

Name DR. DEBAPRATIM KAR CHOWDHURI
Date of Birth May 23, 1960
Gender Male
Category (SC/ST / OBC / Gen) Gen
Laboratory/Institute/H.Q's. Unit CSIR-Indian Institute of Toxicology Research
P.O. Box No. 80; M.G. Marg
Lucknow 226 001; Uttar Pradesh, INDIA
Tel: +91-522-296 3825 (direct)
Tel: +91-522-262 0107 ext 218/219 (PABX)
Fax: +91-522-262 8227
E.mail: dkchowdhuri@iitr.res.in; darchowdhuri@gmail.com

Date of joining CSIR November 14, 1991

Academic qualifications (reverse chronology)

Degree	University	Year	Subject	Distinction
Ph.D.	Banaras Hindu University	1990	Zoology	Honours
M.Sc.	Burdwan University	1981*	Zoology, Sp. paper Cell Biology	First Class Second

*Results declared in 1983

Positions held (indicating Designation, Period, and Organization)

Position	Place	Year	Remarks
Chief Scientist (Sc. G)	IITR	01.01.2011-till date	
Senior Principal Scientist (Sc. F)	IITR/ ITRC	01.01.06-31.12.2010	
Principal Scientist (Sc. EII)	IITR/ ITRC	01.01.01-31.12.05	
Senior Scientist (Sc. E I)	IITR/ ITRC	14.11.1996-31.12.2000	Merit promotion
Scientist (Sc. C)	ITR/ ITRC	14.11.1991-13.11.1996	With three advanced increments

Broad Subject Area Molecular Toxicology; Genetic Toxicology

Pre and Post Doctoral Research Experience (Reverse Chronology)

Position	Place	Year	Remarks
DBT Res. Associate	Microbiol. and Cell Biol. Deptt. IISc, Bangalore	1990-1991	Awarded by DBT
Research Fellow (JRF and SRF)	Cytogenetics Laboratory, Banaras Hindu University	1984-1990	SRF-CSIR

Pre-Doctoral Training: With Prof. S.C. Lakhota, Banaras Hindu University, Varanasi

Post-Doctoral Training: With Prof. K.P. Gopinathan, Indian Institute of Science, Bangalore

Reputed national / international invitations (last five years since 2006)

- A. **International:** Invited speaker/participant at Cold Spring Harbor Symposium; EMBO International Workshop on Molecular Biology of Development and gene expression in *Drosophila*, First International Congress of Stress responses in Biology and medicine, Quebec, Canada; Nottingham University, Cambridge University; International Conference on Environmental Mutagenesis.

B. National (last five years): keynote speaker, invited speaker and chairman of a session of several national and international conferences and symposiums (15 Nos.)

Institutional citizenship (since 2006): Different capacities: Secretary Research Council (2008 till date); Coordinator: AcSIR-IITR (2011 till date); Nodal officer of the institute, Parliament questions and HRDC Queries (2010 till date); Chairman, convener and member of different institutional committees

Investigator of Grant-in-aid/Sponsored projects: National: 05; International: 01

Recognized Ph.D. Supervisor: Jamia Hamdard University (Toxicology; Biotechnology); Lucknow University (Biochemistry; Zoology; Environmental Sciences); Aligarh Muslim University (Zoology); CSJM University, Kanpur (Life sciences); Jiwaji University (School of Zoological Studies)

Supervision: Awarded Ph.D.: **nine**; Working: **six**; Past Post Docs: **Four**; Project fellows: **Three**

Human Resource and Development (Training/ Courses): BITS Pilani: 04, Universities/Institutes: 50; **involved in organization of sponsored training programmes**

Reviewer of Grant-in-aid Projects: Department of Biotechnology (DBT), Department of Science and Technology (DST), Indian Council of Medical Research (ICMR), Govt. of India, New Delhi

Registered Reviewer of manuscripts of SCI journals: Genetics; Toxicology; BBA; Biomarkers; Cell Biology Toxicology; Environ. Hlth.Perspect; Chemosphere; Molecular Biosystems; Arch Environ Contam. Toxicol; Curr. Sci. and other journals

