



**Dr. Anupam Basu**  
**Professor**

Molecular Biology and Human Genetics Laboratory

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## ACADEMIC PROFILE

**M.Sc** :Department of Zoology, The University of Burdwan

**Ph.D** at: National Institute of Health and Family Welfare, New Delhi.  
[Degree: The University of Burdwan ]

**Post Doctoral Fellow** :Department of Cell Biology and Physiology,  
School of Medicine,  
**University of New Mexico, USA**

**Former Visiting Fellow:** Dept. of Bioinformatics , Indian Institute of Science (IISc), Bangalore India.

## PRESENT AREAS OF RESEARCH

Presently our group is working in the two areas:

(i) **Cancer Immunology** : innate immunity (TLRs) in cancer progression and therapy

We are investigating , immune cells and Toll like receptor for tumor progression involving canonical and non canonical TRIF mediated pathways in breast cancer. We are targeting with TLR agonist or ligand along with the silencing the immune receptor aiming to induce the antigen presenting cells and lymphocyte (CD8+T cell) for reinvigorated the immune surveillance in tumor micro-environment. We are addressing the cross talk between tumor associated macrophages (TAM) and tumor cells to determine the tumor fate in tumor microenvironment (TME)

(ii) **Human inherited disorder - Hemoglobinopathy:**

We are addressing phenotype heterogeneity of the Thalassemia syndrome to understand the genetic correlation and role of different modifier genes. We are undertaking the NGS for whole exome sequencing (WES) to understand the phenotype heterogeneity and modifier loci.

We are also investigating the role of  $\beta$ -LCR in pathogenesis and management of thalassemia syndrome.

## COLLABORATION

1. Burdwan Medical College and Hospital, Burdwan.
2. Post Graduate Institute of Medical Education & Research, Chandigarh.
3. Institute of Child Health, Kolkata
4. Indian Statistical Institute (ISI), Kolkata

## DELIVERED INVITED LECTURE / CHAIR SESSION

1. Delivering talk on Thalassemia Genetics at **IISER - Kolkata**, September 8, 2018
2. Delivering lecture at Sophisticated Analytical Instrument Facility (SAIF), **NEHU, Shilong** at Workshop on "Optical Microscopy with Image Analyzer and Its Application" on March 28, 2018
3. Delivering Talk at Burdwan Medical College, Golden Jubilee Celebration , Convention of

- Indian Medical Association (IMA) and Pediatric Association of India, Burdwan Branch on February 10, 2018
4. Delivering talk at XI GLOBAL HEALTH CARE SUMMIT -2017 December 29, 2017 at JW Marriott, Kolkata
  5. Delivering lecture at 3rd International Conference on Translational Research, **AMITY University**, Kolkata, 25th. Sept. 2017.
  6. Chair a session in the “**8<sup>th</sup> East Zonal Oncology Symposium**”, at Saroj Gupta Cancer Centre & Research Institute, Thakurpukur, 21<sup>st</sup> January, 2017
  7. Chair a session in the “**XL All India Cell Biology Conference and International Symposium on Functional Genomics and Epigenomics**”, organized by **Indian Society of Cell Biology** and Jiwaji University, Gwalior ,November 17-19,2016
  8. Deliver Invited Talk to the **2<sup>nd</sup> International Conference on Translational Research: Applications in Human Health & Agriculture: Organized by KIIT University** and NCCS Pune, *October 14-16,2016*,
  9. Deliver Invited Talk to the International Conference on Translational Research Jointly Organized by **Indian Society of Translational Research** and **Bose Institute, Kolkata, India**. April 16-17, 2016
  10. **Deliver Invited Talk to the 3rd. International Conference on Angiogenesis** organized by SASTRA University, September 23-25’2015.
  11. **Chair a session in the National Seminar on Biotechnology in Sustainable Development**", organized by Department of Biotechnology, The University of Burdwan, March 13-14, 2015.
  12. Delivered **plenary lecture** to the National Seminar on “Life and Life Processes: Sustainable Development” Organized by **Goa University**, February 19-21, 2015
  13. **Deliver Invited Talk to the 2nd. International Conference on Angiogenesis**, Organised by **National Center for Cell Science and KIIT University, India**, February 2 -4’2014.
  14. Delivered **plenary lecture** to the National Seminar on **Current Advances in Biotechnology and Annual meeting of Society for Biotechnologist of India**, Organized by **Department of Biotechnology, Sant Gadge Baba Amravati University, Maharashtra** November 25-26’2013.
  15. **Deliver Invited Talk to the 1st. National Conference of Pediatrics Association of India (PAI-CON 2013)**, Bhubaneswar, October 25- 27th.'2013.
  16. Delivered **invited talk** to the TEQIP sponsored seminar on "**Biopolymers in Biomedical Engineering**" organized by School of Bioscience and Engineering, **JADAVPUR UNIVERSITY**, on November 8'2013.
  17. Delivered **Invited talk** to the **100<sup>th</sup>. Session of Indian Science Congress**, Kolkata, entitled “**Compound mutations in  $\beta$ -Thalassemia Patients of West Bengal Population**”, Section: Medical Sciences (including Physiology), held on January 3-7’2013.
  18. Delivered lectures to the UGC sponsored Refresher course on “**Recent Trends in Biomedical Engineering**” held at **School of Bioscience and Engineering, Jadavpur University**, (from 11<sup>th</sup>. -30<sup>th</sup>. June’2012)on June 20’2012.
  19. Delivered lecture to “**Science Academies’ Lecture Workshop on Progress and Prospects of Biological sciences**” held at Burdwan Raj College, on August 17’2011, sponsored by **Indian Academy of Sciences (IASc, INSA and NASI)**.
  20. Delivered **invited lecture** to the National Seminar cum Workshop on “**Application of Advance Techniques in Biomedical Laboratory Science**” Organized by Dept. of Bio-Medical Laboratory Science & Management. VidyaSagar University, March 25 – 29’ 2011.
  21. Delivered lecture, demonstration, and Adjudicate presentations, for the **Refresher courses** organized by UGC sponsored Academic Staff College, BU (2009-2012).

