

## ARUNACHAL CHATTERJEE; M.Sc., Ph.D.

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**Current Position:** Assistant Professor (2017 - Present)  
**Department:** Zoology  
**Affiliation:** A. J. C. Bose College (Under University of Calcutta)

### Academic Qualification / Training:

- M.Sc. in Zoology
- Ph.D. in Zoology (Area: Molecular Cardiology)

**Doctoral Research On:** Study of myocyte apoptosis and regeneration in a murine model *in vivo* and *in vitro*, during transition of hypertrophy to heart failure.

Supervisor: Dr. Sagartirtha Sarkar, Associate Professor, Department of Zoology, University of Calcutta, Kolkata, India.

### Post-Doctoral Research Experience:

1. Research Topic: Role of onco-proteins in shifting of balance between Apoptosis and Cancer by using synthetic inhibitors.

Supervisor: Prof. Siddhartha Roy, Structural Biology & Bio-Informatics Division, IICB (CSIR), Kolkata, India.

2. Research Topic: Role of angiotensin receptor type-1 and MAS in regulation of connective tissue growth factor during cardiac dysfunction.

Supervisor: Dr. Sadashiva Karnik, Department of Molecular Cardiology, Cleveland Clinic Lerner Research Institute, Cleveland, Ohio, USA.

3. Research Topic: Role of  $\beta$ 2-adrenergic receptor during cardiac diseases.

Supervisor: Dr. Sathyamangla Naga Prasad, Department of Molecular Cardiology, Cleveland Clinic Lerner Research Institute, Cleveland, Ohio, USA.

4. Research Topic: Role of Vitamin B12 deficiency in cardiovascular diseases. And Proteomics study on rheumatic heart disease (RHD).

Supervisor: Dr. Shantanu Sengupta, Genomics and Molecular Medicine Unit, CSIR-Institute of Genomics & Integrative Biology, Delhi, India.

### Awards and Honor:

2004 National Eligibility Test for Research Fellowship (Joint CSIR-UGC).

2005 Graduate Aptitude Test in Engineering (GATE) Qualified.

2005 - 2007 Junior Research Fellowship (University Grants Commission), India.

2007 - 2010 Senior Research Fellowship (University Grants Commission), India.

2012 - 2012 Research Associateship from Department of Biotechnology, Govt. of India.

2015 GRA Winter 2015 Postdoctoral Fellowship from American Heart Association (Award Number: 15POST24870008)

### **Positions and Employment:**

- 2005 – 2007      *Junior Research Fellow* (University Grants Commission) in the Department of Zoology, University of Calcutta, Kolkata, India.
- 2007 – 2010      *Senior Research Fellow* (University Grants Commission) in the Department of Zoology, University of Calcutta, Kolkata, India.
- 2010 – 2011      *Guest Lecturer*, Dept. of Zoology, Bankim Sardar College, WB, India.
- 2011 – 2012      *Guest Lecturer*, Dept. of Zoology, Vidyasagar College, WB, India.
- 2012              *Research Associate*, Structural Biology and Bioinformatics Division, Indian Institute of Chemical Biology (CSIR), Kolkata, India.
- 2012 – 2015      *Post-doctoral Research Fellow*, Department of Molecular Cardiology, Cleveland Clinic Lerner Research Institute, Cleveland, Ohio, USA.
- 2015 – 2017      *Research Associate*, Genomics and Molecular Medicine, CSIR-Institute of Genomics & Integrative Biology, New Delhi, India.

### **Publications:**

1. Schugar, R.C., Shih, D.M., Warriar, M., Helsley, R.N., Burrows, A., Ferguson, D., Brown, A.L., Gromovsky, A.D., Heine, M., **Chatterjee, A.**, Li, L., Li, X.S., Wang, Z., Willard, B., Meng, Y., Kim, H., Che, N., Pan, C., Lee, R.G., Crooke, R.M., Graham, M.J., Morton, R.E., Langefeld, C.D., Das, S.K., Rudel, L.L., Zein, N., McCullough, A.J., Dasarathy, S., Tang, W.H.W., Erokwu, B.O., Flask, C.A., Laakso, M., Civelek, M., Naga Prasad, S.V., Heeren, J., Lusic, A.J., Hazen, S.L., Brown, J.M. (2017). The TMAO-Producing Enzyme Flavin-Containing Monooxygenase 3 Regulates Obesity and the Beiging of White Adipose Tissue. *Cell Reports*. 19(12):2451-2461. doi: 10.1016/j.celrep.2017.05.077. PMID: 28636934.
2. Tirupula, K.C., Zhang, D., Osbourne, A., **Chatterjee, A.**, Desnoyer, R., Willard, B., Karnik, S.S. (2015). MAS C-terminal tail interacting proteins identified by mass spectrometry - based proteomic approach. *PLoS One*. 10(10):e0140872. doi: 10.1371.
3. Mir, S.A., **Chatterjee, A.**, Mitra, A., Pathak, K., Mahata, S.K., Sarkar, S. (2012). Inhibition of signal transducer and activator of transcription 3 (STAT3) attenuates interleukin-6 (IL-6)-induced collagen synthesis and resultant hypertrophy in rat heart. *Journal of Biological Chemistry*. 287(4): 2666-2677.
4. **Chatterjee, A.**, Mir, S.A., Dutta, D., Mitra, A., Pathak, K., Sarkar, S. (2011). Analysis of p53 and NF-κB signaling in modulating the cardiomyocyte fate during hypertrophy. *Journal of Cellular Physiology*. 226 (10): 2543-2554.
5. Dutta, D., Bagchi, P., **Chatterjee, A.**, Nayak, M.K., Mukherjee, A., Chattopadhyay, S., Nagashima, S., Kobayashi, N., Komoto, S., Taniguchi, K. and Chawla-Sarkar, M. (2009). The molecular chaperone heat shock protein-90 positively regulates rotavirus infection. *Virology*. 391: 325-333.
6. Karmakar, D., Khan, P.P., Mir, S.A., **Chatterjee, A.**, Pathak, K., Sarkar, S. and Duttagupta, A.K. (2008). Esterase polymorphism analysis in response to heavy metal stress in fish *Cirrhinus mrigala* (Hamilton) in and around Kolkata metropolis. *Zoological Research in Human Welfare (Zoological Survey of India)*. 41:383-391.

