

**Report of the Fellow who availed Short-Term Fellowship /
Training under Human Resource Development for Health
Research**

Order No. DHR/HRD Fellowship/II (7)/13-14 dated 04/09/2014

Dr. Surajit Ganguly

Institute of Molecular Medicine

New Delhi

REPORT

Report of the Fellow who availed Fellowship / Training under Human Resource Development for Health Research – Order No. DHR/HRD Fellowship/II (7)/13-14 dated 04/09/2014

- 1. Name and designation of Fellow** : Surajit Ganguly, Team Lead Scientist
- 2. Address** : Institute of Molecular Medicine, 254 Okhla Industrial Estate, Phase 3, New Delhi 110020, India
- 3. Type of Fellowship and period** : Short-term fellowship in Foreign Institutions by DHR (2 months)
- 4. Duration of fellowship** : February 16, 2015 to April 15, 2015
- 5. Frontline area of research in which Training /research was carried out** : Training in the field of Genomics with focus on advanced RNASeq technique (differential gene-expression analysis) along with metagenomics using Next-Gen Sequencing platforms.
- 6. Name & address of mentor and host institute** : Dr. David Klein, Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)/NIH, Bldg 31, Rm 2A46, Bethesda 20892, MD, USA.
- 7. Highlights of work conducted** :
 - i) Technique/expertise acquired** :
(Give in about 150 words)

Growing epidemiologic evidences support association of infectious agents as an environmental risk factor to the incidence of schizophrenia, Autism spectrum disorders, suicide and depression like syndromes. However, these studies lack direct molecular correlation and in-depth knowledge about the disease mechanisms. Hence, our long-term goal was to delineate the mechanistic relationship between infection challenged immune responses and the molecular epigenetic (histone acetylation) events in neuronal tissues and cells using genome-wide (GW) gene-expression profiling technique. To achieve this research goal, utilizing latest technique known as Next Generation RNA Sequencing

or RNA-seq is a necessity. I acquired intense hands-on training in the Next Generation RNA Sequencing (RNASeq) technique using Illumina, Ion Torrent and SOLiD platforms and data mining process (Galaxy/Biospace like software packages) in Dr. David Klein's lab at National Institutes of Health (NIH), MD, USA. In addition, I have successfully completed a training program in RNASeq comprised of 35 lectures/lab hours conducted by the Foundation of Advanced Education in the Sciences, Inc (FAES) at NIH.

ii) Research results, including any papers, prepared/submitted for publication (Give in about 300 words) :

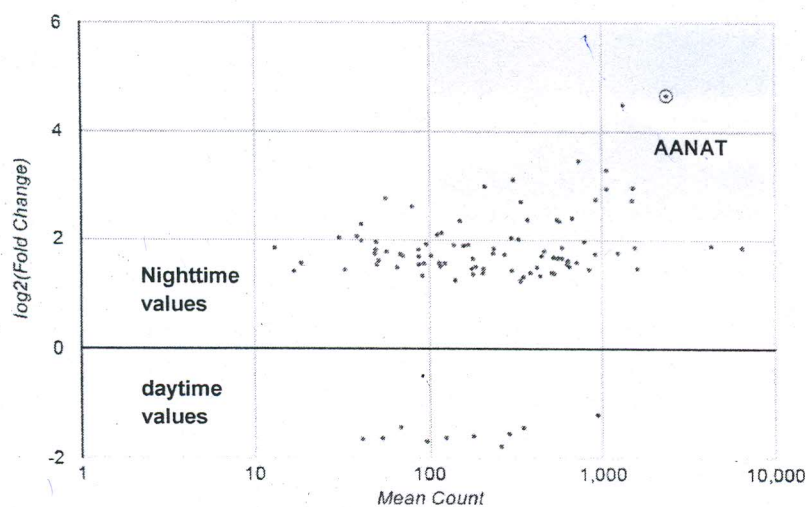
During the differential gene-expression analysis by RNASeq training process, we have used samples from host lab for RNASeq analysis using Illumina's BaseSpace software package. A typical research data has been presented below:

Four rat pineal gland sequencing data used for data analysis of differentially expressed gene from tissues collected during night and daytime. The sequencing data were obtained from the libraries made from total RNA extracted from animals sacrificed during midnight and midday time period.