22. Delivered **invited lecture** at **XXXII Conference of Indian Society of Cell Biology (ISCB)** and Symposium on “Stem Cells and Pattern Formation” Organized ISCB and MACS-Agharkar Research Institute, held on December 4-6’ 2008 at Pune
23. Delivered lecture at **Symposium of XXVI SRBCE**, held on January 17 -19’ 2008 at Tiruchirapalli.

#### CONFERENCE/Workshop Organized

1. A three days workshop on Molecular Biological Techniques as Organizing Secretary, From April 16-18’2008, Sponsored by West Bengal *Higher Education Dept. Govt. of West Bengal*.
2. A two week workshop on **Molecular Biological Techniques** as Course Director, held on September 7-19’2009, Sponsor by Department of Biotechnology (*DBT*), Government of India
3. A two days “**Science Academies’ Lecture Workshop on Progress and Prospects of Biological sciences**”, as Jt. Convener Sponsored by *Indian Academy of Sciences* (IASc, INSA and NASI), From August 16 -17’2011
4. One day seminar on “**Trends on Cancer Research**” held on January 19’2012 sponsored by Department of Science and Technology (*DST*) through *PURSE* program
5. One day workshop cum seminar on “**Frontiers in Molecular Biology and Workshop on Basic Flowcytometry**” held on July 9’2012; sponsored by *DST –PURSE*.
6. Organized **International Symposium on Genetic Analysis: Translational and Developmental (iNSGTD)** and *Annual Meeting of Society for Biotechnologists* (India), November 21 -23’2014

#### RESEARCH PROJECTS IMPLEMENTED (AS PI):

Sl. No.	Project Title	Funding Agency	Status Ongoing/ Completed
1	A Genetic Algorithm-Based Targeted Approach for Understanding the Phenotypic Heterogeneity of Thalassemia Syndromes in Northern and Eastern Indian Population. [A – Multicentre project participated by PGIMER, Chandigarh & The University of Burdwan, Burdwan; Coordinating centre – The University of Burdwan]	<b>DBT- Human Genetics Program</b> [Total Project Cost Rs. 1.2 Core]	Ongoing: w.e.f. July ‘2018
2	Development of field based rapid hemoglobinopathy - Thalassemia carrier screening kit	<b>BIRAC, DBT</b> [Rs. 35.0 Lakh]	Ongoing: w.e.f. February ‘2018
3	Study on the role of TLR4 signalling in breast cancer progression	<b>DBT- cancer Task force</b> [Rs. 81.0 Lakh]	Ongoing: w.e.f. January ‘2018
4	Study on the effect of TLR-3 and TLR-9 on breast cancer	<b>SERB- DST</b> 36 Lakh	<b>Completed</b> (July 2019)
5	Study on the Mutation profile of Beta Globin gene and sequence homology among anthropoids	<b>WB – DST</b> 18 Lakh	<b>Completed</b> (February 2019)
6	Validation of messenger RNA based diagnosis and antigen based diagnosis of the angiogenesis markers	<b>UGC</b> (Rs. 9.86 lakh)	<b>Completed</b> (September 2012)