Institutional Citizenship: Chairman, convener and member of several committees; Secretary Research Council, IITR, Coordinator: AcSIR-IITR

DBT Biosafety Committee, IITR: Member (1997-2001); Convener (2002-2008)

Total Publications in SCI Journals:	56
Technical reports:	05
Book Chapter:	02

Publications (2001-till date)

Total citation of these papers: >600

Kar Chowdhuri D, Nazir A and Saxena DK (2001) Effect of three chlorinated pesticides on *hsp70* stress gene expression in transgenic *Drosophila melanogaster*. *J. Biochem. Molec. Toxicol.* 15 (4): 173-186.

Nazir A, Mukhopadhyay I, Saxena DK and **Kar Chowdhuri D** (2001) Chlorpyrifos induced *hsp70* expression and effect on reproductive performance in transgenic *Drosophila melanogaster* (*hsp70-lacZ*). *Arch. Environ. Contamin. Toxicol.* 41(4): 443-451.

Kar Chowdhuri D, Narayan R and Saxena DK (2001) Effect of lead and chromium on nucleic acids and protein synthesis in sperm-zona in mice. *Toxicology in Vitro* 15 (6): 605-613.

Pal SK, Mukhopadhyay I, Nazir A, Saxena DK and **Kar Chowdhuri D** (2001) Internet: A major resource for toxicologists. *Ind. J. Exptl. Biol.* 39: 1207-1213.

Mukhopadhyay I, Nazir A, Mahmood K, Das M, Saxena DK, Khanna SK and **Kar Chowdhuri D** (2002) Toxicity of argemone oil: Effect on *hsp70* expression and tissue damage in transgenic *Drosophila melanogaster* (*hsp70-lacZ*) Bg9. *Cell Biol. Toxicol.* 18(1): 1-11.

Kar Chowdhuri D, Parmar D, Kakkar P, Shukla R, Seth PK and Srimal RC (2002) Antistress effect of bacosides of *Bacopa mannorie*: Modulation of HSP70 expression, Superoxide Dismutase and Cytochrome P-450 activity in rat brain. *Phytotherapy Res.* 16: 1-11.