1. Primary Analysis Information -

	Sample Group	Read 1 Length	Read 2 Length	Number of Reads
SRR233057-Whole-transcriptome-Midday sample	control	51	51	14,513,954
SRR233059-Whole-transcriptome-Midnight sample	comparison	51	51	11,381,953
SRR279580-Whole-transcriptome-Midday sample	control	51	51	32,952,421
SRR279581-Whole-transcriptome-Midnight sample	comparison	51	51	20,484,297

2. Fig 1. Top significant 100 genes differentially expressed (night versus day) in the rat pineal gland.



3. The table below shows Top 5 differentially expressed genes – sorted by highest Fold Change:

Gene	Status	Mean Count	log2(Fold Change)	Std. err. log2(Fold Change)	q value
Aanat	OK	2370	4.67	0.383	1.48E-30
Atp7b	OK	1330	4.5	0.354	5.61E-33
Dusp1	OK	734	3.45	0.391	3.38E-15
Slc15a1	OK	1060	3.28	0.414	3.25E-12
Pde10a	OK	308	3.1	0.358	1.18E-14

The results presented above represents a typical differential gene-expression analysis for determining the changes in the gene expression patterns between two samples using RNASeq technique. This technique is powerful tool which has a wide range of utility and can be applied to ascertain variations caused by disease in a tissues sample from the “normal” tissues.

This was 2-month (Short-term) training program on Genomics related technique and hence research paper publication is not applicable here.

iii) Proposed utilization of the experience in the Parent Institute.


(Please specify the project developed whether originally proposed/ new project):

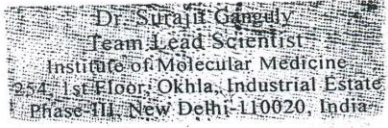
The potential for the utilization of the training is immense. The training has been designed to be utilized as follows:

1. Neuropsychiatric disorders, including schizophrenia and autism, are complex pathologies with heterogeneous clinical expressions and patterns of evolution, leading to various etiopathogenic hypotheses. Despite intensive research and spectacular advances in the field, no single gene variation or environmental factor has been consistently associated as a major risk factor for these illnesses. Currently, we are focusing on the contribution of epigenetic regulations (histone acetylation) and immune response in the genesis of these debilitating disorders. The goal is to delineate the mechanistic relationship between epigenetics, infection challenged immune/inflammatory responses and the genesis of such neurological disorders. A project in my lab requires genome-wide (GW) differential gene-expression analysis using the experience gained in Genomics particularly RNASeq during the implementation of this fellowship. The experience gained during my visit to NIH is being used in this project.

2. I have also submitted a project requesting initial funding to ICMR for utilization of the acquired expertise on NGS to investigate the role of histone acetylation (epigenetics) in Neuropsychiatric disorders for further studies in the above area.

3. In addition, this visit has opened up newer avenues for collaborative opportunities with the NIH lab for advanced research in genomics and acetylation-mediated epigenetics on “neuro-immuno-interaction in diseases”.


Signature of Fellow


Dr. Surajit Ganguly
Team Lead Scientist
Institute of Molecular Medicine
254/ 1st Floor, Okhla, Industrial Estate
Phase III, New Delhi-110020, India

Please Note: This part of the report is furnished by the foreign mentor in the attached sealed envelope.

CONFIDENTIAL

REPORT OF HOST INSTITUTE

1. Name of Professor :
(under whom training was carried out)
2. Name and address of host institute :
3. Name and address of the fellow :
4. Duration of fellowship :
5. Brief highlights of the achievements :
6. Your assessment of the Fellow (on a scale of 0-10):
 - i) Accomplishment of planned work /work allotted:
 - ii) Accomplishment of exceptional work/ unforeseen tasks performed:
 - iii) quality of output :
 - iv) Intellect / analytical ability :
 - v) Attitude to work :
 - vi) Sense of responsibility :
 - vii) Capacity to work in team :
 - viii) Leadership qualities :
 - ix) Strategic planning ability :
 - x) Decision making ability :
7. Any other comments :

Signature

Name, Designation and Host
Institute address

(Attached
envelope)

