**FACULTY NAME: Dr. ARUNIMA BISWAS**

**QUALIFICATION: Ph.D**

**RESEARCH AREA:**

1. Understanding the cAMP signalling mechanism in protozoon parasite *Leishmania* and how it affects the infectivity of the parasite.
2. To unravel the molecular mechanisms behind cAMP-dependent cell cycle arrest in *Leishmania***(DST-INSPIRE PROJECT)**.
3. Study the leishmanialphosphodiesterases (PDE), their roles in parasite as well as in host parasite milieu and PDE inhibitors to find a drug target for leishmaniasis, a neglected tropical disease.

**FIELD OF INTEREST:** Cell Biology and Bio-Chemistry. Host-parasite interactions.

**SPONSORED PROJECT: DST-INSPIRE Project (IFA-12-LSBM-22) Comprehensive Cell cycle regulation in context of cAMP signaling in eukaryotic pathogens like *Leishmania*.**

**December 2012- Till Date**

**Amount: INR 35,00,000**

**Contact: arunima10@gmail.com**

**PUBLICATIONS:**


1. Bhattacharya, A., **Biswas, A**. and Das, P.K. (2008) Role of intracellular cAMP in differentiation-coupled induction of resistance against oxidative damage in Leishmania donovani. Free Radical Biol. Med. 44, 779-794. **Impact Factor: 5.8**
2. Bhattacharya, A*., **Biswas, A***. and Das, P.K. (2009) Role of a differentially expressed cAMP phosphodiesterase in regulating the induction of resistance against oxidative damage in *Leishmania donovani*. *Free Radical Biol. Med*. **47**, 1494-1506. **Impact Factor: 5.8**
    a. **Both authors contributed equally.**
3. **Biswas, A.**, Bhattacharya, A. and Das, P.K. (2009) Possible mechanism of neutralizing macrophage oxidative damage by *Leishmania* parasites in perspectives in cytology and genetics. A.K. Giri (ed.), vol XIV, pp. 55-60.
4. **Biswas,A**.,Bhattacharya,A.andDas,P.K.(2011)RoleofcAMPsignalinginthesurvivalandinfectivityof theprotozoanparasite,*Leishmaniadonovani*.*Mol.Biol.Int.***2011**,ArticleID782971,9pages.**Impact Factor: 1.2**
5. O.Vassallo,S.Castelli,**A.Biswas**,S.Sengupta,P.K.Das,I.D'Annessa,F.Oteri,A.Leoni,P.Tagliatesta, H.K.MajumderandA.Desideri.(2011)ConjugatedEicosapentaenoicAcid(cEPA)Inhibits*L.donovani*

TopoisomeraseIandhasanAntiproliferativeActivityAgainst*L.donovani*Promastigotes.*TheOpenAntimicrob.AgentsJ.***3,**23-29.

6. **Biswas,A.**,Bhattacharya,A.,Kar,S.andDas,P.K.(2011)ExpressionofIL-10-triggeredSTAT3-dependentIL-4Rαisrequiredforinductionofarginase1invisceralleishmaniasis.*Eur.J.Immunol.***41**,992-1003. **Impact Factor: 4.68**
7. Bhattacharya, A., **Biswas, A.**andDas,P.K.(2012) Identification of a protein kinase Aregulatory subunit from Leishmania having importance in metacyclogenesis through induction of autophagy.*Mol.Microbiol.*83, 548-564. ISSN: 0950-382. Impact Factor: 4.98
8. Saha, S., Dey, S.K., **Biswas, A.**, Jana, S. S. (2013) The effect of including the C2- insert of non-muscle myosin II-C on neuritogenesis. *J. Biol. Chem.*288 7817-7828 Impact Factor: 4.8
9. Vij, A[1].,**Biswas, A[1]**., Bhattacharya, A. and Das P.K. (2014) A novel cytosolic phosphodiesterase (LdPDED) in Leishmania regulates cAMP-dependent protein kinase A signaling in an unique way. *Inter. J. Bio. Chem. Cell. Biol*. 57, 197-206. Impact factor: 4.2
   [1] Both the authors contributed equally.
10. Saha, A., **Biswas, A.**, Srivastav, S., Mukherjee, M., Das P.K and Ukil A. (2014) Prostaglandin E2 negatively regulates the production of inflammatory cytokines/ chemokines and IL-17 in visceral leishmaniasis. *J. Immunol.*193(5) 2330-2339. **Impact Factor 5.5**

**PARTICIPATIONS:**

1. "**NEW BIOLOGY: MODERN PERSPECTIVE ON BIOLOGICAL SCIENCE RESEARCH**", 27th August, 2015, in collaboration with Zoology, Anthropology and Botany departments.
2. Screening of cAMP/cGMP PDE inhibitors for effective anti-leishmanial targets. **Biswas A.Networking cum discussion meet of Eastern and North-Eastern Zone of INSPIRE Faculties. Tejpur University, Assam, INDIA. March 20-21, 2015.**
3. A novel cytosolic phosphodiesterase (LdPDED) in *Leishmania* regulates cAMP-dependent protein kinase Asignaling in an unique way. **Biswas A.**, Vij A., Bhattacharya A. and Das P.K. **Gordon Research Conference: Microbial Stress Response. Mount Holyoke College MA, USA, July 27-August 1, 2014.**
4. Role of acidocalcisomalpyrophosphatase in controlling leishmanial adenylate cyclase and cAMP pool in differentiation-coupled induction of resistance in *Leishmania donovani*.**Biswas A.,**Bhattacharya A., and Das P.K. **American Society of Cell Biologists Meeting, New Orleans, Lousiana, USA, December 14-18, 2013.**
5. Comprehensive cAMPsignaling: An important event facilitating survival and infectivity of *Leishmania* inside macrophages. **Biswas A**., Bhattacharya A. and Das P.K. **CSIR-IICB Institute meet, Vedic Village, March 2013.**

6. Identification of a protein kinase A regulatory subunit from *Leishmania* having importance in metacyclogenesis through the induction of autophagy. Bhattacharya A., **Biswas A.**, and Das P.K. **Society of Biochemists (SBC-INDIA), Lucknow, 12-15 November, 2011**
7. Possible mechanism of neutralization of macrophage oxidative burst by an opportunist pathogen like *Leishmania*.**Biswas A.,** Bhattacharya A. and Das, P.K. **International Conference on Opportunist Pathogen (ICOPA), New Delhi, 27-30 September, 2010.**
8. Targeting host arginase modulation as a potential immunomodulatory therapy for visceral leishmniasis.**Biswas A.,** Bhattacharya A and Das, P.K. **Society of Biochemists, Kolkata Chapter Conference, Digha 22-24 August 2008.**
9. Role of intracellular cAMP in differentiation-coupled induction of resistance against oxidative damage in *Leishmania*.**Biswas A.**, Bhattacharya A. and Das P.K. **International Symposium on Chemical Biology, Kolkata 7-9 March, 2007.**
10. Assessment of drinking water from important sources. **Biswas, A. National Symposium on Zoology: ANeorealistic Approach, Kolkata 22-24 March, 2004.**

**MEMBERSHIP: Member,** American society of biochemistry and cell biology (ASBMB)

**Member,** American Society of Cell Biologists (ASCB)