- Mukhopadhyay I, Nazir A, Saxena DK and **Kar Chowdhuri D** (2002) Toxicity of Cypermethrin: Hsp70 as a biomarker of response in transgenic *Drosophila*. *Biomarkers* 7(6): 1-10.
- Nazir A, Mukhopadhyay I, Saxena DK, Siddiqui MS and **Kar Chowdhuri D** (2003) Evaluation of toxic potential of Captan: Induction of *hsp70* and tissue damage in transgenic *Drosophila melanogaster* (*hsp70-lacZ*) *Bg*⁹. *J. Biochem. Molec. Toxicol.* 17(2): 98-107.
- Nazir A, Saxena DK and **Kar Chowdhuri D** (2003) Induction of *hsp70* in transgenic *Drosophila*: Biomarker of exposure against phthalimide group of chemicals. *Biochem. Biophysica Acta* 1621(2): 218-225.
- Nazir A, Mukhopadhyay I, Saxena DK and **Kar Chowdhuri D** (2003) Evaluation of No Observed Adverse Effect level (NOAEL) of solvent Dimethyl Sulfoxide in *Drosophila melanogaster*. *Toxicol. Mech. Methods.* 13(2); 147-152.
- Mukhopadhyay I, Nazir A, Saxena DK and **Kar Chowdhuri D** (2003) Heat shock response: *hsp70* in environmental monitoring (Mini review). *J. Biochem. Molec. Toxicol.* 17: 49-54. **(No 1 cited article of the journal in 2008)**
- Mukhopadhyay I, Saxena DK, Bajpai VK and **Kar Chowdhuri D** (2003) Argemone oil induced cellular damage in the reproductive tissues of transgenic *Drosophila melanogaster*: Protective role of 70kDa heat shock protein. *J. Biochem. Molec. Toxicol.* 17: 223-233.
- Mukhopadhyay I, Saxena DK and **Kar Chowdhuri D** (2003) Hazardous effect of effluent from chrome plating industry: 70kDa heat shock protein expression as a marker of cellular damage in transgenic *Drosophila melanogaster* (*hsp70-lacZ*). *Environ. Hlth. Perspect.* 111: 1926-1932.
- Siddique HR, Dhawan A, Saxena DK and **Kar Chowdhuri D** (2003) *Drosophila melanogaster* as an *in vivo* model for somatic cell genotoxicity of chemicals by Comet assay. *Dros. Inf. Ser.* Vol.86:149-151.
- Mukhopadhyay I, **Kar Chowdhuri D**, Bajpai M and Dhawan A (2004) Evaluation of *in vivo* genotoxicity of cypermethrin in *Drosophila melanogaster* using the alkaline Comet assay. *Mutagenesis* 19: 85-90.
- Siddique HR, **Kar Chowdhuri D**, Saxena DK and Dhawan A (2005) Validation of *Drosophila melanogaster* as an *in vivo* model for genotoxicity assessment using modified alkaline Comet assay. *Mutagenesis* 20: 285-290.
- Gupta SC, Siddique HR, Saxena DK and **Kar Chowdhuri D** (2005) Hazardous effect of organophosphate compound, dichlorvos in transgenic *Drosophila melanogaster* (*hsp70-lacZ*): Induction of *hsp70*, anti-oxidant enzymes and inhibition of acetylcholinestearse. *Biochim. Biophysica Acta* 1725: 81-92.
- Siddique HR, Gupta SC, Dhawan A, Murthy RC, Saxena DK and **Kar Chowdhuri D** (2005) Genotoxicity of industrial solid waste leachates in *Drosophila melanogaster* using a modified alkaline Comet assay. *Environ. Molec. Mutagenesis* 46: 189-197.
- Gupta SC, Siddique HR, Saxena DK and **Kar Chowdhuri D** (2005) Comparative toxic potential of market formulation of two organophosphate pesticides in transgenic *Drosophila melanogaster* (*hsp70-lacZ*). *Cell Biology Toxicology* 21: 149-162.
- Mukhopadhyay I, Siddique HR, Bajpai VK, Saxena DK and **Kar Chowdhuri D** (2006) Synthetic pyrethroid cypermethrin induced cellular damage in reproductive tissues of *Drosophila melanogaster*: Hsp70 as a marker of cellular damage. *Arch. Environ. Contamn. Toxicol.*: 51: 673-680.
- Bakare AA, Pandey Ak, Bajpayee M, Bhargav D, **Kar Chowdhuri D**, Singh KP, Murthy RC and Dhawan A (2007) DNA damage induced in human peripheral blood lymphocytes by industrial solid waste and municipal sludge leachates. *Environ. Molec. Mutagenesis* 48: 30-37.

Gupta SC, Siddique HR, Mitra K, Mathur N, Mishra RK, Saxena DK and **Kar Chowdhuri D** (2007) Adverse effect of organophosphate compounds dichlorvos and chlorpyrifos in the reproductive tissues of transgenic *Drosophila melanogaster*: 70kDa heat shock protein as a marker of cellular damage. *Toxicology* 238(1):1-14.

Gupta SC, Siddique HR, Mathur N, Vishwaskarma AL, Mishra RK, Saxena DK and **Kar Chowdhuri D** (2007) Induction of hsp70, alterations in oxidative stress and apoptosis against dichlorvos exposure in transgenic *Drosophila melanogaster*: modulation by reactive oxygen species. *Biochim. Biophys. Acta* 1770(9):1382-94.

Rastogi S, Shukla , Paul BN, **Chowdhuri DK**, Khanna SK and Das M (2007) Protective effect of Ocimum sanctum on 3-methylcholanthrene, 7,12-dimethylbenz(a)anthracene and aflatoxin B1 induced skin tumorigenesis in mice. *Toxicol. Appl. Pharmacol.* 224: 228-240.

