

**Ashok Kumar Giri, Ph.D., D.Sc., FNASc., FNA**



**ADDRESS:** Molecular Genetics Division  
Indian Institute of Chemical Biology  
4, Raja S.C. Mullick Road, Calcutta- 700 032  
Phone: 91-33-2499-5724 (O) 91-33-2556-4859 (H)  
Fax: 91-33-2473-5197 Mobile: 91-9433251823  
E.mail:akgiri15@yahoo.com OR [akgiri@iicb.res.in](mailto:akgiri@iicb.res.in)

**DATE OF BIRTH:** 16-06-1952

**RESEARCH HIGHLIGHTS:**

- Expertise in the field of molecular epidemiology and environmental health. Monitoring of population exposed to environmental mutagens and carcinogens.
- Extensive experience in the work on Black tea and its polyphenols to established the health beneficial effects of black tea.
- Extensive experience on the work on arsenic exposed rural population in West Bengal, India for last 15 years.
- Genetic toxicology: Ames mutagenicity assay, chromosome aberrations assay in vivo and in vitro, micronucleus assay, dominant lethal test, DNA adduct formation assay.
- Experience in genetic toxicology testing of different drugs and pharmaceuticals from private industry.

**RESEARCH EXPERIENCE**

**INDIAN INSTITUTE OF CHEMICAL BIOLOGY, CALCUTTA July, 2012- to date**  
**Emeritus Scientist**

- MicroRNA profiling in arsenic exposed population in West Bengal to find out the mechanism of arsenic induced cancer.
- Genetic susceptibility and SNP studies on arsenic exposed individuals.
- DNA Methylation studies on arsenic exposed individuals.

**INDIAN INSTITUTE OF CHEMICAL BIOLOGY, CALCUTTA: Sept.2010- to June. 2012**  
**Chief Scientist (Scientist-G)**

- Genetic susceptibility and SNP studies on arsenic exposed individuals.
- DNA Methylation studies on arsenic exposed individuals.

**INDIAN INSTITUTE OF CHEMICAL BIOLOGY, CALCUTTA      Sept. 2005- to 2010**  
**Senior Principal Scientist (Scientist-F)**

- Epidemiological studies on population exposed to arsenic through drinking water.
- Genetic susceptibility and SNP studies on arsenic exposed individuals.
- Antimutagenic and anticlastogenic effects of black tea polyphenols in vivo

**INDIAN INSTITUTE OF CHEMICAL BIOLOGY, CALCUTTA      2000- to 2005**  
**Assistant Director (Scientist EII)**

- Genotoxic effects of populations exposed to arsenic through drinking water
- Antimutagenic and anticlastogenic effects of black tea polyphenols in vivo
- and in vitro on mammalian cell lines.

**INDIAN INSTITUTE OF CHEMICAL BIOLOGY, CALCUTTA      1995- 2000**  
**Assistant Director (Scientist-EI)**

- Antimutagenicity assay of centchroman- a contraceptive and a candidate drug for breast cancer in multiple test systems.
- Antimutagenic and anticlastogenic effects of black tea in vivo and in vitro on mammalian cell lines.

**CENTRAL DRUG RESEARCH INSTITUTE, LUCKNOW      1989- 1995**  
**Scientist- C**

- Genetic toxicology testing of different drugs developed by the Central Drug Research Institute and from private industry.
- Genetic toxicology testing of different drugs already present in the market.
- Critical review of the genetic toxicology status of some commonly used drugs and industrial chemicals.

**THE UNIVERSITY OF TEXAS MEDICAL BRANCH, USA      April, 1993- Sept. 1994**  
**Visiting Scientist**

- Antimutagenicity studies of two isoflavones i.e. genistein and diadzein *in vivo* in mice as measured by SCE and DNA adduct formation by 32-p post labeling technique.

**THE UNIVERSITY OF MICHIGAN, USA      Sept. 1987- Sept. 1989**  
**Post-doctoral Fellow**

- Evaluation of the mutagenic and genotoxic effects of most commonly used epoxides.

**U.S. ENVIRONMENTAL PROTECTION AGENCY, OHIO, USA      March- July, 1984**  
**Visiting Fellow**

- To critically review the mutagenic and genotoxic potentials of 2,3,7,8-TCDD for the cancer risk assessment of the populations exposed to 'Agent Orange' during late Vietnam war.

**THE UNIVERSITY OF CALCUTTA, CALCUTTA      1980-1987**  
**Senior Research Assistant**

- Evaluation of genotoxic effects of different metallic salts in mammalian systems.
- Evaluation of the mutagenic and genotoxic effects of different food additives.
- Antimutagenic and antagonistic effects of different vitamins, plant products and metallic salts against known toxic chemicals.

