CURRICULUM VITAE



Dr. Debasish Bandyopadhyay

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Name:	Dr. Debasish Bandyopadhyay
Current Position:	Professor Oxidative Stress and Free Radical Biology Laboratory Department of Physiology University of Calcutta 92, APC Road, Kolkata: 700009
Specialization:	Biochemistry
Date of Birth:	05.05.1963
Sex:	Male
Nationality:	Indian
Marital Status:	Married

Educational Background:

B.Sc.(Hons.)	Physiology	University of Calcutta	1984
M.Sc.	Physiology (Specialization in Biochemistry)	University of Calcutta	1986
Ph.D	Physiology	University of Calcutta (Indian Institute of Chemical Biology, CSIR, Govt. of India, Kolkata)	1996
Post-Doctora	al Research:		
Research Assoc	iate	CSIR, Govt. of India, Indian Institute of Chemical Biology, Kolkata, India	
Post-Doctoral A	Associate	Department of Neurology and, Sealy Centre for Molecular Sciences, University of Texas Medical Branch at Galveston, Texas, USA	
Senior Research (Scientist Pool		Indian Institute of Chemical Biology, CSIR Govt. of India, India	

Academic Positions held/ currently holding:

А	epartment of Biotechnology, ssam (Central) University, Silchar, ssam, India
So V SI	entre for Biotechnology, chool of Life Sciences, isva-Bharati (A Central University), hantiniketan, olpur ,India
Served as Reader and Head, and, also served as Professor and Head	Department of Physiology
and, presently serving as a Professor	University of Calcutta, University College of Science and Technology, 92, APC Road, Kolkata 700 009

Professional Recognition & Memberships:

- Member and former Convenor, Ph. D. Committee of Physiology, University of Calcutta, Kolkata, India
- Chairman, Board of Undergraduate Studies of Physiology, University of Calcutta, Kolkata, India
- Member, Board of Undergraduate Studies of Physiology, Vidyasagar University, Midnapur, West Bengal, India
- Member, Board of Post-Graduate Studies of Physiology, University of Calcutta, Kolkata
- ✤ Former Member, SAP Advisory Board, Nominated by UGC, Govt. of India
- ✤ Member of the Advisory and Editorial Board, Journal of Pharmacy Research
- ✤ Former Member of the Editorial Board, Journal of Herbal Medicine (Publisher: Elsevier).
- Member of the Editorial Board, Cardiovascular Regenerative Medicine (Publisher: American Heart Association).
- Editor, Melatonin Research, Published from USA
- ✤ Joint Editor, Indian Journal of Physiology and Allied Sciences
- Member, human ethics committee, Department of Physiology, University of Calcutta
- Ex-Visiting Faculty, Department of Biotechnology, West Bengal University of Technology, Salt Lake City, Kolkata, India
- Former member, Ph. D. Committee of Life Science and Biotechnology, Jadavpur University, Kolkata, India

Membership of Learned Societies:

- 1. Life Member of the Physiological Society of India (PSI).
- 2. Life Member of the Indian Science Congress Association (ISCA).
- 3. Life Member of the Federation of Indian Physiological Societies (FIPS).
- 4. Life Member of the South Asian Association of Physiologists (SAAP).
- 5. Life Member of the International Union of Physiological Sciences (IUPS).
- 6. Life Member of the Society of Biological Chemists [India] (SBC)
- 7. Life Member of the Cytometry Society of India (CSI)

Valued Reviewer of papers in:

- Melatonin Research (Publisher : OJS PKP)
- Indian Heart Journal (Publisher : Elsevier)
- Biochemical Journal (Publisher : Elsevier; Impact Factor-4.396)
- Bioscience Reports (Publisher : Portland Press; Impact Factor-2.899)
- Journal of Membrane Biology (Publisher : Springer; Impact Factor-1.63)
- BMC Gastroenterology (Publisher : Springer; Impact Factor-2.47)
- Journal of Pineal Research (Publisher : Wiley & Sons; Impact Factor-9.314)
- Microbial Pathogenesis (Publisher: Elsevier; Impact Factor 1.88)
- Toxicology (Publisher: Elsevier; Impact Factor 3.817)

- Human and Experimental Toxicology (Publisher : SAGE Journals; Impact Factor-1.453) •
- Food and Chemical Toxicology (Publisher : Elsevier; Impact Factor-3.213)
- Indian Journal of Experimental Biology (Publisher : NISCAIR; Impact Factor-1.195)
- Chemico-Biological Interactions (Publisher:Elsevier: Impact Factor: 2.577)
- Biotechnic & Histochemistry (Publisher: Taylor and Francis : Impact factor: 1.444)
- Journal of Diabetes Research (Publisher: Hindawi: Impact Factor- 2.164)
- Life Sciences (Publisher:Elsevier: Impact Factor: 3.647)
- Archives of Physiology and Biochemistry (Publisher: Taylor & Francis: Impact Factor: 2.577)

Research interests & Area of expertise:

Enzymology		
\triangleright	Oxidative stress at	

- Oxidative stress and free radical biology
- Metal enzyme interactions
- Properties of herbal extracts
- Myocardial ischemia
- AAAAA Role of Melatonin as an antioxidant
- Stress and drug induced gastric ulcerations
- New drug development

Research guidance:

Number of researchers awarded M.Phil/ Ph.D :	Ph.D. – 16	M.Phil-01
Number of researchers pursuing M.Phil/ Ph.D : (Registration procedure completed)	Ph.D. – 08	M.Phil- 00

Projects :

Completed projects:

Sl. No.	Title	Funding agency	Period	Grant / Amount Mobilized
1.	Exploring the antioxidant potential of aqueous extract of the bark of <i>Terminalia</i> <i>arjuna</i>	UGC (Minor Research Project) [F.PSW-037/ 07-08 (ERO) dated 21. 02.2008 Co-Investigator	March 2008-March 2010	Rs. 65,000/-