### Abstract Publications:

1. **Arunachal Chatterjee**, Swati Varshney, Subhoshree Ghose, Sanjana Pillai, Sandeep Seth, Shantanu Sengupta. (2015). Identification of novel markers of Dilated, Hypertrophic and Restrictive cardiomyopathy using Plasma Proteomics approach. *Journal of Proteins and Proteomics* (ISSN: 0975-8151). 6(4):JPP45.
2. Swati Varshney, **Arunachal Chatterjee**, Ajay Bhat, Usha Sree R, Lovejeet Kaur, Vislavath Jyothi, Pujitha Kommineni, Rakesh Mishra, GR Chandak, M Raghunath, Shantanu Sengupta. (2016). Effect of vitamin B<sub>12</sub> restriction on Wistar rats: A Global proteomic profiling. (ISSN: 0975-8151). 7(4):JPP70-71.
3. Trayambak Basak, Arkadeep Mitra, Swati Varshney, Ritwik Datta, **Arunachal Chatterjee**, Sagartirtha Sarkar, Shantanu Sengupta. (2016). Identification of proteins associated with myocardial infarction in different age group. *Journal of Proteins and Proteomics* (ISSN: 0975-8151). 7(4):JPP78-79.

### Seminars and Workshops:

- **Participated** in the ICT Training workshop organized by Internal Quality Assurance Cell (IQAC), Women's Christian College, Kalighat, Kolkata 700026, India; March 28, 2017.
- **Participated** in the State Level Seminar on "Recent Development in Zoological Sciences (RDZS-2017)", organized by Dept. of Zoology & Internal Quality Assurance Cell, Barrackpore Rastraguru Surendranath College, Barrackpore, Kolkata, India; February 27, 2017.
- **Poster presentation** in the 8<sup>th</sup> Annual Meeting of Proteomics Society, India and 3<sup>rd</sup> meeting of Asia Oceania Agricultural Proteomics Organization; International Conference on "Functional & Interaction Proteomics: Application in Food & Health" at The Grand hotel, New Delhi, India; December 14-17, 2016.  
**Title: 'Identification of proteins associated with myocardial infarction in different age group'**
- **Poster presentation** in the 7<sup>th</sup> Annual Meeting of Proteomics Society of India and a themed conference on "BioChromatography, Molecular Recognition and Proteomics" at VIT University, Vellore, India; December 3-6, 2015.  
**Title: 'Identification of novel markers of Dilated, Hypertrophic and Restrictive cardiomyopathy using Plasma Proteomics approach'**
- **Participated** in the "Proteomics Symposium: 2015", organized by All India Institute of Medical Science, New Delhi, India; October 16, 2015.
- **Participated** in the "Cardiovascular Research Convergence and Heart Failure Certification Program" organized by All India Institute of Medical Science, New Delhi, India at Convention center, JNU, New Delhi, India; October 3, 2015.
- **Participated** in the 30<sup>th</sup> Annual Irvine H. Page Lecture, organized by Dept. of Cellular and Molecular Medicine, Lerner Research Institute, Cleveland Clinic, Cleveland, USA; October 9, 2014.  
**Keynote Speaker: Joseph L. Goldstein, M.D. (Noble Laureate 1985, Physiology or Medicine)**, The University of Texas, Southwestern Medical Center, Dallas, on "A Century of Cholesterol Research: From Plaques to Genes to Statins".
- **Participated** in the 14<sup>th</sup> Annual G Protein-Coupled Receptor (GPCR) Retreat, organized by Case Western Reserve University, Cleveland, USA; October 17 - 19, 2013.  
**Keynote Speaker: Brian K. Kobilka, M.D. (Noble Laureate 2012, Chemistry)**, Stanford University.
- **Participated** in the 29<sup>th</sup> Annual Irvine H. Page Lecture, organized by Dept. of Molecular Cardiology, Lerner Research Institute, Cleveland Clinic, Cleveland, USA; October 16, 2013.  
**Keynote Speaker: Brian K. Kobilka, M.D. (Noble Laureate 2012, Chemistry)**, Stanford University, on "Structural Insights into the Dynamic Process of G Protein-coupled Receptor Activation".
- **Participated** in the Cleveland Clinic Annual Research Day Seminar organized by Lerner Research Institute, Cleveland Clinic, Cleveland, USA; October 10, 2013.  
**Keynote Speaker: Bruce Alan Beutler, M.D. (Noble Laureate 2011, Physiology or Medicine)**, University of Texas Southwestern Medical Center, on "Forward Genetic Analysis of Immunity".

