



DEBAPRASAD KONER, Ph.D

Dedicated academic and researcher, bringing a strong belief in quality over quantity with a focused and consistent approach to teaching, research, and laboratory practices. Skilled in fostering teamwork, collaboration, and problem-solving, with a commitment to driving innovation, critical thinking, and sustainable growth in both academic and industry environments.

SUMMARY:

- Conducted doctorate research on **Oxidative Stress/Redox Imbalance** and **Antioxidant defence mechanisms** in air-breathing catfish, with a special focus on the antioxidant capacity of endogenously generated **Nitric Oxide (NO)** under ZnO NP-induced oxidative stress in magur catfish (*Clarias magur*).
- Developed and implemented protocols for designing experiments, data collection and analysis.
- Collaborated with interdisciplinary teams to design and execute experiments and published multiple peer-reviewed research articles in reputed scientific journals.
- Looking for a challenging career where I can put my knowledge, skills, expertise, and passion to use in an intellectually engaging atmosphere.

AWARD:

Won **The S. P. Raychaudhuri Memorial Award** for Best poster presentation in the National Conference on Recent Trends in Zoological Research in North East India jointly organized by the North-Eastern Hill University, Shillong and The Zoological Society, Kolkata, 19th -20th April, 2018.

EDUCATION:

Bachelor of Science (B.Sc.) in Zoology. (60.00%)

The University of Burdwan, India.

[2006]- [2009]

Master of Science (M.Sc.) in Zoology. (CGPA-7.08)

Visva- Bharati (A Central University and an Institute of National Importance), India.

[2009]- [2011]

Doctor of Philosophy (Ph. D.) in Zoology.

North-Eastern Hill University (A Central University), India.

[2012]- [2020]

Thesis title:

"Effects of zinc oxide nanoparticle and its bulk counterpart on oxidative stress in the air-breathing catfish *Clarias batrachus* (Bloch)"

RESEARCH PUBLICATIONS:

- Snaitang, R., **Koner, D.**, Saha, N., (2026). High Environmental Ammonia Causes Induction in the Expression of Heat Shock Factor 1, Heat Shock Protein 70, and 90 Genes in Different Tissues of Air-Breathing Stinging Catfish (*Heteropneustes fossilis*). **Journal of Applied Toxicology**. 1-10.
- Khongmawlo, E., **Koner, D.**, Snaitang, R., Saha, N. (2025). Nitric oxide-mediated induction of superoxide dismutase and catalase genes, and altered expression of glutathione-dependent genes to defend against the TiO₂ NP-induced oxidative stress in primary hepatocytes of air-breathing catfish, *Clarias magur*. **Comparative Biochemistry and Physiology Part C: Toxicology & Pharmacology**, 294: 110188.
- Koner, D.**, Snaitang, R., Das, K.C., Saha, N. (2024). Molecular characterization of heat shock protein 70 and 90 genes and their expression analysis in air-breathing magur catfish (*Clarias magur*) while exposed to zinc oxide nanoparticles. **Fish Physiology and Biochemistry**, 50: 2389-2406.
- Koner, D.**, Nag, N., Kalita, P., Padhi, A.K., Tripathi, T., Saha, N. (2023). Functional expression, localization, and biochemical characterization of thioredoxin glutathione reductase from air-breathing magur

QUALIFICATIONS:

- **CSIR-NET (LS)**, Dec 2013, Life Sciences, **AIR-37**
- **GATE 2012**, Life Sciences, **AIR- 869**

TECHNICAL SKILLS:

- ✓ Real time PCR
- ✓ Next Generation Sequencing (RNA-Seq)
- ✓ DNA Sequencing
- ✓ Enzyme assay
- ✓ Biochemical estimation of different metabolites
- ✓ Western blotting
- ✓ Immunocytochemical analysis with Confocal Laser Scanning Microscope
- ✓ Primary cell culture
- ✓ HPLC
- ✓ Basic Bioinformatics
- ✓ Statistical Software

POSTDOCTORAL EXPERIENCE:

Worked as a Research Associate-II under a SERB-funded project entitled "To elucidate the roles of HIF and mTOR signaling pathways, and the autophagy in adaptation to hypoxia stress in air-breathing stinging catfish, *Heteropneustes fossilis*" in the Dept. of Zoology, North-Eastern Hill University.

TEACHING EXPERIENCE:

Worked as a Guest Faculty for 2 months in the Dept. Zoology, North-Eastern Hill University, Shillong. Taught a portion of Genetics to the M.Sc. students.