2.	Role of <i>Staphylococcus</i> <i>aureus</i> coagulase and TSST in the pathogenesis of staphylococcal infection and studies on the involvement of oxidative stress post-infection and possible remediation through antioxidant, antibiotic co-therapeutic approach	CSIR Co-Investigator	12/10/2009- 11/10/2012	Rs. 11,51,000/-
3.	Studies on protective effects of aqueous extracts of the leaves of <i>Murraya</i> <i>koenigii</i> and <i>Ocimum</i> <i>sanctum</i> against cadmium- induced oxidative stress in rat liver and heart	University Grants Commission (UGC), New Delhi, Govt. of India Major Research Project: Principal Investigator Reference No. – 37- 396/2009(SR)(HRP)	01/02/2010 - 31/01/2013	Rs. 7,85,580/-
4.	Role of aqueous bark extract of <i>Terminalia arjuna</i> in the maintenance of cytoskeletal architecture of goat red blood cell membrane.	UGC (Minor Research Project) PHW-105/11-12 (ERO) dated 2.8.2011 Co-Investigator	22/11/2011 – 21/05/2013	Rs. 1,86,000/-
5.	Studies on the protective effect of 'Trigonelline	University-Industry Collaborative projects		

	(99%) 'against Cu- Ascorbate induced oxidative	awarded by Indusbiotech Pvt.	January 2014-	Rs. 1,45,000/-
	stress in mitochondria <i>in</i> vitro	Ltd., Principal Investigator	August 2014	
		Reference No. –		
		IND/IV/01/2014		
6.	Studies on the protective effect of '4-hydroxy isoleucine (99%)' against Cu-Ascorbate induced oxidative stress in	University-Industry Collaborative projects awarded by Indusbiotech Pvt. Ltd.,	January 2014- August 2014	Rs. 1,49,000/-
	mitochondria in vitro	Principal Investigator Reference No. – IND/IV/02/2014		
7.	Exploring the protective effect of "INDUS810" against copper-ascorbate induced oxidative stress in mitochondria in vitro : a mechanism based study	University-Industry Collaborative projects awarded by Indusbiotech Pvt. Ltd., Principal Investigator	December 2014 – May 2015	Rs. 1,81,125/-
		Reference No. – IND/IV/03/2014		
8.	Effects of Sugaheal® on isolated mitochondria from rat skin against copper- ascorbate induced oxidative stress in vitro	University-Industry Collaborative projects awarded by Indusbiotech Pvt. Ltd.,	January 2015-June 2015	Rs.47,438/-
		Principal Investigator Reference No. – IND/IV/01/2015		
9.	Studies on the protective effect of <i>Terminalia arjuna</i>	Department of Science and	06/2013- 05/2016	Rs.18.4Lakhs

against copper- ascorbate induced oxidative stress in human placental mitochondria.	Technology, WOS.A, Govt. of India Project: Principal Investigator		
Exploring the neural, metabolic, hemodyanamic and cognitive functions following myocardial ischemia in human and experimental animal: Protection by melatonin.	A project under centre with potential for excellence in a particular area (CPEPA) scheme of UGC, Govt. of India, awarded to University of Calcutta Project: One of the 9 Principal Investigator(s) assigned for this project	2011-2018	6.15 Crore
 Exploring the role of melatonin against adrenaline-induced oxidative stress mediated injury in the stomach, duodenum and colon of male Wister rat: a novel therapeutic approach	Dr. D. S. Kothari Post-Doctoral Fellowship was awarded to Dr. Palash Kumar Pal. Prof. Bandyopadhyay is acting as his Mentor.	2017-2019	Rs.24 Lakhs

Ongoing projects:

Sl. No.	Title	Funding agency	Period	Grant / Amount Mobilized (INR)
1.	Investigating the role of 'INDUS810' against hydrogen peroxide- induced oxidative stress in goat mitochondria in vitro.	University-Industry Collaborative projects awarded by Indusbiotech Pvt. Ltd.,	2016-2018	Rs.4.17lakhs
2.	Exploring the role of INDUS1530 against hydrogen peroxide- induced oxidative stress mediated mitochondrial dysfunction in rat skin mitochondria in vitro: a mechanism based approach.	University-Industry Collaborative projects awarded by Indusbiotech Pvt. Ltd.,	2016-2018	Rs.4.021akhs
3.	Exploring the cardio- protective efficacy of some novel derivatives of organic compounds: an in vitro and in vivo approach.	A project under University with Potential for Excellence (UPE-II) scheme of UGC, Govt. of India, awarded to University of Calcutta Project: One of the 7 Principal Investigator(s) assigned for this project.		

11 . List of publications: a) Journals:

- Balaji TMM, Varadarajan S, Bandyopadhyay D, Jagannathan R, Patil S, Raj T. A potential protection of melatonin on pathogenesis of oral sub-mucous fibrosis (OSMF): a current update. Melatonin Research, 2021, 4(1): 84-98. [OJS & PKP; New Journal].
- Pal PK, Chattopadhyay A, Bandyopadhyay D. Functional interplay of melatonin in the bile duct and gastrointestinal tract to mitigate disease development: An overview. Melatonin Research, 2021, 4(1): 118-140. [OJS & PKP; New Journal].
- Sarkar S, Chattopadhyay A, Bandyopadhyay D. Multiple strategies of melatonin protecting against cardiovascular injury related to inflammation: A comprehensive overview. Melatonin Research, 2021, 4(1): 1-29. [OJS & PKP; New Journal].
- Banerjee A, Dey T, Ghosh AK, Mishra S, Bandyopadhyay D, Chattopadhyay A. Insights into the ameliorative effect of oleic acid in rejuvenating phenylhydrazine induced oxidative stress mediated morpho-functionally dismantled erythrocytes. Toxicology Reports, 2020, 9(7): 1551-1563. [ELSEVIER; Impact Factor 2.63]
- 5. Naaz S, Mishra S, Pal PK, Chattopadhyay A, Das AR, Bandyopadhyay D. Activation of SIRT1/PGC 1α /SIRT3 pathway by melatonin provides protection against mitochondrial dysfunction in isoproterenol induced myocardial injury. **Heliyon, 2020, 6(10).**
- Sarkar S, Chattopadhyay A, Bandyopadhyay D. Melatonin, the advance-guard in oxidative myocardial assault instigated by exercise stress: a physiological and biochemical insight. Melatonin Research, 2020, 3(4): 451-475. [OJS & PKP; New Journal].
- Pal PK, Sarkar S, Mishra S, Chattopadhyay S, Chattopadhyay A, Bandyopadhyay D. Amelioration of adrenaline induced oxidative gastrointestinal damages in rat by melatonin through SIRT1-NFκB and PGC1α-AMPKα cascades. Melatonin Research, 2020, 3(4): 482-502. [OJS & PKP; New Journal].
- 8. Pal PK, Chattopadhyay A, Bandyopadhyay D. Melatonin as a potential therapeutic molecule against COVID-19 associated gastrointestinal

complications: An unrevealed link. Melatonin Research, 2020, 3(3): 417-435. [OJS & PKP; New Journal].

