




## Faculty Details proforma for DU Web-site

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Title	Dr.	First Name	SHIBNATH	Last Name	MAZUMDER	Photograph
Designation	Professor					
Address	Immunobiology Laboratory Dept of Zoology, University of Delhi, Delhi 110 007					
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Educational Qualifications						
Degree	Institution				Year	
Ph. D	Post-Graduate Institute of Medical Education & Research (PGIMER), Chandigarh				1999	
M. Phil	University of Delhi				1991	
PG	University of North Bengal				1986	
UG	University of North Bengal				1988	
<b>CAREER PROFILE</b>						
<ul style="list-style-type: none"><li>• <b>July' 11- Till date Professor</b>, Dept. of Zoology, University of Delhi, Delhi 110 007, India.</li><li>• <b>April'09 – June'11 Associate Professor</b>, Dept. of Zoology, University of Delhi, Delhi 110 007, India.</li><li>• <b>June'08 - March'09 Associate Professor</b>, Dept. of Zoology, School of Life Sciences, Visva-Bharati University, Santiniketan, 731 235, West Bengal, India.</li><li>• <b>July'05 - June'08 Reader</b>, Dept. of Zoology, School of Life Sciences, Visva-Bharati University, Santiniketan 731 235, West Bengal, India.</li><li>• <b>Nov'04 - July'05 Senior Lecturer</b>, Dept. of Zoology, School of Life Sciences, Visva-Bharati University,</li></ul>						

Santiniketan 731 235, West Bengal, India.

- **Nov'99 - Nov'03 Lecturer**, Dept. of Zoology, School of Life Sciences, Visva-Bharati University, Santiniketan 731 235, West Bengal, India.
- **1993 - 1994 Lecturer**, Dept. of Biosciences, Banasthali Vidyapith (Deemed University), Rajasthan, India.

#### AREAS OF INTEREST / SPECIALIZATION

- Immunobiology of host pathogen interactions
- Immunotoxicology

#### SUBJECTS TAUGHT

- Immunology
- Biology of parasitism
- Fish-Biology

#### RESEARCH GUIDANCE

1. Supervision of postdoctoral fellows: Two
2. Supervision of awarded Doctoral Thesis: Eight
3. Supervision of Doctoral Thesis, under progress: Five
4. Supervision of awarded M. Phil dissertations: Seven

#### PUBLICATIONS PROFILE

##### Selected Research Papers

Datta. D, Khatri. P, Singh. A, Saha. D.R. Verma. G, Raman. R, **Mazumder. S\*** (2018). *Mycobacterium fortuitum*-induced ER-Mitochondrial calcium dynamics promotes calpain/caspase-12/caspase-9 mediated apoptosis in fish macrophages. **Cell Death Discov.** **4.** **30.** DOI **10.1038/s41420-018-0034-9**

Srivastava. N\*, Shelly. A, Kumar. M, Pant. A, Das. B, Majumdar.T, **Mazumder. S\*** (2017). *Aeromonas hydrophila* utilizes TLR4 topology for synchronous activation of MyD88 and TRIF to orchestrate anti-inflammatory responses in zebrafish. **Cell Death Discov.** **3.** **17067.** DOI: **10.1038/cddiscovery.2017.09.006**

Singh. R, Khatri. P, Srivastava. N, Jain. S, Bramchari. Vani, Mukhopadhyay. A, **Mazumder. S\*** (2017). Fluoride exposure abates pro-inflammatory response and induces *in vivo* apoptosis rendering zebrafish (*Danio rerio*) susceptible to bacterial infections. **Fish.Shellfish Immunol.** **64.** **314-321.** DOI:

**10.1016/j.fsi.2017.02.022**

Ray. A, Bhaduri. A, Srivastava. N, **Mazumder. S.\* (2016)**. Identification of novel signature genes attesting arsenic-induced immune alterations in adult zebrafish (*Danio rerio*). **J. HAZARD. MATER.** DOI: **10.1016/j.jhazmat.2016.09.001**

Kumari. U, Srivastava. N, Shelly. A, Khatri. P, Sarat. N, Singh. D.K. and **Mazumder. S\*(2016)**. Inducible headkidney cytochrome P450 contributes to endosulfan immunotoxicity in walking catfish *Clarias gariepinus*. **Aquat. Toxicol.** **179.** 44–54. DOI: **10.1016/j.aquatox.2016.08.009**