CLAIM SHEET
(To be filled in by the Fellow)

1. Name, Designation and Address : Surajit Ganguly, Team Lead Scientist
Institute of Molecular Medicine, 254 Okhla
Industrial Estate, Phase 3, New Delhi
110020, India
2. ICMR Sanction letter No. and date : DHR/HRD Fellowship/II (7)/13-14 dated
04/09/2014
3. Broad area of research : Human Resource Development for Health
Research
4. Chosen area of training : Genomics (NGS/RNASeq)
5. Name, designation & address
of Professor/Mentor of host institute : Dr. David Klein, Eunice Kennedy
Shriver National Institute of Child
Health and Human Development
(NICHD)/NIH, Bldg 31, Rm 2A46,
Bethesda 20892, MD, USA.
6. Duration of the training 1to 3months : 2 months (Feb 16, 2015 to April 15, 2015)
7. Details of expenditure on the training
 - A TRAVEL :
 - i) Place of work in India : New Delhi
 - ii) Port of embarkation with date of departure : New Delhi, Feb 14, 2015
 - iii) Port of disembarkation with date of arrival : Washington DC, Feb 14, 2015
 - iv) Venue of training if in a city different from iii)
above : Bethesda, Maryland
 - v) Air fare for onward travel to venue by shortest route : Provided by ICMR
 - vi) Air fare for return travel : Provided by ICMR

vii) Total expenditure on Air travel (v + vi) : Provided by ICMR

B. Fellowship US \$ 3000 x 2 months : \$6000

xRs 60.99 as per foreign ex. rate : Rs. 365940

C. Contingency

i) Visa charges \$160 x Rs 62.00 : Rs 9920

ii) Mediclaim insurance charges : Rs 3696

iii) Taxi charges from place of duty to airport and back

(2x\$40 + 2xRs 360) : Rs 5520

iv) registration charges for course (\$595X Rs 62) : Rs 36890

v) phone connection (SIM) charges for 2 months in USA : Rs 6294

D. Total (A to C) : Rs 428260

Certificate :

Certified that I have participated in the above training/research programme and the particulars furnished above are correct. I also certify that I have not received any financial assistance from any other source.

Date:

Signature
Name & Address
of Fellow

Dr. Surajit Ganguly
Team Lead Scientist
Institute of Molecular Medicine
254, 1st Floor, Okhla, Industrial Estate
Phase-III, New Delhi-110020, India

Details to be furnished by Fellow


1. Total grant received : Rs 182970 + \$2500 (in US bank)
2. Sanction Letter no. & date : DHR/HRD Fellowship/II(7)/13-14 dated 14, July 2014
3. Total expenditure incurred on training of the Fellow : Rs 182970 + \$3000+ Rs 30000 (excluding airfare provided by ICMR)
4. Amount to be released to the concerned Fellow : Rs 30000 + \$500 (\$1= Rs62.00)
5. Balance (if available) returned/being returned to DHR/ICMR: NA
6. Utilization certificate in the proforma enclosed:

Certificate:

Certified that Fellow has been paid grant as sanctioned by ICMR column 2 above for training abroad and as per guidelines of the DHR Fellow of

Date:

27/4/2015


Signature

Name & Address of Fellow

Dr. Surajit Ganguly
Team Lead Scientist
Institute of Molecular Medicine
254, 1st Floor, Okhla, Industrial Estate
Phase-III, New Delhi-110020, India

UTILIZATION CERTIFICATE

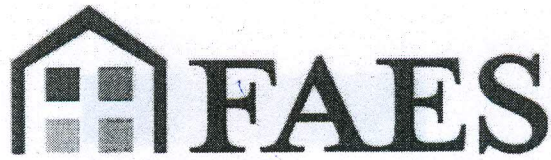
1. Title : HRD Fellowship Sponsored by DHR
2. Address of the Institution : Inst of Molecular Medicine, 254 Okhla Industrial Estate, phase 3, New Delhi 110020.
3. Name & designation of Fellow : Team lead scientist
4. DHR/ICMR sanction letter no. & date : DHR/HRD Fellowship/II(7)/13-14 dated 14, July 2014
5. Amount that was available for expenditure : Rs 182970 + \$2500
6. Actual expenditure : Rs 182970 + \$2500 + Rs 62320
7. Unspent balance if any : 0
8. Balance to be reimbursed to the Fellow : Rs 61000 (Rs 30000 + \$500)

