Dr. SUBIR CHANDRA DASGUPTA

Designation: Professor (WBSES) & HOD, PG Dept. of Zoology

Qualifications: M.Sc., Ph.D.

Specialization: *Genetics and Molecular Biology, Pharmacology, Toxinology*

Positions Held/Holding: 1985-1989 Lecturer in Zoology, Darjeeling Govt. College WB (WBES)

1989-1996 Reader in Zoology, Jhargram College, West Bengal 1996-2010 Associate Professor of Zoology, Maulana Azad College 2010-Till Date-Professor of Zoology, Maulana Azad College (WBSES)

Teaching Experience: 21 years Postgraduate teaching and 32 years Undergraduate teaching

Research Interests: Toxinology, Pharmacology, Screening of Bioactive compounds of Natural products

Patents: 02 {1 International and 1 National)

- 1. Anti-arrhythmic pharmaceutical composition and a process there of. A Gomes, Archita Saha, A.K. Biswas & S.C. Dasgupta (United States Patent: 7,018,659; Issued: March 28, 2006).
- 2. A Hexahydro-2, 2-dimethyl-5-(2-nitroethyl)-[1,3] dioxolo [4,5-b] pyrazine compound. Gomes, S. Karmakar, Aparna Gomes, Tulika Das, A. Ghosh, A.K. Biswas, S.C. Dasgupta (ICMR, India, Patent No. 235763, Issued 24th August 2009).

Research Guidance:

Number of researchers awarded Ph.D. degrees: 10 Number of researchers perusing Ph.D.: 01

Name of the Students obtained Ph.D. under my supervision / co supervision

- 1. Dr. Manika Das
- 2. Dr. Pallabi De
- 3. Dr. Surajit Karmakar
- 4. Dr. Biplab Giri
- 5. Dr.Roshnara Mishra
- 6. Dr.Poulami Dutta
- 7. Dr.Partha pratim Saha
- 8. Dr. Sanghamitra Mukherjee
- 9. Dr. Kalyani Saha
- 10. Dr. Sourav Saha
- 11. Dr. Avijit Dey

Research Projects: (2017-1996) Completed Projects: (04 as PI, 13 as Co-PI) As Principal Investigator:

[2014-2017] National Tea Research Foundation: Major research Project completed (PI)

> Evaluation of the role of black tea extract (*Camellia assamica*) on pregnant rats and associated effect on pups after prenatal and post-natal exposure. Project funded by NTRF, PI- Dr. S. C. Dasgupta, Sanction No.: 17 (305)/2013/4423 dated 11th March, 2014. 2014-17, Rs-13,55,760/- (2014-16)

[2010-2013] UGC Major research Project completed (PI)

- > Search for Bioactive components from shed snake skin extract (Principal Investigator) Major Research project, 2010-13. Ref No- F No-38-130/2009(SR) Dated 19.12.2009 -2012.Rs-12,336/-
- ➤ [2007-2009] Immunomodulatory & other physiological effects of edible snail *Belamya bengalensis* extract on experimental animals (Principal Investigator) UGC Minor Project (2007-2009) Ref No: PSW 133/06-07 dt 19.02.07-09. (Rs-1,00,000/-) [Minor Project]
- > [2004-2006] Search for bioactive compounds from the flesh of Indian air breathing Murrells *Channa punctatus*. UGC minor research project (2004-2006) Principal Investigator Ref No: PSW 052/03-04 dt 12.03.04 (Rs-1,00,000/-) [Minor Project]

As Co- Investigator:

ICMR Major Research Project completed



- ➤ [2006-2009] (ref: ID no.2002-01180 dt 17.07.2006) (Amount: Rs. 8.3 lakhs) Title: Development of scorpion venom antagonist from Indian medicinal plants.
- > [1990-1994] (ref: ID No.1990-03490 dt.01.01.1992) (Amount: Rs. 7.7 lakhs) Title: Search for plant constituents which antagonise snake venoms.

UGC Major Research Project completed

- > [2003-2006] (ref: UGC/417/Major Research (Sc)/03 dt.31.07.2003) (Amount: Rs. 5.18 lakhs) Title: Evaluation of toad skin extract as an anticancer agent in animal and human cell line.
- ➤ [2007-2010] (ref: UGC/32-530/2006(SR) dt.08.03.2007) (Amount: Rs. 11.13 lakhs) Title: Studies on the antineoplastic compound (peptides & proteins) of the Indian toad (Bufo malanostictus Schneider) skin extract.
- > [2013-2015[(ref: UGC/42-536/2013(SR) dt.20.03.2013) (Amount: Rs. 6.37 lakhs) Title: Antiarthritic activity of krait venom: an experimental study.