- Dey T, Ghosh A, Mishra S, Pal PK, Chattopadhyay A, Pattari SK, Bandyopadhyay D. Attenuation of arsenic induced high fat diet exacerbated oxidative stress mediated hepatic and cardiac injuries in male Wistar rats by piperine involved antioxidative mechanisms. Food and Chemical Toxicology, 2020, 142: 111477. [ELSEVIER; Impact Factor 4.679]
- Banerjee A, Chattopadhyay A, Bandyopadhyay D. Biorhythmic and receptor mediated interplay between melatonin and insulin: its consequences on diabetic erythrocytes. Melatonin Research, 2020, 3(2): 243-263. [OJS & PKP; New Journal].
- 11. Ghosh AK, Bhattacharjee B, Mishra S, Roy S, Chattopadhyay A, Banerjee A, Bandyopadhyay D. Beta-estradiol protects against copper-ascorbate induced oxidative damage in goat liver mitochondria in vitro by binding with ascorbic acid. Life Sciences, 2020: 250:117596. [ELSEVIER; Impact Factor 3.448]
- Banerjee A, Chattopadhyay A, Pal PK, Bandyopadhyay D. Melatonin is a potential therapeutic molecule for oxidative stress induced red blood cell (RBC) injury: A review. Melatonin Research, 2020, 3(1): 1-31. [OJS & PKP; New Journal].
- Bhattacharjee B, Pal PK, Chattopadhyay A, Bandyopadhyay D. Oleic acid protects against cadmium induced cardiac and hepatic tissue injury in male Wistar rats: A mechanistic study. Life Sciences, 2020: 244:117324. [ELSEVIER; Impact Factor 3.448]
- 14. Pal PK, Sarkar S, Chattopadhyay A, Bandyopadhyay D. Enterochromaffin cells as the source of melatonin: key findings and functional relevance in mammals. Melatonin Research, 2019, 2(4): 61-82 [OJS & PKP; New Journal].
- 15. Bose G, Ghosh A, Chattopadhyay A, Pal PK, **Bandyopadhyay D**. Melatonin as a potential therapeutic molecule against myocardial damage caused by high fat diet (HFD). **Melatonin Research, 2019, 2(3): 37-56 [OJS & PKP; New Journal].**
- Majumder R, Datta M, Pal PK, Bhattacharjee B, Chattopadhyay A, Bandyopadhyay D. Protective mechanisms of melatonin on caprine spleen injury induced by cadmium (Cd): an in vitro study. Melatonin Research, 2019, 212(3): 57-75 [OJS & PKP; New Journal].
- 17. Kundu T, Bhattacharjee B, Hazra S, Ghosh AK, **Bandyopadhyay D**, Pramanik A. Synthesis and biological assessment of pyrrolobenzoxazine scaffold as a

potent antioxidant. J. Med. Chem, 2019, 62: 6315-6329 [ACS Publications; Impact Factor 6.259].

- Mitra E, Bhattacharjee B, Pal PK, Ghosh AK, Mishra S, Chattopadhyay A, Bandyopadhyay D. Melatonin protects against cadmium-induced oxidative damage in different tissues of rat: a mechanistic insight. Melatonin Research, 2019, 2 (2): 1-21 [OJS & PKP; New Journal].
- **19.** Pal PK, Bhattacharjee B, Chattopadhyay A, **Bandyopadhyay D**. Melatonin as an armament against non-steroidal anti-inflammatory drug induced gastric injury: An overview. **Melatonin Research**, **2019**, **2:115-137** [**OJS & PKP; New Journal**].
- 20. Ghosh A, Bose G, Dey T, Pal PK, Mishra S, Ghosh AK, Chattopadhyay A, Bandyopadhyay D. Melatonin protects against cardiac damage induced by a combination of high fat diet and isoproterenol exacerbated oxidative stress in male Wistar rats. Melatonin Research, 2019, 2:9-31 [OJS & PKP; New Journal].
- 21. Pal PK, Bhattacharjee B, Ghosh AK, Chattopadhyay A, **Bandyopadhyay D**. Adrenaline induced disruption of endogenous melatonergic system, antioxidant and inflammatory responses in the gastrointestinal tissues of male Wistar rat: an in vitro study. Melatonin Research, 2018, 1:109-131 [OJS & PKP; New Journal].
- 22. Paul S, Naaz S, Ghosh AK, Mishra S, Chattopadhyay A, **Bandyopadhyay D**. Melatonin chelates iron and binds directly with phenylhydrazine to provide protection against phenylhydrazine induced oxidative damage in red blood cells along with its antioxidant mechanisms: an in vitro study. **Melatonin Research, 2018**, 1: 1-20 [OJS & PKP; New Journal].
- Bhattacharjee B, Pal PK, Ghosh AK, Mishra S, Chattopadhyay A, Bandyopadhyay D. Aqueous bark extract of *Terminalia arjuna* protects against cadmium-induced hepatic and cardiac injuries in male Wistar rats through antioxidative mechanisms. Food and Chemical Toxicology, 2018, 124, 249-264 [ELSEVIER; Impact Factor 4.679].
- Mishra S, Chattopadhyay A, Naaz S, Ghosh AK, Das AR, Bandyopadhyay D. Oleic acid ameliorates adrenaline induced dysfunction of rat heart mitochondria by binding with adrenaline: An isothermal titration calorimetry study. Life Sciences, 2019, 218: 96-111 [ELSEVIER; Impact Factor 3.448].
- 25. Ghosh AK, Naaz S, Bhattacharjee B, Ghosal N, Chattopadhyay A, Roy S, Reiter RJ, **Bandyopadhyay D.** Mechanism of melatonin protection against copper-ascorbateinduced oxidative damage in vitro through isothermal titration calorimetry. **Life Sciences**, 2017, 180, 123-136. [ELSEVIER; Impact Factor 3.448]
- 26. Bose G, Ghosh A, Mishra S, Dey T, **Bandyopadhyay D**. High Fat Diet Induced Myocardial Injury : A Time Response Study . Journal of Pharmacy Research, 2017, 11 (6), 629-628 [JPR Solution Publication; Impact Factor 2.89].
- 27. Sen A, Mishra S, Ghosh A, Bhattacharjee B, Datta (De) S, Ghosh AK, Chattopadhyay

A, Bandyopadhyay D. Aqueous leaf extract of Tulsi (*Ocimum sanctum*) protects against high fat diet-induced injury to rat liver through antioxidant mechanism: a dose and time dependent study. Journal of Pharmacy Research, 2017, 11 (4), 334 - 351 [JPR Solution Publication; Impact Factor 2.89].