Certified that out of **Rs 367260** of grant-in-aid sanctioned during the financial year 2014-15 in favour of Dr Surajit Ganguly DHR Fellowship awardee under DHR/ICMR sanction letter No DHR/HRD Fellowship/II(7)/13-14 dated 14, July 2014. A sum of **Rs 428260** has been utilized for the purpose of research/training abroad in respect of Dr Surajit Ganguly The fellow for which it was sanctioned and that the balance amount of Rs 61000 (Rs 30000 + \$500) due to the awardee may please be reimbursed.

Date: 27/4/2015


Signature of Fellow

Dr. Surajit Ganguly
Team Lead Scientist
Institute of Molecular Medicine
254, 1st Floor, Okhla, Industrial Estate
Phase-III, New Delhi-110020, India



FOUNDATION FOR ADVANCED
EDUCATION IN THE SCIENCES

*The Foundation for
Advanced Education in the Sciences, Inc.
at the
National Institutes of Health*

certifies that

Surajit Ganguly

has satisfactorily completed a training program in

BioTech 56: RNA-Seq

March 16 - 20, 2015

3.5 CEUs

35 Lecture/Lab Hours

Amy J. Hymes, Ph.D.
Industrial-Organizational Psychologist
Director, FAES Conference and Training Services
FAES at National Institutes of Health,
10 Center Drive, Room 1N241, Bethesda, MD 20892



The Chatterjee Group (TCG)
founded Centre of Excellence

INSTITUTE OF MOLECULAR MEDICINE

Recognised as a Scientific & Industrial Research Organisation (SIRO) by the Department of Scientific & Industrial Research (DSIR), Ministry of Science & Technology, Government of India

This is to certify that Dr. Surajit Ganguly has returned back from the host Institute laboratory and resumed his duty at IMM, New Delhi after availing and completing the training under DHR/HRD Fellowship/11(7) 13-14 on April 21, 2015.

Authorized signatory for HR



DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

National Institutes of Health
Eunice Kennedy Shriver National
Institute of Child Health and
Human Development
Bethesda, Maryland 20892

Telephone: (301) 496-6915
Facsimile: (301) 480-8010

April 15, 2015

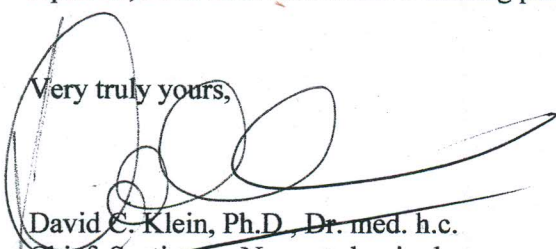
Department of Health Research
Ministry of Health and Family Welfare
Indian Council of Medical Research
Government of India
New Delhi, India

Re: Program for Overseas Training: Certification of initiation of training program

Dear Sirs,

I take pleasure in certifying that Dr. Surajit Ganguly was officially released from our program on April 15, 2015 after an intensive training period devoted to Genomics.

Very truly yours,



David C. Klein, Ph.D., Dr. med. h.c.
Chief, Section on Neuroendocrinology
Program in Developmental Endocrinology and Genetics
Senior Advisor, Office of the Scientific Director
Division of Intramural Research

TO AVAIL DHR/HRD FELLOWSHIP/11(7)13-14



LEAVE REQUEST FORM

(Sabbatical)

254, Okhla Industrial Estate III, New Delhi 110020

Employee Name:

SURAJEST GANGULY

Date:

9/2/2015

Employee code:

0210574

Department:

Transl. Research

Leave From:

Feb 16, 2015

To:

April 17, 2015

No. of leaves available:

60 days

Requested by:

Sign/Initials

[Signature]

Date

9/2/2015

Concurred by:

Sign/Initial

Sudeshna Kar

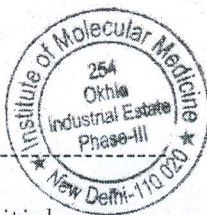
Date

9/2/2015

Approved by:

