

## Dr. ROSHNARA MISHRA

Associate Professor

Department of Physiology, University of Calcutta

92, A.P.C. Road Kolkata-700090, India

E-mail: roshnaramishra@gmail.com

Phone: +91-9830654559

Date of Birth: 20.04.1974



### Qualifications

Qualification	Subject*	Year	Div	University
PhD	Physiology	2008	-	University of Calcutta
MSc	Physiology	1997	1 <sup>st</sup>	University of Calcutta
BSc	Physiology	1995	1 <sup>st</sup>	Vidyasagar University
HS	Science	1992	1 <sup>st</sup>	WBCHS

### Teaching experiences

Designation	Institution/College	University	From	To
Senior Lecturer / Asst Prof	Department of Physiology, University of Calcutta	University of Calcutta	March 2008	Date
Senior Lecturer	Department of Physiology, University of Calcutta	University of Calcutta	April, 2005	Feb 2008
Lecturer	Department of Physiology, Surendranath College	University of Calcutta	April 2002	April, 2005

### Research experiences

Designation	Organization	Research title	Funding agency and fund	From	To	Fellow recruited
Principal Investigator	University of Calcutta	Herbal Tea Approach for Anaemia Prevention by Kulekhara (Hygrophila spinosa) -	WBDHEST BT 295 (sanc) ST/P/S&T/1	2018	2021	1JRF

		preparation, Evaluation and modification	G-71/2017, dated 28.03.2018			
Principal Investigator	University of Calcutta	Anti-arthritic activity of <i>Pongamia pinata</i> : as drug development clue towards autoimmune disorders from medicinal plant.	DST-WB 11,12,650/-	May 2011	2013	1 SRF
Supervisor	University of Calcutta	Purification, characterization, and evaluation of anti arthritic protein(s) from <i>Lamellidens marginalis</i> extract	CSIR 40000/- + SRF	April 2011	2013	1 SRF
Principal Investigator	University of Calcutta	Nanoparticle based oral delivery of antivenom for early intervention in snake envenomation.	Nano-technology, University of Calcutta 2,00000+ SRF	Dec 2010	Till date	1 SRF
Supervisor	University of Calcutta	Development of highly efficient and low cost biocompatible chitosan derived nanoparticle for oral immune delivery.	UGC-UPE 40000/-+ PF	Aug 2010	Aug 2012	1 PF
Supervisor	University of Calcutta	Studies on Indian fresh water mussel extract on experimental arthritis.	UGC-UPE 40000/-+ PF	2007	2009	1 PF
Principal Investigator	University of Calcutta	Studies on Snake venom neutralization capacity of <i>Bungarrus fasciatus</i>	UGC-UPE 40000/-+ PF	2009	2010	1 PF
Principal investigator	Surendranath College	Studies on Snake venom antagonists from venom resistant animals.	UGC 1 lack	2004-2006		
JRF	University of Calcutta	Studies on snake venom resistant species	DST-WB	1999	2001	-

## Publications

Jonathan Tersur Orasugh, Gunjan Sarkar, Nayan Ranjan Saha, Beauty Das, Amartya Bhattacharyya, Sreyasi Das, Roshnara Mishra, Indranil Roy, Atiskumar Chattoapadhyay, Swapan Kumar Ghosh, Dipankar Chattopadhyay: *Effect of cellulose nanocrystals on the performance of drug loaded in situ gelling thermo-responsive ophthalmic formulations.*

International Journal of Biological Macromolecules 11/2018; 124.,  
DOI:10.1016/j.ijbiomac.2018.11.217

Nayan Ranjan Saha, Indranil Roy, Gunjan Sarkar, Amartya Bhattacharyya, Rituparna Das, Dipak Rana, Rajdeb Banerjee, Amal Kanti Paul, Roshnara Mishra, Dipankar Chattopadhyay: *Development of active packaging material based on cellulose acetate butyrate/polyethylene glycol/aryl ammonium cation modified clay*. Carbohydrate Polymers 05/2018; 187., DOI:10.1016/j.carbpol.2018.01.065

Aditi Bhattacharyya, Farhat Nasim, Roshnara Mishra, Ram P. Bharti, P.P. Kundu: *Polyurethane-incorporated chitosan/alginate core-shell nano-particles for controlled oral insulin delivery*. Journal of Applied Polymer Science 03/2018;, DOI:10.1002/app.46365

