

**Name: Dr. Ruma Sarkar**  
**Designation: Assistant Professor**  
**Branch: Microbiology**



**Educational Qualification(s):**

Qualification(s)	University
B.Sc. Microbiology	University of Calcutta
M.Sc. Microbiology	University of Calcutta
Ph.D Biotechnology	Chittaranjan National Cancer Institute (University of Calcutta)
DST-SERB National postdoctoral fellow (NPDF)	Indian Association for the Cultivation of Sciences (2 <sup>nd</sup> April 2018 to 1 <sup>st</sup> October 2020)

**Experience in years:5.5 years**

Academic:

Details:

Sl. No.	Organization	Position Held	Duration	
			From	To
1.	Sarada Ma Girls' College (affiliated to West Bengal State University)	<b>Assistant Professor (Department of Microbiology)</b>	1 <sup>st</sup> July 2016	to 31 <sup>st</sup> March 2018
2.	George Telegraph Training Institute.	<b>Faculty paramedical science (DMLT)</b>	1 <sup>st</sup> April 2018	28 <sup>th</sup> February 2019
3.	Vijaygarh Jyotish Ray College (affiliated to University of Calcutta)	<b>Visiting professor (Department of Microbiology)</b>	1 <sup>st</sup> September 2019	31 <sup>st</sup> March 2020

Industrial:

Details:

Sl. No.	Organization	Position Held	Duration	
			From	To
	NA			

**Other Information:**

a) Publication details.

1. Roy M, Mukherjee S, **Sarkar R**, Biswas J. Curcumin sensitizes chemotherapeutic drugs via modulation of PKC, telomerase, NF-kappa $\beta$  and HDAC in breast cancer. *TherDeliv.* 2011;2(10):1275-93.
2. Mukherjee S, **Sarkar R**, Biswas J and Roy M. Curcumin inhibits histone deacetylase leading to cell cycle arrest and apoptosis via upregulation of p21 in breast cancer cell lines. *Int J of green nanotech.*2012; 4(2):183-97.
3. **Sarkar R**, Mukherjee S, Biswas J, Roy M. Sulphoraphane, a naturally occurring isothiocyanate induces apoptosis in breast cancer cells by targeting heat shock proteins. *BiochemBiophys Res Commun.* 2012;427(1):80-5.
4. **Sarkar R**, Mukherjee S, Roy M. Targeting heat shock proteins by phenethyl isothiocyanate results in cell-cycle arrest and apoptosis of human breast cancer cells. *Nutr Cancer.* 2013;65(3):480-93.
5. **Sarkar R**, Mukherjee A, Biswas R, Biswas J, Roy M. Sulphoraphane, by virtue of its antioxidant potential down-regulates HSP90 in leukemia cells. *Int. J. Curr. Microbiol. App. Sci.* 2014;3(1):476-86.
6. **Sarkar R**, Mukherjee A, Mukherjee S, Biswas R, Biswas J, Roy M. Curcumin augments the efficacy of antitumor drugs used in leukemia by modulation of heat shock proteins via HDAC6. *J Environ PatholToxicol Oncol.* 2014;33(3):247-63.
7. **Sarkar R**, Roy R and Chaudhuri Nag A. Anti-inflammatory effect of *Kalanchoe crenata* extract in mice with experimentally induced inflammation. *Int. J. Curr. Microbiol. App. Sci.* 2015; 4 (6): 95-102.
8. Roy M, Mukherjee A, **Sarkar R**, Mukherjee S, Biswas J. In search of natural remediation for cervical cancer. *Anticancer Agents Med Chem.* 2015; 15(1):57-65.
9. Roy M, K B Ajaikumar, Mukherjee A, **Sarkar R**, Mukherjee Sutapa and Biswas Jaydip. Repair Activity Impaired by Arsenic: Recovery by Phytochemicals. *Int. J. Curr. Microbiol. App. Sci.* 2015;4(1): 578-87
10. Roy M, **Sarkar R**, Mukherjee A, Mukherjee S. Inhibition of crosstalk between Bcr-Abl and PKC signaling by PEITC, augments imatinib sensitivity in chronic myelogenous leukemia cells. *Chem Biol Interact.* 2015;242:195-201.

11. Roy M, **Sarkar R**, Mukherjee S, Mukherjee A, Biswas J. Sulforaphane Inhibits Metastatic Events in Breast Cancer Cells through Genetic and Epigenetic Regulation. *J Carcinog Mutagen*. 2015; 6:4.
12. **Sarkar R**, Mukherjee S, Biswas J, Roy M. Phenethyl isothiocyanate, by virtue of its antioxidant activity, inhibits invasiveness and metastatic potential of breast cancer cells: HIF-1 $\alpha$  as a putative target. *Free Radic Res*. 2016;50(1):84-100.
13. MukherjeeA, **Sarkar R**, Mukherjee S, Biswas J and Roy M. Curcumin Boosts up the Efficacy of Imatinib Mesylate in Chronic MyelogenicLeukemia Cell Line K-562 by Modulation of Various Markers. *Int.J.Curr.Microbiol.App.Sci* 2016: 5(12): 240-255.
14. Kar S, Kundu B, Reis RL, **Sarkar R**, Nandy P, Basu R, Das S. Curcumin ameliorates the targeted delivery of methotrexate intercalated montmorillonite clay to cancer cells. *Eur J Pharm Sci*. 2019;135:91-102.
15. Mondal J, **Sarkar, R**, Sen P, and Goswami RK. Total Synthesis and Stereochemical Assignment of Sunshinamide and Its Anticancer Activity. *Organic Letters*. 2020 DOI: 10.1021/acs.orglett.0c00070