7	The simultaneous inhibition of plasminogen system along with matrix metalloproteinase 9 (MMP 9) in controlling angiogenesis	<b>DBT</b> (Rs. 33.57 lakh)	<b>Completed</b> (December 20012)
8	The simultaneous inhibition of plasminogen activator along with vascular endothelial growth factor (VEGF) in controlling angiogenesis	<b>DST</b> (Rs. 34.7 lakh)	<b>Completed</b> January 2014)

## PUBLICATIONS

### 2019

A Singh, A **Basu\***, R Devkar. Investigation on the MyD88 mediated TLR3 signaling via cell surface in breast cancer (Abstract). **Annals of Oncology**; 30:Suply 3), 004, 2019 [IF- 14.1] [[doi.org/10.1093/annonc/mdz099.004](https://doi.org/10.1093/annonc/mdz099.004)]

### 2018

Suban K Sahoo, Darshna Sharma, Anuradha Moirangthem, **Anupam Basu, \***, Ashok Kumar S K & Umesh D Patil. Fluoride selective chemosensor derived from vitamin B6 cofactor pyridoxal. **Indian Journal of Chemistry** 57A,. 619-625,2018 [IF- 0.48]

### 2017

Panja A, et al., , **Basu A.** Cross-Sectional Study for the Detection of Mutations in the Beta-Globin Gene Among Patients with Hemoglobinopathies in the Bengali. **Genet Test Mol Biomarker.** 21:39-45, 2017. [IF- 1.1]

### 2016

1. Moirangthem A, Bondhopadhyay B, Mukherjee M, Bondhopadhyay, Mukherjee M, Konar K, Bhattacharya S, **Basu A.** Simultaneous knockdown of uPA and MMP9 can reduce breast cancer progression by increasing cell-cell adhesion and modulating EMT genes. **Scientific Reports** 6, 21903, 2016 [IF- 4.1]
2. Panja A, Chowdhury P, **Basu A.** Hb Midnapore a novel variant with a structure abnormality [ $\beta$ 53 (D4) Ala >Val HBB:c.161C>T] associating with (HBB:c 92+5 G>C) found in Bengali Indian family **Hemoglobin.** 40:300-303, 2016.
3. SK Sahoo, D Sharma, A Moirangthem, A et al., **Basu A.** Pyridoxal derived chemosensor for chromogenic sensing of  $\text{Cu}^{2+}$  and fluorogenic sensing of  $\text{Fe}^{3+}$  in semi-aqueous medium. *Journal of Luminescence*, 172, 297–303, 2016
4. Kundan TC, Bondhopadhyay B, Keshav K, Sahoo SK, **Basu A, et al.,** A novel zinc(II) and hydrogen sulphate selective fluorescent “turn-on” chemosensor based on isonicotiamide: INHIBIT type's logic gate and application in cancer cell imaging. **Analyst**, 2016, **141**, 1814-1821.

### 2015

5. PK Chowdhury, M Saha, **Basu A, D Chowdhury.** Profile of Iron Overload in Nontransfusion Dependent Hb E Beta Thalassaemia Patients- Is It Different? **Blood**, 126, 4557 – 4557, 2015 [IF 10.5]
6. Bondhopadhyay, B, Moirangthem A, **Basu A.** Innate adjuvant receptor Toll –like receptor 3 can promote breast cancer through cell surface **Tumor Biology –36:1261–1271,2015[IF- 3.6]**
7. Ghosh A, Moirangthem A, Dalui R, Ghosh TK, Bandyopadhyay A, Dasgupta A, Banerjee U, **Basu A.** Expression of Matrix Metalloproteinase 2 and 9 in cervical intraepithelial neoplasia and cervical carcinoma among different age groups of premenopausal and postmenopausal women. **J of Cancer Research and Clinical Oncology, 140:1585-1593 2014) [IF- 3.0]**
8. Ghosh A, Dasgupta A, Bandyopadhyay A, Ghosh TK, Dalui R, Biswas S, Banerjee U, **Basu A.** A study of the expression and localization of Toll-Like Receptors 2 and 9 in different grades of