- **Poster presentation** in the National Seminar on “Natural and anthropogenic hazards of environment – Their impact on biodiversity and conservation, and biotechnological approach for its remedies”, organized by the Department of Zoology, Vidyasagar College and Zoological Survey of India, Kolkata, India; December 9-10, 2011.  
**Title: ‘Avifauna diversity of a terrestrial (Chintamani Kar Bird Sanctuary) and an aquatic (Santragachi Jheel) habitat and imposed threat on them – a preliminary field study’**
- **Oral presentation** in “Sudev Bhusan Ghosh Young Scientist Award (2009-2010)”, organized by The Zoological Society, Kolkata, India, in the Department of Zoology, University of Calcutta, Kolkata, India; December 11, 2010.  
**Title: ‘Analysis of p53 and NF-κB signaling in modulating the cardiomyocyte fate during hypertrophy’**
- **Acted as a resource person** in the ensuing **workshop** on “Introduction to fluorescence microscopy”, organized by University Science Instrumentation Centre, University of Burdwan, India; September 09-10, 2010.
- **Poster presentation** in the 2<sup>nd</sup> World Heart Failure Society Meeting, at the Postgraduate Institute of Medical and Research, Chandigarh ; February 5-7, 2010.  
**Title: ‘Balance between apoptosis and cell cycle decides the cell fate during cardiac hypertrophy’**
- **Poster presentation** in the 33<sup>rd</sup> All India Cell Biology Conference and International Workshop on Cell Cycle regulation, University of Hyderabad, Hyderabad, India December 10-13, 2009.  
**Title: ‘Balance between apoptosis and cell cycle decides the cell fate in hypertrophic cardiomyocytes’**
- **Participated** in the Seminar on “Perspectives in Evolutionary Biology” organized by the Department of Zoology, University of Calcutta, Kolkata, India; February 27, 2009.
- **Participated** in the National Seminar on “Faunal diversity: status, utilization and impact on human health”, organized by the Department of Zoology, University of Calcutta, Kolkata, India; February 16, 2008.
- **Participated** in the National Seminar on “Dimensions in Zoological Research in Human Welfare”, organized by the Department of Zoology, University of Calcutta and The Zoological Society, Kolkata, India; March 23-25, 2007.
- **Poster presentation** in the 30<sup>th</sup> All India Cell Biology Conference and Symposium on “Molecules to compartments: cross-talks and networks”, organized by the Indian Society of Cell Biology, New Delhi, India; February 2-4, 2007.  
**Title: ‘Role of p53 during myocardial injury leading to heart failure’**
- **Participated** in the seminar on “Contemporary Zoology”, organized by the Department of Zoology, University of Calcutta; July 21<sup>st</sup>, 2006.
- **Acted as a resource person** in the workshop on “Training Course in Drosophila genetics: a new way to look teaching and research resources”, organized by Prof. S. P. Raychaudhuri Drosophila Stock Centre, Department of Zoology, University of Calcutta, India; March 28-30, 2006.
- **Participated** in the national seminar on “Evolutionary biology & biotechnology”, organized by The Zoological Society, Kolkata, India; February 26<sup>th</sup>, 2005.
- **Participated** in the national workshop on “Evolutionary approach in the studies of ecology & behaviour”, organized by the Department of Zoology, Vivekananda College, Kolkata and Indian Institute of Science, Bangalore, India; February 23-25, 2005.
- **Participated** in the symposium on “Pollution in natural waters & methods of conservation of aquatic systems through water surveillance”, organized by The Zoological Society Kolkata and Department of Zoology, University of Calcutta with Ministry of Environment and Forests, Government of India; March 31<sup>st</sup>, 2004.
- **Poster presentation** in national symposium on “Zoology – a neorealistic approach” organized by the Department of Zoology, University of Calcutta, Kolkata, India; March 26-27, 2004.  
**Title: “Comparative assessment of development and hatching efficiency of brine shrimp in natural and artificial seawater”.**
- **Participated** in the training programme on “Wastewater-fed aquaculture”, organized by Wastewater Aquaculture Division, CIFA, West Bengal, India; November 11-17, 2003.