PERSONAL DETAILS:

Date of Birth – 13th may 1988
Gender – Male

CONTACT:

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Google Scholar:

<https://scholar.google.com/citations?user=uXNBT7cAAAAJ&hl=en>

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catfish, *Clarias magur*. **International Journal of Biological Macromolecules**, 123126.

5. Kumari A., **Koner D.**, Lanong A.S., Khongmawlo E., Snaitang R., Saha N. (2023). Changes in the expression of certain osmosensitive channel and transporter genes in primary hepatocytes of air-breathing catfish, *Clarias magur*: A strategy to adapt under osmotic stress. **Aquaculture**, 562: 738756
6. Patra K., Rajaswini R., Murmu B., Rasal K.D., Sahoo L., Saha A., Saha N., **Koner D.**, Barman H.K. (2022). Identifying miRNAs in the modulation of gene regulation associated with ammonia toxicity in catfish, *Clarias magur* (Linnaeus, 1758). **Molecular Biology Reports**, 49: 6249–6259.
7. Saha N., **Koner D.**, Sharma R. (2022). Environmental hypoxia: A threat to the gonadal development and reproduction in bony fishes. **Aquaculture and Fisheries**, 7: 572-582
8. **Koner D.**, Banerjee B., Kumari A., Lanong A.S., Snaitang R., Saha N. (2021). Molecular characterization of superoxide dismutase and catalase genes, and the induction of antioxidant genes under the zinc oxide nanoparticle-induced oxidative stress in air-breathing magur catfish (*Clarias magur*). **Fish Physiology and Biochemistry**, 47(6):1909-1932.
9. Banerjee B., **Koner D.**, Karasik D., Saha N. (2021). Genome-wide identification of novel long non-coding RNAs and their possible roles in hypoxic zebrafish brain. **Genomics**, 113: 29–43.
10. Sen B., Rabha M., Sheet S.K., **Koner D.**, Saha N., Khatua S. (2021). Bis-heteroleptic Ru(II) polypyridine complex-based luminescent probes for nerve agent simulant and organophosphate pesticide. **Inorganic Chemistry Frontiers**, 8: 669-683.
11. Hasan R., **Koner D.**, Khongmawlo E., Saha N. (2020). Induction of nitric oxide synthesis: a strategy to defend against high environmental ammonia-induced oxidative stress in primary hepatocytes of air-breathing catfish, *Clarias magur*. **The Journal of Experimental Biology**, 223: jeb219626
12. Banerjee B., **Koner D.**, Hasan R., Saha N. (2020). Molecular characterization and ornithine-urea cycle genes expression in air-breathing magur catfish (*Clarias magur*) during exposure to high external ammonia. **Genomics**, 112: 2247-2260.
13. Sen B., Sheet S.K., Patra S.K., **Koner D.**, Saha N., Khatua S. (2019). Highly selective detection of hypochlorous acid by a bis-heteroleptic Ru(II) complex of pyridyl-1,2,3-triazole ligand via C(sp²)-H hydroxylation. **Inorganic Chemistry**, 58: 9982–9991.
14. Banerjee B., **Koner D.**, Hasan R., Bhattacharya S., Saha N. (2019). Transcriptome analysis reveals novel insights in air-breathing magur catfish (*Clarias magur*) in response to high environmental ammonia. **Gene**, 703: 35–49.
15. **Koner D.**, Banerjee B., Hasan R., Saha N. (2019). Antioxidant activity of endogenously produced nitric oxide against the zinc oxide nanoparticle-induced oxidative stress in primary hepatocytes of air-breathing catfish, *Clarias magur*. **Nitric Oxide**, 84: 7–15.
16. Banerjee B., **Koner D.**, Lal P., Kumari S., Hasan R., Saha N. (2019). Role of taurine in cellular volume regulation in erythrocytes of air-breathing catfish (*Clarias magur*) under osmotic stress. **Proceedings of the National Academy of Sciences B: Biological Science**, 89: 1389-1397.
17. Banerjee B., **Koner D.**, Bhuyan G., Saha N. (2018). Differential expression of multiple glutamine synthetase genes in air-breathing magur catfish, *Clarias magur* and their induction under hyper-ammonia stress. **Gene**, 671: 85-95.
18. Banerjee B., **Koner D.**, Saha N. (2017). Unique mitochondrial localization of arginase 1 and 2 in hepatocytes of air-breathing walking catfish, *Clarias batrachus* and their differential expression patterns under hyper-ammonia stress. **Gene**, 622: 13-22.