- Ghosh D, Mishra S, Hussain SZ, Chattopadhyay A, Firdaus SB, Singha PS, Bandyopadhyay D. Aqueous Curry leaves extract protects against lead induced oxidative stress in rat spleen: a new insight. Journal of Pharmacy Research 2017, 11(2), 313-323. [JPR Solution Publication; Impact Factor 2.89]
- 29. Das N, Mandala A, Naaz S, Giri S, Jain M, **Bandyopadhyay D**, Reiter RJ, Roy SS. Melatonin protects against lipid-induced mitochondrial dysfunction in hepatocytes and inhibits stellate cell activation during hepatic fibrosis in mice. Journal of Pineal Research 2017, 62 (4), [Wiley Publication; Impact Factor 15.221]
- 30. Das N, Mandala A, Bhattacharjee S, Mukherjee D, Bandyopadhyay D, Roy SS. Dietary fat proportionately enhances oxidative stress and glucose intolerance followed by impaired expression of genes associated with mitochondrial biogenesis. Food & Function 2017, DOI No. 10.1039/C6FO01326K. [Impact Factor 2.686]
- Bhattacharjee B, Ghosh AK, Mishra S, Das J, Chattopadhyay A, and Bandyopadhyay D. Terminalia arjuna aqueous bark extract protects against cadmium acetate-induced injury to rat liver and heart through antioxidant mechanisms: a dose response study. Journal of Pharmacy Research 2016, 10(11), 771-792. [JPR Solution Publication; Impact Factor 2.89].
- **32.** Ghosh AK, Bhattacharjee B, Mishra S, Das N, Ghosal N, Naaz S, Pal A, Roy SS, Chattopadhyay A, and Bandyopadhyay D. Estra-1, 3, 5(10) triene-3, 17 β -diol protects mitochondria against Cu-ascorbate induced oxidative damage in in vitro system: A novel therapeutic approach. Journal of Pharmacy Research 2016, 10(9), 594-608. [JPR Solution Publication; Impact Factor 2.89].
- **33.** Mishra S, Ghosal N, Bhattacharjee B, Ghosh A, Ghosh AK, Bezbaruah R, Chattapadhyay A, Bandyopadhyay D. Oleic acid, one of the major component of ethyl acetate partition fraction of Terminalia arjuna, protects against adrenaline induced myocardial injury in male albino rats. Journal of Pharmacy Research 2016, 10(8), 543-565. [JPR Solution Publication; Impact Factor 2.89].
- **34.** Mishra S, Naaz S, Ghosh AK, Paul S, Ghosal N, Dutta M, **Bandyopadhyay D**, Chattopadhyay A. Orally administered aqueous bark extract of Terminalia arjuna protects against adrenaline- induced myocardial injury in rat heart through antioxidant mechanisms: an in vivo and an in vitro study. **Journal of Pharmacy Research** 2016, 10(6), 454-478. [**JPR Solution Publication; Impact Factor 2.89**].
- **35.** Ghosh D, Paul S, Naaz S, Bhowmik D, Dutta M, Ghosh AK, Firdaus SB, Chattopadhyay A, Reiter RJ and **BandyopadhyayD**. Melatonin protects against lead acetate induced oxidative stress-mediated changes in morphology and metabolic status in the rat red blood cells: a flow cytometric and biochemical analysis. **Journal of Pharmacy Research**2016,10(6),381-402.[**JPR Solution Publication; Impact Factor 2.89**].

- **36.** Ghosal N, Firdaus SB, Naaz S, Paul S, Ghosh AK, Chattopadhyay A, Mohan V, Thakurdesai P, Bhaskaran S, Pattari S and **Bandyopadhyay D**. Gastroprotective effect of Fenugreek 4- hydroxyisoleucine and trigonellineenrichedfraction (TF4H (28%)) Sugaheal® against indomethacin induced ulcer in male wistar rats. **Journal of Pharmacy Research**2016,10(6),351- 364.[**JPR Solution Publication; Impact Factor 2.89**].
- 37. Ghosal N, Firdaus SB, Paul S, Naaz S, Chattopadhyay A,Shukla P, Jain G, Pattari S, Rangari VD and Bandyopadhyay D. Amelioration of gastrotoxic effect of indomethacin bypiperine in male Wistar rats: a novel therapeutic approach. Journal of Pharmacy Research 2016,10(5),240- 254.[JPR Solution Publication; Impact Factor 2.89].
- 38. Paul S, Ghosh D, Ghosh A, BhowmickD,Bandyopadhyay D, Chattopadhyay A. Aqueous bark extract of *terminaliaarjuna* protects against phenylhydrazine induced oxidative damage in goat red blood cell membrane bound and metabolic enzymes. International Journal of Pharmacy and Pharmaceutical Sciences.2016, 8(5),62-70.[Innovare Academic Sciences; Impact Factor: 0.55].
- **39.** Saha P,Chakraborty P, Mukhopadhyay P, **Bandyopadhyay D**, GhoshS.Computer Based Attention Training for treating a Child with Attention Deficit/Hyperactivity Disorder: An Adjunct to Pharmacotherapy- A case report. Journal of Pharmacy Research, 2015,9(11),612-617. [JPR Solution Publication; Impact Factor 2.89].
- **40.** Mishra S, Ghosh D, Dutta M, Chattopadhyay A and **Bandyopadhyay D**. Tannic Acid Protects against Cadmium-Induced Renal Damages of Male Albino Rats.**International Journal of Pharmaceutical Science**, Reviews and Research, 2015, 32(2): 273-281. **[Impact Factor 2.544].**
- Ghosh A, Dutta M, Ghosh AK, Chattopadhyay A, Bhowmick DandBandyopadyay D. Melatonin affords protection against myocardial ischemia-induced cerebral mitochondrial dysfunction: an *in vivo* study. Journal of Pharmacy Research, 2015, 9(2): 105-118. [JPR Solution Publication; Impact Factor 2.89].
- Mukherjee D, Ghosh AK, Dutta M, Mitra E, Mallick S, Saha B, Reiter RJ and Bandyopadhyay D. Mechanisms of isoproterenol-induced cardiac mitochondrial damage: protective actions of melatonin. Journal of Pineal Research, 2015, 58: 275–290.[Wiley Publication; Impact Factor 15.221].
- **43.** Dutta M, Chattopadhyay A, Ghosh AK, Roy Chowdhury U, Bhowmick D, Guha B, Das T and **Bandyopadhyay D**. Benzoic acid, one of the major components of aqueous bark extract of *Terminalia arjuna*protects against Copper-Ascorbate induced oxidative stress in human placental mitochondria through antioxidant mechanism(s): an *in vitro* study. **Journal of Pharmacy Research**, 2015,9(1): 64-88. [**JPR Solution Publication; Impact Factor 2.89**].
- **44.** Bishayi B, Bandyopadhyay D, Majhi A and Adhikary R. Effect of exogenous MCP-1 on TLR-2 neutralized murine macrophages and possible mechanisms of CCR-2/TLR-