Singh. R, Banerjee. C, Ray. A, Rajamani. P, and **Mazumder. S\* (2016)**. Fluoride-induced headkidney macrophage cell apoptosis involves activation of CaMKIIg-ERK 1/2-Caspase-8 axis: role of superoxide in initiating the apoptotic cascade. **Toxicol. Res.** **5.** 1477-1489. DOI: **10.1039/C6TX00206D**

Datta. D, Khatri. P, Banerjee. C, Singh. A, Meena. R, Saha. D.R., Rajagopal, R, Rajamani. P, Mitra. A , **Mazumder. S\*(2016)**. Calcium and superoxide-mediated pathways converge to induce nitric oxide-dependent apoptosis in *Mycobacterium fortuitum*-infected fish macrophages. **PLoS ONE** **11 (1): e0146554.** doi:10.1371/journal.pone.0146554

Goswami. R, Mukherjee. S, Rana. V.S, Saha. D.R, Rajagopal. R, Padhy. P.K, **Mazumder. S \*** (2015). Isolation and characterization of arsenic resistant bacteria from contaminated water-bodies in West Bengal, India. **Geomicrobiology. J.** DOI: **10.1080/01490451.2014.920938**

Banerjee. C, Singh. A, Das. T.K, Rajagopal. R, Srivastava. A, **Mazumder. S\*** (2014). Ameliorating ER-stress attenuates *Aeromonas hydrophila*-induced mitochondrial dysfunctioning and caspase mediated HKM apoptosis in *Clarias batrachus*. **Scientific Reports.** DOI: **10.1038/srep05820**

Goswami. R, Mandal. S, Mandal. S, Padhy. P.K., Ray. S and **Mazumder, S.\*(2014)**. Effect of temperature and arsenic on *Aeromonas hydrophila* growth, a modelling approach. **Biologia.** DOI: **10.2478/s11756-014-0392-6**

Banerjee. C, Khatri. P, Rajagopal. R, Bhatia. H, Datta. M and **Mazumder. S\*** (2014). Role of Calmodulin-Calmodulin Kinase II, cAMP/Protein Kinase A and ERK 1/2 on *Aeromonas hydrophila*-Induced Apoptosis of Head Kidney Macrophages. **PLOSPathogens.** DOI: **10.1371/journal.ppat.1004018**

Banerjee. C, Goswami. R., Verma. G., Datta. M and **Mazumder. S.\* (2012)**. *Aeromonas hydrophila* induced head kidney macrophage apoptosis in *Clarias batrachus* involves the activation of calpain and is caspase-3 mediated. **Dev. Comp. Immunol.** **323-333**

Banerjee, C, Goswami, R., Datta, S., Rajagopal, R., **Mazumder, S.\* (2011)**. Arsenic-induced alteration in

intracellular calcium homeostasis induces head kidney macrophage apoptosis involving the activation of calpain-2 and ERK in *Clarias batrachus*. **Toxicol. Appl. Pharmacol.** **256.** 44–51

Majumdar, T, Das, B, Bhadra, R.K, Dam, B, **Mazumder, S. \*** (2011). Complete Sequence of a quinolone resistance gene (qnrS2) carrying plasmid of *Aeromonas hydrophila* isolated from fish. **PLASMID .** **66,** 79–84.

Datta, S, **Mazumder, S \***, Ghosh, D, Dey, S, Bhattacharya, S. (2009). Low concentration of arsenic could induce caspase-3 mediated head kidney macrophage apoptosis with JNK-p38 activation in *Clarias batrachus* **Toxicol. Appl. Pharmacol.** **241.** 329-338.

Datta, S, Ghosh, D, Saha, D.R, Bhattacharaya, S, **Mazumder, S, \*** (2009). Chronic exposure to low concentration of arsenic is immunotoxic to fish: Role of head kidney macrophages as biomarkers of arsenic toxicity to *Clarias batrachus*. **Aquat. Toxicol.** **92.** 86–94.

Majumdar, T., Chattopadhyay, P, Saha, D.R., Sau, S, **Mazumder, S.\*** (2009). Virulence plasmid of *Aeromonas hydrophila* induces macrophage apoptosis and helps in developing systemic infection in mice. **Microb Pathog.** **46.** 98-107.

SenSharma, M., **Mazumder, S.**, Ghosh, D., Roy, A., Duthie, A., Tiekink, ERT. (2007). Synthesis, spectroscopic characterization and biocidal properties of some diorganotin (IV) complexes of salicylaldehydethiosemicarbazones and related ligands. Molecular and supramolecular structures of  $[R_2Sn(OArCH=N-N=CSNH_2)]$ , where R=Me, Ph and Ar =  $-C_6H_4$ ,  $-C_6H_3$  (5-Br) and  $C_6H_3$  (5-Cl), and of  $[Me_2Sn\{OC_6H_3(5-Br)CH=N-N=CSNH_2\}].OH_2$ . **Appl. Organometal. Chem.** **21,** 890-905.

