

Faculty Details

Name: Prof. Sarbani Giri

Designation: Professor, Head,
Department of Life Science and Bioinformatics, AUS
Dean, School of Life Sciences, Assam University, Silchar

Department: Life Science and Bioinformatics, Assam University, Silchar

Off. Phone/ Phone- 9435374207

Email- girisarbani@gmail.com

Year of Joining: 1996



Areas of Interest/Specialization: Mammalian Molecular and Cell Biology, Metabolomics, Biomarker in head and neck cancer, Genetic toxicology and Environmental Health.

Experience: (In Year) 25 years

Career Profile:

- 25 years of teaching and Research experience at Central University
- Founder member of Department of Life Science and Bioinformatics, AU, Silchar
- Four times Head of the department.
- Currently Dean of School of Life Sciences, AU Silchar
- Post Doctoral training from NCI, NIH and UC Berkeley, USA.
- Published several papers/ book chapters in high impacted journals.
- Organized and attended Conferences as invited speaker.
- Collaboration with National and international Universities/ Institutes.
- Nearly 21 PhD submitted or currently working under my supervision.
- Members of Various Higher body of Learning in the University or other Universities
- Reviewer in various prestigious Journals from Elsevier, Taylor and Francis, SAGE etc..
- Recipient of Indo US Science and Technology forum Long term Fellowship.
- Recipient of DBT Long term Overseas Associate.
- Qualified GATE, NET, recipient of UGC-JRF and UGC-SRF.

Research

Our overall goal is to characterize the pathways in mammalian system that may possibly play a role in inducing oral cancer due to life style factors and identification of biomarkers for oral cancer. We could uncover the fact that major areca nut alkaloid arecoline and its prime metabolites disrupts tight junctional complex by downregulating ZO-1 component of tight junctional complex. Our group carries out studies to develop an understanding of the effects of carcinogens and mechanisms of chemical carcinogenesis. An approach involving molecular biology, genetic toxicology, Cell biology and analytical chemistry is used to investigate a number questions centred on the effects of

xenobiotics, life style factors /carcinogen-metabolizing enzymes in carcinogenesis. The ameliorating effects of natural antioxidants are also being evaluated.

Exposure to xenobiotics in very early stages of development may lead to profound effects in the form of developmental errors. We are also trying to establish a suitable model system for easy screening of xenobiotics to which embryo may get exposed.

Education qualification:

Post-doctoral research: National Cancer Institute, National Institute of Health, Bethesda, Maryland, USA (2005-2006)
University of California, Berkeley, USA (2008-2010).
Ph.D.: Assam University, Silchar (2002)
M.Phil: -
M. Sc.: North Eastern Hill University, Shillong, Meghalaya

Honours/Awards (National/ International):

1. Awarded Indo-US Science and Technology Forum fellowship-2008 by Indo-US Science and Technology Forum, New Delhi DST, Govt. of India.
2. Received Fast Track Scheme for Young Scientist-2006 by Department of Science and Technology, Govt. of India.
3. Awarded the DBT long term Overseas Associateship- 2004 (long term) by Department of Biotechnology, Ministry of Science and Technology, Govt. Of India. Joined Laboratory of Metabolism, National Cancer Institute, National Institute of Health, Bethesda- 20892, Maryland, USA as Visiting Scientist
4. Visiting Scientist at Laboratory of Metabolism, National Cancer Institute, NIH, Bethesda, Maryland, USA, Feb-March, 2006.
5. Invited as Visiting Scientist for collaborative research on Areca Nut induced Oral Cancer in Barak valley, Assam, India at the International Radiation Information Centre and Department of Environmetrics and Biometrics, RIRBM, Hiroshima University, Hiroshima- 734-8553, Japan from 1st November-December- 4th, 2004.
6. Senior Research Fellowship sponsored by University Grants Commission, India, from 1995 – 1996.
7. Junior Research Fellowship sponsored by University Grants Commission, India, from 1994 – 1995.