Jonathan Tersur Orasugh, Nayan Ranjan Saha, Gunjan Sarkar, Dipak Rana, Roshnara Mishra, Dibyendu Mondal, Swapan Kumar Ghosh, Dipankar Chattopadhyay: *Synthesis of methylcellulose/cellulose nano-crystals nanocomposites: Material properties and study of sustained release of ketorolac tromethamine*. Carbohydrate Polymers 02/2018; 188., DOI:10.1016/j.carbpol.2018.01.108

Koushik Dutta, Beauty Das, Jonathan Tersur Orasugh, Dipankar Mondal, Arpita Adhikari, Dipak Rana, Rajdeb Banerjee, Roshnara Mishra, Sumit Kar, Dipankar Chattopadhyay: *Bio-derived cellulose nanofibril reinforced poly(N-isopropylacrylamide)-g-guar gum nanocomposite: An avant-garde biomaterial as a transdermal membrane*. Polymer 12/2017; 135., DOI:10.1016/j.polymer.2017.12.015

Koushik Dutta, Beauty Das, Dipankar Mondal, Arpita Adhikari, Dipak Rana, Atis Kumar Chattopadhyay, Rajdeb Banerjee, Roshnara Mishra, Dipankar Chattopadhyay: *An ex-situ approach to fabricate nanosilica reinforced polyacrylamide grafted guar gum nanocomposites as an efficient biomaterial for transdermal drug delivery application*. New Journal of Chemistry 07/2017; 41(17)., DOI:10.1039/C7NJ01713H

Farhat Nasim, Sreyasi Das, Roshnara Mishra, Raghwendra Mishra: *Hematological alterations and splenic T lymphocyte polarization at the crest of snake venom induced acute kidney injury in adult male mice*. Toxicon 05/2017; 134., DOI:10.1016/j.toxicon.2017.05.024

Aditi Bhattacharyya, Debarati Mukherjee, Roshnara Mishra, P.P. Kundu: *Preparation of polyurethane-alginate/chitosan core shell nanoparticles for the purpose of oral insulin delivery*. European Polymer Journal 05/2017; 92., DOI:10.1016/j.eurpolymj.2017.05.015

Mousumi Chakraborty, Sourav Bhattacharya, Madhura Bose, Saumya Kanti Sasmal, Mradu Gupta, Roshnara Mishra: *Anti-inflammatory activity of cyclo-oxygenase2 inhibitory anionic protein fraction from Lamellidens marginalis (Lamarck)*. Indian journal of experimental biology 02/2017; 55(2):88-97.

- P Mukhopadhyay, R Mishra, D Mukherjee, M Kar: *Snakebite mediated acute kidney injury, prognostic predictors, oxidative and carbonyl stress: A prospective study*. Indian Journal of Nephrology 11/2016; 26(6):427., DOI:10.4103/0971-4065.175987
- Nayan Ranjan Saha, Gunjan Sarkar, Indranil Roy, Amartya Bhattacharyya, Dipak Rana, Gunaseelan Dhanarajan, Rajdeb Banerjee, Ramkrishna Sen, Roshnara Mishra, Dipankar Chattopadhyay: *Nanocomposite films based on cellulose acetate/polyethylene glycol/modified montmorillonite as nontoxic active packaging material*. RSC Advances 09/2016; 6(95), DOI:10.1039/C6RA17300D
- Aditi Bhattacharyya, Debarati Mukherjee, Roshnara Mishra, Patit Paban Kundu: *Development of pH sensitive Polyurethane-Alginate nanoparticles for safe and efficient oral insulin delivery in animal model*. RSC Advances 04/2016; 6(48), DOI:10.1039/C6RA06749B
- Gunjan Sarkar, Nayan Ranjan Saha, Indranil Roy, Amartya Bhattacharyya, Arpita Adhikari, Dipak Rana, Manas Bhowmik, Madhura Bose, Roshnara Mishra, Dipankar Chattopadhyay: *Cross-linked methyl cellulose/graphene oxide rate controlling membranes for in-vitro and ex-vivo permeation study of diltiazem hydrochloride*. RSC Advances 03/2016; 6(42), DOI:10.1039/C5RA26358A
- Mousumi Chakraborty, Sourav Bhattacharya, Raghwendra Mishra, Siddhartha S. Saha, Pushpak Bhattacharjee, Pubali Dhar, Roshnara Mishra: *Combination of low dose major n<sup>3</sup> PUFAs in fresh water mussel lipid is an alternative of EPA-DHA supplementation in inflammatory conditions of arthritis and LPS stimulated macrophages*. PharmaNutrition 05/2015; 3(2), DOI:10.1016/j.phanu.2015.04.003
- Sourav Bhattacharya, Mousumi Chakraborty, Madhura Bose, Debarati Mukherjee, Anadi Roychoudhury, Pubali Dhar, Roshnara Mishra: *Indian freshwater edible snail *Bellamya bengalensis* lipid extract Prevents T cell mediated hypersensitivity and Inhibits LPS induced macrophage activation..* Journal of Ethnopharmacology 10/2014; 157., DOI:10.1016/j.jep.2014.09.009
- Piyasi Mukhopadhyay, Souma Chakraborty, Sourav Bhattacharya, Roshnara Mishra, P P Kundu: *PH-sensitive chitosan/alginate core-shell nanoparticles for efficient and safe oral insulin delivery*. International Journal of Biological Macromolecules 09/2014; 72., DOI:10.1016/j.ijbiomac.2014.08.040
- Piyasi Mukhopadhyay, Kishor Sarkar, Sourav Bhattacharya, Roshnara Mishra, P. P. Kundu: *Efficient oral insulin delivery by dendronized chitosan: In Vitro and In Vivo studies*. RSC Advances 08/2014; 4(83), DOI:10.1039/C4RA07511K
- Sayari Ghosh, Raghwendra Mishra, Debasish Sarkar, Roshnara Mishra, Dulal C. Mukherjee: *The use of artificial neural network (ANN) for rapid quantification of morphological*