2 and MCP-1 signalling during *Staphylococcus aureus* infection. **Immunobiology.** 2015, 220, 350-362. [**Impact Factor 3.04**].

- **45.** FirdausSB,Ghosh D, Chattyopadhyay A, Jana K and Bandyopadhyay D. A combination of aqueous curry (*Murraya koenigii*) leaf extract and melatonin protects against piroxicam induced gastric ulcer in male albino rats: Involvement of antioxidant mechanism(s). Journal of Pharmacy Research.2014, 8(3), 428-436.[JPR Solution Publication; Impact Factor 2.89].
- **46.** Dutta M, Ghosh AK, Mishra P, Jain G, Rangari V, Chattopadhyay A, Das T, Bhowmick D and **Bandyopadhyay D**. Protective effects of piperine against copperascorbate induced toxic injury to goat cardiac mitochondria in vitro.**Food and Function**, 2014, 5: 2252–2267. [Royal Society of Chemistry; Impact Factor 2.791].
- 47. Dutta M, Ghosh AK, Rangari V, Jain G, Khobragade SM, Chattopadhyay A, Bhowmick D, Das T and Bandyopadhyay D. Silymarin protects against copperascorbate induced injury to goat cardiac mitochondria *in vitro*: involvement of antioxidant mechanism(s). International Journal of Pharmacy and Pharmaceutical Sciences, 2014, 6(8): 422-429. [Academic Sciences Publication; Impact Factor: 0.55].
- **48.** Dutta M, Ghosh AK, Jain G, Rangari V, Chattopadhyay A, Das T, Bhowmick D and **BandyopadhyayD**.Andrographolide, one of the major components of *Andrographispaniculata*protects against copper-ascorbate induced oxidative damages to goat cardiac mitochondria *in vitro*.**International Journal of Pharmaceutical Sciences Reviews and Research**, 2014, 28(1): 237-247. **[Impact Factor 2.544].**
- **49.** Bandyopadhyay D, Ghosh D, Chattopadhyay A, Firdaus SB, Ghosh AK, Paul S, Bhowmik D, Mishra S, Dalui K. Lead induced oxidative stress: a health issue of global concern. Journal of Pharmacy Research, 2014, 8(9): 1198-1207. [JPR Solution Publication; Impact Factor 2.89].
- **50.** Mishra S, Dutta M, Mondal SK, Dey M, Paul S, Chattopadhyay A and **Bandyopadhyay D**. Aqueous bark extract of *Terminalia arjuna*protects against adrenaline-induced hepatic damage in male albino rats through antioxidant mechanism(s): a dose response study. **Journal of Pharmacy Research**, 2014, 8(9): 1198-1207.[**JPR Solution Publication; Impact Factor 2.89**].
- Dutta M, Chattopadhyay A, Bose G, Ghosh A, Banerjee A, Ghosh AK, Mishra S,Pattari SK, Das TandBandyopadhyay D. Aqueous bark extract of *Terminalia arjuna*protects against high fat diet aggravated arsenic-induced oxidative stress in rat heart and liver: involvement of antioxidant mechanisms.Journal of Pharmacy Research, 2014, 8(9): 1285-1302. [JPR Solution Publication; Impact Factor 2.89].
- 52. Dutta M, Ghosh AK, Mohan V, Thakurdesai P, Chattopadhyay A, Das T, Bhowmick D and Bandyopadhyay D. Trigonelline [99%] protects against copper-ascorbate induced oxidative damage to mitochondria: an *in vitro* study. Journal of Pharmacy Research, 2014, 8(11): 1694- 1718. [JPR Solution Publication; Impact Factor 2.89].

- **53.** Dutta M, Ghosh D, Ghosh AK, Rudra S, Bose G, Dey M, Bandyopadhyay A, Pattari SK, Mallick S, ChattopadhyayAand**Bandyopadhyay D**. High fat diet aggravates arsenic induced oxidative stress in rat heart and liver.**Food and Chemical Toxicology**, 2014, 66:262–277. [Elsevier Publications; Impact Factor 2.895].
- 54. Paul S, Ghosh AK, Ghosh D, Dutta M, Mitra E, Dey M, Bhowmick D, Das T, Firdaus SB, Mishra S, BandyopadhyayDandChattopadhyay A. Aqueous bark extract of *Terminalia arjuna*protects against phenylhydrazine induced oxidative damage in goat red blood cell membrane protein, phospholipid asymmetry and structural morphology: a flow cytometric and biochemical analysis. Journal of Pharmacy Research, 2014, 8(12):1790-1804.(JPR Solution Publication; Impact Factor 2.89).
- **55.** Ghosh D, Dey M, Ghosh AK, Chattopadhyay A and **Bandyopadhyay D**. Melatonin protects against lead acetate-induced changes in bloodcorpuscles and lipid profile of male Wistarrats.**Journal of Pharmacy Research**, 2014, 8(3): 336-342. [**JPR Solution Publication; Impact Factor 2.89**].
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- 19) Sanatan Mishra ,Mousumi Dutta , Debasish Bandyopadhyay , Aindrila Chattopadhyay. Adrenaline induced myocardial injury in rats: Protection by aqueous Terminalia arjuna bark extract.Physicon 2014,Department of Physiology & Department of Zoology, Berhampore Girls' College, Berhampore, Murshidabad, West Begal.XXVI Annual National Conference of Physiological Society of India; 19th-21st December'2014.
- **20**) Sudeshna Paul, **Debasish Bandyopadhyay** and Aindrila Chattopadhyay. Protective role of aqueous bark extract of Terminalia arjuna on phenylhydrazine induced oxidative injury in goat red blood cells. Physicon 2014, Department of Physiology & Department of Zoology, Berhampore Girls' College, Berhampore, Murshidabad, West Begal.XXVI Annual National Conference of Physiological Society of India; 19th-21st December'2014.
- 21) Debosree Ghosh, Syed Benazir Firdaus, Elina Mitra, Monalisa Dey, Sanjib K.Pattari, Santanu Dutta, and Debasish Bandyopadhyay. Evaluation of hepatoprotective activity of aqeous leaf extract of *Murraya koenigii* in sub chronic lead-Induced liver Injury in rats. 100th Indian Science Congress, section XI:Medical sciences (including Physiology), held at University of Calcutta, Kolkata, from January 3 to 7, 2013. 50. Pg. 193.

