



ENLIGHTENMENT TO PERFECTION

UNIVERSITY OF NORTH BENGAL

Accredited by NAAC with grade A
Raja Rammohunpur, Dist.-Darjeeling, West Bengal, Pin-734013, India.

Department of Zoology

Print

**Dr. Arpan Kumar Maiti**

M.Sc., Ph.D.

Assistant Professor

Contact Addresses:

Contact No. +91-353-2776353 (O), +91-8861491925 (M), +91-9830543218 (M),
Mailing Address Mitochondrial Biology & Experimental Therapeutics Laboratory Department of Zoology, University of North Bengal, P.O. NBU, Raja Rammohunpur, Dist.-Darjeeling, West Bengal, India, PIN-734013
e-Mail arpankumar.maiti@gmail.com, arpankrmaiti@nbu.ac.in

Subject specialization: Ecology and Environmental Science, Biochemistry, Toxicology, Cell Biology.

Areas of Research Interest: Mitochondrial dysfunction in diseases, Neurotoxicology, Ecotoxicology, Therapeutics for ulcerative colitis, Therapeutics for neurodegenerative diseases and aging

No. of Ph.D. students: (a) Supervised: NIL (b) Ongoing: 2

No. of M.Phil. Students: (a) Supervised: NIL (b) Ongoing: NIL

No. of Publications: (a) Journal(s): 24 (b) Book(s): 00 (c) Book Chapter(s): 00

Achievement & Awards:

- Visiting Fellowship Funded by Soderbers Foundation, Sweden (2013-2015)
- Fulbright-Nehru Post-Doctoral Fellowship (2011-2012-Sponsored by Department of State, Govt. of USA)
- 2nd World Parkinson Congress travel award (WPC-2010) (2nd Congress, 28th Sep.-1st Oct.2010, Glasgow, Scotland)
- International Union of Physiological Sciences [IUPS] travel award (36th IUPS Congress, 27th July-1st Aug,2009, Kyoto, Japan)
- Jawaharlal Nehru Memorial Fund Fellowship (JNMF-2009) (sponsored by Jawaharlal Nehru Memorial Trust, New Delhi, India for doctoral studies – not availed)
- Order of Merit - M. Sc. Examination 2001 (Stood Second in First Class, University of Kalyani, West Bengal, India)
- Order of Merit at the B.Sc.(Honours) Examination 1999 (Stood Second in First Class, Vidyasagar University, West Bengal, India)

Professional Experience:

- As *Assistant Professor* from April 2016 – September 2018 at School of Basic and Applied Sciences, Dayananda Sagar University, Bangalore, Karnataka, India.
- As *Visiting Researcher* from February 2013- February 2015 at Department of Medical Biochemistry and Cell Biology, University of Gothenburg, Sahlgrenska Akademin, Sweden. [Mentor: Prof. Sara K Linden]
- As *Fulbright Post-Doctoral Fellow* from September 2011-August 2012 at Department of Physiology, Hypertension and Renal Center of Excellence, Tulane University Health Sciences Center, New Orleans, Louisiana, USA. [Mentor: Prof. D S Majid]
- As *Ph.D. Research Scholar* from 2006-2010 at University of Kalyani, West Bengal, India. [Mentors: Prof. Nimai Chandra Saha; Prof. Gautam Paul]
- As *Senior Research Fellow* at Institute of Post Graduate Medical Education & Research (Dr. B C Roy Post-Graduate Institute of Basic Medical Sciences), Kolkata, West Bengal, India, till 2006. [Mentor: Prof. Sasanka Chakrabarti]
- As *Research Fellow* from 2002-2003 at University of Calcutta, University College of Medicine, Kolkata, India. [Mentor: Prof. Uttara Chatterjee]

Administrative Experience:

- Associated with UG/PG Examination of the University of North Bengal as **Paper Setter/Moderator/Member of Board of Moderation.**
- In the capacity of **Custodian of Examinations, Observer of Examinations and Question Paper setter** at Dayananda Sagar University, Bangalore, Karnataka, India.

Research Projects:

Sl. No.	Project Title	In the capacity	Duration	Fund Amount & Funding Agency
1	Investigations on intestinal neuropeptides as anticarcinogenic agents on mitochondrial function for the maintenance of colon epithelial tract in ulcerative colitis.	Supervisor (PI)	2017-2020	Rs.39,14,158/- Department of Science and Technology (DST), New Delhi, India.
2	Angiotensin III and peroxynitrite interactions in the kidney.	Supervisor (PI)	2011-2012	30,000 USD Department of State, Govt. Of USA – For Fulbright Project.

