

Dr. Aditya K. Panda

DST-INSPIRE Faculty
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Research Interest

Immunogenetics of Infectious Diseases and Autoimmune Disorders

Teaching Interest

Genetics, Immunology, Cell Biology, Genetic Engineering, Autoimmune Disorders, Infectious Disease Biology, and Biostatistics.

Education

- Ph.D. Biotechnology, Institute of Life Sciences, Bhubaneswar, India 2014.
- Master of Science, Botany, Ravenshaw College, Cuttack, India, 2003.
- Bachelor of Science, Botany, Sambalpur University, Burla, Odisha, India, 2000.

Professional Awards and Fellowships received

- Awarded Junior Research Fellowship (JRF) June-2004 conducted by CSIR-UGC.
- Short-listed for Shyama Prasad Mukharjee Fellowship Test-2005
- Awarded DST Inspire Faculty Fellowship-2012

Professional Experience

- DST-INSPIRE Faculty. Center for Life Sciences, Central University of Jharkhand, Ranchi, India. April 2014- till date
- Senior Research Fellow 2011-2014, Indo-German Project, Institute of Life Sciences, Bhubaneswar, India.
- Institutional Senior Research Fellow 2010-11, Institute of Life Sciences, Bhubaneswar, India
- Senior Research Fellow 2007-10, Council of Scientific and Industrial Research (CSIR), Institute of Life Sciences, Bhubaneswar, India
- Junior Research Fellow 2005-07, Council of Scientific and Industrial Research (CSIR), Regional Medical Research Centre, Bhubaneswar, India.

International conferences attended

1. Attended and Presented a poster entitled “Human lymphatic filariasis: Genetic Polymorphism of Endothelin-1 and TNF receptor II correlate with development of chronic disease” at Amsterdam RAI, Netherland, 28-31 May 2011 organized by European Human Genetics Associations.
2. Attended and Presented a poster entitled “Association of ABO blood group with severe falciparum malaria in adults: case control study and meta-analysis” at Basel, Switzerland, 10-12 Oct 2012 on Challenges in Malaria Research organized by BioMed Central.

Reviewer of International Journals

1. PLoS One
2. Infection Genetics and Evolution
3. Human Immunology
4. Annals of Saudi Medicine

Professional Training and Research Experience

I undertook my PhD training at Regional Medical Research centre, Bhubaneswar (2005-2008) and Institute of Life Sciences, Bhubaneswar (2009-2012). The topic of the degree was “Polymorphisms of human genes in Filariasis and Malaria”. In first phase of

PhD (2005-2008), I deciphered probable role of human gene (TLR4, TLR2, CD14, MBL, TNFR2, ET-1) polymorphisms in filariasis. TLR2 (23bp ins/del) mutants are associated with susceptibility to chronic filariasis, on the other hand TLR4 (Thr399Ile) variants protect filarial endemic subjects from chronic pathologies. Further, combined TNFR2 (M196R) and Endothelin-1 (Ala288Ser) polymorphism are significantly associated with development of one or other form of chronic manifestation. In second phase of my PhD (2009-2012), I focused on genetic association of TLR4, TLR2 and CD14 in *P. falciparum* malaria. TLR4 (Ala299Gln and Thr399Ile) and TLR2 (23bp ins/del) variants are associated with severe malaria. In addition functional relevance of TLR2 (23bp ins/del) polymorphism was investigated and the study reveal higher surface TLR2 expression and vigorous immune response in mutants (ins/del and del/del) individuals compared to wild type (ins/ins). The TLR2 (23bp del/del) genotype are associated with predisposition to multi organ dysfunction and malarial mortality. Further, ins/ins genotype is restricted only to higher primates suggesting an evolutionary significance of TLR2 (23bp ins/del) polymorphism in the context of *P. falciparum* malaria.

Beside my PhD work, I was associated in several research activities on systemic lupus erythematosus (SLE) with Prof. Bidyut K Das, S.C.B. Medical College Cuttack, Odisha. We demonstrated plasma MBL and sCD14 as promising biomarkers for SLE disease activity. Further, role of low MBL producing genotypes with susceptibility to SLE and autoimmune hemolytic anemia has been reported by our group.

I have expertise on several softwares those mostly used in immunogenetics: G*3.1 power (for calculation of samples size); GraphPad Prism 5.01 (routine statistics); Primer 3 (primer design); ClustalW (alignment of DNA sequence); Finch TV (sequence analysis); SNPalyze, Dynacom Japan (analysis of human genetic data); Comprehensive Meta-analysis (meta-analysis) etc.