**THE UNIVERSITY OF CALCUTTA, CALCUTTA**

**1976-1980**

**Research Fellow**

- Research with Prof. A. Sharma and Dr. G. Talukder

**EDUCATION**

- **D.Sc.** (Genetic Toxicology), 1995, University of Calcutta, Calcutta.
- **Ph.D.** (Zoology), 1981, University of Calcutta, Calcutta.
- **M.Sc.** (Zoology), 1976, 1st class, 1st rank, University of Kalyani, Kalyani.
- **B.Sc.** (Hons. In Zoology) 1<sup>st</sup> class, 2<sup>nd</sup> rank, University of Kalyani, Kalyani

**LIST OF HONOURS AND AWARDS**

- Government of India National Scholarship during M.Sc. course.
- Stood first class first in M.Sc. and first class second in B.Sc. in order of merit.
- **Young Scientist Award from Indian Science Congress Association for the year 1982.**
- **Young Scientist Award from Indian National Science Academy, New Delhi for the year 1984.**
- Received prestigious D.Sc. Degree from Calcutta University in 1995.
- Elected Fellow of the West Bengal Academy of Sciences in 2005.
- Elected as Member of the Editorial Board of Mutation Research from the Year 2009 to 2014.
- Elected as a President of the Asian Association of Environmental Mutagen Societies (AAEMS) for the year 2014-2016
- **Elected as Fellow of the Indian National Science Academy, New Delhi with effect from 2013.**
- **Elected as a Fellow of the National Academy of Sciences, India from the year 2015.**

**MEMBERSHIP OF ACADEMIC SOCIETIES**

- Environmental Mutagen Society of India
- Indian Science Congress Association
- All India Congress of Cytology and Genetics
- Indian Society of Human Genetics

**Total Number of Research Publications: 113 (107 are in peer reviewed International journals)**

**Book Chapters: 4**

## LIST OF PUBLICATIONS OF DR. A. K. GIRI

1. Banerjee N, Bandyopadhyay AK, Dutta S, Das JK, Roy Chowdhury T, Bandyopadhyay A, **Giri AK**. (2016): Increased microRNA 21 expression contributes to arsenic induced skin lesions, skin cancers and respiratory distress in chronically exposed individuals. *Toxicology*. doi: 10.1016/j.tox.2017.01.006. [Epub ahead of print] PMID:28069514.
2. Babdyopadhyay, A. K., Paul, S., Adak, S. and **Giri, A. K.** (2016). Reduced LINE-1 methylation is associated with arsenic-induced genotoxic stress in children. *Biometals*. DOI 10.1007/s10534-016-9950-4.
3. Mir SA, Pinto SM, Paul S, Raja R, Nanjappa V, Syed N, Advani J, Renuse S, Sahasrabuddhe NA, Prasad TS, **Giri AK**, Gowda H, Chatterjee A. (2016) 1.SILAC-based quantitative proteomic analysis reveals widespread molecular alterations in human skin keratinocytes upon chronic arsenic exposure. *Proteomics*. doi: 10.1002/pmic.201600257. [Epub ahead of print] PMID:28000977
4. Chatterjee D, Bhattacharjee P, Sau TJ, Das JK, Sarma N, Bandyopadhyay AK, Roy SS, **Giri AK**. (2015). Arsenic exposure through drinking water leads to senescence and alteration of telomere length in humans: A case-control study in West Bengal, India. *Mol Carcinogen*. 54(9): 800-809.
5. Paul S, Majumder S, **Giri AK**. (2015). Genetic susceptibility to arsenic-induced skin lesions and health effects: a review. *Genes and Environment*. 37: 23. doi: 10.1186/s41021-015-0023-7
6. Roy M, **Giri AK**, Dutta S, Mukherjee P.(2015). Integrated phyto-bial remediation for sustainable management of arsenic in soil and water. *Environ Int*. 75: 180-198.
7. Paul S and **Giri A. K.** (2015). Epimutagenesis: A prospective mechanism to remediate arsenic induced toxicity. *Environ. Int*. 81: 8-17.
8. Bhattacharya U, Adak S, Majumder NS, Bera B, **Giri AK**. (2014). Antimutagenic and anticancer activity of Darjeeling tea in multiple test systems. *BMC Complement Altern Med*. 14:327..
9. Paul S, Banerjee N, Chatterjee A, Sau TJ, Das JK, Mishra PK, Chakrabarti P, Bandyopadhyay A, **Giri AK**. (2014) Arsenic-induced promoter hypomethylation and over-expression of ERCC2 reduces DNA repair capacity in humans by non-disjunction of the ERCC2/Cdk7 complex, *Metallomics*. 6(4):864-73.
10. Sinha S, **Giri AK**, Chowdhury R, Ray K. (2014) Mitochondrial genome variations among arsenic exposed individuals and potential correlation with apoptotic parameters, *Environ Mol Mutagen*. 55 (1): 70-76.