**Mazumder, S.**, Bhattacharya, S., Ghosh, S., Majumdar, S., Ganguly, N.K. (2007). The role of a heat shock protein from *V. cholerae* O139 in the gut immune response. **Mol. Cell. Biochem.** **297,** 9-19.

Datta, S., Saha, D.R., Ghosh, D., Majumdar, T., Bhattacharya, S & **Mazumder, S. \*** (2007). Sub-lethal concentration of arsenic interferes with the proliferation of hepatocytes and induces *in vivo* apoptosis in *Clarias batrachus* L. **Comp. Biochem. Physiol. C.** **145,** 339-349.

Ghosh, D., Datta Soma, Bhattacharya & **Mazumder, S. \*** (2007). Long term exposure to arsenic affects head kidney and impairs humoral immune responses of *Clarias batrachus*. **Aquat.Toxicol.** **81,** 79-89.

Majumdar, T., Ghosh, D., Datta, S., Sahoo,C., Pal, J & **Mazumder, S. \*** (2006). An attenuated plasmid-cured strain of *Aeromonas hydrophila* elicits protective immunity in *Clarias batrachus* L. **Fish.Shellfish Immunol.** **23,** 222-230.

Ghosh, D., Bhattachary, S & **Mazumder, S. \*** (2006). Perturbations in the catfish immune responses by arsenic: Organ and cell specific effects. **Comp. Biochem. Physiol. C.** **143,** 455-463.

Majumdar, T., Ghosh, S., Pal, J & **Mazumder, S. \* (2006)**. Possible role of a plasmid in the pathogenesis of a fish disease caused by *Aeromonas hydrophila*. **Aquaculture. 256, 95-104.**

Dutta, S., Sinha, B., Bhattacharya, B., Chatterjee, B. P. & **Mazumder, S. \* (2005)**. Characterization of a galactose binding serum lectin from the Indian catfish, *Clarias batrachus*: Possible involvement of fish lectins in differential recognition of pathogens. **Comp. Biochem. Physiol. C. 141, 76-84.**

Ghosh S, Mazumder M, **Mazumder S**, Ganguly N.K and Chatterjee B.P. **(1999)**. Saracin: A lectin from *Saraca indica* seed integument induces apoptosis in human T-lymphocytes. **Arch. Biochem. Biophys. 371, 163-168.**

**Mazumder S**, Nath I and Dhar M.M. **(1993)**. Immunomodulation of human T cell responses with receptor selective enkephalins. **Immunol. Letts. 35, 33-38.**

**\* Communicating author**

#### RESEARCH PROJECTS

#### APPROVED PROJECTS

- Role of Wnt-signaling (canonical/non-canonical) in *A. hydrophila*-induced apoptosis of fish macrophages (Funded by DST. Govt of India) **(EMR/2016/007632)**.

#### COMPLETED PROJECTS (LAST FIVE YEARS)

- Developing disease model of *Mycobacterium fortuitum* in fish and studying the role of plasmids in pathogenicity of the bacteria (Funded by University Grants Commission (**MRP-MAJOR-ZOOL-2013-36692**)).
- Understanding the interplay of cytokines and signalling molecules in fish resistant and susceptible to *A. hydrophila* induced ulcerative disease syndrome (UDS). **Funded by Department of Biotechnology, Govt. of India.**
- RNAi mediated comparative functional analysis of immune response genes in ruminants and fish against *Mycobacterium avium paratuberculosis* and *M. fortuitum*. **Funded by ICAR, Govt. of India.**
- Xenobiotic induced perturbations of fish immune system: A mechanistic approach towards

understanding in vivo arsenic induced immunosuppression and apoptosis. **Department of Science & Technology, Govt. of India.**

#### **AWARDS AND DISTINCTIONS**

- INSA-Teachers Fellow
- First Class first in B.Sc (H) examination
- Recipient of National Scholarship
- Recipient of University Merit Scholarship from University of North Bengal
- Recipient of NET (CSIR) Scholarship
- Recipient of CSIR Lateral SRF Scholarship
- A patent on five organometallic compounds (Anticancer drugs having bio-cidal activity, Patent Application number 353/KOL/2006). Filed through TIFAC, Dept. of Science and Technology, Govt. of India.

Hobbies: Music, games, movies and reading story books

Signature of Faculty Member