Dr. Biswanath Patra

B.V.Sc. & A.H. (Kolkata), M.V.Sc. (GBPUA&T, Pantnagar); Ph.D. (IVRI)

Postdoctoral Fellow, USA (2005 to 2016) 

Current job:
Professor and HOD in Animal Genetics & Breeding
MB Veterinary College, Dungarpur, Rajasthan.
B.V.Sc. & A.H. (Kolkata), M.V.Sc. (GBPUA&T); Ph.D. (IVRI)
Postdoctoral Fellow, USA (2005 to 2016)
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Past Job:
Associate Professor and HOD in Animal Genetics & Breeding
RPS College of Veterinary Sciences, Balana
B.V.Sc. & A.H. (Kolkata), M.V.Sc. (GBPUA&T); Ph.D. (IVRI)
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Academic and professional qualifications:

INTITUTION AND LOCATION	DEGREE	Year	FIELD OF STUDY	CLASS/ GRADE	Percentage
West Bengal Board of Secondary Education	CLASS X	1992	Math, Life sc, Physics, Physical Sc., Eng, Bengali,	FIRST*	75.22 %
West Bengal Council of Higher Secondary Education	CLASS XII	1994	History, Geography Math, Physics, Eng, Beng, Chemistry, Biology	FIRST*	75.60 %
West Bengal University of Animal & Fishery Sciences, Kolkata, India	B.V.Sc. & A.H.	1999	Veterinary and basic Sciences	FIRST CLASS	69.46 %
Govind Ballabh Pant University Of Agriculture and Technology, Pantnagar, India	M.V.Sc. (Genetics &Animal Breeding)	2001	Genetics & Animal Breeding	FIRST CLASS	7.985/10
Indian Veterinary Research Institute, Bareilly, India	Ph.D. (Major Animal Breeding, Minor Animal Biotechnology and Biostatistics)	2005	Genetics & Animal Breeding	FIRST CLASS	8.317/10

Qualified National Eligibility Test (NET), ICAR on 2001.

EXPERIENCES/EMPLOYMENT DETALS:

Designation	Major discipline of work experience	Nature of work	Organization	Institute	Place of posting	Period		Total Duration
						From (DD/MM/ YYYY)	To (DD/MM/ YYYY)	Y.M.D.
Research Fellow	Genetics	Association studies on malaria resistance gene	NII(National Institute of Immunology, New Delhi)	NII	New Delhi	01.06.2005	31.07.2005	0.2.0
Postdoctoral Research Fellow	Genetics	QTL genome mapping for alcohol addiction in FH/Wjd and ACI/N rat model, SNP analysis in Parkinson disease.	Neurogenetics Laboratory and Department of Physiology and Biophysics, UAMS,	University of Arkansas Medical Sciences, AR, USA.	Little Rock, Arkansas, USA	01/09/2005	31/08/2007	2.0.0

			USA.					
Postdoctoral Research Fellow	Oncogenomics	Molecular mechanism of action of Beta-Lapachone, an anticancer drug, Human Polymerized Hemoglobin Mitigates Transfusion-Mediated Pancreas Cancer Progression.	Simmons Comprehensive Cancer Center, UTSW Medical Center at Dallas, USA.	University of Texas-Southwestern Medical Center at Dallas, TX, USA	Dallas, TX, USA	01/09/2007	28/02/2009	1.6.0
Postdoctoral Research Fellow	Genomics &Bioinformatics	Studies on genome wide transcriptional regulatory and cell signaling network during early onset of liver regeneration.	Daniel Baugh Institute for Functional Genomics and Computational Biology, TJU, USA.	Thomas Jefferson University, Philadelphia	Philadelphia Pennsylvania, USA	01/03/2009	17/10/2014	5.6.17
Postdoctoral Research Fellow	Regenerative Medicine	Studies on genome wide transcriptional regulatory and cell signaling network in vivo and in vitro in skeletal regeneration	Department of Regenerative Medicine, LLUMC, CA, USA.	Loma Linda University, Loma Linda,	California.	01/11/2014	31/12/2015	1.2.0
Postdoctoral Research Fellow	Oncogeno-mics & Bioinformatics	Molecular profiling of Leukemia and Breast Cancer patients and validation.	Department of Pathology, Augusta University USA.	Augusta University	Georgia, USA	01/01/2016	30/04/2016	0.4.0
Research Associate and Young Professional-II	Metagenomics and Bioinformatics	Bioinformatics analysis and paper writing	Biotechnology lab, ICAR-CIFRI, Barrackpore, WB	ICAR-CIFRI, Barrackpore, WB	Barrackpore, Kolkata, WB	01/10/2016	31/12/2018	2.3.0
Associate Professor and Head in AGB	Animal &Genetics Breeding	Teaching	RPS College of Veterinary Sciences, Balana	Balana, Mahendragarh, Haryana	Balana	May 2023	October 2023	0.6.0
Professor and Head in AGB	Animal &Genetics Breeding	Teaching	MB Veterinary College, Dungarpur	Dungarpur, Rajasthan	Dungarpur	October 2023	continuing	1.11.0

CAREER PROFILE

- **Geneticist (Ph.D.), Genomics and Molecular Biologist** with **more than tweleve years** of post-doctoral research experience.
- Excellent skill set in various Genetics, Genomics and System Biology, Cancer Biology, Molecular Biology, and cell culture techniques.
- Green card applicant, EB2/NIW status approved.

RESEARCH EXPERIENCE

RESEARCH ASSOCIATE, ICAR-CENTRAL INLAND FISHERY RESEARCH INSTITUTE (CIFRI), BARRACKPORE, KOLKATA, WEST BENGAL. 2016-CONTINUING

Project: Metagenomics approaches and transcriptome profiling for Inland Aquatic Health monitoring.
Two research articles published on Frontiers in Microbiology and PlosOne, 2020.

POSTDOCTORAL FELLOW, DEPARTMENT OF PATHOLOGY, AUGUSTA UNIVERSITY, GA,
RESEARCH: **2016**
Molecular profiling of Leukemia and Breast Cancer patients and validation.