- cervical intraepithelial neoplasia and squamous cell carcinoma. **Exp. Mol. Pathol** 99: 720–724, 2015. [IF- 2.6]
9. D Sharma, A Moirangthem, SM Roy, JP Nandre, Patil U, **Basu A**, Sahoo SK. Bioimaging application of a novel anion selective chemosensor derived from vitamin B6 cofactor. **Journal of Photochemistry and Photobiology B: Biology**, 148:37-42, 2015. [IF 2.8]
  10. D Mahajan, N Khairnar, B Bondhopadhyay, SK Sahoo, **Basu A** et al., A highly selective fluorescent ‘turn-on’chemosensor for Hg 2+ based on a phthalazin-hydrazone derivative and its application in human cervical cancer cell imaging. **New Journal of Chemistry**, 39, 3071-3076, 2015. [IF 3.1]
  11. S Patil, R Patil, U Fegade, B Bondhopadhyay, U Pete, SK Sahoo, N Singh, **Basu A** et al., A novel phthalazine based highly selective chromogenic and fluorogenicchemosensor for Co 2+ in semi-aqueous medium: application in cancer cell imaging. **Photochemical & Photobiological Sciences**, 14:439-43, 2015 [IF 2.9]
  12. Rout JK, Dasgupta A, Singh O, Banerjee U **Basu A**. Association of single-nucleotide polymorphism of cholecystokinin receptor A gene with schizophrenia in an Eastern Indian population. *Indian J Psychiatry*. 2015 ;57(3):267-71.
  13. **Basu A** and Moirangthem A. Advances of Non-Surgical Therapy for Different Molecular Subtypes of Breast Cancer. *Adv Genet Eng* , 4; 2015, [Open Access]
  14. Panja A and **Basu A**. Pharmacogenomics of the Drugs used for the Treatment of Thalassemia. *J Cytol Histol*, 6; 2015 [Open Access]
- 2014**
15. D Sharma, A Moirangthem, SK Sahoo, **Anupam Basu**,et al. Anion selective chromogenic and fluorogenicchemosensor and its application in breast cancer live cell imaging. **RSC Advances** 4, 41446-41452, 2014 [IF 3.7]
  16. J Bhosale, U Fegade, B Bondhopadhyay, S Kaur, Sigh N, **Basu A** et al. Pyrrole-coupled salicylimine-based fluorescence “turn on” probe for highly selective recognition of Zn<sup>2+</sup> ions in mixed aqueous media: Application in living cell imaging. **Journal of Molecular Recognition (On line first)** [IF 2.3]
  17. N Khairnar, K Tayade, SK Sahoo, B Bondhopadhyay, **Basu A**, et al. A highly selective fluorescent ‘turn-on’chemosensor for Zn 2+ based on a benzothiazole conjugate: their applicability in live cell imaging and use of the resultant complex as a secondary sensor of CN<sup>-</sup>. **Dalton Transactions** 44, 2097-2102, 2015 [IF 4.0]
  18. Tayade K, Sahoo S, Bondhopadhyay, B ,Bharadaj V, Singh N and **Basu A** et al. . Highly selective turn-on fluorescent sensor for nanomolar detection of biologically important Zn<sup>2+</sup> based on isonicotinohydrazide derivative: Application in cellular imaging. **Biosensors and Bioelectronics**. 61, 429-433, 2014[IF- 5.4]
  19. TayadeK, Sahoo S, Chopra S, Singh N, Bondhopadhyay, B , and **Basu A**. et al. A novel flurosenent “Turn –on” sensor for the biologically active Zn<sup>2+</sup>ion. **Inorganica Chimica Acta** 421, 538-543, 2014[IF 1.6]
  20. Fegade U, Sharma H Bondhopadhyay, B , and **Basu A**. et al “Turn-on” fluorescent dipodalchemosensor for nano-molar detection of Zn<sup>2+</sup>: Application in living cells imaging. **Talanta**125: 418-24, 2014 [Impact factor 3.4]
  21. Tayade K, Bondhopadhyay, B , and **Basu A**. et al. A novel urea-linked dipodal naphthalene-based fluorescent sensor for Hg(II) and its application in live cell imaging. **Talanta**. 122:16-22 , 2014[IF 3.4]
  22. Sen S, Mukherjee T, Chattopadhyay B, Moirangthem A, **Basu A**, et al Efficient and Convenient Methods for Synthesis of Some Phthalazine Derivatives and Their Evaluation of Cytotoxicity. **Synthetic Communications** 44: 847-857 (2014) [IF1.0]
  23. Patil R, Moirangthem A, Butcher R, Singh N, **Basu A**. et al. Al<sup>3+</sup> selective colorimetric and

fluorescent red shifting chemosensor: Application in living cell imaging. [*Dalton Trans.* 43 :2895-9, (2014)] [IF 4.0]

