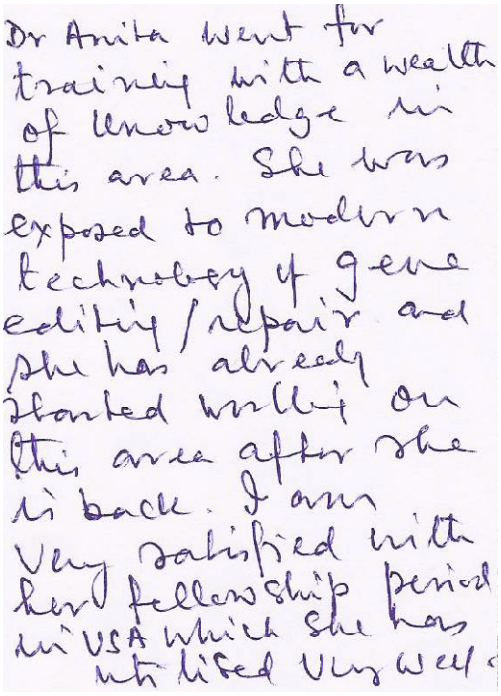
Detail tour reports on foreign visits should invariably include the following :

1.	Name and designation of the scientist	Dr. Anita Nadkarni, Scientist D
2.	Name of the Institute/Centre	National Institute of Immunohematology
3.	Date of Visit	5th Feb 2012 to 20th Feb 2012
4.	Period of Visit	15 days
5.	Place of Visit	Prof. Eric Kmiec Laboratory Delaware State University, Dover, Delaware ,USA
6.	Purpose of the Visit	**Prof. Kmiec is a pioneer scientist in gene editing methodology**. I wanted to learn targeted gene editing/ repair technique using single stranded DNA molecule from his laboratory to establishing it in India.
7.	Source of sponsorship of the Visit	ICMR
8.	What is the scientist's contribution, relevance to ICMR/HRD, India	Training taken in Prof. Kmiec laboratory on Targeted Gene Correction using single stranded RNA molecule will help me in establishing a Gene Therapy Laboratory in the India. Once established will help single gene disorders patients like thalassemia , Sickle cell anemia, hemophilia
9.	Benefits to the Institute/center from skills acquired by the scientist during the said visit	The project entitled "Targeted correction of the point mutation of sickle cell gene by RNA /DNA oligonucleotides (RDOs) has been sanctioned by ICMR as a Ad –hoc research project. In India we do not have any experience of using oligonucleotide molecules for gene

		therapy. We need to establish it in the Institute . Hemoglobinopathy is one of the commonest single gene disorders in India .Institute is a national reference lab for thalassemia. Establishing the non viral targeted gene correction therapy will be helpful for better prognosis of homozygous patient**.**
10.	How the skill acquired by the scientist will be utilized.	The training taken will be immediately utilized for carrying out the practical work mentioned in the project "Targeted correction of the point mutation of sickle cell gene by RNA/DNA oligonucleotides . Similarly this will also be very useful in establishing the non viral gene therapy laboratory in India which will benefit the patients of single gene disorders.
11.	Whether the Director /OIC satisfied with the tour report? Comments of the Director /OIC on the tour repot	 Dr Anita went for training with a wealth of knowledge in this area. She was exposed to modern technology of gene editing / repair and she has already started working on this area after she is back. I am very satisfied with her fellowship period in USA which she has utilised very well.

REPORT OF HOST INSTITUTE

ICMR-IF Assessment

1. **Name of Professor:**
   Dr. Eric B. Kmiec

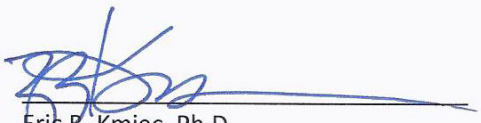
2. **Name and address of host institute:**
   Department of Chemistry
   Delaware State University
   Dover, Delaware

3. **Duration of fellowship:**
   14 days

4. **Brief highlights of the achievements:**
   Dr. Nadkarni was instructed in the overall procedure of gene editing. She learned cell synchronization, cell cycle analyses and how to profile converted cells. She carried out several gene editing experiments herself and is now capable of proceeding with her project. Dr. Nadkarni also observed some advanced techniques and protocols that are yet unpublished so it is fair to say that she has been exposed to the cutting edge of the field. Finally, she designed all of her reagents here for her project in India, with our help, and is now ready to engage in this field.

5. **Your assessment of the ICMR-IF:**
   This program is very productive and enables scientific collaboration between international labs. Dr. Nadkarni represented her institute beautifully; she was very diligent in her work and was relentless in her pursuit of knowledge surrounding this field. She could not have been a more pleasant and respectful visitor.

6. **Any other comments:**
   (See above.)



Eric B. Kmiec, Ph.D.
Chair, Department of Chemistry
Delaware State University
Dover, Delaware 19901