POSTDOCTORAL RESEARCH FELLOW, DEPARTMENT OF REGNERATIVE MEDICINE, LLUMC
LOMA LINDA UNIVERSITY, LOMA LINDA, CALIFORNIA.
2014- 2015

RESEARCH: (One research articles submitted in *Endocrinology*)

- Studies on genome wide transcriptional regulatory and cell signaling network *in vivo and in vitro* in skeletal regeneration
- Cell and Molecular study of skeletal Augmentation and Repair
- Molecular biology and RNA sequencing studies on bone regeneration in mice model (Bioinformatics training completed).
- Development of an Aotologous Macrophase-based adoptive gene transfer strategy to treat posttraumatic Osteoarthritis (PTOA) and Osteoarthritis (OA)

RESEARCH FELLOW, Daniel Baugh Institute for Functional Genomics and Computational Biology
THOMAS JEFFERSON UNIVERSITY, PHILADELPHIA **2009-2014**
RESEARCH:

- Studies on genome wide transcriptional regulatory and cell signaling network *in vivo*
  - Effect of chronic alcohol intake on NF-κB, C/EBPα, C/EBPβ and STAT3 genome-wide promoter binding dynamics during early onset of liver regeneration.
  - EGR-1 transcriptional regulatory dynamics during early onset of liver regeneration and chronic alcohol intake.
- Studies on epigenetic changes during chronic alcohol intake - Histone H3 acetylation and methylation in liver.
- Studies done on Hepatic Stellate Cell activation during liver regeneration and chronic alcohol toxicity.
- Lipofectamine, Polyethylenimine and PolyJet mediated *in vivo* gene delivery in liver cells.

Postdoctoral Fellow, Simmons Comprehensive Cancer Center, **2007-2009**
University of Texas-Southwestern Medical Center at Dallas, TX, USA.
RESEARCH:

- Molecular mechanism of action of Beta-Lapachone, an anticancer drug in pancreatic cancer.
- Effect of storage blood on pancreatic cancer progression.
  - Human Polymerized Hemoglobin Mitigates Transfusion-Mediated Pancreas Cancer Progression.

Postdoctoral Fellow, Neurogenetics Laboratory and Department of Physiology and Biophysics **2005-2007**
University of Arkansas Medical Sciences, AR, USA.
RESEARCH:

- QTL genome mapping for alcohol addiction in FH/Wjd and ACI/N rat model, SNP analysis in Parkinson disease.
- SNP genotyping of α-synuclein and LRRK2 gene related to Parkinson's disease.
- Experimental rat model of diabetic neuropathy.

Project Associate: National Institute in Immunology, New Delhi, India. **2005**
RESEARCH:

- Mapping malaria resistance and susceptible genes in mouse model.

Ph.D. in Veterinary Science, Major Animal Breeding, Minor Animal Biotechnology and Biostatistics **2001-2005**

Indian Veterinary Research Institute, Bareilly, India

Thesis: **"**Polymorphism of major histocompatibility complex class I (BoLA-A/BuLA-A) gene and its association with resistance to Brucellosis**".**

Ph.D. Research:

- RFLP, SSCP, cloning and sequencing was done to characterize MHC class I gene and seventeen alleles were published in Genbank (NCBI).
- Characterized immunological markers of zoonotic bacteria *Brucella* infection and its association with MHC class I gene.

Master's in Veterinary Science **1999-2001**

Govind Ballabh Pant University of Agriculture and Technology, Pantnagar, India

Major in Genetics &Animal Breeding

M.V.Sc. Research: Performance of naked neck versus normally feathered coloured broilers were measured for growth, carcass traits and blood biochemical, genetic parameters and immunological traits in tropical climate.

Bachelor's in Veterinary Science and Animal Husbandry (Doctorate in Veterinary Medicine) 1994-1999

West Bengal University of Animal & Fishery Sciences, Kolkata, India.

TECHNICAL SKILLS

Extraction of genomic DNA and plasmid DNA Polymerase Chain Reaction (PCR) Isolation of mRNA, qPCR and RT-PCR Restriction enzyme analysis (RFLP) SSCP analysis Gel extraction of PCR product Cloning of PCR product Immunological techniques like MER and MES test, STAT, LTT, ELISA, Cytotoxicity and Macrophage function test etc. Taqman SNP genotyping assays (7900 HT Fast Real time PCR machine) Automated DNA Sequencing (ABI) Statistical data analysis Real Time PCR Arrays Flow cytometry Comet assays Cell culture techniques (Pancreatic cancer cell, rat liver cell) Retro and Lenti virus mediated gene transfer Xenograft mice model of pancreatic cancer In vivo BLI imaging in pancreatic cancer Fluorescent microscopy Chromatin Immunoprecipitation (ChIP) and Transcription Factor ELISAs Promoter array and related techniques and data analysis Western blotting for translational research Laser Capture Microdissection (LCM) microscopy & single cell gene expression Fast and micro Chromatin Immunoprecipitation (ChIP) Standardize RNA ChIP is a method to examine RNA-protein interactions Standardizing H&E, IHC, Immuno Fluorescence staining hepatocytes, Kupffer and stellate cells Biomark fluidism gene expression assay and analysis. Diagenode automated ChIP experiment (Histone methylation and acetylation assay), ABI SOLiD sequencing sample preparation (ChIP seq) and data analysis. Paraffin embedding and tissue section, Cryosection, Ingenuity, Galaxy and IGV base next generation sequencing data analysis. Learning analysis of NGS data using R/Bioconductor. Flowjo FACS data analysis. Nanostring gene expression analysis from FFPE samples. Metagenomics data analysis.