11. Dokuparthi, S. K., Banerjee, N., Kumar, A., Singamaneni, V., **Giri, A. K.** and Mukhopadhyay, S (2014). Phytochemical investigation and evaluation of antimutagenic activity of the extract of *Cuscuta Reflexa* Roxb by Ames test. *Intl. J. Pharma. Sci. & Res.*, 5: 3430-3434.
12. Bhattacharjee P, Paul S, Banerjee M, Patra D, Banerjee P, Ghoshal N, Bandyopadhyay A, **Giri AK.** (2013) Functional compensation of glutathione S-transferase M1 (GSTM1) null by another GST superfamily member, GSTM2, *Scientific Report.* 3: 2704. doi: 10.1038/srep02704.
13. Banerjee N, Paul S, Sau TJ, Das JK, Bandyopadhyay A, Banerjee S, **Giri AK.** (2013) Epigenetic modifications of DAPK and p16 genes contribute to arsenic-induced skin lesions and nondermatological health effects, *Toxicol Sci.* 135: 300-308.
14. Banerjee M, Banerjee N, Bhattacharjee P, Mondal D, Lythgoe PR, Martínez M, Pan J, Polya DA, and **Giri AK.** (2013) High arsenic in rice is associated with elevated genotoxic effects in humans, *Scientific Report.* 3 : 2195. doi: 10.1038/srep02195.
15. Bhattacharjee, P, Banerjee, M, **Giri, AK.** (2013) Role of genomic instability in arsenic-induced carcinogenicity. A review, *Environ. Intl.* 53: 29-40.
16. Bhattacharjee P, Chatterjee D, Singh KK, **Giri AK.** (2013) Systems biology approaches to evaluate arsenic toxicity and carcinogenicity: An overview. *Int J Hyg Environ Health*, 216(5):574-86.
17. Bhattacharjee P, Das N, Chatterjee D, Banerjee A, Das JK, Basu S, Banerjee S, Majumder P, Goswami P, **Giri AK.** (2013) Association of NALP2 polymorphism with arsenic induced skin lesions and other health effects. *Mutat Res*, 755(1):1-5.
18. Paul S, Bhattacharjee P, Mishra PK, Chatterjee D, Biswas A, Deb D, Ghosh A, Guha Mazumder DN, **Giri AK.** (2013) Human urothelial micronucleus assay to assess genotoxic recovery by reduction of arsenic in drinking water: a cohort study in West Bengal, India. *Biometals*, doi: 10.1007/810534-013-9652-0.
19. Paul S, Das N, Bhattacharjee P, Banerjee M, Das JK, Sarma N, Sarkar A, Bandyopadhyay AK, Sau TJ, Basu S, Banerjee S, Majumder P, **Giri AK.** (2013) Arsenic-induced toxicity and carcinogenicity: a two-wave cross-sectional study in arsenicosis individuals in West Bengal, India. *J Expo Sci Environ Epidemiol*, 23: 165-162.
20. Das N, Paul S, Chatterjee D, Banerjee N, Majumder NS, Sarma N, Sau TJ, Basu S, Banerjee S, Majumder P, Bandyopadhyay AK, States JC, **Giri AK.** (2012). Arsenic exposure through drinking water increases the risk of liver and cardiovascular diseases in the population of West Bengal, India. *BMC Public Health*, 10;12:639.
21. Biswas A, Sadhukhan T, Bose K, Ghosh P, **Giri AK,** Das SK, Ray K, Ray J. (2012) Role of glutathione S-transferase T1, M1 and P1 polymorphisms in Indian Parkinson's disease patients. *Parkinsonism Related Disorder.* 18 (5): 664-665.

22. Bhattacharya U, Mukhopadhyay S, **Giri AK**. (2011) Comparative antimutagenic and anticancer activity of three fractions of black tea polyphenols thearubigins. *Nutrition and Cancer*., 63(7):1122-32.
23. Banerjee N, Nandy S, Kearns JK, Bandyopadhyay AK, Das JK, Majumder P, Basu S, Banerjee S, Sau TJ, States JC, **Giri A.K**. (2011) Polymorphisms in the TNF- $\alpha$  and IL10 gene promoters and risk of arsenic-induced skin lesions and other non dermatological health effects. *Toxicol Sci*. 121(1):132-139.
24. Banerjee, M., Bhattacharjee, P. and **Giri, A. K**. (2011) Arsenic induced cancer: a review with special reference to gene, environment and their interaction. *Gene and Environment*, 33, 128-140.
25. Bonassi S, Coskun E, Ceppi M, Lando C, Bolognesi C, Burgaz S, Holland N, Kirsh-Volders M, Knasmueller S, Zeiger E, Carnesoltas D, Cavallo D, da Silva J, de Andrade VM, Demircigil GC, Odio AD, Donmez-Altuntas H, Gattas G, **Giri A**, Giri S, Gómez-Meda B, Gómez-Arroyo S, Hadjidekova V, Haveric A, Kamboj M, Kurteshi K, Martino-Roth MG, Montoya RM, Nersesyan A, Pastor-Benito S, Salvadori DM, Shaposhnikova A, Stopper H, Thomas P, Torres-Bugarín O, Yadav AS, González GZ, Fenech M. (2011) The HUMAN MicroNucleus project on exfoliated buccal cells (HUMN(XL)): the role of life-style, host factors, occupational exposures, health status, and assay protocol. *Reviews in Mutation Research*, 728(3):88-97.
26. Kundu, M., Ghosh, P., Mitra, S., Das, J.K., Sau, T.J., Banerjee, S., States, J.C and **Giri, A. K**. (2011) Precancerous and non-cancer disease endpoints of chronic arsenic exposure: The level of chromosomal aberrations and XRCC3 T241M polymorphism. *Mutation Res. (Fundamental and Molecular Mechanism of Mutagenesis)*, 706: 7-12.
27. Chowdhury, R., Chatterjee, R., **Giri, A. K.**, Mandal C. and Chaudhuri, K . (2010) Arsenic-induced cell proliferation is associated with enhanced ROS generation, Erk signaling and CyclinA expression, *Toxicology letters* 198 (2), 263-271.
28. Banerjee M, Banerjee N, Ghosh P, Das J. K, Basu S, Sarkar A. K, States J. C and **Giri A. K**. (2010) Evaluation of the serum catalase and myeloperoxidase activity in the chronic arsenic exposed individuals and concomitant cytogenetic damage. *Toxicol Appl Pharmacol*. 249: 47-54.
29. Mondal, D., Banerjee, M., Kundu, M., Banerjee, N., Bhattacharya, U., **Giri, A.K.**, Ganguli, B., Sen Roy, S. and Polya, D.A. (2010) Comparison of drinking water, raw rice and cooking of rice as arsenic exposure routes in three contrasting areas of West Bengal, India. *Environmental Geochemistry and Health*, 32: 463-477.
30. Au, W.W., **Giri, A.K**. and Ruchirawat, M. (2009) Challenge assay: A functional biomarker for exposure-induced DNA repair deficiency and for risk of cancer. *Int J Hyg Environ Health*; 213(1):32-39.