Selective List of publications:**Original Research Paper in Peer-Reviewed Indexed Journals:****corresponding author**

- **AK Maiti**, S Sharba, N Navabi, SK Lindén (2018) Colonic levels of Vasoactive Intestinal Peptide decrease during infection and exogenous VIP protects epithelial mitochondria against the detrimental effects of TNF α and IFN γ induced during *Citrobacter rodentium* infection. *Plos One* 13(9):e0204567. doi: 10.1371/journal.pone.0204567 [I.F.-2.9]
- **AK Maiti**^{*}, Spoorthi BC, Saha NC, Panigrahi AK (2018). Mitigating peroxynitrite mediated mitochondrial dysfunction in aged rat brain by mitochondria-targeted antioxidant MitoQ. *Biogerontology*. 2018 May 17. doi: 10.1007/s10522-018-9756-6.[IF-3.23]
- K Dhara, NC Saha, **AK Maiti**^{*} (2017) Studies on acute and chronic toxicity of cadmium to freshwater snail *Lymnaea acuminata* (Lamarck) with special reference to behavioural and haematological changes. *Environmental Science Pollution Research* 24 (35): 27326-27333. doi: 10.1007/s11356-017-0349-8. [I.F.-2.74]
- BC Spoorthi, Gautham SA, Sunil S More, **AK Maiti**^{*} (2018) Nutraceuticals: potential therapeutic agents for the treatment and prevention of cardiovascular diseases. *Journal of Pharmacy Research* 12 (2):231-242. [I.F.-0.89]
- **AK Maiti**^{*}, NC Saha, G Paul, K Dhara (2018) Mitochondrial respiratory chain inhibition and Na⁺K⁺ATPase dysfunction are determinant factors modulating the toxicity of nickel in the brain of indian catfish *Clarias batrachus* L. *Interdisciplinary Toxicology* 11 (2):101-110. [IF-0.52]
- **AK Maiti**^{*}, N C Saha, S S More, A K Panigrahi and G Paul. (2017) Neuroprotective efficacy of mitochondrial antioxidant MitoQ in suppressing peroxynitrite mediated mitochondrial dysfunction inflicted by lead toxicity in rat brain. *Neurotoxicity Research* 31 (3): 358-372. doi: 10.1007/s12640-016-9692-7 [IF-3.3]
- N Mukherjee, DR Vayeda, BC Spoorthi, **AK Maiti**^{*} (2017) Neurotherapeutic efficacy of nutraceuticals in combating Parkinson's disease: A promising alternative. *Journal of Pharmacy Research* 11(9): 1127-1134.[I.F.-0.89]
- DR Vayeda, N Mukherjee, Spoorthi BC, **AK Maiti**^{*} (2017). Nutraceuticals: The new generation therapeutics for Alzheimer's Disease. *Int J Public Ment Health Neurosci.*, 4(2): 1-8. [IF:1.261]
- **AK Maiti**^{*}, G Paul, NC Saha (2017). Zinc neurotoxicity inflicts mitochondrial dysfunction in the brain of *Clarias batrachus* L : Implication in fish death. *Int J Public Ment Health Neurosci.*, 4(1): 16-20. [IF:1.261]
- **AK. Maiti**, Mohammed T. Islam, Ryosuke Satou and Dewan S. A. Majid (2016). Enhancement in cellular Na⁺ K⁺ ATPase activity by low doses of peroxynitrite in mouse renal tissue and in cultured HK2 cells. *Physiological Reports* 4(3): e12766, doi: 10.14814/phy2.12766. [IF-1.61]
- **AK. Maiti**, S Sharba, N Navabi, H Forsman, HR Fernandez and S K Linden (2015).IL-4 protects the mitochondria against TNF alpha and IFN gamma induced insult during clearance of infection with *Citrobacter rodentium* and *Escherichia coli*. *Scientific Reports* 10/2015; 5:15434. DOI:10.1038/srep15434 [IF-5.2]