HONORS AND FELLOWSHIPS AND AWARDS

1. Best Mobile Veterinary Clinics in Nadia District, WB 2022
2. Selected for Assistant Professor, BAU, Ranchi on contractual basis, 2020.
3. Qualified for National Scholarship in Secondary level, 1992.
4. Qualified for National Scholarship in Higher Secondary Level, 1994.
5. Achievement-Cum-Diagnostic Test in Mathematics in 1990, 1991, 1992.
6. Science Aptitude and talent research test 1991.
7. Junior Research Fellow under NATP, ICAR during post graduate study.
8. Qualified National Eligibility Test, ICAR on 2001.
9. Best Poster Award of M.V.Sc work in 2002.
10. ASIOA Junior Scientist Award in 2010 (http://www.asioa.org/).
11. ASIOA Junior Scientist Poster Presentation Award in 2011.
12. ASIOA Junior Scientist Oral Presentation Award in 2013.
13. Enoch Gordis Award finalist on oral presentation of present research work, 2010 in Research Society on Alcoholism symposium (NIAAA sponsored) (http://www.rsoa.org).
14. Invited oral presentation of present research work, 23rd April, 2012 in Experimental Biology symposium (NIH sponsored), American Society for Investigative Pathology (ASIP) Session.
15. Selected for Oral presentation in Postdoctoral Research Symposium 2012, Thomas Jefferson University.
16. Editorial Board member of Journal of Pharmaceutical Sciences and Pharmacology 2011-2014(http://aspbs.com/jpsp)
17. Editorial Board member of International Journal of Bio-resource and stress Management

(https://www.pphouse.org/ijbsm.php). Cntinuing…

18. Invited oral presentation of research work, 29th April, 2014 in Experimental Biology symposium (NIH sponsored), The American Physiological Society (APS) in Physiological Genomic Group Session, San Diego, California.
19. Invited oral presentation of research work, 26th April, 2014 in Experimental Biology symposium (NIH sponsored), American Society for Investigative Pathology (ASIP) Session, San Diego, California.
20. Invited for Associate Professor/Senior Scientist position in several academic institutions and biotech industries form India.
21. ASIOA award committee member in 2014.
22. Got interview to go Ethiopia for Faculty position held on 7th to 9th July, 2016 and 2017 in New Delhi.
23. Member of the international board of reviewers of the Egyptian Journal of Animal Production (since 2017).

PROFESSIONAL MEMBERSHIP

- American Association for the Advancement of Science (AAAS)
- American Society for Investigative Pathology (ASIP)
- American Physiological Society (APS)
- Research Society on Alcoholism (RSA)
- Association of Scientists of Indian Origin in America (ASIOA)
- Association of Alcohol Researchers of Indian Origin (AARIO)
- Member of the international board of reviewers of the Egyptian Journal of Animal Production (since 2017).

Administrative experiences:

Reviewer in the Springer Nature's journal **Fish Physiology and Biochemistry** (Completed 9 review till 12.02.2023).
Editor in IJBSM: Editing for http://www.pphouse.org
Editor in JPSP: Editing for http://aspbs.com/jpsp (2014-2016)
Secretary: Jefferson Postdoctoral Association Conducted general meeting
Executive officer: ASIOA, Conducted general meeting
Member: International Postdoctoral Association UTSW at Dallas, Conducted general meeting

COMPUTER SKILLS

- DNA star, Genetool, MS Office, Fortran-77 etc.
- QTL Cartographer, J/QTL for QTL genome mapping.
- SAS statistical analysis.
- Promoter Analysis and interaction net work toolset(PAINT)
- Promoter array data analysis using PAINT and TRANSFAC database etc.
- Cytoscape, Multiple experiment viewer, R programming language (Learning).
- ABI SOLiD sequencing (ChIP seq) data analysis, David pathway analysis etc.
- Motif analysis for TF binding site discovery using Complete Motifs (http://cmotifs.tchlab.org/) analysis software.
- Experiences in next generation sequencing (NGS) data analysis.
- Ingenuity, Galaxy and IGV base next generation sequencing data analysis.
- Learning analysis of NGS data using R/Bioconductor.
- Flowjo base FACS data analysis.
- **Attended next generation sequencing data analysis workshop (Dec 5-8, 2014) held at University of California Riverside, CA. and Augusta University (2016).**
- Nanostring gene expression data analysis using nSolver 2.6 software.
- Metagenomics data analysis in MGRAST and KAIJU

TEACHING EXPERIENCES

I have taught Master's students and Graduate students, the theoretical and practical aspects of Population Genetics, Molecular Biology, and Cell Biology, etc. I have worked extensively with Faculty for development and designing new hypothesis and experiments in Cancer Biology, Molecular Genetics, Pathology and Cell Biology, etc.

Extracurricular activity

I have broad spectrum of experience in meditation, Yoga and physical exercise, also sports like cricket, football, badminton etc. I also sing selected devotional songs which are very popular and sacred.

PUBLICATIONS in high impact journals (PUBMED)

1. BK Das, HJ Chakraborty, V Kumar, AK Rout, **B Patra**, SK Das, BK Behera. 2024. Comparative metagenomic analysis from Sundarbans ecosystems advances our understanding of microbial communities and their functional roles. **Scientific Reports** 14 (1), 16218. Impact factor 4.997 in 2021. DOI https://doi.org/10.1038/s41598-024-67240-1. NAAS rating 10.60

2. BK Behera**, B Patra**, HJ Chakraborty, AK Rout, S Dixit, A Rai, BK Das 2022. Bacteriophages diversity in India's major river Ganga: a repository to regulate pathogenic bacteria in the aquatic environment. **Environmental Science and Pollution Research**, 1-14, 2022. Impact factor 5.190 in 2021. NAAS rating 10.22

3. **Patra B**, Panigrahi M, Kumar H, Kaisa K, Dutt T, Bhushan B. 2021. Molecular and phylogenetic analysis of MHC class I exons 7–8 in a variety of cattle and buffalo breeds. **Animal Biotechnology, Nov 21;1-7. 2.141 (2021) Impact Factor.** NAAS rating 8.28