31. Bhattacharya, U., Halder, B., Mukhopadhyay, S. and **Giri, A.K** (2009) Role of oxidation-triggered activation of JNK and p38 MAPK in black tea polyphenols induced apoptotic death of A375 cells. *Cancer Sci*, 100(10):1971-1978.
32. Banerjee, N., Banerjee, S., Sen, R., Bandyopadhyay, A., Sarma, N., Majumder, P., Das, J.K., Chatterjee, M., Kabir, S.N and **Giri AK** (2009) Chronic arsenic exposure impairs macrophage functions in the exposed individuals. *J Clin Immunol.* ;29(5):582-94.
33. Chowdhury, R., Sen, A. K., Karak, P., Chatterjee, R., **Giri, A. K.** and Chowdhuri, K. (2009) Isolation and characterization of an arsenic-resistant bacterium from a bore-well in West Bengal, India, *Annals of Microbiology*, 59 (2) 1-6.
34. Ghosh, P., Banerjee, M., **Giri A. K.** and Ray , K. (2008) Toxicogenomics of Arsenic: Classical Ideas and Recent Advances, *Reviews in Mutation Res.* 659: 293-301.
35. Ghosh, P., Basu, A., Singh, K. K. and **Giri, A. K.** (2008) Evaluation of Cell Types for Assessment of Cytogenetic Damage In Arsenic Exposed Population, *Molecular Cancer*, 28: 45-49.
36. De Chaudhuri, S., Ghosh, P., Sarma, N., Majumdar, P., Sau T.J., Basu, S., Roychoudhury, S., Ray, K. and **Giri, A.K.** (2008) Genetic Variants Associated with Arsenic Susceptibility: Study of Purine Nucleoside Phosphorylase, Arsenic (+3) Methyl Transferase and Glutathione S-Transferase Omega Genes. *Environmental Health Perspective*, 116: 501-505
37. Banerjee, M., Sarma, N., Biswas, R., Roy, J., Mukherjee A. and **Giri, A. K.** (2008) Deficiency in DNA repair leads to arsenic susceptibility: Evidence from Comet assay and challenge assay. *Int J cancer*, 123 (2): 283-287.
38. Banerjee, N., Banerjee, M., Ganguly, S., Bandopadhyay, S., Das, J.K., Bandopadhyay, A., Chatterjee, M. and **Giri, A. K.** (2008) Arsenic induced mitochondrial instability leading to programmed cell death in the arsenic exposed individuals. *Toxicology*, 246: 101-111.
39. De Chaudhuri, S., Kundu, M., Banerjee, M., Das, J.K., Majumdar, P., Basu, S., Roychoudhury, S., Singh, K. K. and **Giri, A. K.** (2008) Arsenic-induced health effects and genetic damage in keratotic individuals: involvement of p53 arginine variant and chromosomal aberrations in arsenic susceptibility. *Reviews in Mutation Res*, 659: 118-125.
40. Biswas, R., Ghosh, P., Banerjee, N., Das, J.K., Sau, T.J., Banerjee, A., Roy, S., Ganguly, S., Chatterjee, M., Mukherjee, A. and **Giri, A.K.** (2008) Assessment of T Cell Proliferation and Cytokine Secretion in the Individuals Exposed to Arsenic. *Human Experimental Toxicology*, 27 (5): 381-386.
41. Biswas, D., Banerjee, M., Sen, G., Das, J. K., Banerjee, A., Sau, T.J., Pandit, S., **Giri A. K.**, and Biswas T (2008) Mechanism of erythrocyte death in human population