Publications List (2011-2014)

2014

1. **Panda, A.K.**, Das, B.K., 2014. Absence of filarial infection in patients of systemic lupus erythematosus (SLE) in filarial endemic area: a possible protective role. *Lupus*. (Accepted) (JIF: 2.78)
2. Tripathy, R.*, **Panda, A.K.**,* Das, B.K., 2014. Serum ferritin level correlates with SLEDAI scores and renal involvement in SLE. *Lupus*. (Accepted) (JIF: 2.78)
3. Mandal M, Tripathy R, **Panda AK**, Pattanaik SS, Dakua S, Pradhan AK, Chakraborty S, Ravindran B, Das BK., 2014 Vitamin D levels in Indian systemic lupus erythematosus patients: association with disease activity index and interferon alpha. *Arthritis Res Ther*. Feb 10;16(1):R49 (JIF: 4.45)
4. Mandal RK, Yadav SS, **Panda AK**. 2014 Meta-analysis on the association of nucleotide excision repair gene XPD A751C variant and cancer susceptibility among Indian population. *Mol Biol Rep*. Feb;41(2):713-9 (JIF: 2.50)
5. Areeshi MY, Mandal RK, **Panda AK**, Haque S. 2014. Vitamin D Receptor ApaI Gene Polymorphism and Tuberculosis Susceptibility: A Meta-Analysis. *Genet Test Mol Biomarkers*. (JIF: 1.16)
6. Mandal RK, Dubey S, **Panda AK**, Mittal RD. 2014. Genetic variants of NQO1 gene increase bladder cancer risk in Indian population and meta-analysis. *Tumour Biol*. Mar 28 [Epub ahead of print] (JIF: 2.5)
7. Alqumber MA, Akhter N, Haque S, **Panda AK**, Mandal RK. 2014. Evaluating the association between p53 codon 72 Arg>Pro polymorphism and risk of ovary cancer: A meta-analysis. *PLoS One*. Apr 18;9(4):e94874 (JIF: 4.09)
8. Mandal RK, Yadav SS, **Panda AK**. 2014. No evidence of correlation between p53 codon 72 G > C gene polymorphism and cancer risk in Indian population: a meta-analysis. *Tumour Biol*. 2014 May 28. [Epub ahead of print] (JIF: 2.5)

2013

9. **Panda, A.K.**, Parida, J.R., Tripathy, R., Pattanaik, S.S., Ravindran, B., Das, B.K., 2013. Low producer MBL genotypes are associated with susceptibility to systemic lupus erythematosus in Odisha, India. *Hum Immunol.* 74(1): 114-9 (**JIF: 2.73**)
10. **Panda, A.K.**, Ravindran, B., Das, B.K., 2013. Rheumatoid arthritis patients are free of filarial infection in an area where filariasis is endemic: comment on the article by Pineda et al. *Arthritis Rheum.* 65(5): 1402-3 (**JIF: 7.8**)
11. **Panda, A.K.**, Pattanaik, S.S., Tripathy, R., Das, B.K., 2013. TLR-9 promoter polymorphisms (T-1237C and T-1486C) are not associated with systemic lupus erythematosus: A case control study and meta-analysis. *Human Immunology.* 74(12):1672-8. (**JIF: 2.73**)
12. Chaudhary, S.* , **Panda, A.K.*** , Mishra, D.R., Mishra, S.K., 2013. Association of +331G/A PgR polymorphism with susceptibility to female reproductive cancer: Evidence from a meta-analysis. *PLoS One.* 8 (1): e53308 (**JIF: 4.09**)
13. Mandal, R.K., Yadav, S.S., **Panda, A.K.**, Khattri, S. 2013. Vascular Endothelial Growth Factor 936 C>T Polymorphism Increased Oral Cancer Risk: Evidence from a Meta-Analysis. *Genet Test Mol Biomarkers.* (**JIF: 1.16**)
14. Areeshi, M.Y., Mandal, R.K., **Panda, A.K.**, Bisht, S.C., Haque, S. 2013. CD14 - 159 C>T Gene Polymorphism with Increased Risk of Tuberculosis: Evidence from a Meta-Analysis. *PLoS One.* 8(5):e64747 (**JIF: 4.09**)
15. Nayak, K., Kuila, N., Mohapatra, A., **Panda, A.K.**, Chakraborty, S. 2013. EVI1 targets Δ Np63 and upregulates the cyclin dependent kinase inhibitor p21 independent of p53 to delay cell cycle progression and cell proliferation in colon cancer cells. *The International Journal of Biochemistry & Cell Biology* 45(8): 1568-76 (**JIF: 4.63**).
16. Areeshi, M.Y., Mandal, R.K., **Panda, A.K.**, Haque, S. 2013. Association of P2X7 A1513C (rs3751143) gene polymorphism with risk of Tuberculosis: Evidence from a meta-analysis. *Genet Test Mol Biomarkers.* 17(9):662-8 (**JIF: 1.16**).

