunities at ICMR Institutes for Biomedical Scientists from Developing Countries

1. ICMR–National Institute of Virology (NIV), Pune

Training Areas:

- Virus isolation and propagation
 - Viral diagnostics and point-of-care testing
 - Virus-host interactions
 - Epigenetic regulation of viral replication
 - Viral vaccine development
 - Biosafety and biosecurity for high-risk pathogens
 - Bioinformatics, virus evolution, and big data analysis
 - Immune responses to viral infections
 - Electron microscopy
 - Antiviral drug development
 - Surveillance and outbreak investigation
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2. ICMR–National Institute of Epidemiology (NIE), Chennai

Training Areas:

- Epidemiological methods and applications
- Causal inference from observational studies
- Disease surveillance and outbreak investigation
- Health district management
- Programme/project design
- Surveillance and programme evaluation

Duration: 1 month courses

3. ICMR–National Institute for Research in Tuberculosis (NIRT), Chennai

Training Areas:

- Tuberculosis diagnostics and molecular biology
- External Quality Assurance (EQA) for TB
- Clinical pharmacology and therapeutic drug monitoring
- Antiviral research and molecular diagnostics
- HIV research and immunology
- Bioinformatics pipelines
- Qualitative and implementation research
- Psychosocial intervention trials and cohort studies
- Point-of-care diagnostics

- Nutritional interventions in TB
 - Metabolomics and biomarker discovery
 - Health economics and mathematical modelling
 - Health Technology Assessment (HTA)
 - TB immunology and translational research
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4. ICMR–National Institute for Research in Bacterial Infections (NIRBI), Kolkata

Training Areas:

- Bacterial and viral diagnostics
 - Food-borne pathogen research
 - Antimicrobial resistance (AMR)
 - Cell culture techniques
 - ELISA, PCR, and enteric parasitology
 - Bacterial genomics
 - Immunology techniques (Flow Cytometry, ELISA, qPCR)
 - Animal models for infection research
 - Clinical trial design
 - Bioethics and Good Clinical Practice (GCP)
 - Pharmacokinetics
 - Epidemiology and biostatistics
 - Surveillance systems evaluation
 - Systematic reviews and meta-analysis
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5. ICMR–National Institute of Occupational Health Research (NIOHR), Ahmedabad

Training Areas:

- Occupational health hazard assessment
 - Workplace risk assessment
 - Spirometry, audiometry, and pneumoconiosis screening
 - Climate change and heat stress assessment
 - Occupational productivity loss evaluation
 - Adaptation and mitigation strategies
 - Environmental health monitoring
 - Environmental determinants of health
 - Quantitative, qualitative, and mixed-methods research
 - Systematic reviews and evidence synthesis
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6. ICMR–National Institute of Translational Virology and AIDS Research (NITVAR), Pune

Training Areas:

- Clinical research and trial management
 - Protocol development
 - Good Clinical Practice (GCP)
 - Regulatory and ethical compliance
 - Clinical data management
 - Safety monitoring
 - Virology, immunology, and molecular diagnostics
 - PCR and viral load testing
 - Laboratory quality systems
 - Disease surveillance and outbreak investigations
 - Implementation research
 - Biostatistics and data science
 - Health technology assessment
 - Policy research
 - Population-based research through MRHRU (Buldhana, Maharashtra)
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7. ICMR–National Institute for Research in Environmental Health (NIREH), Bhopal

Training Areas:

- Environmental epigenetics
- GIS applications in environmental health
- Assessment of emerging environmental pollutants
- Environmental and biological exposure assessment

Duration: 1–6 months (depending on course)

8. ICMR–National Institute of Malaria Research (NIMR), Delhi

Training Areas:

- Biostatistics, epidemiology, and public health research
- Clinical diagnostics and therapeutics for vector-borne diseases
- Drug and insecticide delivery systems
- Evolutionary genomics and bioinformatics
- Insecticide resistance research
- Host-parasite interactions
- Immunology and vaccine development
- Molecular diagnostics and epidemiology

- Computational biology and transcriptomics
 - Molecular parasitology
 - Population genetics
 - Vector biology and control
 - Public health pesticide evaluation
 - Social and behavioural research
 - Implementation research
 - Therapeutic efficacy trials
 - Veterinary science and animal malaria research
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9. ICMR–National Institute of Nutrition (NIN), Hyderabad

Training Areas:

- Maternal and foetal epigenetics
- Clinical sample analysis
- Functional assessment of dietary bioactives
- Gene expression analysis (qPCR)
- Infant and young child feeding (IYCF)
- Lactation management
- Standard anthropometry in early childhood
- Epidemiological disease quantification
- Food nutrient analysis (macro and micronutrients)

Duration: 3–15 days (depending on course)