Research Projects:

Sl. No.	Name of PI/ Co-PI	Title of the Project	Funding Agency	Status
1	Prof.Sarbani Giri, PI	Characterization of tight junction proteins and use of phytochemicals towards restoration of tight junctional complex disruption as a possible treatment against cancer	DBT	Completed
2	Prof. Sarbani Giri, Co-PI	Characterization and Strategic transformation of peptides from amphibian skin secretions for therapeutic applications	DBT	Completed
3	Prof. Sarbani Giri, PI	Investigation on the genotoxic and tumorigenic potential of two important metabolites of arecoline the major areca nut alkaloid	DST	completed

Patents (if any): None

International Collaboration/Consultancy:

1. Laboratory of Metabolism, NIH, Bethesda, Maryland, USA
2. Department of Molecular and Cell biology, UC Berkeley, USA
3. Research Institute for Radiation Biology and Medicine, Hiroshima University, Hiroshima, Japan

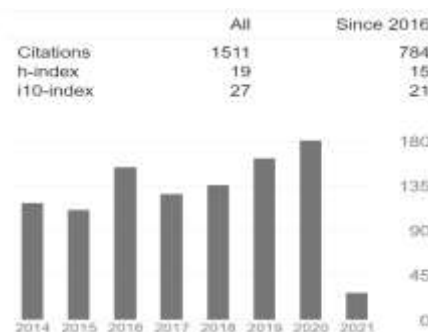
Research group:

1. Dr. Lopamudra Das Roy, Founder and President, Breast Cancer Hub
2. Dr. Afifa Kausar, UGC- NET, SLET, Asst Professor, ADP College Nagaon, Assam
3. Dr. Mehnaz Mazumdar ,NET-LS, SLET,
4. Dr. Salam Himika Devi ,SLET, Guest Faculty, Manipur University, Imphal.
5. Dr. Prasenjit Roy, SLET, Asst. Prof. G.C. College, Silchar Assam
6. Dr. Abhinandan Bhattacharjee, MBBS, MD,Ph.D.,Associate Prof.,Silchar Medical College
7. Dr. Supriya Singh, M.Sc, Ph.D.
8. Dr. Doly Talukdar, M.Phil, Ph.D, Subject Teacher, Govt. of Assam.
9. Dr. Debraj Sarma Huidram, M.Sc, Ph.D.
10. Dr. Mrs. Neelam Pandey, NET-LS, GATE,RA at NIRRH, Parel, Mumbai
11. Dr. Samrat Das, Post Doctoral fellow, IARC, Lyon, France
12. Dr. Mandira Lohar, M.Phil, Ph.D. Asst. Prof. Halflong Govt. College
13. Dr. Puja Upadhyay, M.Sc.,Asst. Prof. The Assam Royal Global University, Guwahati

14. Ms. Pimily Langthasa, SLET, NFHE Fellow, Asst. Professor, Gargaon College, Simaluguri, Assam
15. Mr. Dharmeshwar Barhoi, Project Fellow, UGC Non-NET Fellow
16. Ms. Sweety Nath Barbhuiya, SLET, Asst. Prof. Patharkandi College, Cachar, Assam
17. Ms. Aparajita Das , UGC- CSIR SRF
18. Mr. Abhijit Mandal, UGC-CSIR SRF
19. Ms. Maloya Ghosh, GATE, UGC-CSIR JRF
20. Mr. Somnath Gupta, M.Sc, M.Ed., SLET
21. Mr. Jaharul Islam, UGC-CSIR JRF

Best Peer Reviewed Publications (up to 5):