4. BK Behera, B Dehury, AK Rout, **B Patra**, N Mantri, HJ Chakraborty, 2021. Metagenomics study in aquatic resource management: Recent trends, applied methodologies and future needs, **Gene Reports 25, 101372.** The **impact score (IS) 2021 of Gene Reports is 1.51, so NAAS rating 7.51.**

5. Behera, B. K, Chakraborty, H. J., **Patra, B.,** Das, B. K. , Parida P.K. , Rai, A.K., and Rao, A.K. and T. Mohapatra(2020). Metagenomic analysis reveals bacterial and fungal diversity and their bioremediation potential from sediments of river Ganga and Yamuna in India. **Frontiers of Microbiology, Oct 16;11:556136.** Impact factor 4.076. NAAS rating 11.64

6. Behera, B. K, **Patra, B.,** Chakraborty, H. J., Das, B. K. , Parida P.K. , Rai, A.K., and Rao, A.K. and T. Mohapatra(**2020**). Identification of probiotics species from aquatic atmosphere of river Ganga and Yamuna using metagenomics approach. **Plos One, Oct 6;15(10):e0239594. Impact factor 3.752** NAAS rating 9.24

7. **Biswanath Patra**, Manjit Panigrahi, Sheikh Firdous Ahmad, Satyabrata Dandapat, Pushpendra Kumar, Bharat Bhushan. 2020. Association of bovine major histocompatibility complex class I (BoLA-A) alleles with immune response to Brucella abortus strain 19 in calves. **Vet Microbiol** Mar;242:108569. **Impact factor 3.293** NAAS rating 9.29

8. Matilda Sheng, Ram Lakhan, Abu Ahmed, Charles Rundle, **Patra Biswanath**, K.-H. William Lau, David J Baylink. Unique homeostatic mechanism to replace bone lost during dietary bone depletion. **Endocrinology**. Apr 1;158(4):714-729. Submitted on June 1st, 2016. Accepted on19th January 2017 (**Impact factor 5.051**). NASS serial no. 730, NAAS Rating for 2017 is **10.74**

9. Lakshmi Kuttippurathu, **Biswanath Patra**, Jan B. Hoek, Rajanikanth Vadigepalli. 2016. Effect of chronic alcohol intake on C/EBPα and C/EBPβ genome-wide promoter binding dynamics during early onset of liver regeneration. ***Physiological Genomics*** on September, 2016. 49(1),11-26 (**Impact factor 4.297**)(NASS serial no. 2117, rating 8.62). NAAS Rating 9.11

10. Lakshmi Kuttippurathu, **Biswanath Patra**, Jan B. Hoek, Rajanikanth Vadigepalli. 2016. Novel Comparative Pattern Count Analysis Reveals a Chronic Ethanol-Induced Dynamic Shift in NF-κB Genome-wide Promoter

Binding During Liver Regeneration. **Molecular BioSystems**. 2016, **12**, 1037-1056. (**Impact factor 3.743**). NAAS Rating **9.74**

11. Dan Cook, **Biswanath Patra**, Jan B. Hoek, Rajanikanth Vadigepalli. 2015. A novel, dynamic pattern-based analysis of NF-κB binding during the priming phase of liver regeneration reveals switch-like functional regulation of target genes. **Frontiers in Physiology,** 2015 July 7, 6: 189. (**Impact factor 4.755**). NAAS Serial number 916, Rating for 2017 is **10.57**.

12. Lo KK, Bey EA, **Patra B**, Benson DD, Boothman DA, Silliman CC, Barnett CC Jr. 2013. Hemoglobin-Based Oxygen Carrier Mitigates Transfusion-Mediated Pancreas Cancer Progression. **Annals of Surgical Oncology**. 2013 Jan 18. 20(6), 2073-77, **Impact factor 5.344** NAAS Rating 10.4

13. R.P. Dippold; R. Vadigepalli; G.E. Gonye; **B. Patra**; J.B. Hoek.. 2013. Chronic ethanol feeding alters miRNA expression during liver regeneration. **Alcoholism Clinical and Experimental Research.** 2013 Jan; 37 Suppl. 1: E59-69. **Impact factor 3.928**, NAAS Rating is **9.928**.

14. Longshan L., Erik A. Bey, Ying D, Jenny M, **Biswanath Patra,** Rolf Brekken, Jinming Gao, Carlton C. Barnett and David A. Boothman. 2011. Modulating endogenous NQO1 levels identifies key regulatory mechanisms of action of β-lapachone for pancreatic cancer therapy. **Clinical Cancer Research**. Jan 15; 17(2):275-85. **Impact factor: 13.8** NAAS rating **19.5**

15. **Patra B**, Parsian AJ, Racette BA, Zhao JH, Perlmutter JS, Parsian A. LRRK2 gene G2019S mutation and SNPs haplotypes in subtypes of Parkinson's disease. **Parkinsonism Relat Disord. 2009 Mar; 15(3):175-80.** Impact factor: 4.484 NAAS Rating 10.5

16. **Patra B.**, Cleves M., Overstreet D. H., Rezvani A. H., Parsian A. 2007. Analysis of Alcohol-Related Phenotypes in F2 Progeny Derived from FH/Wjd and ACI/N Rat Strains Reveals Independent Measures and Sex Differences. **Behavioural Brain Research**, **177 (2007) 37–44.** Impact factor:3.393 NAAS Rating **9.33**

17. Parsian AJ, Racette BA, Zhao JH, Sinha R, **Patra B**, Perlmutter JS, Parsian A. Association of α-Synuclein gene haplotypes with Parkinson's disease. **Parkinsonism Related Disorder 2007 Aug; 13(6):343-7**. Impact factor: 4.484 NAAS Rating 10.5

18. AK Rout, S Dey, **B Patra**, M Bhattacharya, AK Jana, B Behera, BK Behera, 2022 Recent Trends in Natural Medicines and Nutraceuticals Research. **Prebiotics, Probiotics and Nutraceuticals**, 203-212, 2022. ISBN 981168992X (**Springer, BOOK CHAPTER**)

19. A Parsian, **B Patra**. 2009. Molecular Biology of Parkinson's Disease. Molecular Biology of Neuropsychiatric Disorders, 277-289. (Springer Berlin Heidelberg) DOI https://doi.org/10.1007/978-3-540-85383-1, ISBN 978-3-540-85382-4 (**BOOK CHAPTER**)

PUBLICATIONS in other journals

1. **B. Patra**, S. Choudhary, H. Purohit, P. Gaur, A. Manzoor, D. K. Yadav and R. Walia. 2025. Importance of major genes to compensate the harmful summer climatic effects in fowl. **Indian Journal Anim Health** (2025), 64(1) - Special Issue: 01-05 DOI: https://doi.org/10.36062/ijah.2025.01424 (NAAS rating 5.01).