- 22) Syed Benazir Firdaus, Debosree Ghosh, Anjali Basu, Arnab K. Ghosh, Elina Mitra, Debasish Bandyopadhyay. Polyphenol rich aqueous Curry leaf extract protects against piroxicam induced gastrotoxicity.100th Indian Science Congress, section XI:Medical sciences (including Physiology), held at University of Calcutta, Kolkata, from January 3 to 7, 2013.279. Pg. 404.
- 23) Monalisa Dey, Swagata Basak, Debosree Ghosh and Debasish Bandyopadhyay,"A Purified FMN – phosphatase from Goat Heart. 100th Indian Science Congress, section XI:Medical sciences (including Physiology), held at University of Calcutta, Kolkata, from January 3 to 7, 2013.54.Pg.No.197.
- 24) Elina Mitra, Anjali Basu, Debosree Ghosh, , Santanu Datta, Sanjiv K.Pattari, Debasish Bandyopadhyay, "Protective effects of an aqueous Tulsi leaf (*Ocimum sanctum*) extract gainst cadmium induced oxidative stress in rat liver. 100th Indian Science Congress, section XI:Medical sciences (including Physiology), held at University of Calcutta, Kolkata, from January 3 to 7, 2013.287.Pg.No.411.
- **25**) Swagata Mullick, Monalisa Dey and **Debasish Bndyopadhyay**. A Purified Flavin Phosphatase from Goat Liver. 100th Indian Science Congress, section XI:Medical sciences (including Physiology), held at University of Calcutta, Kolkata, from January 3 to 7, 2013.Pg No.192.
- 26) Sudeshna Paul, Arnab K Ghosh, Mousumi Dutta, Monalisa Dey, Sanatan Mishra, Debasish Bandyopadhyay, Aindrila Chattopadhyay.Effect of aqueous bark extract of Terminalia arjuna on Phenylhydrazine induced oxidative stress in RBC membrane. 100th Indian Science Congress, section XI:Medical sciences (including Physiology), held at University of Calcutta, Kolkata, from January 3 to 7, 2013.Pg No.409.
- 27) Aindrila Chattopadhyay, Mousumi Dutta, Arnab Kumar Ghosh, Sudeshna Paul, Sanatan Mishra, Anjali Basu and Debasish Bandyopadhyay. Remediation of mitochondrial oxidative stress: *An in vitro* study. 100th Indian Science Congress, section XI: Medical sciences (including Physiology), held at University of Calcutta, Kolkata, from January 3 to 7, 2013. Pg No. 103

- 28) Debasri Mukherjee, ArnabKGhosh, AnjaliBasu, Arun Bandyopadhyay and Debasish Bandyopadhyay.Melatonin ameliorates isoproterenol induced mitochondria dysfunction in rat heart. 100th Indian Science Congress, section XI:Medical sciences (including Physiology), held at University of Calcutta, Kolkata, from January 3 to 7, 2013.Pg No.198.
- 29) Santanu dutta, Debasri Mukherjee, Arnab K Ghosh, Elina Mitra, Anjali Basu, Arun Bandyopadhyay and Debasish Bandyopadhyay. Involvement of oxidative stress in set of Indian patients suffering from Ischemic Heart Disease. 100th Indian Science Congress, section XI:Medical sciences (including Physiology), held at University of Calcutta, Kolkata, from January 3 to 7, 2013. Pg. No. 212.
- 30) Dutta M, Ghosh D, Bandyopadhyay D, Chattopadhyay A, Aggravation of arsenicinduced oxidative stress in the heart and liver tissues of rats co-treated with high fat diet, UGC sponsored seminar on "Progress of Science vis-à-vis Environment", at Sarojini Naidu College for women in collaboration with Dum Dum Motijheel College, 11th and 14th January, 2013.
- 31) Debosree Ghosh, Elina Mitra, Syed Benazir Firdaus, Monalisa Dey, Arnab Kr. Ghosh, Aindrila Chattopadhyay, Debasish Bandyopadhyay. Melatonin protects against leadinduced oxidative stress in rat heart. International Symposium on Molecular Signaling, organized by Visva-Bharati (A Central University), Santiniketan, India.February 18-21, 2013, P 79.
- 32) Syed Benazir Firdaus, Debosree Ghosh, Anjali Basu, Arnab K. Ghosh, Elina Mitra, Kuladip Jana, Debasish Bandyopadhyay. Aqueous Curry leaf extract protects against piroxicam induced gastrotoxicity in experimental rats. International Symposium on Molecular Signaling, organized by Visva-Bharati (A Central University), Santiniketan, India.February 18-21, 2013, P 114.
- 33) Elina Mitra, Debosree Ghosh, Arnab Kr. Ghosh, Santanu Datta, Sanjiv K.Pattari, Debasish Bandyopadhyay, "Protective effects of an aqueous leaf extract of *Murraya koenigii* L. against cadmium induced oxidative stress in rat heart: possible involvement of antioxidant mechanism (s)," 99th Indian Science Congress, section XI:Medical sciences

(including Physiology),held at KIIT University,Bhubaneshwar, from January 3 to 7,2012.6.Pg.No.142.