Sign/Initial

[Signature]



Date

09/02/15

YAHOO!
MAIL

Search

Search Mail

Search web

Home

surajit



Compose

Delete Move Spam More

People

Inbox

Drafts (73)

Sent

Spam (419)

Trash (19)

Smart views

Unread

Starred

People

Social

Travel

Shopping

Finance

Folders

Deleted Items

IMP

Recent

Sponsored



Your Special Someone
is waiting! Register Free
Find Love on Shaadi.com

Ride For:- SURAJIT GANGULY, At: Saturday, April 18, 2015 4:30

Airport Shuttle 1.1.8 AutoEmail

Apr 16 at 7:43 AM

To: surj007@yahoo.com



SAS Receipt

Confirmation No: 00289712

Passenger Name: SURAJIT GANGULY		Ride Type: Shared Ride	Fare: \$36.00
P/U Date: 4/18/2015		Reservation Type: Back Office	Tip: \$4.00
P/U Time: 4:30 AM		Transaction #: 144675347	Extras: \$0.00
P/U Address: 18805 Lake Placid Lane, Germantown, MD		Thank You For Using SAS	
Destination: SAARINEN CIR, Sterling, VA			
Number Of Passengers: 1	Number Of Bags: 2		Total: \$40.00
Payment Type: VISA xxxxxxxxxxxx1853			Balance: \$0.00

Reply, Reply all or Forward | More

Click to Reply All

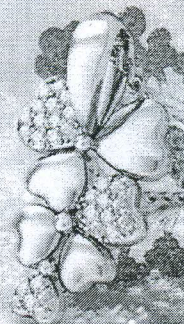
Send



BlueStone.com

GORGEOUS
JEWELLERY

Starting at
₹ 2,000



SHOP NOW

Regulations, 2002. If the information shown above is found to be either incomplete or incorrect at the time of claim, the same shall be construed as non disclosure of material information.

Premium Details in Rs. (for persons)							
	Start Date	End Date	Premium	Service Tax (Rs.)	Education Cess (Rs.)	Higher Education Cess (Rs.)	Net Premium (Rs.)
Original Details	14-Feb-2015	19-Apr-2015	Rs. 3,289	Rs. 394.73	Rs. 7.89	Rs. 3.94	Rs. 3,696

Details of the member/s insured under the policy:

S. No	Name	Relationship with primary insured	Date of Birth (dd/mm/yy)	Passport No.	Nominee Name	Sum Insured (USD)
1	Surajit Ganguly	Self	23-Jun-1966	J4782349	Sudeshna Kar	100,000

For ICICI LOMBARD GENERAL INSURANCE CO. LTD, IRDA Regn. No.115


Authorised Signatory

Date of Issue: 11-Feb-2015

Time of Issue: 00:00

Place of issuance: MUMBAI

Service Tax Registration No. : GIS/MUMBAI-I/1528/2001

Service Tax Code Number : AAACI7904GST001

Category: General Insurance Business Services 00440005.

The stamp duty of Rs 1.00 paid in cash or by demand draft or by payorder, vide Receipt/Challan no. 99999 dated 08-Jun-2011

<input type="radio"/> NIH Employees/Government Employees/Academia (Contract: SF-182)*	\$1,195.00
<input type="radio"/> All Others	\$1,795.00

Business Information

* Company:

NIH

* Job Title:

Visiting Fellow (DHR/ICMR)/Collaborator

* Department:

Section of Neuroendocrinology

* Address 1:

9000 Rockville Pike

Address 2:

City:

Bethesda

State:

Maryland ▼

ZIP Code:

20892

Province:

Country:

United States ▼

Highest Grade Completed

PhD

NOTE

*NIH EMPLOYEES: PLEASE FAX THE SIGNED SF-182 FORM TO 301-402-0174 OR SCAN AND EMAIL TO: REGISTRATION@FAES.ORG

AT THIS TIME WE DO NOT ACCEPT THE AMERICAN EXPRESS CREDIT CARD. PLEASE USE VISA, MASTER CARD OR DISCOVER.