- exposed to arsenic through drinking water. *Toxicology and Applied Pharmacology*, 230: 57-66.
42. Halder, B., Bhattacharya, U., Mukhopadhyay, S. and **Giri A. K.** (2008) Molecular mechanism of black tea polyphenols induced apoptosis in human skin cancer cells: involvement of Bax translocation and mitochondria mediated death cascade. *Carcinogenesis*, 29: 129-138.
  43. Chowdhury R, Dutta A, Chaudhuri S, R, Sharma N, **Giri A, K**, Chaudhuri K. (2008) In vitro and in vivo reduction of sodium arsenite induced toxicity by aqueous garlic extract. *Food Chem Toxicol.*, 46(2):740-751.
  44. Mondal D, Hegan A, Rodriquez-Lado L, Banerjee M, **Giri AK**, Polya D. (2008), Multiple Regression analysis of As ground-water hazard and assessment of As-attributable human health risks in Chakdha, West Bengal. *Minerological Magazine*, 72 (1): 107-111.
  45. Ghosh, P., Banerjee, M., De Chaudhuri, S., Chowdhury, R., Das, J. K., Mukherjee, A., Sarkar, A. J., Mondal, L. K., Baidya, K. P., Sau, T. J., Banerjee, A., Basu, A., Chaudhuri, K., Ray, K., **Giri, A.K.** (2007), Comparison of Health Effects between individuals with and without skin lesions in the population exposed to arsenic through drinking water in West Bengal, India, *Journal of Exposure Science and Environmental Epidemiology*, 17(3):215-223.
  46. Ghosh, P., Banerjee, M., De Chaudhuri, S., Das, J. K., Sarma, N., Basu, A and **Giri, A. K.** (2007). Increased chromosomal aberration frequencies in the Bowen's patients compared to non-cancerous skin lesions individuals exposed to arsenic. *Mutation Research Genetic Toxicology and Environmental Mutagenesis*, 632:104-110.
  47. Banerjee, M., Sarkar, J., Das, J. K. Mukherjee, A., Sarkar, A. K., Mondal, L. K. and **Giri, A. K.** (2007) Polymorphism in the ERCC2 codon 751 is associated with arsenic-induced premalignant hyperkeratosis and significant chromosomal aberrations. *Carcinogenesis*, 28: 672-676.
  48. Ghosh, P., Basu, A., Mahata, J., Basu, S., Sengupta M., Das, J. K., Mukherjee, A., Sarkar, A. K., Mondal L. K., Ray, K. and **Giri, A. K.** (2006) Cytogenetic damage and genetic variants in the individuals susceptible to arsenic induced cancer through drinking water. *Intl. J. Cancer* 118(10): 2470-2478.
  49. De Chaudhuri S, Mahata J, Das JK, Mukherjee A, Ghosh P, Sau TJ, Mondal L, Basu S, **Giri AK** and Roychoudhury S.(2006) Association of specific *p53* polymorphisms with keratosis in individuals exposed to arsenic through drinking water in West Bengal, India. *Mutation Res. Fundamental Mol. Mech. Mut.* **601**: 102-112.
  50. Halder, B., Pramanick, S., Mukhopadhyay, S., **Giri, A. K.** (2006) Anticlastogenic effects of black tea polyphenols theaflavins and thearubigins in human lymphocytes in vitro. *Toxicol In Vitro*, 20 (5): 608-613.



51. Basu, A., Som, A., Ghoshal, S., Mondal, L. K., Chaubey, R. C., Bhilwade, H. N., Rahman, M. M. and **Giri A. K.**(2005) Assessment of DNA damage in peripheral blood lymphocytes of individuals susceptible to arsenic induced toxicity in West Bengal, India. *Toxicology Letters* 159: 100-112.
52. Halder, B., Pramanick, S., Mukhopadhyay, S., **Giri, A. K.** (2005) Inhibition of benzo[a]pyrene induced mutagenicity and genotoxicity by black tea polyphenols theaflavins and thearubigins in multiple test systems. *Food Chem Toxicol.* 43(4):591-597.
53. Basu, A., Ghosh, P., Das, J. K., Banarjee, A., Ray, K., **Giri, A.K.** (2004) Micronuclei as biomarkers of carcinogen exposure in populations exposed to arsenic through drinking water in West Bengal, India: a comparative study in 3 cell types. *Cancer Epidemiology, Biomarkers and Prevention*, 13: 820-827.
54. Mahata, J., Chaki, M., Ghosh, P., Das, J. K., Baidya, K. P., Ray, K., Natarajan, A. T., **Giri, A. K.** (2004) Chromosomal aberrations in arsenic exposed human population: a review with special reference to a comprehensive study in West Bengal, India. *Cytogenetics and Genome Res.*, 104: 359-364.
55. Mahata, J., Ghosh, P., Sarkar, J. N., Ray, K., Natarajan, A. T., **Giri, A.K.** (2004) Effect of sodium arsenite on peripheral lymphocytes in vitro: individual susceptibility among a population exposed to arsenic through the drinking water. *Mutagenesis*, 19: 1-7.
56. Mahata, J., Basu, A., Ghoshal, S., Sarkar, J. N., Roy, A. K., Poddar, G., Nandy, A. K., Banarjee, A., Ray, K., Natarajan, A. T., Nilsson, R., **Giri, A.K.** (2003) Chromosomal aberrations and sister chromatid exchanges in individuals exposed to arsenic through drinking water in West Bengal, India. *Mutation Res.*, 534: 133-143.
57. Basu, A., Mahata, J., Roy, A. K., Sarkar, J. N., Poddar, G., Nandy, A. K., Sarkar, P. K., Dutta, P. K., Banarjee, A., Das, M., Ray, K., Roychaudhury, S., Natarajan, A. K., Nilsson, R., **Giri, A.K.** (2002) Enhanced frequency of micronuclei in individuals exposed to arsenic through drinking water in West Bengal, India. *Mutation Res.*, 516: 29-40.
58. Gupta, S., Saha, B. and **Giri, A. K.** (2002) Comparative antimutagenic and anticlastogenic effects of green tea and black tea: a review. *Mutation Res.*, 512: 37-65.
59. Gupta, S., Chaudhuri, T., Seth, P., Ganguly, D. K. and **Giri, A. K.** (2002a) Antimutagenic effects of black tea (World Blend) and its two active polyphenols theaflavins and thearubigins in Salmonella assay. *Phytotherapy Research*, 16 : 655-661.
60. Stoilov, L., Wojcik, A., **Giri, A. K.**, Obe, G. (2002) SCE formation after exposure of CHO cells prelabelled with BrdU or biotin-dUTP to various DNA-damaging agents. *Mutagenesis*. 17 (5): 399-403
61. Gupta, S., Chaudhuri, T., Ganguly, D. K. and **Giri, A.K.** (2001) Anticlastogenic effects