1. Joint detection of claudin-1 and junctional adhesion molecule-A as a therapeutic target in oral epithelial dysplasia and oral squamous cell carcinoma, P Upadhaya, D Barhoi, A Giri, A Bhattacharjee, S Giri, *Journal of cellular biochemistry* 120 (10), 18117-18127, 2019 (IF: 4.237)
2. Arsenic and smokeless tobacco exposure induces DNA damage and oxidative stress in reproductive organs of female Swiss albino mice, S Nath Barbhuiya, D Barhoi, A Giri, S Giri, *Journal of Environmental Science and Health, Part C* 38 (4), 384-408, 2020 (IF: 3.667)
3. Evaluation of genetic damage in tobacco and arsenic exposed population of Southern Assam, India using buccal cytome assay and comet assay, P Roy, A Mukherjee, S Giri, *Ecotoxicology and environmental safety* 124, 169-176, 2016 (IF: 4.872)
4. Changes in buccal micronucleus cytome parameters associated with smokeless tobacco and pesticide exposure among female tea garden workers of Assam, India, A Kausar, S Giri, P Roy, A Giri, *International journal of hygiene and environmental health* 217 (2-3), 169-175, 2014 (IF: 4.379)
5. The metabolomics of (\pm)-arecoline 1-oxide in the mouse and its formation by human flavin-containing monooxygenases, S Giri, KW Krausz, JR Idle, FJ Gonzalez, *Biochemical pharmacology* 73 (4), 561-573, 2007 (IF: 5.009)
6. The HUman MicroNucleus project on eXfoLiated buccal cells (HUMNXL): The role of life-style, host factors, occupational exposures, health status, and assay protocol, S Bonassi, E Coskun, M Ceppi, C Lando, C Bolognesi, S Burgaz, ...*Mutation Research/Reviews in Mutation Research* 728 (3), 88-97, 2011 (IF: 6.041)



(<https://scholar.google.co.in/citations?user=BVVT60QAAAAJ&hl=en>)

List of Publications:

1. Aqueous Extract of *Moringa oleifera* exhibit potential anticancer activity and can be used as a possible cancer therapeutic agent: a study involving in vitro and in vivo approach, D Barhoi, P Upadhaya, SN Barbhuiya, A Giri, S Giri, ***Journal of the American College of Nutrition*** 40 (1), 70-85, 2021 (IF: 2.297)
2. Arsenic and smokeless tobacco exposure induces DNA damage and oxidative stress in reproductive organs of female Swiss albino mice, S Nath Barbhuiya, D Barhoi, A Giri, S Giri, ***Journal of Environmental Science and Health, Part C*** 38 (4), 384-408, 2020 (IF: 3.667)
3. A Review on Role of Arecoline and Its Metabolites in the Molecular Pathogenesis of Oral Lesions with an Insight into Current Status of Its Metabolomics, Aparajita Das, Sarbani Giri, ***Prague Medical Report*** 121 (4), 209-235, 2020 (IF: 0.802)
4. Phenanthrene alters oxidative stress parameters in tadpoles of *Euphylyctis cyanophlyctis* (Anura, Dicroglossidae) and induces genotoxicity assessed by micronucleus and comet assay, K Bhuyan, A Patar, U Singha, S Giri, A Giri, ***Environmental Science and Pollution Research*** 27 (17), 20962-20971, 2020 (IF: 3.600)
5. Smokeless tobacco '*sadagura*' and areca nut extract exposure induces extensive embryotoxicity in chick embryo, *Gallus gallus domesticus*, D Talukdar, P Langthasa, D Barhoi, S Giri, ***Toxicology and Environmental Health Sciences*** 12 (1), 55-63, 2020
6. GCMS analysis of *sadagura* (smokeless tobacco), its enhanced genomic instability causing potential due to arsenic co-exposure, and vitamin-C supplementation, S Das, P Upadhaya, D Barhoi, S Nath Barbhuiya, P Langthasa, S Giri, ***Drug and chemical toxicology***, 1-12, 2019 (IF: 1.946)
7. Joint detection of claudin-1 and junctional adhesion molecule-A as a therapeutic target in oral epithelial dysplasia and oral squamous cell carcinoma, P Upadhaya, D Barhoi, A Giri, A Bhattacharjee, S Giri, ***Journal of cellular biochemistry*** 120 (10), 18117-18127, 2019 (IF: 4.237)