- **AK Maiti**, MT Islam and Dewan SA Majid (2012). Enhancement of cellular Na⁺K⁺ATPase activity in the mouse renal tissue *in-vitro* with low concentration of peroxynitrite. *FASEB J* March 29, 26:885.4. [I.F-5.04]
- **AK Maiti, NC Saha and G Paul (2010). Effect of lead on oxidative stress, Na⁺K⁺ATPase activity and mitochondrial electron transport chain activity of the brain of *Clarias batrachus* L. *Bulletin of Environmental Contamination and Toxicology* 84 (6):672-676. [IF-1.4]**
- NC Choudhuri, G Paul, **AK Maiti**, MS Kundu, A Kundu (2009). Impact of training on poultry farming and evaluation of improved Nicobari fowl under intensive and extensive management systems in Andaman, India. *Livestock Research and Rural Development* 21(2): 162.1-5.9. [IF:0.27]
- **AK Maiti**, G Paul, B Maity, D Mazumdar and NC Saha (2009). Chromium III exposure inhibits brain Na⁺K⁺ATPase activity of *Clarias batrachus* L. involving lipid peroxidation and deficient mitochondrial electron transport chain activity. *Bulletin of Environmental Contamination and Toxicology* 83(4):479-483.[IF-1.4]
- **AK Maiti**, K Ghosh, U Chatterjee, S Chakrabarti, S Chatterjee and Samik Basu (2008). Epidermal growth factor receptor and proliferating cell nuclear antigen in astrocytomas. *Neurology India* 56 (4):421-428. [IF-1.75]
- MB Bagh, **AK Maiti**, A Roy and S Chakrabarti (2008).Dietary supplementation with N-acetyl cysteine, alpha-tocopherol and alpha-lipoic acid prevents age related decline in Na⁺K⁺ATPase activity and associated peroxidative damage in rat brain synaptosomes. *Biogerontology* 9:421-428. [IF-3.23]
- B Bagh, **AK Maiti**, S Jana, K Banerjee, A Roy and S Chakrabarti (2008). Quinone and oxyradical scavenging properties of N-acetylcysteine prevent dopamine mediated inhibition of Na⁺K⁺ATPase and mitochondrial electron transport chain activity in rat brain: Implications in the neuroprotective therapy of Parkinson's disease. *Free Radical Research* 42 (6):574-581. [IF-3.4]
- D Bhattacharya, AK Bera, DC Bera, **AK Maiti** and S K Das (2007).Genotypic characterization of Indian cattle, buffalo and sheep isolates of *Echinococcus granulosus*. *Veterinary Parasitology* 143:371-374. [IF-2.28]
- S Jana, **AK Maiti**, MB Bagh, K Banerjee, A Roy, A Das and S Chakrabarti (2007).Dopamine but not 3,4-dihydroxyphenylacetic acid (DOPAC) inhibits rat brain respiratory chain activity by autoxidation and mitochondria catalysed oxidation to quinone products : Implications in Parkinson's Disease. *Brain Research* 1139:195-200. [IF-3.01]
- F H Khan, T Sen, **AK Maiti**, Sirsendu Jana, U C Chatterjee and S Chakrabarti (2005).Inhibition of rat brain mitochondrial electron transport chain activity by dopamine oxidation products during extended in vitro incubation : Implications in Parkinson's Disease. *Biochimica et Biophysica Acta (Bioenergetics)* 1741:65-74.[IF-5.08]
- A Chatterjee, R Bhattacharya, **AK Maiti**, NC Saha (2019). A study on the effects of a nonionic surfactant tritonx 100 on oligochaete worm *Tubifex tubifex* (Muller) and their behavioural changes. *North Bengal University Journal of Animal Sciences* 12: 27-35.
- K Dhara, N C Saha, A K Panigrahi, **AK Maiti** (2019). Assessment of mercury toxicity on sensitivity and behavioural response of freshwater tropical worm, *Branchiura sowerbyi* Beddard, 1892. *Journal of Aquaculture in the Tropics* 34 (1): 9-17.
- K Dhara, **AK Maiti**, AK Panigrahi, NC Saha (2019). Sensitivity and behavioural response to acute toxicity of lead in tropical freshwater worm, *Branchiura sowerbyi* Beddard, 1892. *Journal of Aquaculture in the Tropics* 34 (1): 95-106.