24. Tayade K, Bondhopadhyay, B , Sharma H and Basu A. et al. "Turn-On" fluorescent chemosensor for Zinc (II) dipodalratiometric receptor: Application in live cell imaging. *Photochemical & Photobiological Sciences.* 13 (7), 1052-1057(2014) [IF 2.9]

### 2013

25. H. Paul, T. Mukherjee, S. Sarkar, T.K. Mandal, A. Moirangthem A Basu A, et al. Ruthenium(II) complexes of pyrrol-azo ligands: cytotoxicity, interaction with calf thymus DNA and bovine serum albumin. *Journal of Coordination Chemistry* 66 (15), 2747-2764, 2013[Impact factor 2.2]

### 2012

26. A Panja, TK Ghosh, Basu A. Genetics of thalassemia in Indian population. *Journal of Community Nutrition & Health* 1, 2012
27. Sen S, Mukherjee T, ChattopadhyayB, Moirangthem A, Basu A, et al. A water soluble Al<sup>3+</sup> selective colorimetric and fluorescent turn-on chemosensor and its application in living cell imaging. *Analyst.* 137, 3975–3981(2012) [IF 3.9]
28. Sen S, Sarkar S, ChattopadhyayB, Moirangthem A, Basu A et al. A ratiometric fluorescent chemosensor for iron: discrimination of Fe<sup>2+</sup> and Fe<sup>3+</sup> and living cell application. *Analyst* 137, 3335-3342; (2012) [IF 3.9]

### Before joining at Burdwan University

29. Basu A, McGuire P, Menicucci G, Maestes J, Das A. Plasminogen activator inhibitor -1(PAI-1) Facilitates Angiogenesis in Experimental Retinopathy. *IOVS* Oct;50(10):4974-81.(2009) [IF 3.6]
30. Chatteraj A, Seth Mohua, Basu A, Shrivastav TG, Porta S Maitra SK. Temporal relationship between the circulating profiles of melatonin and ovarian steroids under natural photo-thermal conditions in an annual reproductive cycle in carp *Catlacatla*. *Biological Rhythm Res.*40; 347-359 (2009)
31. Basu A, Maitra SK and Shrivastav TG. Development of dual-enzyme-based simultaneous immunoassay for measurement of progesterone and human chorionic gonadotropin. *Analytical Biochemistry* 366; 175–181: (2007).[Impact factor 2.7]
32. Basu A, Maitra SK and Shrivastav TG. A Direct Antigen Heterologous Enzyme Immunoassay for Progesterone in Serum without Using Displacer. *Steroid* 71(3) 222-230; (2006). [IF 2.8]
33. Basu A, Nara S, Chaube S, Rangari K, KariyaKP and Shrivastav TG. The influence of spacer containing enzyme conjugate on the sensitivity and specificity of enzyme immunoassays for hapten. *Clinica Chimica Acta*, 366 (1-2),287-292; (2006) [IF 2.7]
34. Basu A, Maitra SK and Shrivastav TG. Development of isotopic and non-isotopic micro-well based immunoassays for hCG using <sup>125</sup>I and biotin labeled hCG. *Journal of Immunoassay and Immunochemistry* 26 (4) 313-324; (2005). [Impact factor 0.8]
35. Basu A, Shrivastav TG and KariyaKP. Preparation of enzyme conjugate through adipic acid dihydrazide as linker and its use in immunoassay. *Clin.Chem.* 49(8), 1410-1412; (2003).[IF 7.7]
36. ShrivastavT.G., Basu A. and KariyaK.P. One step enzyme linked immunosobent assay for direct estimation of serum testosterone. *Journal of Immunoassay and Immunochemistry.*24 (2), 205-217, (2003).
37. ShrivastavT.G., Basu A. and Kariya. K.P. Substitution of carbonate buffer by water for IgG immobilization in enzyme linked immunosobent assay.*Journal of Immunoassay and Immunochemistry.*24 (2), 191-203, (2003.)
38. Bhattacharya S, Dey R, Basu A, Maitra SK, Banerji TK. The structure of the pineal complex in