17. Areeshi, M.Y., Mandal, R.K., **Panda, A.K.**, Haque, S. 2013. A meta-analysis of the association between the CC chemokine ligand 5 (CCL5) -403 G>A gene polymorphism and tuberculosis susceptibility. *PLoS One*. Aug 28;8(8):e72139. doi: 10.1371/journal.pone.0072139 (JIF: 4.09)
18. Areeshi, M.Y., Haque, S., **Panda, A.K.**, Mandal, R.K., 2013. A Serotonin Transporter Gene (SLC6A4) Polymorphism Is Associated with Reduced Risk of Irritable Bowel Syndrome in American and Asian Population: A Meta-Analysis. *PLoS One*. Sep 19;8(9):e75567. doi: 10.1371/journal.pone.0075567. (JIF: 4.09)
19. Mandal, R.K., Yadav, S.S., **Panda, A.K.**, Khattri, S. 2013 Insertion/deletion polymorphism of the ACE gene Increased risk of Behcet disease: Evidence from a Meta-analysis. *Annals of Saudi Medicine* (JIF: 1.2)
20. Alqumber MA, Mandal RK, Haque S, **Panda AK**, Akhter N, Ali A. 2013. A genetic association study of CCL5 -28 C>G (rs2280788) polymorphism with risk of tuberculosis: a meta-analysis. *PLoS One*. Dec 23;8(12):e83422 (JIF: 4.09)

2012

21. **Panda, A.K.**, Parida, J.R., Tripathy, R., Pattanaik, S.S., Ravindran, B., Das, B.K., 2012. Mannose binding lectin: a biomarker of systemic lupus erythematosus disease activity. *Arthritis Res Ther*. 14, R218. (JIF: 4.45)
22. **Panda, A.K.**, Panda, M., Tripathy, R., Pattanaik, S.S., Ravindran, B., Das, B.K., 2012. Complement receptor 1 variants confer protection from severe malaria in odisha, India. *PLoS One*. 7 (11): e49420. (JIF: 4.09)
23. Pattanaik, S.S., Tripathy, R., **Panda, A.K.**, Sahu, A.N., Das, B.K., 2012. Bacteraemia in adult patients presenting with malaria in India. *Acta Trop*. 123, 136-138. (JIF: 2.72)

2011

24. **Panda, A.K.**, Sahoo, P.K., Kerketta, A.S., Kar, S.K., Ravindran, B., Satapathy, A.K., 2011. Human lymphatic filariasis: genetic polymorphism of endothelin-1 and tumor necrosis factor receptor II correlates with development of chronic disease. *J Infect Dis* 204, 315-322. (JIF: 6.41)

25. **Panda, A.K.**, Panda, S.K., Sahu, A.N., Tripathy, R., Ravindran, B., Das, B.K., 2011. Association of ABO blood group with severe falciparum malaria in adults: case control study and meta-analysis. *Malar J.* 10, 309. (JIF: 3.19)

*Contributed equally

Sectioned Projects:

- 1. Role of Toll-like receptors and identification of novel disease activity markers in systemic lupus erythematosus.**

Funding Agency: DST

Amount: 35 lakh

Duration: 5 years

Projects under Communication:

- 1. Role of vitamin D3 in autoimmune disorders.**
- 2. Possible link between infectious diseases and autoimmune diseases.**

Collaborators

- 1. Prof. Bidyut K Das**

Department of Medicine
S.C.B. Medical College
Cuttack, Odisha, India

- 2. Dr. Raju K Mandal**

Department of Urology, Sanjay Gandhi Post
Graduate Institute of Medical Sciences,
Lucknow, Uttar Pradesh, India

- 3. Dr. Shafiul Haque**

Department of Biosciences
Jamia Millia Islamia (A Central University)
New Delhi, India

- 4. Dr. Rina Tripathy**

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S.C.B. Medical College
Cuttack, Odisha, India