*alteration of Red Blood Cell*. Journal of the Indian Chemical Society 08/2014; 91(8):1601-1610.

Sourav Bhattacharya, Mousumi Chakraborty, Piyasi Mukhopadhyay, P P Kundu, Roshnara Mishra: *Viper and Cobra Venom Neutralization by Alginate Coated Multicomponent Polyvalent Antivenom Administered by the Oral Route*. PLoS Neglected Tropical Diseases 08/2014; 8(8):e3039., DOI:10.1371/journal.pntd.0003039

Madhura Bose, Mousumi Chakraborty, Sourav Bhattacharya, Debarati Mukherjee, Suvra Mandal, Roshnara Mishra: *Prevention of Arthritis Markers in Experimental Animal and Inflammation Signalling in Macrophage by Karanjin Isolated from Pongamia pinnata Seed Extract*. Phytotherapy Research 08/2014; 28(8)., DOI:10.1002/ptr.5113

Piyasi Mukhopadhyay, Kishor Sarkar, Sourav Bhattacharya, Aditi Bhattacharyya, Roshnara Mishra, P.P. Kundu: *pH Sensitive N-succinyl chitosan Grafted Polyacrylamide Hydrogel for Oral insulin delivery*. Carbohydrate Polymers 06/2014; 112., DOI:10.1016/j.carbpol.2014.06.045

Gunjan Sarkar, Nayan Ranjan Saha, Indranil Roy, Amartya Bhattacharyya, Madhura Bose, Roshnara Mishra, Dipak Rana, Debashis Bhattacharjee, Dipankar Chattopadhyay: *Taro corms mucilage/HPMC based transdermal patch: An efficient device for delivery of diltiazem hydrochloride*. International journal of biological macromolecules 02/2014; 66., DOI:10.1016/j.ijbiomac.2014.02.024

Madhura Bose, Mousumi Chakraborty, Sourav Bhattacharya, Pushpak Bhattacharjee, Suvra Mandal, Manoj Kar, Roshnara Mishra: *Suppression of NF- $\kappa$ B p65 nuclear translocation and tumor necrosis factor- $\alpha$  by Pongamia pinnata seed extract in adjuvant-induced arthritis*. Journal of Immunotoxicology 08/2013; 11(3)., DOI:10.3109/1547691X.2013.824931

Raghwendra Mishra, Debasish Sarkar, Sourav Bhattacharya, Sanjaya Mallick, Mousumi Chakraborty, Debarati Mukherjee, Manoj Kar, Roshnara Mishra: *Quantifying morphological alteration of RBC population from light scattering data*. Clinical hemorheology and microcirculation 04/2013; 59(4)., DOI:10.3233/CH-131726

Piyasi Mukhopadhyay, Roshnara Mishra, Dipak Rana, Patit P. Kundu: *Strategies for effective oral insulin delivery with modified chitosan nanoparticles: A review*. Progress in Polymer Science 11/2012; 37(11):1457–1475., DOI:10.1016/j.progpolymsci.2012.04.004

Piyasi Mukhopadhyay, Kishor Sarkar, Mousumi Chakraborty, Sourav Bhattacharya, Roshnara Mishra, P.P. Kundu: *Oral insulin delivery by Self-assembled Chitosan Nanoparticles: In vitro and in vivo studies in diabetic animal model*. Materials Science and Engineering C 09/2012; 33(1-2.686)., DOI:10.1016/j.msec.2012.09.001