of black tea (World blend) and its two active polyphenols theaflavins and thearubigins in vivo in Swiss albino mice. *Life Sciences*, 69: 2735-2744.

62. Basu, A., Mahata, J., Gupta, S. and **Giri, A.K.** (2001) Genetic toxicology of a paradoxical human carcinogen arsenic- a review. *Mutation Res.*, 488: 171-194.
63. Patra, U., Gupta, S., Talapatra, S.N. and **Giri, A. K.** (2001) Genotoxic effects after in vivo exposure of vegetable extracts containing heavy metals from Dhapa area. I. Effects of cauliflower, spinach and radish. *Food. Chem. Toxic.* 39: 67-72.
64. Mukhopadhyay, A., Ray, S. and **Giri, A. K.** (2001) Anticlastogenic effects of d- and l-centchroman in Swiss albino mice. II. Subacute study in vivo and comparison with tamoxifen. *Cytobios.* 106: 77-86.
65. **Giri, A. K.**, Mukhopadhyay, A., Sun, J., Hsie, A. W. and Roy, S. (1999). Antimutagenic effects of centchroman- a contraceptive and a candidate drug for breast cancer in multiple mutational assays. *Mutagenesis*, 14, 613-619.
66. Gupta, S., Mukhopadhyay, A., Roy, S. and **Giri, A.K.** (1999) Comparative antimutagenic effects of d- and l- centchroman and their comparison with tamoxifen in Salmonella assay *Mutation Research*, 445, 1-8.
67. Mukhopadhyay, A., Gupta, S., Roy, S. and **Giri, A. K.** (1999) Anticlastogenic effects of centchroman and its enantiomers in Swiss albino mice. I. Acute study and their comparison with tamoxifen. *Cancer Letters*, 144, 137-143.
68. **Giri, A. K.**, Das, M., Reddy, V. G. and Pal, A. K. (1999) Mutagenic and genotoxic effects of theophylline and theobromine in Salmonella assay and in vivo sister chromatid exchanges in bone marrow cells of mice. *Mutation Research*, 444, 17-23.
69. **Giri, A.K.** and Mukhopadhyay, A. (1998) Mutagenicity assay in Salmonella and in vivo sister chromatid exchange in bone marrow cells of mice for four pyrazolone derivatives, *Mutation Research.*, 420, 15-23.
70. Chatterjee, T., Mukhopadhyay, A., Khan, K.A. and **Giri, A. K.** (1998) Comparative mutagenic and genotoxic effects of three antimalarial drugs, chloroquine, primaquine and amodiaquine, *Mutagenesis*, 13, 619-624.
71. Philipose, B., Singh, R., Khan, K.A. and **Giri, A.K.** (1997) Comparative mutagenic and genotoxic effects of three propionic acid derivatives ibuprofen, ketoprofen and naproxen. *Mutation Research.*, 393, 123-131.
72. **Giri, A.K.** (1997) Genetic toxicology of epichlorohydrin: a review. *Mutation Research.*, 386, 25-38.
73. **Giri, A.K.**, Adhikari, N. and Khan, K.A. (1996) Comparative genotoxicity of six salicylic acid derivatives in bone marrow cells of mice. *Mutation Research.*, 370, 1-9.