Payment

Payment Method

- ☒ Pay with Credit Card
☐ Pay By Check

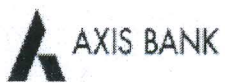
Payment Summary

Name	Type	Quantity	Fee	Total
Surajit Ganguly	NIH Students (fellows, post docs, post bacs) (Credit Card)	1	\$595.00	\$595.00
			Total	\$595.00

☐ Yes, I would like to receive your email newsletters

*Receipt for payment
GHI course*

Carroll



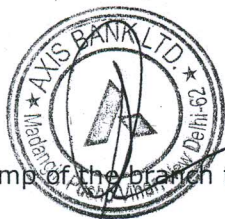
PAYMENT ACKNOWLEDGEMENT-US VISA FEES

CGI REFERENCE NUMBER	730215716229
BANK REFERENCE NUMBER	2383603654
VISA TIER	1
DOLLAR AMOUNT	320
INR AMOUNT	19,840.00
DATE	01/10/2014

The number displayed against the Bank Reference number needs to be inputted back on the CGI Website.

INSTRUCTIONS FOR APPLICANTS

- 1) Visa fee payments are non-refundable and must be paid in INR
- 2) Visa fee receipt is non-transferable and cannot be used for other person
- 3) For any clarifications please visit www.ustraveldocs.com
- 4) This payment acknowledgement is issued by Axis Bank acting as a collecting banker.



Signature and Stamp of the branch teller.

Bill

stayconnect

Surajit Ganguly
B-5 & 6 Flat No-4493 Vasant Kunj
DELHI-110070
Phone : 9999797944
User : Surajit Ganguly

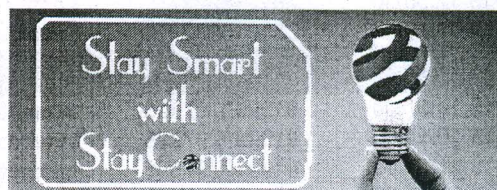
Account Code : 34718
Your Stayconnect No. : 13026828494
Country : United States of America
Agreement No. : 010953
Bill No. : SC0000040655
Bill Date : 25-Mar-2015
Due Date : Immediate
Payment Mode : Credit Card
Bill Period : 07-Feb-2015 to 06-Mar-2015
Service Tax No. : AATCS3196DSD003



Conversion Rate : (1 USD=62.5272 INR)

To know more visit us at - www.stayconnect.in

Rental	5001.55
Airtime	0.00
Surcharge	600.19
Service Tax @ .12%	672.21
Education cess (on service tax) @ 2%	13.44
Secondary and Higher Education Cess (on service tax) @ 1%	6.72
Total Due Amount	6294.11



Note: There may be usage during the bill period which is not reflecting in your current bill. Any such usage will be billed and charged for at a later date.

for bill enquiries call 011 413 88888

Payment Slip :



Account Code : 34718

Amount due : 6294.11

Bill Date : 25-Mar-2015

Due Date : 08-Apr-2015

Pay by Cheque : make payable to-
Stayconnect Cellular Services Pvt. Ltd.

Pay by credit Card : fill in the details below -

Please Charge

₹

Card no.

VISA/Master

☐

Diners

☐

AMEX

☐

Card holder's name

Valid Upto

Signature

Cheque / DD No.

Date

Bank

Branch

Stayconnect Cellular Services Pvt. Ltd.

1006, 10th Floor, Vishwadeep Tower, District Centre, Janakpuri New Delhi 110 058

Tel No +91 11-41388888

MEGA CABS
DLTRX 34-5
DATE: 19 ME: 15:56
TRIP DT: APR 15/02
START: 15:35
HIRE DISCOUNT 9.800
WAITING TIME 00:02
WAIT FARE FIRST 0.00
HIRE FARE FIRST 228.00
AIRPORT FARE 123.60
ST @ 0-11.24
NET AMOUNT (RS) 362.24
PH. No. 411414
ST NO. 411414 DST 001
CON/AP (CHG. Inc) ST 12.36%

CHANDIGARH 411414
AMRITSAR 5151515
LUDHIANA 4141414
www.megacabs.com
MEGA CABS-24X7 NETWORK
DELHI 41414141
BENGALURU 47474747
KOLKATA 41414141
MUMBAI 42424242
CHANDIGARH 4141414