8. Micronucleus assays in amphibians, A Giri, S Giri, *The Micronucleus Assay in Toxicology, Royal Society of Chemistry; 1st edition* (18 July 2019) 259-272, 2019
9. Two major components of steel fabrication industry, benzene and thinner induce cytotoxicity in *Allium cepa* L. root cells, SN Barbhuiya, D Barhoi, SK Datta, S Giri, *Cytologia* 83 (2), 155-158, 2018 (IF: 0.96)
10. Effect of nutritional status on arsenic and smokeless tobacco induced genotoxicity, sperm abnormality and oxidative stress in mice *in vivo*, S Das, P Langthasa, D Barhoi, P Upadhaya, S Giri, *Environmental and molecular mutagenesis* 59 (5), 386-400, 2018 (IF: 3.131)
11. Melatonin attenuates radiofrequency radiation (900 MHz)-induced oxidative stress, DNA damage and cell cycle arrest in germ cells of male Swiss albino mice, N Pandey, S Giri, *Toxicology and industrial health* 34 (5), 315-327, 2018 (IF:1.708)
12. Correlation of serum lactate dehydrogenase and alkaline phosphatase in different histological grades of head and neck squamous cell carcinoma and premalignant lesions, A Bhattacharjee, S Giri, M Roy, A Chakraborty, *Journal of cancer research and therapeutics* 14 (5), 934, 2018 (IF: 0.791)
13. Radiofrequency radiation (900 MHz)-induced DNA damage and cell cycle arrest in testicular germ cells in swiss albino mice, N Pandey, S Giri, S Das, P Upadhaya, *Toxicology and industrial health* 33 (4), 373-384, 2017 (IF: 1.708)
14. Arsenic and smokeless tobacco induce genotoxicity, sperm abnormality as well as oxidative stress in mice *in vivo*, S Das, P Upadhaya, S Giri, *Genes and Environment* 38 (1), 1-8, 2016 (IF:1.872)
15. Evaluation of genetic damage in tobacco and arsenic exposed population of Southern Assam, India using buccal cytome assay and comet assay, P Roy, A Mukherjee, S Giri, *Ecotoxicology and environmental safety* 124, 169-176, 2016 (IF: 4.872)
16. Cadmium pollution and amphibians—Studies in tadpoles of *Rana limnocharis*, A Patar, A Giri, F Boro, K Bhuyan, U Singha, S Giri, *Chemosphere* 144, 1043-1049, 2016 (IF:5.778)
17. Alteration of serum transaminases and gamma glutamyl transferase in head and neck cancer, A Bhattacharjee, N Khan, S Giri, B Talukdar, *Int J Pharm Bio Sci* 7, 326-331, 2016 (IF: 0.888)
18. Evaluation of hematological parameters as a possible marker for head-and-neck cancer and precancerous conditions, A Bhattacharjee, FR Borah, G Sarbani, B Devnath, S Uddin, *Journal of Evolution of Medical and Dental Sciences* 4 (95), 16111-16117, 2015
19. Positive effects of Vitamin C in arsenic trioxide and sodium fluoride induced genotoxicity and oxidative stress in mice *in vivo*, P Roy, A Mukherjee, S Giri, *Pollution* 1 (4), 451-460, 2015