74. **Giri, A.K.** and Banerjee, S. (1996) Genetic toxicology of four commonly used benzodiazepines: a review. *Mutation Research.*, 340, 93-108.
75. **Giri, A.K.** (1995) Genetic toxicology of vinyl chloride- a review. *Mutation Research.* 339: 1-14.
76. **Giri, A.K.** and Lu, Lee Jane (1995) Genetic damage and the inhibition of 7,12-dimethylbenz(a)-anthracene induced genetic damage by the phytoestrogens, genistein and diadzein, in female ICR mice. *Cancer Letters*, 95, 125-133.
77. **Giri, A.K.** and Khan, K.A. (1995) Absence of sister chromatid exchange and chromosome aberrations in mice after in vivo exposure of centchroman -a new non-steroidal oral contraceptive. *Cytologia*, 60, 167-172.
78. **Giri, A. K.** (1993): Genetic toxicology of paracetamol and aspirin - a review. *Mutation Research*, 296: 199-210.
79. **Giri, A.K.** (1992): Genetic toxicology of propylene oxide and trichloropropylene oxide - a review. *Mutation Research*, 277: 1-9.
80. **Giri, A.K.**, Sai Sivam, S. and Khan, K.A. (1992): Sister chromatid exchange and chromosome aberrations induced by paracetamol in vivo in bone marrow cells of mice. *Mutation Research.* 278: 253-258.
81. **Giri, A.K.**, Khan, K.A. and Sethi, N. (1992): Sister chromatid exchange and chromosome aberrations induced by Green S - a food colourant. *Environ. Mol. Mutagen*, 19: 223-226.
82. **Giri, A.K.**, Khan, K. A., Srivastava, S. K. and Sethi, N. (1992): Sister chromatid exchange and chromosome aberrations analyses for a new 8-aminoquinolin derivative after in vivo exposure in mice. *Cytologia*, 57: 331-334.
83. **Giri, A. K.**, Khan, K. A., Srivastava, S.K., Srivastava, R. C. and Sethi, N. (1992): Evaluation of the genotoxicity of 4-N-butylamino-1,2,3,4-tetrahydroacridine hydrochloride (centbucridine): a new local anaesthetic. *Cytobios*, 72: 159-166.
84. Sinsheimer, J.E., **Giri, A.K.**, Hooberman, B.H., Jung, K-Y., Gopaldaswamy, R. and Koreeda, M. (1991): Mutagenicity in Salmonella and sister chromatid exchange in mice for 1,4-, 1,3-, 2,4- and 3,4-dimethylphenanthrenes. *Environ. Mol. Mutagen*, 17: 93-97.
85. **Giri, A.K.** (1991): Food dyes of India: Mutagenic and Clastogenic potentials -a review. *Proc. Ind. Natl. Sci. Acad.* Part B57: 183-198.
86. Mukherjee, A. and **Giri, A.K.** (1991): Sister chromatid exchange induced by 'Pan Masala' (a betel quid ingredients) in vivo in male mice. *Food Chem. Toxicol*, 29: 401-403.

87. **Giri, A.K.**, Messerly, E.A., Chakraborty, P.K., Hooberman, B.H. and Sinsheimer, J.E. (1990): DNA strand breaks in liver for four aliphatic epoxides in mice. *Mutation Research*, 242: 187-194.
88. **Giri, A.K.** and Mukherjee, A. (1990): Sister chromatid exchange induced by secondary and tertiary amine containing dyes in combination with nitrite in vivo in mice. *Cancer Letters*, 52: 33-37.
89. JE Sinsheimer, **AK Giri**, S Osorio, DS Wise, LB Townsend (1990) Comparative mutagenicity and genotoxicity of the antiparasitic drugs, mebendazole, flubendazole and flubendazole oxime, *Progress in Clinical and Biological Research*, 340, 225-234.
90. **Giri, A.K.**, Das, S.K., Talukder, G. and Sharma, A. (1990): Sister chromatid exchange and chromosome aberration induced by curcumin and tartrazine on mammalian cells in vivo. *Cytobios*, 62: 111-117.
91. **Giri, A.K.**, Messerly, E.A. and Sinsheimer, J.E. (1989): Sister chromatid exchange and chromosome aberrations analyses for four aliphatic epoxides in mice. *Mutation Research*, 224: 253-261.
92. Sinsheimer, J.E., **Giri, A.K.**, Messerly, E.A., Jung, K-Y. and Koreeda, M.(1989): Mutagenicity in Salmonella and sister chromatid exchange in mice for bay-region syn- and anti-diol epoxides of 1,4-dimethylphenanthrene. *Carcinogenesis*, 10: 1123-1126.
93. Roychaudhury, A. and **Giri, A.K.** (1989): Effects of certain food dyes on chromosomes of *Allium cepa*. *Mutation Research*, 223: 313-319.
94. **Giri, A.K.**, Mukherjee, A., Talukder, G. and Sharma, A. (1988): In vivo cytogenetic studies on mice exposed to Orange G - A food colourant. *Toxicology Letters*, 44: 253-261.
95. Das, S.K. and **Giri, A.K.** (1988): Chromosomal aberrations induced by secondary and tertiary amine containing dyes and in combination with nitrite in vivo in mice. *Cytobios*, 54: 25-29.
96. Mukherjee, A., **Giri, A.K.**, Talukder, G. and Sharma, A. (1988): Sister chromatid exchange and micronuclei formations induced by sorbic acid and sorbic acid nitrite in vivo in mice. *Toxicology Letters*, 42: 47-54.
97. Mukherjee, A., **Giri, A.K.**, Sharma, A. and Talukder, G. (1988): Relative efficacy of short-term tests in detecting genotoxic effects of cadmium chloride in mice in vivo. *Mutation Research*, 206: 285-295.
98. **Giri, A.K.** and Que Hee, S.S. (1988): Sister chromatid exchange induced by 1,2-dichloroethane on bone marrow cells of mice. *Environ. Mol. Mutagen*, 12: 331- 334.