- Mousumi Chakraborty, Sourav Bhattacharya, Raghendra Mishra, Debarati Mukherjee, Roshnara Mishra: *Antioxidant content and activity of the Indian fresh-water pearl mussel in the prevention of arthritis in an experimental animal model*. The British journal of nutrition 01/2012; 108(8):1346-50., DOI:10.1017/S0007114511006805
- Mousumi Chakraborty, Sourav Bhattacharya, Pushpak Bhattacharjee, Rinku Das, Roshnara Mishra: *Prevention of the progression of adjuvant induced arthritis by oral supplementation of Indian fresh water mussel (Lamellidens marginalis) aqueous extract in experimental rats*. Journal of ethnopharmacology 10/2010; 132(1):316-20., DOI:10.1016/j.jep.2010.08.036
- Antony Gomes, Rinku Das, Sumana Sarkhel, Roshnara Mishra, Sanghamitra Mukherjee, Shamik Bhattacharya, Aparna Gomes: *Herbs and Herbal constituents active against Snake bite*. Indian journal of experimental biology 09/2010; 48(9):865-78.
- Antony Gomes, Pushpak Bhattacharjee, Roshnara Mishra, Ajoy K Biswas, Subir Chandra Dasgupta, Biplab Giri: *Anticancer potential of animal venom and toxin*. Indian journal of experimental biology 02/2010; 48(2):93-103.
- Antony Gomes, Sourav Bhattacharya, Mousumi Chakraborty, Pushpak Bhattacharjee, Roshnara Mishra, Aparna Gomes: *Anti-arthritic activity of Indian monocellate cobra (Naja kaouthia) venom on adjuvant induced arthritis*. Toxicon 10/2009; 55(2-3):670-3., DOI:10.1016/j.toxicon.2009.10.007
- Subhash Haldar, Shubho Das Gupta, Aparna Gomes, Biplab Giri, Subir Chandra Dasgupta, Ajay Biswas, Roshnara Mishra, Antony Gomes: *A high molecular weight protein Bengalin from the Indian black scorpion (Heterometrus bengalensis CL Koch) venom having antiosteoporosis activity in female albino rats*. Toxicon 10/2009; 55(2-3):455-61., DOI:10.1016/j.toxicon.2009.09.013
- Antony Gomes, Subhash Haldar, Biplab Giri, Roshnara Mishra, Archita Saha, Shubho Dasgupta, Aparna Gomes: *Experimental osteoporosis induced in female albino rats and its antagonism by Indian black scorpion (Heterometrus bengalensis C.L.Koch) venom*. Toxicon 11/2008; 53(1):60-8., DOI:10.1016/j.toxicon.2008.10.011
- Antony Gomes, Biplab Giri, Archita Saha, R Mishra, Subir C Dasgupta, A Debnath, Aparna Gomes: *Bioactive molecules from amphibian skin: Their biological activities with reference to therapeutic potentials for possible drug development*. Indian journal of experimental biology 08/2007; 45(7):579-93.
- Antony Gomes, Subhasree Roy Choudhury, Archita Saha, R Mishra, Biplab Giri, A.K. Biswas, Anindita Debnath, Aparna Gomes: *A heat stable protein toxin (drCT-I) from the Indian Viper (Daboia russelli russelli) venom having antiproliferative, cytotoxic and apoptotic activities*. Toxicon 01/2007; 49(1):46-56., DOI:10.1016/j.toxicon.2006.09.009

### **Ph.D. research supervised**

<b>Name of the student</b>	<b>Research title</b>	<b>Institution/University</b>	<b>Year</b>
Debarati Mukherjee	Studies on pathogenesis of snake bite mediated acute renal failure	University of Calcutta	Submitted 2018
Mousumi Chakrobarty	Studies on fresh water edible snail extract on experimental arthritis.	University of Calcutta	Completed 2014
Sourav Bhattacharya	Studies on Indian fresh water mussel extract on experimental arthritis.	University of Calcutta	Completed 2013
Piyashi Mukherjee	Oral delivery of encapsulated Insulin with modified chitosan	University of Calcutta	Completed 2015
Madhura Bose	Antiinflammatory activity of Pongamia pinnata seed	University of Calcutta	Completed 2015
Raghwendra Mishra	Studies on RBC morphological changes in different diseases	University of Calcutta	Completed 2015

### **Professional Membership of the Scientific Society**

Life Member, Indian Pharmacological Society

Life Member, Indian Science Congress Association

Life Member, Indian Association of Biomedical Scientists.