

REPORT

Report on participation of the ICMR International Fellow (ICMR-IF) in Training/Research abroad.

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| 1. | Name and designation of ICMR- IF | : Irfan Ahmad Mir |
| 2. | Address | : ICMR-NARFBR, Shamirpet, Kolthur Village
Hyderabad, 500078 |
| 3. | Frontline area of research in which
training/research was carried out | : Pre-clinical Experimentation using
Non-Human primates |
| 4. | Name & address of Professor and host institute | : Prof. Deepak Kaushal
Texas Biomedical Research institute,
SNPRC, 8715 Military Dr W,
San Antonio, TX 78227, United States |
| 5. | Duration of fellowship with exact date | : Six Months, 27-02-2023 to 27-08-
2023 |
| 6. | Highlights of work conducted | : |
| | i) Technique/expertise acquired | : Annexure I |
| | ii) Research results, including any papers,
prepared/submitted for publication | : Non-Human Primates of Indian
Subcontinent-Infectious health Hazard from One health perspective (under review) |
| | iii) Proposed utilization of the experience
in India | : Annexure II |



Signature of ICMR-IF

ICMR Sanction No. INDO/FRC/452/(y-39)/2022-23-IH&HRD

DATED; 02-02-2023

Annexure I

Technique/Expertise acquired:

1.	• Nonhuman Primate Identification by Microchips/dye mark/ tattooing
2.	• Non-Human Primate Colony Management Practices, breeding and treatment
3.	• Positive Reinforcement training of Non human primates for Animal/ Behavioral welfare
4.	• Necropsy procedure of Non Human Primates and collection of various Lymph nodes / organs for vaccine study
5.	• Working with infected animals for preclinical experimentation in BSL3 lab
6.	• Providing Inanimate Enrichment to Nonhuman Primates
7.	• Injection Site Observations, Documentation and Reporting in Nonhuman Primates
8.	• Moving Alert in Baboons and Macaques
9.	• Surgical techniques like Jugular catheterization/ Telemetry implantation, Probe implantation in femoral vein for BP recording
10.	• The Implementation and Use of Socialization Cage Tags for Indoor Housed Nonhuman Primate Pairs and Small Groups
11.	• In vivo Imaging by PET-CT of NHP's for study of progression of lesions in infectious disease of respiratory system like COVID/TB
12.	• Blood Donation and Blood Transfusion in Nonhuman Primates
13.	• Inhalant Anaesthesia/Sedation of animals for invasive procedure of preclinical experimentation
14.	• Bronchoscopy Procedure in NHP's for intrabronchial infection in challenge studies like COVID/TB/ other respiratory diseases
15.	• Collection of Bronchial Alveolar lavages from NHPS for Immune Landscaping of myeloid and lymphoid cells
16.	• Biopsy procedure for collection of bone marrow/ skin/ lymph node etc in NHP's for Preclinical Experimentation
17.	• Tuberculin Testing in Nonhuman Primates
19.	• Tether Blood Collection Techniques for Nonhuman Primates
20.	• Ultrasonography and Gestation age determination using Bipareital dimeter in pregnant macaques
21.	• Collection of CSF from Cistern magna/spinal cord in macaques and baboons
22.	• Cystocentesis
23.	• Endotracheal intubation of animals



Annexure II

Proposed utilization of the Experience in India

Non-Human Primates are an excellent animal model to study the pathogenesis of various diseases and study therapeutics and vaccine efficacy before testing on humans. Preclinical experimentation on large animals is mandatory before clinical trials. During the COVID pandemic, the vaccine developed jointly by ICMR and Bharath biotech had one of the hurdle in Pre-clinical Experimentation in monkeys. As we don't had a Primate facility which houses Specific Pathogen free animals and veterinary expertise to conduct challenge study. Considering this I proposed to conduct a training programme to get trained in NHP's for the new Primate Experimentation Facility build under ICMR-National Animal resource facility for Biomedical Research. The training gained in Southwest national Primate Research centre, Texas, USA will help in establishing the Specific Pathogen Free macaques for biomedical Research and preclinical Experimentation. Currently the Primate facility at ICMR-NARFBR is under commissioning and I have started the work to screen the monkeys for various diseases like Hepatitis, Herpes, tuberculosis, shigellosis etc as per the health monitoring protocol guidelines learned during training. During the training programme, I had learned many Primate husbandry practices involving, feeding, physical examination, tuberculin testing, Ultrasonography, bronchoscopy, surgical techniques, Infant husbandry which I will be implementing in Indian Rhesus macaques currently housed at our facility. This training also helped me to gain learning curve in various invasive procedures like jugular catheterization/telemetry implantation/aerosol infection/ BSL3 procedures in monkeys which can be used to conduct animal experimentation in monkeys for various biomedical scientists of the country who are interested to conduct challenge / infection studies in monkeys.



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