**Book Chapters:**

16. Roy M, MukherjeeA, **Sarkar R**, Mukherjee S and Biswas J. Anticancer properties of aromatic plant components. *Indian perfumer*. 2016: 60(3): 17-23.
17. Roy M, **Sarkar R**, Mukherjee A, Mukherjee S, Biswas J. Phytochemicals as Chemosensitizers in Breast Cancer. *Cancer Cell Chemoresistance And Chemosensitization*. 2018:13:129.

(b) Details of Seminar/Workshop/Conference.

1. Changing Facets of Microbiology in 21<sup>st</sup> Century Sponsored by UGC, Organised by Department of Microbiology Lady Brabourne College, Kolkata, November 27<sup>th</sup> and 28<sup>th</sup>, 2008 (Participated).
2. UGC Sponsored State level Seminar on Playing God: Expanding Frontiers of Biotechnology organised by Gurudas college in collaboration with IICB Kolkata, November 6<sup>th</sup> and 7<sup>th</sup>, 2009 (Participated).
3. **Sarkar R**, Roy R and Nag Chaudhuri A. Anti-inflammatory activity of ayurvedic plant *Kalanchoe crenata* on mice. UGC Sponsored State level Seminar on Playing God: Expanding Frontiers of Biotechnology organised by Gurudas College in collaboration with IICB Kolkata, November 6<sup>th</sup> and 7<sup>th</sup>, 2009.
4. Assessment of awareness of girl students of premier colleges in Kolkata on cancer of uterine cervix. Microbiology Dept. of Lady Brabourne College, Kolkata. Symposium on Cervical Cancer Control in India organised by Cancer Foundation of India, 4<sup>th</sup> December, 2009, Kolkata.

5. **Sarkar R**, Mukherjee S and Roy M. Natural Isothiocyanates as Modulators of Heat Shock Proteins in Breast Cancer. 30<sup>th</sup> Annual Convention of Indian Association for Cancer Research and International Symposium on “Signaling Network and Cancer”, February 6-9, 2011, CSIR-IICB, Kolkata.
6. **Sarkar R**, Mukherjee S, Roy M. PEITC as modulator of heat shock proteins in breast cancer. Fourth International symposium on Translational Cancer Research: Recent Developments in Cancer Prevention, December 16-19, Udaipur, Rajasthan, India. (Oral presentation)
7. Participated in 100<sup>th</sup> Indian Science Congress, 3-7<sup>th</sup> January, 2013 University of Calcutta, Kolkata, India.
8. **Sarkar R**, Mukherjee S, Biswas J, Roy M. Sulphoraphane, a naturally occurring isothiocyanate induces apoptosis in breast cancer cells by targeting heat shock proteins. 1<sup>st</sup> Indian Cancer Congress, November 21-24, 2013, Kempinski Ambience Hotel, Delhi, India.
9. **Sarkar R**, Mukherjee S, Roy M. Natural Isothiocyanates Modulate Heat Shock Proteins in Leukemia: Mechanistic approach 1<sup>st</sup> Indian Cancer Congress, November 21-24, 2013, Kempinski Ambience Hotel, Delhi, India.
10. **Sarkar R**, Mukherjee S, Roy M. Sulphoraphane induces apoptosis in breast cancer cells by targeting heat shock proteins via HDAC6. One Day Symposium on Biological Chemistry, April 26, 2014, IICB, Kolkata. (Oral presentation)
11. **Sarkar R**, Mukherjee S, Roy M. Curcumin induces apoptosis in leukemia cells by targeting heat shock proteins via HDAC6. National conference on nanoscience and nanotechnology, September 18-19, 2014 held at Centre for Research in Nanoscience and Nanotechnology (CRNN), University of Calcutta, Kolkata.
12. **Sarkar R**, Mukherjee S, Biswas J, Roy M. Sulphoraphane, a naturally occurring isothiocyanate induces apoptosis in breast cancer cells by targeting heat shock proteins. West Bengal state council of science & technology sponsored national seminar on “Current Innovation in Biotechnology for Human Welfare”. November 7<sup>th</sup>, 2015, GNIPST.
13. **Sarkar R**, Mukherjee S, Roy M. Phenethyl isothiocyanate, through its indirect antioxidant function retards metastasis in breast cancer cells by down-regulation of HIF-1 $\alpha$ . 17<sup>th</sup> All India Congress of Cytology and Genetics & International Symposium on “Exploring Genomes: The New Frontier”, December 22-24, 2015, IICB, Kolkata.
14. Participated at Indian International Science Festival 2019 held at Biswa Bangla Convention Centre, Kolkata during November 5-8<sup>th</sup>, 2019.
15. Participated and trained in the “Master class on flow cytometry”, - National Workshop to Decipher Flow-based Applications. 18-24<sup>th</sup> November 2018, held at Center For

Research In Nanoscience & Nanotechnology, University of Calcutta & BD  
Biosciences