99. **Giri, A.K.**, Banerjee, T.S., Mukherjee, A., Talukder, G. and Sharma, A. (1988): Effects of vitamin C and vitamin A on post chromosomal aberrations induced by metanil yellow and zinc chloride. *Cytologia*, 53: 793-799.
100. **Giri, A.K.**, Banerjee, T.S., Talukder, G. and Sharma, A. (1987): Induction of sister chromatid exchange and dominant lethal mutation by Katha (catechu) in male mice. *Cancer Letters*, 36: 189-196.
101. **Giri, A.K.** (1986): Mutagenic and genotoxic effects of 2,3,7,8-TCDD -review. *Mutation Research*, 168: 241-248.
102. **Giri, A.K.**, Banerjee, T.S., Talukder, G. and Sharma, A. (1986): Effects of dyes (Metanil yellow, Indigo carmine and Fast Green FCF) and nitrite in bone marrow chromosomes of mice. *Cancer Letters*, 30: 315-320.
103. **Giri, A.K.**, Talukder, G. and Sharma, A. (1986): Sister chromatid exchange induced by metanil yellow and nitrite singly and in combination in vivo on bone marrow cells of mice. *Cancer Letters*, 31: 299-303.
104. **Giri, A.K.** and Banerjee, T.S. (1986): Antagonistic activity of herbal drug (Phyllanthus emblica) on cytological effects of environmental chemicals on mammalian cells. *Cytologia*, 52: 375-380.
105. Banerjee, T.S. and **Giri, A.K.** (1986): Effects of sorbic acid and sorbic acid nitrite in vivo on bone marrow chromosomes of mice. *Toxicology Letters*, 31: 101-106.
106. Das, S.K., **Giri, A.K.**, Sharma, A. and Talukder, G. (1985): Effects of mercury selenium antagonism on mammalian cell division. *Cytobios*, 42: 271-279.
107. **Giri, A.K.**, Datta, S., Talukder, G. and Sharma, A. (1985): Transferrin variant Dchi in tribals in Eastern India. *Human Heredity*, 35: 56-58.
108. **Giri, A.K.**, Sen, S., Talukder, G. and Sharma, A. (1984): Muta-chromosomal effects of tertiarybutylhydroquinone (TBHQ) in bone marrow cells of mice. *Food. Chem. Toxicol*, 22: 459-460.
109. Banerjee, T.S., Bhowmik, G., Yu, C.L., Swaminathan, B., **Giri, A.K.** and Bhattacharya, S.B. (1984): Evaluation of the genotoxicity of Lac dye. *Food. Chem. Toxicol*, 22: 677-679.
110. **Giri, A.K.**, Singh, O.P., Sanyal, R., Sharma, A. and Talukder, G. (1984): Comparative effects of chronic treatment with certain metals on cell division. *Cytologia*, 49: 659-665.
111. **Giri, A. K.**, Srivastava, S., Pant, P. and Banerjee, T.S. (1984). Changes induced by metanyl yellow and blue VRS on bone marrow chromosomes of mice. *J. Fd. Sci. & Tech.*, Mysore, 21, 36-38.

112. **Giri, A. K.**, Datta, S., Talukder, G and Sharma, A (1981) Some genetic markers in tribals of Eastern India, *Acta Anthropogenetica*, 6: 99-106.
113. **Giri, A. K.**, Banerjee, R., Talukder, G. and Sharma, A (1980) Mutagenic effects of certain metal toxicants on mammalian systems, *Proc. Animal Sciences*, 89: 311-331.

### **Publication in Book Chapters:**

1. Bhattacharya, U and **Giri, A. K. (2012)** Antimutagenic effects of tea and its polyphenol in bacterial test systems. **In Tea and Health in Disease Prevention**, ed. V. Preedy, Academic Press, pp-539-550.
2. Banerjee M and **Giri A. K (2011)** Toxicogenomics: An Overview and with Special Reference to Genetic and Genomic Approaches to Identify the Toxic Effects. *A Handbook of Systems Toxicology*, 1<sup>st</sup> edn (John Wiley & Sons Ltd.) pp 1-16.
3. Polya, D.A., Polizzotto, M.L., Fendorf, S., Rodriguez-Lado, L., Hegan, A., Lawson, M., Rowland, H.A.L., **Giri, A.K.**, Mondal, D., Sovann, C., Al Lawati, W.M.M., van Dongen, B.E., Gilbert, P. and Shantz, A. (2010) Arsenic in Groundwaters of Cambodia in Irvine, K., Murphy, T., Vanchan, V. and Vermette, S. (Eds) *Water Resources and Development in South-East Asia*, SE Asia Centre, New York, pp. 31-56.
4. Polya, D.A., Mondal, D. And **Giri, A.K.** (2009) Quantification of deaths and DALYs arising from chronic exposure to arsenic in ground waters utilized for drinking, cooking and irrigation of food crops in Preedy and Watson (Eds) *Handbook of Disease Burdens and Quality of Life Measures*, Springer-Verlag, ISBN: 978-0-387-78665-0, pp. 702-728.