2. **B. Patra**, H. Purohit, S. Choudhary, P. Gaur, and B. K. Behera. 2024. Microbial diversity of probiotic potential in the

sediments of rivers Ganga and Yamuna: A study through Metagenomic approach: Probiotic microbes in sediments of Ganga and Yamuna. **International Journal of Bio-resource and Stress Management. IJBSM October 2024, 15(10): 01-08, DOI: HTTPS://DOI.ORG/10.23910/1.2024.5625a (NAAS rating 2025 is 5.40)**

3. R. Sharma, S. P. Dahiya, P. Gaur, R. Solanki1, **B. Patra** and R. Hada. 2023. **Genomic tools in poultry breeding: Harnessing molecular markers for progress. Indian J Anim Health (2023), 62(2)- Special Issue: 175-180**

4. Bharat Bhushan, **Biswanath Patra**, Pranab Jyoti Das, Triveni Dutt, Pushpendra Kumar, Arjava Sharma, Umang, Satyabarta Dandapat and Shiv Pal Singh Ahlawat. Polymorphism of exon 2-3 of bovine major histocompatibility complex class I BoLa-A gene. **Genetics and Molecular Biology, 30, 3, 560-566 (2007).** Impact factor: 0.744, Impact factor: 2.635, NAAS Rating for 2017 is 7.77 (NAAS serial no. 1133.).

5. B Patra, M Panigrahi, SF Ahmad, P Kumar, T Dutt, B Bhushan. 2021. Genetic analysis of major histocompatibility complex (MHC) Class I Exon 4-5 in cattle and buffalo using molecular and phylogenetic approaches. **Buffalo Bulletin** 40 (2), 283-292. Impact factor 0.2, NAAS score **6.17**.

6. BN Patra, B Bhushan, M Panigrahi (2017). Molecular characterization of exon 2-3 of majorhistocompatibility complex (MHC) class I in buffalo (Bubalus bubalis) **Buffalo Bulletin** 36 (3), 463-472 (Impact factor: 0.104).(NAAS serial no. 468, rating 6.07 in 2017). Impact factor 0.2, NAAS score **6.17**.

7. Biswanath Patra, Jan B. Hoek and Rajanikanth Vadigepalli. 2014. Optimization of gene delivery to liver cells using a biodegradable polymer based nanoparticles. **Journal of Pharmaceutical Science and Pharmacology**. June, 1(2), 141-145.

8. **Biswanath Patra**, Jan B. Hoek and Rajanikanth Vadigepalli. 2014. Polyethylenimine mediated gene delivery: free carrier helps to overcome the barrier of cell-surface in liver cell. **Journal of Pharmaceutical Sciences and Pharmacology**. June, 1(2), 154-159.

9. **B Patra,** V Arya. 2014, Role of MicroRNA in Chronic Alcoholic and Non-alcoholic Liver Disease and Pathology. **International Journal of Bio-resource and Stress Management** 5 (1), 86-89. NAAS Rating for 2022 is 5.11, NAAS serial no. 1409.

10. Vikram Arya and **Biswanath Patra**. 2013. System Biology Approaches to Identify Biomarker in Liver Diseases. **International Journal of Bio-resource and Stress Management 2013, 4(1)097-100.** NAAS Rating for 2022 is 5.11, NAAS serial no. 1409.

11. **Biswanath Patra**, 2011. Lipofectamine mediated gene delivery: cationic lipid helps to overcome the barrier of cell-surface in liver cell. **International Journal of Bio-resource and Stress Management 2(3):313-319.** NAAS Rating for 2022 is 5.11, NAAS serial no. 1409.

12. **Biswanath Patra**, 2010. Impact of Global Warming on Animal and Human Health **International Journal of Bio-resource and Stress Management** December, **1(3):194-197.** NAAS Rating for 2022 is 5.11, NAAS serial no. 1409.

13. Bhushan, B., **Patra, B.N.**, Paswan, C., Umang, Kumar, P., Dutt, T., Das, P.J., Sharma, A., Ahlawat, S.P.S. DNA polymorphism of BoLA-DRB3.2 gene in Tharparkar cattle (Bos indicus) by PCR-RFLP. 2007. **Journal of Applied Animal Research**, Volume 32, Issue 2, December, Pages 187-190. Impact factor: 1.56, NAAS Rating for 2022 is 7.63, (NAAS serial no. 11679).

14. Paswan, C., Bhushan, B., **Patra, B.N.,** Kumar, P., Tomar, A. K. S., Dandapat, S. and Sharma. A. 2005. Characterization of DRB3 alleles in the MHC of crossbred cattle by polymerase chain reaction-sequence-restriction fragment length polymorphism. **Asian-Australasian Journal Animal Sciences** 18(9):1226-1230. Impact factor: 2.694, NAAS Rating for 2022 is 8.50. NAAS serial no. 328.

15. **Patra, B.N.,** Bais, R.K.S., Prasad, R.B., Singh**,** B. P., Sharma, D., and Bhushan, B **(**2005) Superiority of naked neck over normally feathered white broilers for growth, carcass traits and blood biochemical parameters in tropical climate**. Indian Journal of Animal Sciences** 75(3): 302-307. Impact factor: 0.137, NAAS Rating for 2017 is 6.17, NAAS serial no. 1040.