20. Complete genome sequence of emerging porcine circovirus types 2a and 2b from India U Bhattacharjee, A Ahuja, I Sharma, A Karam, AK Chakraborty, S Ghatak, **Genome announcements** 3 (2), 2015 (IF: 0.99)
21. Importance of choline as essential nutrient and its role in prevention of various toxicities, S Biswas, S Giri, **Prague Medical Report** 116 (1), 5-15, 2015(IF: 0.802)
22. Curcumin protects metronidazole and X-ray induced cytotoxicity and oxidative stress in male germ cells in mice, S Singh, LD Roy, S Giri, **Prague medical report** 114 (2), 92-102, 2015 (IF: 0.802)
23. Radiofrequency radiation induced impairment of spermatogenesis, DNA damage and oxidative stress in mice., P Neelam, G Sarbani, **Bulgarian Journal of Public Health** 7 (2 Suppl. 1), 168-175, 2015
24. The antimalarial agent artesunate causes sperm DNA damage and hepatic antioxidant defense in mice, S Singh, A Giri, S Giri, **Mutation Research/Genetic Toxicology and Environmental Mutagenesis** 777, 1-6, 2015(IF: 2.506)
25. Sodium arsenite induced changes in survival, growth, metamorphosis and genotoxicity in the Indian cricket frog (*Rana limnocharis*), U Singha, N Pandey, F Boro, S Giri, A Giri, S Biswas, **Chemosphere** 112, 333-339, 2014 (IF: 5.778)
26. Vitamin C pretreatment mitigates the genotoxic effects of sodium arsenite in human lymphocytes in vitro, P Roy, S Giri, A Mukherjee, **Journal of Applied Biology & Biotechnology** Vol 2 (04), 016-020, 2014
27. Changes in buccal micronucleus cytome parameters associated with smokeless tobacco and pesticide exposure among female tea garden workers of Assam, India, A Kausar, S Giri, P Roy, A Giri, **International journal of hygiene and environmental health** 217 (2-3), 169-175, 2014 (IF: 4.379)
28. Characterization of Trypsin-Like Serine Protease from *Lethocerus indicus* Salivary Venom and its Cytotoxic Effect against Human Epidermoid Carcinoma Cell, A431, RKLSG H. Debaraj, T. Shantibala, **British Biotechnology Journal**, 2014
29. Effects of radiation and vitamin C treatment On metronidazole genotoxicity in mice, LD Roy, S Giri, S Singh, A Giri, **Mutation Research/Genetic Toxicology and Environmental Mutagenesis** 753 (2), 2013 (IF: 2.506)
30. Toxic and genotoxic effects of Roundup on tadpoles of the Indian skittering frog (*Euflectis cyanophlyctis*) in the presence and absence of predator stress, SS Yadav, S Giri, U Singha, F Boro, A Giri, **Aquatic toxicology** 132, 1-8, 2013 (IF: 4.344)
31. Curcumin protects oxidative stress and DNA damage induced by metronidazole and gamma radiation in vivo, S Singh, S Giri, Proceedings of the thirty eighth annual conference of

Environmental Mutagen Society of India and national conference on current perspectives on *environmental mutagenesis and human health*, 2013

32. Role of vitamin E-acetate on cisplatin induced genotoxicity: An in vivo analysis, M Mazumdar, S Giri, S Roy, *Central European Journal of Biology* 7 (2), 334-342, 2012 (IF: 1.016)
33. Effect of predator stress and malathion on tadpoles of Indian skittering frog, A Giri, SS Yadav, S Giri, GD Sharma, *Aquatic toxicology* 106, 157-163, 2012 (IF: 4.344)
34. The HUman MicroNucleus project on eXfoLiated buccal cells (HUMNXL): The role of life-style, host factors, occupational exposures, health status, and assay protocol, S Bonassi, E Coskun, M Ceppi, C Lando, C Bolognesi, S Burgaz, ...*Mutation Research/Reviews in Mutation Research* 728 (3), 88-97, 2011 (IF: 6.041)
35. Malathion and fenvalerate induce micronuclei in mouse bone marrow cells, A Giri, S Giri, GD Sharma, *Environmental and molecular mutagenesis* 52 (8), 607-613, 2011 (IF: 3.131)
36. The carbamate pesticide carbosulfan induces mutagenic effects in chicks in vivo, S Giri, GD Sharma, A Giri, *Assam University Journal of Science and Technology* 7 (1), 50-56, 2011
37. Areca nut, sadagura extract alone and in combination in inducing genotoxicity in the mouse bone marrow cells in Vivo, SH Devi, D Talukdar, S Giri, *Assam University Journal of Science and Technology* 7 (1), 43-49, 2011
38. Antioxidative potential of vitamin c against chemotherapeutic agent mitomycin c induced genotoxicity in somatic and germ cells in mouse test model, M Mazumdar, S Giri, S Singh, A Kausar, A Giri, GD Sharma, *Assam University Journal of Science and Technology* 7 (1), 10-17, 2011
39. Role of quercetin on mitomycin C induced genotoxicity: analysis of micronucleus and chromosome aberrations in vivo, M Mazumdar, S Giri, A Giri, *Mutation Research/Genetic Toxicology and Environmental Mutagenesis* 721 (2 ...) 2011 (IF: 2.506)
40. Arecoline induced disruption of expression and localization of the tight junctional protein ZO-1 is dependent on the HER 2 expression in human endometrial Ishikawa cells, S Giri, KM Poindexter, SN Sundar, GL Firestone, *BMC cell biology* 11 (1), 1-12, 2010 (IF: 3.031)
41. Micronucleus and other nuclear abnormalities among betel quid chewers with or without sadagura, a unique smokeless tobacco preparation, in a population from North-East India, A Kausar, S Giri, M Mazumdar, A Giri, P Roy, P Dhar, *Mutation Research/Genetic Toxicology and Environmental Mutagenesis* 677 (1-2)2009 (IF: 2.506)
42. Effect of Chlorpyrifos and Dichlorodiphenyl-trichloroethane on the mitosis of Allium cepa., KI Devi, P Satinath, SH Devi, G Sarbani, *Journal of Ecotoxicology & Environmental Monitoring* 19 (2), 135-142, 2009