- a common Indian teleost, Catlacatla: evidence for pineal-induced inhibition of testicular function within an annual reproductive cycle. **Endocr. Res.** 29(2): 141-56. (2003).
39. Basu A and Shrivastav TG. One step enzyme linked immunosorbent assay for direct estimation of serum cortisol. **J Immunoassay.** 21(1):39-50. (2000)
40. Banerji TK, Maitra SK, Basu A, Hawkins HK. Lithium-induced alterations in the testis of the male roseringed parakeet (*Psittaculakrameri*) : evidence for significant structural changes and disruption in the spermatogenetic activity. **Endocr Res.** 25(1):35-49. (1999)

#### **NUCLEOTIDE database entry**

1. Discovering novel hemoglobin variant “**Hb Medinapore**” at Exon -2 of Human Beta Globin gene, accepted in **HbVar Database** (HbVar ID 2981)
2. Discovering uncommon mutation **IVS I-129 (A>C)** for Thalassemia Major accepted in **HbVar Database** (HbVar ID 2946)
3. Discovering silent mutation beta -176(C>T) for HBB gene accepted in **HbVar Database** (HbVar ID 2962).

#### **EDITORIAL BOARD MEMBER**

- ✓ Scientific Report [*Nature Publishing*]

#### **REVIEWER OF THE JOURNALS**

- Oncotarget [Impact Publishing]
- Tumor Biology [Springer: *Impact Factor*]
- BMC Cancer [Bio Med Central,]
- Clinical and Translational Oncology [Springer]
- Mitochondrial DNA [Taylor and Francis]
- Talanta [Elsevier]
- Journal of Immunoassay and Immunochemistry.

#### **BOOK PUBLISHED**

Roy S and Basu A. (2002) Emergency Contraception and use of regular Contraceptives: A guide for medical Officers (NIHFW Publication:)

#### **MEMBERSHIP OF THE SCIENTIFIC BODIES**

Elected executive member of the Indian Society of Cell Biology (2017-2019)  
Life Member Indian Science Congress Association  
Life Member The Society for Biotechnologists (India)  
Life Member of The Indian Society of Cell Biology  
Life Member of Society of Biological Chemists, India  
Life Member of Society of Reproductive Biology and Comparative Endocrinology

#### **B. PhD Thesis Supervision**

##### **Awarded: 04**

**Arnab Ghosh (2015)** "Studies on the expression of secreted and membrane bound molecules in cervical neoplastic tissues" [perusing post doctoral research at **Kansas University, USA**]  
**Anuradha Moirangthem (2016)** Inhibition of proteases for controlling proliferation and invasion of cancer" [perusing post doctoral research at **Mayo Clinic, USA**]  
**Amrita Panja** " Genetic variability of Thalassemia in the population of West Bengal" [awarded 2016]  
**Banashree Bondhopadhyay-** " **Effect of Toll-like Receptor-3 in Breast Cancer**" [awarded

2017]

**PhD (In Progress) :05**

**Aradhana Singh** : Role of the Nucleic acid sensing Toll-Like receptor in Cancer Progression

**Dipankar Saha** : Study on the variation of the interacting genes among the transfusion dependent and non-transfusion dependent Thalassemia subjects

**Barnali Dolui** : Effect on the combined blocking and modulation of Immune receptors signaling on the tumor growth and metastasis

**Banani Mazumdar**: Understanding the immune receptor signalling cross talk in tumor microenvironment

**MD Supervise as Co - guide : 05**

**RESEARCH /TEACHING ASSIGNMENTS**

Year	Organization	Position
September 2017 – present	Department of Zoology. The University of Burdwan	Professor
March ‘2013 – February’ 2015	Department of Zoology. The University of Burdwan	Head of the Department
2010- September 2017	Department of Zoology. The University of Burdwan	Associate professor
2007- 2010	Department of Zoology. The University of Burdwan	Reader
2006 - 2007	Department of Cell Biology and Physiology. University of New Mexico, USA	Post. Doc. Fellow
1997 – 2006	National Institute of Health and Family Welfare, New Delhi	Research Assistant, PhD Fellow