16. Paswan, C., Bhushan, B., **Patra, B.N.,** Mukherjee, R., Kumar, P., Tomar, A. K. S., Dandapat, S. and Sharma. A. 2005. Relationship of bovine major histocompatibility complex (BoLA) DRB3 exon 2 patterns with somatic cell count and somatic cell score in crossbred cattle. **Journal of Applied Animal Research** 28:129-132. Impact factor: 0.123, NAAS Rating for 2014 is 6.50, (NAAS serial no. 1380.).

17. **Patra, B.N.,** Bais, R.K.S., Sharma, D., Prasad, R.B. and Singh, B.P. **(**2004) Estimation of genetic relatedness of naked neck and normally feathered broilers using randomly amplified polymorphic DNA markers. **Indian Journal of Animal Sciences.74** (1):69-72. Impact factor: 0.137, NAAS Rating for 2017 is 6.17, NAAS serial no. 1040.

18. Saifi, H. W., Bhushan, B., Kumar, S., Kumar, P. **Patra, B.N.,** and Sharma, A. 2004. Genetic Identity between Bhadawari and Murrah Breeds of Indian Buffaloes (*Bubalus bubalis*) Using RAPD-PCR. **Asian-Australasian Journal Animal Sciences. 17**(5):603-607. Impact factor: 2.694, NAAS Rating for 2022 is 8.50. NAAS serial no. 328.

19. Saifi, H. W., Bhushan, B., Kumar, S., Kumar, P. **Patra, B.N.,** and Sharma, A. 2004. Estimation of Genetic Distance between Bhadawari and Murrah Breeds of Buffaloes (Bubalus bubalis) Using Band Sharing Frequency. **Journal of Applied Animal Research.** 27:11-15. Impact factor: 0.123, NAAS Rating for 2017 is 6.50, (NAAS serial no. 1380.)

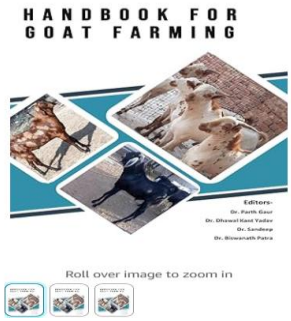
20. **Patra, B.N.,** Bais, R.K.S., Prasad, R.B., Singh**,** B. P., Sharma, D., and Bhushan, B **(**2004) Immunocompetence status of white plumage naked neck versus normally feathered broilers in tropical climate**. Asian-Australasian Journal Animal Sciences. 17**(4):560-563 Impact factor: 2.694, NAAS Rating for 2022 is 8.50. NAAS serial no. 328.

21. **Patra, B.N.,** Bais, R.K.S., Prasad, R.B., Singh**,** B. P., Sharma, D., D.P. Isore and Bhushan, B **(**2004) Immunocompetence status of coloured plumage naked neck versus normally feathered broilers in tropical climate**. Indian Journal of Poultry Science. 39 (3):** 296-300. NAAS Rating for 2013 is 5.01, NAAS serial no. 990.

22. Patra, B.N., Bais, R.K.S., Prasad, R.B., and Singh, B.P. (2002) Performance of naked neck versus normally feathered coloured broilers for growth, carcass traits and blood biochemical parameters in tropical climate. Asian-Australasian Journal Animal Sciences 15. (12):1776-1783. Impact factor: 2.694, NAAS Rating for 2022 is 8.50. NAAS serial no. 328.

<u>Books / publication: as Lead author</u>

1. Hand Book for Goat Farming (was available in Amazon.com)

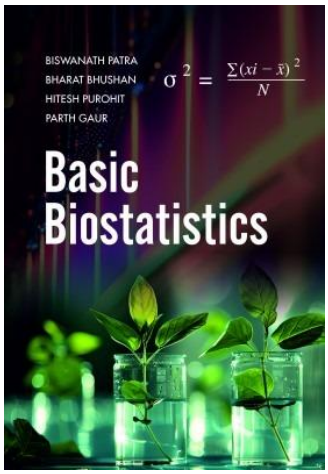


Books under editing/proofreading for publication/published: Publisher New India Publishing Agency, New Delhi (NIPA, 2024)

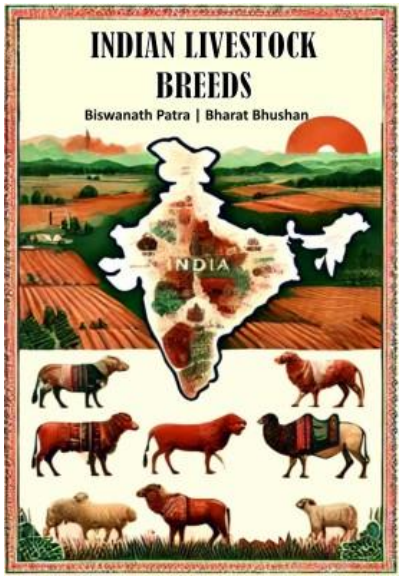
1. **Basic Biostatistics: https://www.nipabooks.com/info/9789358874655/basic-biostatistics**

   Available in www.amazon.in

   Published on 26 April 2024.



2. **Breeds of Domestic Animals. (January 2025)**
https://www.nipabooks.com/info/9789358872736/indian-livestock-breeds



PRESENTATIONS AT SEMINARS AND INTERNATIONAL CONFERENCES

1. Patra, B. , Chakraborty, H. J., Behera, B. K. , Das, B. K. , Parida P.K. , Jana, A.K. , Rai, A.K. , and Rao, A.K. (2017). Biodiversity of probiotics species identified in the aquatic atmosphere of river Ganga using metagenomics approach. International Seminar and 29th All India Congress of Zoology. Held on June 9-11, 2017, at ICAR-CIFRI, Barrackpore, WB. (Oral presentation on June 9th).

