

REPORT

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

1. Name and designation of ICMR- IF : Dr. P. Rajaguru, Professor
2. Address : Department of Biotechnology
University College of Engineering
Anna University-BIT Campus
Tiruchirappalli - 620024
3. Frontline area of research in which training/research was carried out : Multiomics for Antibiotic Resistance
4. Name & address of Professor and host institute : Dr. Takayoshi Suzuki
Chief of Molecular Diagnosis Section
Division of Molecular Target and Gene Therapy Products
National Institute of Health Sciences
3-25-26 Tonomachi, Kawasaki-ku
Kawasaki, Kanagawa, 210-9501 Japan
5. Duration of fellowship with exact date : 3 months; 07 - 10 - 2019 to 06 - 01 - 2020
6. Highlights of work conducted :
 - i) Technique/expertise acquired : Metagenomics using Next Generation Sequencer (NGS) - Oxford Nanopore MinIon and Illumina MiniSeq systems
Metaproteomics using LC-MS/MS system
 - ii) Research results, including any papers, prepared/submitted for publication : a) Metagenomics and metaproteomics analyses were conducted for microbiota obtained from 17 fecal samples and the data are analysed for taxonomic identification and antimicrobial resistant genes.
b) DNA of 34 multidrug resistant bacterial isolates obtained from various water bodies in Tokyo were sequenced using Oxford Nanopore MinIon and studied for antimicrobial resistant genes.
 - iii) Proposed utilization of the experience in India : The metagenomics and metaproteomics techniques learned during the fellowship period is very useful and can be implemented to study the prevalence and diversity of antimicrobial resistance in Indian surface water/waste water systems. The training can be extended for metatranscriptomics analyses also.

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Signature of ICMR-IF

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