- 34) Debosree Ghosh, Elina Mitra, Syed Benazir Firdaus, Arnab Kr. Ghosh, Debasish Bandyopadhyay,"Aqueous curry leaves (*Murraya koenigii* L.) extract scavenges reactive oxygen species in vitro," 99th Indian Science Congress, section XI:Medical sciences (including Physiology), held at KIIT University, Bhubaneshwar, from January 3 to 7,2012.132.Pg.No.264.
- **35**) Monalisa Dey, Swagata Basak, Debosree Ghosh, Subhasish Pal and **Debasish Bandyopadhyay**,"A Purified FMN – phosphatase from goat heart: a forgotten enzyme of flavin metabolising pathway99th Indian Science Congress, section XI:Medical sciences (including Physiology), held at KIIT University, Bhubaneshwar, from January 3 to 7,2012.128.Pg.No.260.
- 36) Syed Benazir Firdaus, Debosree Ghosh, Elina Mitra, Arnab Kumar Ghosh, Monalisa Dey, Anjali Basu, and Debasish Bandyopadhyay,"Quantitative estimation of antioxidant phytoconstituents in crude and lyophilized aqueous curry leaves (*Murraya koenigii* L.) extract," 99th Indian Science Congress, section XI:Medical sciences (including Physiology), held at KIIT University, Bhubaneshwar, from January 3 to 7,2012. 128. Pg.No.260.
- 37) D.Ghosh, S.B. Firdaus, E.Mitra, M. Dey, D. Bandyopadhyay, "Curry Leaves (*Murraya koenigii*) Protects Against Lead-Induced Oxidative Stress In Rat Liver". 3rd Binnial Conference of South Asian Association of Physiologists and the 25th Anniversary Celebrations of the Physiological Society of Sri Lanka, 7th-9th November 2012, Colombo, Srilanka. OP 45.Pg.No.87.
- 38) Syed Benazir Firdaus, Debosree Ghosh, Arnab K. Ghosh, Anjali Basu, Debasish Bandyopadhyay. Aqueous Curry Leaves Extract Protects Gainst Piroxicam-Induced Ulceration by Scavenging Hydroxyl Radical *in vivo*. OP 8. Pg.No.68. 3rd Binnial Conference of South Asian Association of Physiologists and the 25th Anniversary Celebrations of the Physiological Society of Sri Lanka, 7th-9th November 2012, Colombo, Srilanka.

- 39) Debosree Ghosh, Syed Benazir Firdaus, Elina Mitra, Monalisa Dey, Sanjib K.Pattari, Santanu Dutta, and Debasish Bandyopadhyay. Murraya koenigii protects against lead-induced hepatotoxicity in rats. P-6. Pg. 33-34. One day national seminar in "Emerging Trends in Cell & Molecular Biology", organized by Department of Life Science and Biotechnology, Jadavpur University, December 14th, 2012.
- 40) Syed Benazir Firdaus, Debosree Ghosh, Anjali Basu, Arnab K. Ghosh, Elina Mitra, Kuladip Jana and Debasish Bandyopadhyay. Aqueous Curry Leaves Extract Protects Gainst Piroxicam-Induced Gastric Ulceration by Scavenging Hydroxyl Radical *in vivo*.P-5. Pg. 32-33. One day national seminar in "Emerging Trends in Cell & Molecular Biology", organized by Department of Life Science and Biotechnology, Jadavpur University, December 14th, 2012.
- 41) Sudeshna Paul, Arnab Kumar Ghosh, Mousumi Dutta, Monalisa Dey,Sanatan Mishra, Debasish Bandyopadhyay, Aindrila Chattopadhyay.Protective effect of aqueous bark extract of Terminalia arjuna on Phenylhydrazine induced oxidative stress in RBC memebrane.P-15.Pg. 40. One day national seminar in "Emerging Trends in Cell & Molecular Biology", organized by Department of Life Science and Biotechnology, Jadavpur University, December 14th, 2012.
- 42) Mousumi Dutta, Arnab K. Ghosh, Debasish Bandyopadhyay and Aindrila Chattopadhyay.Aqueous bark extract of Terminalia arjuna ameliorates copper-ascorbate induced oxidative stress in placental mitochondria.P-8.Pg. 34-35. One day national seminar in "Emerging Trends in Cell & Molecular Biology", organized by Department of Life Science and Biotechnology, Jadavpur University, December 14th, 2012.
- 43) Debosree Ghosh, Monalisa Dey, Elina Mitra, Debasish Bandyopadhyay: "Curry leaf (*Murraya koenigii*) extract protects against lead induced oxidative stress in rats." 98th Indian Science Congress, section XI:Medical sciences (including Physiology), held at SRM University, Chennai, from January 3 to 7, 2011.50.Pg.No.225.
- **44**) Elina Mitra, Arnab K.Ghosh, Debosree Ghosh **Debasish Bandyopadhyay**: "Tulsi Leaf Extract Protects Against Cadmium –Induced Hepatic Injury in Rats". 98th Indian Science

Congress, section XI: Medical sciences (including Physiology), held at SRM University, Chennai, from January 3 to 7, 2011.51.Pg.No.226.