43. Effects of low dose radiation and vitamin C treatment on chloroquine-induced genotoxicity in mice, LD Roy, M Mazumdar, S Giri, ***Environmental and molecular mutagenesis*** 49 (6), 488-495, 2008 (IF : 3.131)
44. The metabolomics of (\pm)-arecoline 1-oxide in the mouse and its formation by human flavin-containing monooxygenases, S Giri, KW Krausz, JR Idle, FJ Gonzalez, ***Biochemical pharmacology*** 73 (4), 561-573, 2007 (IF: 5.009)
45. A metabolomic approach to the metabolism of the areca nut alkaloids arecoline and arecaine in the mouse, S Giri, JR Idle, C Chen, TM Zabriskie, KW Krausz, FJ Gonzalez, ***Chemical research in toxicology*** 19 (6), 818-827, 2006 (IF: 3.278)
46. Induction of sister chromatid exchanges by cypermethrin and carbosulfan in bone marrow cells of mice in vivo, S Giri, A Giri, GD Sharma, SB Prasad, ***Mutagenesis*** 18 (1), 53-58, 2003 (IF: 3.379)
47. Fenvalerate-induced chromosome aberrations and sister chromatid exchanges in the bone marrow cells of mice in vivo, S Giri, GD Sharma, A Giri, SB Prasad, ***Mutation Research/Genetic Toxicology and Environmental Mutagenesis*** 520 (1-2) 2002 (IF: 2.506)
48. Mutagenic effects of carbosulfan, a carbamate pesticide, S Giri, A Giri, GD Sharma, SB Prasad, ***Mutation Research/Genetic Toxicology and Environmental Mutagenesis*** 519 (1-2) 2002 (IF: 2.506)
49. Genotoxic effects of malathion: an organophosphorus insecticide, using three mammalian bioassays in vivo, S Giri, SB Prasad, A Giri, GD Sharma, ***Mutation Research/Genetic Toxicology and Environmental Mutagenesis*** 514 (1-2) 2002 (IF: 2.506)
50. Genotoxic effects of malathion: an organophosphorous insecticide using three mammalian bioassays in vitro, S Giri, SB Prasad, A Giri, GD Sharma, ***Mutation Research/Genetic Toxicology and Environmental Mutagenesis*** 514, 223-231, 2002 (IF: 2.506)
51. Genotoxic effects of malathion in chick in vivo micronucleus assay, S Giri, A Giri, P. SB ***Cytologia*** 67 (1), 53-59, 2002 (IF: 0.96)
52. Modulation of mitomycin C-induced sister chromatid exchanges and cell cycle delay by buthionine sulfoximine and reduced glutathione in mouse bone marrow cells in vivo, SD Giri, A Chatterjee, ***Mutation Research/Genetic Toxicology and Environmental Mutagenesis*** 413 (3)1998 (IF: 2.506)