Abstracts Published in National /International Symposiums:

- **AK Maiti**, BC Spoorthi, NC Saha, AK Panigrahi (2018). Targeting therapeutic potential of mitochondrial antioxidant MitoQ to combat peroxynitrite mediated mitochondrial dysfunction in aged rat brain. IAN 2018 International Conference of Neuroscience & XXXVI Annual meeting of Indian Academy of Neurosciences, Page No. 180, Organised by Department of Zoology, Banaras Hindu University, Varanasi, India, Oct 29th -31st 2018.
- Spoorthi B C, Gautham S A, **AK Maiti** (2017). Pesticide-Induced Mitochondrial Diseases: A mini overview. International conference on Potential impact of pesticides on Environment and Human health (ICPIPEHH-2017). PP2-10 page no. 118. Organized by Dayananda Sagar University, Bangalore, November 2nd to 4th 2017.
- Spoorthi B C, Gautham S A, Sunil S More, **AK Maiti** (2017). Nutraceuticals and Cardiovascular Vascular Diseases. International conference on Technology in Redefining Health (ICONTRH-2017). CH005 Page No. 29, Organized by Mount Carmel College, Bangalore, November 21st to 23rd 2017.
- DR Vayeda, N Mukherjee, **AK Maiti** (2017) Nutraceuticals in Prevention and Treatment of Alzheimer's Disease. Bioessence Integrated Health Care. 11th-12th January 2017, Jwoti Niwas College, Bangalore, India.
- N Mukherjee, DR Vayeda, **AK Maiti** (2017). Therapeutic Value of Nutraceuticals in Parkinson's Disease. Bioessence Integrated Health Care. 11th-12th January 2017, Jwoti Niwas College, Bangalore, India.
- **AK Maiti** (2017). 'Neuromusicotherapy : A Better Alternative?', Symposium on Neuroscience organized by Cognitive Psychology and Cognitive Neurosciences Laboratory, Department of Clinical Psychology, NIMHANS, Bangalore on 15th March, 2017.
- **AK Maiti** (2016). One day workshop on 'Advanced pedagogy techniques' held at St. Joseph's College, Bangalore on 3rd-4th Dec'2016 organized by India Bioscience, NCBS.
- **AK Maiti**, SK. Linden (2016) Vasoactive Intestinal Peptide protects mitochondria against the detrimental effects of TNF alpha and IFN gamma induced during *Citrobacter rodentium* infection with partial alleviation of colitis. Proceedings of 7th World Congress on Targeting Mitochondria, Oct 24th -26th 2016, Berlin, Germany. WMS Volume 2, Year 2016, DOI: [10.18143/JWMS_v2i2_1917](https://doi.org/10.18143/JWMS_v2i2_1917)