- 45) Monalisa Dey,Swagata Basak,Debosree Ghosh, Debasish Bandyopadhyay: "FMN Phosphatase from Goat Heart". 98th Indian Science Congress,section XI:Medical sciences (including Physiology), held at SRM University,Chennai, from January 3 to 7, 2011.Pg.No.290.
- 46) Debosree Ghosh, Elina Mitra, Syed Benazir Firdaus, Arnab Kumar Ghosh, Monalisa Dey, Debasish Bandyopadhyay: "Use of alternative medicine in occupational health hazards: concepts and ideas", International Conference on Molecules to systems Physiology:100 Years Journey, Centenary celebration of the Department of Physiology, University of Calcutta. 21st 23rd September. 2011.PP- 44, Pg No.152.
- 47) Elina Mitra, Debosree Ghosh and Debasish Bandyopadhyay : "Cadmium induced oxidative stress : underlying mechanisms ", International Conference on Molecules to systems Physiology:100 Years Journey, Centenary celebration of the Department of Physiology, University of Calcutta. 21st 23rd September. 2011, PP- 45, Pg No.153.
- 48) Monalisa Dey, Swagata Basak, Debosree Ghosh and Debasish Bandyopadhyay, "Flavin metabolism : a forgotten pathway", International Conference on Molecules to systems Physiology:100 Years Journey, Centenary celebration of the Department of Physiology, University of Calcutta. 21st – 23rd September. 2011, PP- 49, Pg No.157.
- 49) Syed Benazir Firdaus, Anjali Basu, Arnab Kumar Ghosh, Debosree Ghosh and Debasish Bandyopadhyay, "Remediation of gastric ulceration through alternative medicine", International Conference on Molecules to systems Physiology:100 Years Journey, Centenary celebration of the Department of Physiology, University of Calcutta. 21st 23rd September. 2011,PP- 5, Pg No.113.
- 50) Debosree Ghosh , Elina Mitra, Syed Benazir Firdaus, Debasish Bandyopadhyay , "Evaluation of Antioxidant potential of an aqueous extract of the leaves of *Murraya koenigii*.L. *in vitro*", Physicon 2011, Department of Physiology, NRI Medical College & General Hospital, Guntur, XXIII Annual National Conference of Physiological Society of India;21st – 23rd December'2011.PP- WB 100, Pg No.85-86.

51) Elina Mitra, D.Ghosh, A.K. Ghosh, S.Datta,S.K.Pattari &Debasish Bandyopadhyay, "Protective effects of an aqueous extract of the leaves of *Murraya koenigii* against cadmium induced oxidative stress in rat liver, " Physicon 2011, Department of Physiology,NRI Medical College & General Hospital, Guntur,XXIII Annual National Conference of Physiological Society of India;21st – 23rd December'2011.PP- WB 99, Pg No.85.

d) Other publications: Nil

13. Patents: Nil

14. Invited lectures delivered:

- Delivered a PLENARY LECTURE on "Melatonin protects against isoproterenol, and Cu-ascorbate induced alterations in the activities of enzymes related to energy metabolism and enzymatic antioxidants: *in vivo* and *in vitro* studies" at National seminar on Advancement of Biology in The 21st Century, organised by Department of Zoology, Visva-Bharati University, Visva-Bharati University, 28th-29th February, 2020.
- 2) Delivered a PRESTIGIOUS INVITED LECTURE on "Mechanism of protection by melatonin against reactive oxygen species mediated oxidative damage" at International Conference on Chemistry for Human Development, organised by Professor Asima chatterjee Foundation jointly with University of Calcutta and Heritage Institute of Technology, HIT, 9th-11th February, 2020.
- 3) Delivered an INVITED LECTURE on "Cardioprotection by Melatonin: A Therapeutic Hope for the Millions" at UGC Sponsored Two Day National Seminar on Trends of Physiological Reseraches from Laboratory to Community, organised by Department of Physiologyy,Vidyasagar University,Medinipur, 30th -31st April 2016.

- Delivered an INVITED LECTURE on "Cardioprotection by Melatonin: A Therapeutic Hope for the Future" at National Science Meet organised by Hiralal Mazumdar Memorial College for Women, Dakshineswar, Kokata, 3rd March,2016.
- 5) Debasish Bandyopadhyay, INVITED LECTURE delivered at FIPSPHYSICON, XXVIIth Annual Conference of the Physiological Society of India (PSI) & VIth Congress of the Federation of Indian Physiological Societies (FIPS), on Translational Physiology for health Promotion, December 18-20' 2015, held at The University College of Science and Technology, University of Calcutta, Rajabazar, Kolkata, India, organized by the PSI.
- 6) Debasish Bandyopadhyay, INVITED LECTURE delivered at Current Trends of Research in Human Physiology and Community Health, 27th March, 2015, organised by the Dept. of Human Physiology with Community Health, Vidyasagar University, Midnapore 721102,West Bengal.
- 7) Delivered an INVITED LECTURE on "Isoproterenol induced myocardial ischemia in rat model: our experiences with melatonin" at 102nd session of the Indian Science Congress, held at University of Mumbai, Mumbai, January 3-7, 2015.
- 8) Debasish Bandyopadhyay, Targeting mitochondria for the allevation of oxidative stress: a new experience with black pepper alkaloid. (SIL - 09). SPECIAL INVITED LECTURE delivered atPHYSICON 2014, Department of Physiology & Department of Zoology, Berhampore Girls' College, Berhampore, Murshidabad, West Begal.XXVI Annual National Conference of Physiological Society of India; 19th-21st December'2014. Pg no. 10.
- 9) Delivered an INVITED LECTURE on "Melatonin protects against lead acetateinduced oxidative stress in rat liver, heart and kidneys" at 101st session of the Indian Science Congress, held at Jammu University, Jammu, February 3-7, 2014.
- 10) Delivered an INVITED LECTURE on "Melatonin in Cardiprotection" at 100thsession of the Indian Science Congress, held at University of Calcutta, Kolkata, January 3-7, 2013.

- 11) Debasish Bandyopadhyay, Cardioprotection by Melatonin: A Novel Approach.INVITED LECTURE delivered at XXIV Annual Conference of Physiological Society of India held at Dept. Of Physiology, Andhra Medical college, Vishakhapattanam. 12-14th Dec'2012.
- 12) Delivered an **INVITED LECTURE** at the Annual Conference of Society of Biological Chemists of India held at Kolkata , November, 2012.
- 13) Debasish Bandyopadhyay, Cadmium-induced oxidative stress in rat heart: protection by Curry leaf aqueous extract – A new approach. INVITED LECTURE delivered at 99th Indian Science Congress, section XI:Medical sciences (including Physiology) held at KIIT,Bhubaneshwar. 3-7th Jan' 2012.
- 14) Debasish Bandyopadhyay, Melatonin as an antioxidant. SYMPOSIUM LECTURE delivered at the 98th session of the Indian Science Congress, held at SRM University, Chennai, January 3-7, 2011.

13. Awards:

 Received the prestigious Prof. Parimal Biskash Sen Memorial Oration Award at Annual Conference of Physiological Society of India (PSI) "PHYSIOCON-2016" organised by Department of Physiology, Midnapur College, Medinipur, on 22nd-24th November 2016.

14. Other notable activities:

- Served as judge for presentations and posters at a regional conference organised by West Bengal State DST.
- Served as a Resource Person at the Refresher Course in Life Science at the Department of Botany, University of Calcutta, December, 2015.