Siddiqui HR, Gupta SC, Mitra K, Murthy RC, Saxena DK and **Chowdhuri DK** (2007) Induction of biochemical stress markers and apoptosis in transgenic *Drosophila melanogaster* against complex chemical mixtures: Role of reactive oxygen species. *Chemico-Biol. Interact.* 169: 171-188.

Bhargav D, Singh MP, Murthy RC, Mathur N, Misra D, Saxena DK and **Kar Chowdhuri D** (2008) Toxic potential of municipal solid waste leachates in transgenic *Drosophila melanogaster* (*hsp70-lacZ*): hsp70 as a marker of cellular damage. *Ecotox. Environ. Safety* 69: 233-245.

Siddique HR, Gupta SC, Mitra K, Bajpai VK, Mathur, Murthy RC, Saxena DK and **Kar Chowdhuri D** (2008) Adverse effect of tannery waste leachates in transgenic *Drosophila melanogaster*: role of ROS in modulation of Hsp70, oxidative stress and apoptosis. *J. Appl. Toxicol.* 28(6):734-48

Siddique HR, Sharma A, Gupta SC, Murthy RC, Dhawan A, Saxena DK and **Kar Chowdhuri D** (2008) DNA damage induced by industrial solid waste leachates in *Drosophila melanogaster*: A mechanistic approach. *Environ. Molec. Mutagenesis* 49(3) 206-216.

Pomerai D, Madhamshettiwar P, Anbalagan C, Haque M, Loose M, King J, **Kar Chowdhuri D**, Sinha P, Johnson B and Baillie D (2008) The stress response network in animals: proposals to develop a predictive mathematical model. *Open Toxicol. J.* 2: 71-76.

Singh MP, Reddy MM, Mathur N, Saxena DK, **Chowdhuri Kar D** (2009) Induction of hsp70, hsp60, hsp83, and hsp26 and oxidative stress markers in benzene, toluene and xylene exposed *Drosophila melanogaster*: role of ROS generation. *Toxicol. Appl. Pharmacol.* 235(2):226-43. **(Top 25 hot articles of the Journal Sr. No. 18)**

Siddique HR, Mitra K, Bajpai VK, KR Ram, Saxena Dk and **Kar Chowdhuri D** (2009) Hazardous effect of tannery solid waste leachates on development and reproduction in *Drosophila melanogaster*: 70kDa heat shock protein as a marker of cellular damage. *Ecotox. Environ. Safety* 72: 1652-1662. **(Highlighted article):**

Gupta SC, Sharma A, Mishra M, Mishra RK, **Kar Chowdhuri D** (2010) Heat shock proteins in toxicology: How close and how far? (Mini Review) *Life Sciences* 86(11-12):377-84.

Singh MP, Ravi Ram K, Mishra M, Shrivastava M, Saxena DK, **Kar Chowdhuri D** (2010) Effects of co-exposure of benzene, toluene and xylene to *Drosophila melanogaster*: alteration in *hsp70*, *hsp60*, *hsp83*, *hsp26*, ROS generation and oxidative stress markers. *Chemosphere* 79(5):577-587.

Reddy MK, Singh MP, Murthy RC and **Kar Chowdhuri D** (2010) Quantitative evaluation of benzene, toluene, xylenes in the larvae of *Drosophila melanogaster* by solid phase microextraction/gas chromatography-mass spectrometry for potential use in toxicological studies. *J AOAC International* 93(5):1595-9.

Gupta SC, Mishra M, Sharma A, TGR Balaji D, Kumar R, Mishra RK, **Kar Chowdhuri D** (2010) Chlorpyrifos induces apoptosis and DNA damage in *Drosophila* through generation of reactive oxygen species. *Ecotoxicology & Environmental Safety* 73(6):1415-23.

Sharma A, Mishra M, Ravi Ram K, Abdin MZ, **Kar Chowdhuri D** (2011) Transcriptome analysis provides insights for understanding the adverse effects of endosulfan in *Drosophila melanogaster*. *Chemosphere*, 82(3):370-6.