2. **Biswanath Patra**, Hirak jyoti Chakraborty , Bijay Kumar Behera, Basanta Kumar Das, P.K.Parida, T. Mohapatra, A.R. Rao, I Singh, A. Rai. 2017. Diversity of bacteriophages in water of the river Ganga regulates life of pathogenic bacteria in aquatic environment. National Seminar on Priorities in Fisheries and Aquaculture (PFA 2017), 11-12 March, 2017 held at College of Fisheries, OUAT, Gopalpur on Sea, Rangeilunda, Berhampur, Ganjam, Odisha-760007. (**Invited abstract**).

3. D. Cook, S. Achanta, **B. Patra**, B.A. Ogunnaike, R. Vadigepalli. 2015. Hepatic stellate cell activation during liver regeneration and following adaptation to chronic alcohol use. Research Society on Alcoholism meeting to be held at San Antenio, TX, June 20-24.

4. **Biswanath Patra**, Lakshmi Kuttippurathu, Jan B Hoek, Rajanikanth Vadigepalli. 2014. Chronic ethanol intake leads to differential effects on the multivalent epigenetic state in liver. Invited for oral and poster presentation on APS, EB meeting, San Diego, April 26 to 30, CA.

5. **Biswanath Patra**, Lakshmi Kuttippurathu, Jan B Hoek, Rajanikanth Vadigepalli. 2014. C/EBPα and C/EBPβ mediated genome-wide combinatorial transcriptional regulatory dynamics during early onset of liver regeneration and chronic alcohol intake. Invited for oral presentation on ASIP, EB meeting, San Diego, April 26 to 30, CA.

6. **Biswanath Patra**, Jan B Hoek, Rajanikanth Vadigepalli. 2014. EGR-1 transcriptional regulatory dynamics during early onset of liver regeneration and chronic alcohol intake. Presented on Research Society on Alcoholism meeting June 21 to 25, Bellevue, Washington.

7. **Biswanath Patra**, Lakshmi Kuttippurathu, Jan B Hoek, Rajanikanth Vadigepalli. 2013. Adaptation to chronic alcohol intake alters STAT3 genome-wide binding dynamics during liver regeneration. Presented on ASIP, EB meeting, Boston, June 20 to 24, MA.

8. **Biswanath Patra**, Lakshmi Kuttippurathu, Jan B Hoek, Rajanikanth Vadigepalli. 2013. Adaptation of liver to chronic ethanol intake leads to differential effects on the multivalent epigenetic state. Presented on Research Society on Alcoholism meeting June 22 to 26, in Orlando, Fl.

9. Biswanath Patra, Jan B. Hoek, Rajanikanth Vadigepalli. 2013. Alcohol adaptive change on genome-wide promoter binding dynamics of nf-ϰb during the early onset of liver regeneration. 5th National Meeting of ASIOA, January 19-20, 2013 University of North Texas, Denton, Texas, **Post Doc Award.**

10. Biswanath patra, Lakshmi Kuttippurathu, Jan B. Hoek, Rajanikanth Vadigepalli. 2013. C/ebpβ mediated genome-wide combinatorial transcriptional regulatory dynamics during early onset of liver regeneration and chronic alcohol intake. 5th National Meeting of ASIOA, January 19-20, 2013 University of North Texas, Denton, Texas, **Post Doc Award.**

11. Daniel Cook; Lakshmi Kuttippurathu; **Biswanath Patra**; Jan B. Hoek; Babatunde Ogunnaike; Rajanikanth Vadigepalli. 2012. Combinatorial Transcriptional Regulatory Network Driving Aberrant Effects of Chronic Alcohol Consumption on Liver Regeneration, accepted to the 2012 AIChE Annual Meeting in Pittsburgh, PA from Sunday, October 28, 2012 to Friday, November 2, 2012. Session: Genomic Approaches to Systems Biology scheduled for Wednesday, October 31, 2012: 03:15 PM - 05:45 PM, Westin, Crawford East.

12. **Biswanath Patra**, Lakshmi Kuttippurathu, Jan B Hoek, Rajanikanth Vadigepalli. 2012. C/EBPβ mediated genome-wide combinatorial transcriptional regulatory dynamics during early onset of liver regeneration and chronic alcohol intake. Presented on Research Society on Alcoholism meeting June 23 to 27, in San Francisco, CA.

13. **Biswanath Patra**, Lakshmi Kuttippurathu, Jan B Hoek, Rajanikanth Vadigepalli. 2012. Combinatorial study of transcription factors during the early phase of liver regeneration. Presented on Research Society on Alcoholism meeting June 23 to 27, in San Francisco, CA.

14. Daniel Cook, Lakshmi Kuttippurathu, **Biswanath Patra**, Babatunde Ogunnaike, Jan B. Hoek, Rajanikanth Vadigepalli. 2012. NF-ϰB Genome-wide targeting during liver regeneration: Comparison of Chow-fed and Lieber-decarli Isocaloric Pair-fed Rats. Presented on Research Society on Alcoholism meeting June 23 to 27, in San Francisco, CA.

15. Jayasree Padmanabhan, Greg Gonye, **Biswanath Patra**, Rajanikanth Vadigepalli, Tao Zhang, Bruce M Boman. 2012. Dysregulated transcriptional mechanisms that control crypt cell maturation: A mechanism that contributes to stem cell overpopulation during colon cancer development. Presented on AACR meeting.

16. **Biswanath Patra**, Lakshmi Kuttippurathu, Jan B. Hoek, Rajanikanth Vadigepalli.2012. Genome-wide combinatorial transcriptional regulatory dynamics during early onset of liver regeneration and chronic alcohol intake. Oral Presentation on Experimental Biology meeting April 23rd in San Diego, CA, ASIP session. (April 21-25).

17. **Biswanath Patra**, Lakshmi Kuttippurathu, Jan B Hoek, Rajanikanth Vadigepalli. 2011. Effects of chronic alcohol intake on genome-wide promoter binding dynamics of NF-kB during early onset of liver regeneration. Research Society on Alcoholism meeting June 25 to 29 in Atlanta, GA. Poster Number 152.