- **AK Maiti**, SK Linden (2016). Vasoactive Intestinal Peptide protects mitochondria in colon epithelia against proinflammatory cytokines in *Citrobacter rodentium* infection: Implications in Inflammatory bowel disease. Proceedings of Advances in Inflammatory Bowel Diseases. 8th to 10th Dec 2016, Orlando, Florida, USA.
- **AK Maiti**, NC. Saha, G Paul (2016). Zinc Neurotoxicity Inflicts Mitochondrial Dysfunction in the Brain of *Clarias batrachus* L.: Implication in fish death. International Conference on Public Mental Health and Neurosciences. 14 to 15th Dec 2016, Bangalore, India.
- MTIslam, **AK Maiti**, R Sato, DSA DSA Majid (2013). Inhibition of nitric oxide generation enhances superoxide production in cultured HK2 and M1 cells. FASEB Journal 04/2013; (27):704.11.
- **AK Maiti**, MT Islam, R Satou, DSA Majid (2012). [Involvement of Peroxynitrite Formation in Angiotensin II Induced Changes in Na⁺ K⁺ ATPase Activity in HK2 Cells](#) . Hypertension 09/2012.
- **AK Maiti**, MB Bagh, S Jana, S Chakrabarti, NC Saha and G Paul (2010). N-acetyl-L-cysteine prevents dopamine toxicity in PC12 cells: Role of toxic quinones. Proceedings of 2nd World Parkinson Congress, Mov. Disorder 25 (3), S621.
- **AK Maiti**, G Paul and NC Saha (2009). Inhibition of mammalian brain Na⁺K⁺ATPase exposed to Zn²⁺ : Role of lipid peroxidation and mitochondrial electron transport chain activity. Proceedings of the XXXVI International Congress of Physiological Sciences (IUPS2009) Function of Life: Elements and Integration, Kyoto, Japan. J. Physiol. Sci. 59 (S1), 384.
- G Paul, **AK Maiti** and NC Saha (2009). Role of lipid peroxidation and mitochondrial electron transport chain on the Na⁺K⁺ATPase activity in rat brain exposed to Ni²⁺. Proceedings of the XXXVI International Congress of Physiological Sciences (IUPS2009) Function of Life: Elements and Integration, Kyoto, Japan. J. Physiol. Sci. 59 (S1), 291.
- **AK Maiti**, N C Saha and G Paul (2009). Oxidative stress induced inhibition of rat brain Na⁺K⁺ATPase exposed to Ni²⁺ ions : Involvement of lipid peroxidation and deficient mitochondrial electron transport chain activity. Proceedings of 'XXI Annual Conference & Platinum Jubilee Celebration of the Physiological Society of India & International Conference on Integrative Physiology : Modern Perspective' organized by Dept. of Physiology, University of Calcutta, Kolkata, 12th – 14th Nov., 2009, Abs 192.
- **AK Maiti**, G Paul and N C Saha (2009). Effect of lead toxicity on oxidative stress, Na⁺K⁺ATPase and mitochondrial electron transport chain activity of mammalian brain. Proceedings of 'School and Symposium on Advanced Biological Inorganic Chemistry (SaBIC 2009) – Dr Homi Bhaba Birth Centenary Commemoration Event' organized by Tata Institute of Fundamental Research, Mumbai, Nov.2nd – 7th,2009, Abs 207-209.
- G Paul, **AK Maiti** and N C Saha (2009). Inhibition of Na⁺K⁺ATPase and mitochondrial electron transport chain activity in mammalian brain by mercury induced oxidative stress. Proceedings of 'School and Symposium on Advanced Biological Inorganic Chemistry (SaBIC 2009) – Dr Homi Bhaba Birth Centenary Commemoration Event' organized by Tata Institute of Fundamental Research, Mumbai, Nov.2nd – 7th, 2009, Abs 176-178.
- M B Bagh, **AK Maiti**, A Roy and S Chakrabarti (2007). Dietary supplementation with N-acetylcysteine, alpha-tocopherol and alpha-lipoic acid prevents age related decline in Na⁺K⁺ATPase activity and associated peroxidative damage in rat brain synaptosomes. International Symposium on advances in neurosciences & Silver jubilee conference of Indian Academy of Neurosciences , Nov 22nd – 25th , 2007, organized by Department of Zoology , Banaras Hindu University , Varanasi, Abst p73.
- **AK Maiti**, M B Bagh , S Jana , K Banerjee , Dipak Gayen , A Roy and S Chakrabarti (2007). Inhibition of rat brain synaptosomal Na⁺K⁺ATPase by dopamine oxidation products : Protective action of n-acetylcyeteine and other quinone scavengers. 3rd International Symposium on 'Neurodegeneration and Neuroprotection' & Society for Neurochemistry (India) Meeting . January 8th – 9th ,organized by Indian Institute of Chemical Biology (IICB) , Jadavpur, Kolkata.Abst. p35.
- S Chakrabarti , S Jana , **AK Maiti** , A Roy , M B Bagh , K Banerjee and Dipak Gayen (2006). Dopamine induced damage to rat brain mitochondria and the protective action of thiol compounds : Implications in the therapy of Parkinson's disease. International Update on Basic and Clinical Research & XXIV Annual Conference on Indian Academy of Neurosciences , Dec 17th – 20th , 2006, Lucknow.Abst p49.
- S Jana, **AK Maiti**, K Banerjee, A Das, MB Bagh and S Chakrabarti (2006).Comparison of the effects of dopamine and 3,4 dihydroxyphenyl acetic acid (DOPAC) on rat brain mitochondrial respiratory chain activity reveals a new pathway of dopamine oxidation by mitochondria. International Conference on Free Radicals and Antioxidants in Health , Disease and Radiation & Annual Conference of Society for Free Radical Research – India (SFRR- India) , Abst. p27.
- K Banerjee, S Jana, **AK Maiti** , M B Bagh , U Chatterjee and S Chakrabarti (2005).Dopamine induced protein damage in rat brain membrane fractions : Protective action of reduced glutathione and MAO inhibitors. 3rd Regional Conference of Eastern Zone ACBI with Bangladesh , Nepal , Bhutan and Myanmar.Abst. p89.
- K Banerjee, S Jana, **AK Maiti** , M B Bagh , U Chatterjee and S Chakrabarti (2005).Monoamine Oxidase (MAO) inhibitors prevent dopamine induced protein damage in rat brain synaptosomal fraction : Implications in Parkinson's disease. Association of Medical Biochemists of India, p6.