

REPORT

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

1. Name and designation of ICMR- IF : Dr. Shano Naseem, Additional Professor
2. Address : Department of Hematology,
Postgraduate Institute of Medical Education and
Research (PGIMER), Chandigarh-160011, India.
3. Frontline area of research in which
training/research was carried out : Molecular genetic testing techniques.
4. Name & address of Professor
and host institute : Dr. Gautam Borthakur,
Professor, Department of Leukemia,
M.D. Anderson Cancer Center,
1515 Holcombe Blvd., Houston, Texas, USA.
5. Duration of fellowship : November 6, 2018 to February 5, 2019.
6. Highlights of work conducted :
 - (i) Technique/expertise acquired :
 - (a) Learned the advanced molecular genetic testing techniques for Nanofluidics, GeneScan, Real-time PCR, Sequencing and Next-generation sequencing (Ion Torrent and Illumina).
 - (b) Learned the wet bench processes for NGS library preparation, purification, quantitation, sequencing and bioinformatics analysis.
 - (c) Learned about the various NGS platforms, their advantages and disadvantages; and the bioinformatics softwares and their use in NGS data analysis for clinical reporting.
 - (d) Learned the protocols for molecular genetic test development and quality management.
 - (e) Also attended the clinics and in-patient services and learned how the genetic test results are interpreted in clinical practice for diagnosis, monitoring and deciding therapies in patients with hematological malignancies.
 - (f) Prepared (and submitted to mentor) Next Generation Sequencing test workflow protocol for standardization and validation to be developed at home institute [Postgraduate Institute of Medical Education & Research, Chandigarh, India] for inputs and expert advice.
 - ii) Research results, including any papers, prepared/submitted for publication:
Plan to submit papers for publication-

- a) Prognostic effect of *FLT3* and *RAS* mutations in patients with core binding factor- acute myeloid leukemia.
 - b) *FLT3*-TKD mutations in patients with translocation [t(15;17), t(8;21) or inv(16)] acute myeloid leukemia.
- iii) Proposed utilization of the experience in India:
The training under the ICMR fellowship, gave me the opportunity to learn the advanced molecular genetic testing techniques, including details of how to develop the protocols for tests, their validation and quality control. This knowledge would help me in establishing advanced molecular genetic testing techniques, including NGS for patients with hematological malignancies at my parent institute- PGIMER, Chandigarh.


Signature of ICMR-IF

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