Tiwari AK, Prakash P, Ravi Ram K, **Kar Chowdhuri D** (2011) Environmental chemical mediated male reproductive toxicity: *Drosophila melanogaster* as an alternate animal model. *Theriogenology* 76: 197-216.

Sharma A, Mishra M, Shukla AK, **Kar Chowdhuri D** (2011) Validation and application of *Drosophila melanogaster* as an in vivo model for the detection of double strand breaks by neutral Comet assay. *Mutation Research - Genetic Toxicology and Environmental Mutagenesis* 721: 142-6.

Goyal R, Tripathi SK, Tyagi S, Ram KR, Ansari KM, Shukla YK, **Chowdhuri DK**, Kumar P, Gupta KC (2011) Gellan Gum Blended PEI Nanocomposites as Gene Delivery Agents: Evidences from in vitro and in vivo Studies. *Eur J Pharm Biopharm.* 79: 3-14.

Goyal R, Tripathi SK, Tyagi S, Ravi Ram K, Ansari KM, Kumar P, Shukla YK, **Chowdhuri DK**, Gupta KC (2011) Gellan Gum-PEI Nanocomposites as efficient gene delivery agents. *J Biomedical Nanotechnology* 7:38-39.

Goyal R, Tripathi SK, Tyagi S, Kumar P, Ravi Ram K, **Chowdhuri DK**, Shukla YK, Gupta KC (2011) in vitro and in vivo evaluation of linear polyethylenimine nanoparticles. *J Biomedical Nanotechnology* 7:52-53.

Singh MP, Mishra M, Sharma A, Shukla AK, Mudian MKR, Patel DK, RaviRam K and **Kar Chowdhuri D** (2011) Geneotoxicity and apoptosis in *Drosophila melanogaster* by benzene, toluene and xylene: attenuation by quercetin and curcumin. *Toxicology Applied Pharmacology* 253: 14-30.

Mishra M, Sharma A, Negi MPS, Dwivedi UN, **Kar Chowdhuri D** (2011) Tracing the tracks of genotoxicity by trivalent and hexavalent Chromium in *Drosophila melanogaster*. *Mutation Research - Genetic Toxicology and Environmental Mutagenesis.* 722: 44-51.

Goyal R, Tripathi SK, Tyagi S, Sharma A, Ravi Ram K, **Chowdhuri DK**, Shukla, Y, Kumar P, Gupta KC (2011) Linear PEI nanoparticles: efficient pDNA/siRNA carriers in vitro and in vivo. *Nanomedicine: Nanotechnology, Biology and Medicine* 8:167-75.

Tripathi SK, Goyal R, Ansari KM, Ravi Ram K, Shukla Y, **Chowdhuri DK**, Gupat KC (2011). Polyglutamic acid-based nanocomposites as efficient non-viral gene carriers in vitro and in vivo. *Eur J Pharm Biopharm.* 79: 473-84.

Shukla AK, Prakash P and **Chowdhuri DK** (2011) A modified alkaline Comet assay for in vivo detection of oxidative DNA damage in *Drosophila melanogaster*. *Mutation Research - Genetic Toxicology and Environmental Mutagenesis.* 726: 222-226.

Sharma A, Mishra M, Shukla AK, Kumar R, Abdin MK and Kar Chowdhuri D (2012) organochlorine pesticide, endosulfan induced cellular and organismal response in *Drosophila melanogaster*. *Journal of Hazardous Materials.* 221-222: 275-287.

Pandey A, Chandra S, Chauhan LK, Narayan G, **Kar Chowdhuri D** (2013) Cellular internalization and stress response of ingested amorphous silica nanoparticles in the midgut of *Drosophila melanogaster*. *Biochim Biophys Acta.* 1830: 2256-2266.

Anbalagan C, Lafayette I, Antoniou-Kourounioti M, Gutierrez C, Martin JR, **Chowdhuri DK**, De Pomerai DI. (2013) Use of transgenic GFP reporter strains of the nematode *Caenorhabditis elegans* to investigate the patterns of stress responses induced by pesticides and by organic extracts from agricultural soils. *Ecotoxicology.* 22: 72-85.