18. **Biswanath Patra**, Lakshmi Kuttippurathu, Jan B Hoek, Rajanikanth Vadigepalli. 2011. Chronic alcohol effects on NF-κB genome-wide binding dynamics during early onset of liver regeneration. 6th Annual Postdoctoral Research Symposium. Jefferson College of Graduate Study, 21st June.

19. **Biswanath Patra**, Lakshmi Kuttippurathu, Jan B Hoek, Rajanikanth Vadigepalli. 2011. Effects of chronic alcohol intake on genome-wide promoter binding dynamics of NF-kB during early onset of liver regeneration. 4th National meeting of ASIOA. January 15 to 17 in Greater Atlanta, Suwanee, GA. (**2nd place in best poster presentation**).

20. **Biswanath Patra**, Lakshmi Kuttippurathu, Jan B Hoek, Rajanikanth Vadigepalli. 2011. Chronic alcohol effects on NF-κB genome-wide binding dynamics during early onset of liver regeneration. Presented on Experimental Biology meeting April 9 to 13 in Washington D.C. Program Number: 998.8**.**

21. **Biswanath Patra**, Egle Juskeviciute, Jan B. Hoek, Rajanikanth Vadigepalli. 2010. Effects of chronic alcohol intake on transcriptional regulation dynamics during the onset of liver regeneration. 5th Annual Postdoctoral Research Symposium. Jefferson College of Graduate Study, 15th June.

22. **Biswanath Patra**, Egle Juskeviciute, Jan B Hoek, Rajanikanth Vadigepalli. 2010. Time series analysis of transcriptional regulation of NF-kB targeted genes in vivo during the onset of liver regeneration. Presented on Experimental Biology meeting April 24 to 28 in Anaheim, CA. Abstract Number: 5917.

23. **Biswanath Patra**, Egle Juskeviciute, Jan B Hoek, Rajanikanth Vadigepalli. 2010. Effects of chronic alcohol intake on NF-kB mediated transcriptional regulation dynamics during the onset of liver regeneration. Research Society on Alcoholism meeting June 26 to 30 in San Antonio, TX. (**Enoch Gordis Award finalist, USA**)

24. Bey, E. A.; **Patra, B**.; Boothman, D. A.; Moore, E. E.; Silliman, C. C.; Barnett, C. C. 2009. Human Polymerized Hemoglobin Mitigates Transfusion-Mediated Pancreas Cancer Progression. (Co-first author) *Annals of Surgical Oncology* (16(Suppl. 1): 31–123 Poster no. P143, Page 71-2 (Co-first author) 62nd Annual Cancer Symposium, Society of Surgical Oncology, March 4–8, 2009, Phoenix, AZ.

25. **Biswanath Patra,** Erik A. Bey, Jieru Meng, Elvin Blanco, Jinming Gao, Carlton C. Barnett and David A. Boothman. 2007. Variation in NQO1 level affects ß-Lapachone sensitivity in Pancreatic Cancer. 6th Annual Postdoctoral Symposium UTSW, 7th Nov, 2008.

26. **Biswanath Patra,** Erik A. Bey, Jieru Meng, Elvin Blanco, Christina Roland, Jinming Gao1, David A. Boothman and Carlton C. Barnett. 2007. Development of ß-Lapachone Therapies for Treatment of Pancreatic Cancer. 5th Annual Postdoctoral Symposium UTSW, 30th December, 2007.

27. Bhushan B, **Patra, B. N.,** Pushpendra Kumar Sharma A. 2004. DNA polymorphism of BoLA-DRB3 exon 2 in Tharparkar Cattle (*Bos indicus).* National Symposium on "Alternate strategies for livestock production and protection: Role of Biotechnology and Immunology" held at IVRI, Campus Mukteswar from November 3-4, 2004.

28. Bhushan, B., Sharma, A. K., **Patra, B. N.** Pushpendra Kumar and Sharma, Arjava. 2005. Association of bovine Major Histocompatibility Complex DRB3 (BoLA-DRB3) with lysozyme level in Tharparkar cattle. 92th Indian Science Congress held at Ahmadabad from January 3 to 7, 2005.

29. Bhushan, B., **Patra, B. N**., Parasar, P., Kumar, P., Bhattacharya T.K., Sharma, Arjava and Dandapat, S. 2005. Characterization of MHC class I haplotypes of river buffalo by PCR based cloning and sequencing. National symposium on "Domestic animal diversity: Status, opportunities and challenges" held at Karnal from February 10 - 11, 2005.

30. **Patra, B. N**., Bhushan, B., Parasar, P., Kumar, P., Bhattacharya T.K., Sharma, Arjava and Tomar, A. K. S. 2005. Molecular characterization of MHC class I haplotypes of *Bos indicus*. National symposium on "Domestic animal diversity: Status, opportunities and challenges" held at Karnal from February 10 - 11, 2005.

31. Bhushan, B., **Patra, B. N**., Parasar, P., Kumar, P., Bhattacharya T.K., Tomar, A. K. S. and Bisht, G. S. 2005 PCR-SSCP analysis of exon 7-8 of MHC class I gene in cattle and buffalo. "VIII National Conference on Animal Genetics and Breeding & National Livestock Breeding Policy" held at CIRG, Makhdoom (Mathura) from March 08 - 10, 2005.

32. **Patra, B. N**., *Bhushan, B*., Parasar, P., Kumar, P., Bhattacharya T.K., Dandapat, S. and Bisht, G. S. 2005. PCR-SSCP studies of exon 4-5 of BoLA-A/BuLA-A gene in cattle and buffalo. "VIII National Conference on Animal Genetics and Breeding & National Livestock Breeding Policy" held at CIRG, Makhdoom (Mathura), India from March 08 - 10, 2005.

33. **Patra, B.N.,** Bais, R.K.S., Prasad, R.B., and Singh, B.P. **(**2002) Performance of naked neck versus normally feathered coloured broilers for growth, carcass traits and blood biochemical parameters in tropical climate**.** IX Annual Conference of Indian Association for the Advancement of Veterinary Research and National Symposium held at Nagpur, India. **Best Poster Award.**

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