CSIR Major Research Project completed

- ➤ [1995-1999] (ref: 37(0851)/94/EMR-II. Dt: 12.12.1994) (Amount : Rs.6.43 lakhs) Title : Physiological and Pharmacological studies on the venom of Indian King Cobra (Ophiophagus hannah).
- ➤ [1999-2002] (ref: 37(1002)/98-EMR-II dt 17.03.1999) (Amount : Rs.6.5 lakhs) Title : Further studies on structure–function relation of therapeutically active compounds isolated from King cobra (Ophiophagus hannah) venom.

DST Major Research Project completed

➤ [2010-2013] (ref: SR/SO/HS0058/2008 dt.06.05.2010) (Amount: Rs.26.0 lakhs) Title: Anti-osteoporosis and anti-osteroarthritic activity of Viviparous bengalensis extract in experimental animals.

LSRB(DRDO) Major Research Project completed

➤ [2005-2008] (ref: DLS/81/48222/LSRB-76/EPB/2005 dt.27.01.2005) (Amount : Rs 14.77 lakhs)Title : Physiological studies on scorpion venom factors in experimental osteoporosis.

National Tea Research Foundation (Kolkata)- MRP completed

- ➤ [2003-2006] (ref: 17(47)/2003 dt.30.12.2002) (Amount: Rs 4.98 lakhs) Title: Immunomodulatory activity of black tea.
- > [2010-2013] (ref: 141/2010 dt.23.03.2010) (Amount: Rs 6.4 lakhs) Title: Molecular actions of black tea extract against experimental arthritis.

Indian Herbs, Saharanpur, U.P-Major research Project completed

- ➤ [1995-1997] (ref: 95-96/R&D/dt. 20 .11.1995) (Amount: Rs 0.7 lakhs) Title: Evaluation of imunomodulatory activity of Immune-21.
- ➤ {1996-1998] (ref: 96-97/MHP/1756 dt. 17 .05.1996) (Amount: Rs 0.63 lakhs) Title: Evaluation of anthistaminic actions of Zephyr.

Selected Publications: (2020-1989) h Index: 11 [Google scholar citation-370], I 10 Index: 13

- 2020 1. Ghosh, Sourav; Dasgupta, Subir Chandra; Dasgupta, Anjan Kumar; Gomes, Aparna; Gomes, Antony, Gold Nanoparticles (AuNPs) Conjugated with Andrographolide Ameliorated Viper (Daboia russellii) Venom-Induced Toxicities in Animal Model,, Journal of Nanoscience and Nanotechnology, Volume 20, Number 6, June 2020, pp. 3404-3414(11), DOI: https://doi.org/10.1166/jnn.2020.17421
- **2.** Sushmita Mukherjee, Anthony Gomes and Subir Chandra Das Gupta Effect of Aqueous Extract of Naja naja Sp. Shedded Skin in Pregnant Female Rats and its Role on the Growth and Development in the Pups. J Toxins. Volume 5, Issue 1. ISSN: 2328-1723
- **2018 3.** Avijit Dey, Antony Gomes, Subir Chandra Dasgupta Black Tea (Camellia sinensis) Extract induced Prenatal and Postnatal Toxicity in Experimental Albino rats. Pharmacog. Mag (Accepted)
- 4. Sanghamitra Mukherjee, Antony Gomes Subir Chandra Dasgupta. Prenatal toxicity of NNSS2 isolated from Naja naja shedded skin in pregnant rats Journal of Toxin 4,1, 1-6, 2017
 - 5. Black tea extract induced changes in Blood & Liver parameters on pregnant & lactating experimental albino rats. Avijit Dey, Antony Gomes & **Subir Chandra Dasgupta**. Pros. Zoo. Soc DOI 10.1007/s12595-017-0229-8. 2017
 - 6. Sanghamitra Mukherjee, Antony Gomes, Subir Chandra Dasgupta. Zoo Therapeutic uses of Snake Body Parts in Folk & Traditional Medicine. Journal of Zoological Research Volm 1, Issue 1, 1-9, 2017
- 7. Antony Gomes, Susmita Ghosh, Sourav Ghosh, Kalyani Saha, Partha P Saha, Subir C Dasgupta, Aparna Gomes. Anti-osteoarthritic activity of Bungarus fasciatus venom fraction (BF- F47) involving molecular markers in the rats. Toxicon 118, 43-46., doi: 10.1016/j.2016
 - 8. Antony Gomes Partha Pratim Saha, Tanmoy Bhowmick, Anjan Kumar Dasgupta and Subir Chandra Dasgupta. Protection against osteoarthritis in experimental animals by nanogold conjugated snake venom protein toxin gold nanoparticles Naja kaouthia cytotoxin 1. Indian J Med Res. 144(6): 910–917,

- Sanghamitra Mukherjee, Subir Chandra Das Gupta and Antony Gomes Estrous cycle cessation caused via activating the apoptotic pathway by NNSS2 isolated from Naja naja shedded skin. Journal of Toxin ,3,1, 2016
 Susmita Ghosh, Partha Pratim Saha, Subir C Dasgupta & Antony Gomes. Antinociceptive, anti-inflammatory and anti-arthritic activities of Bungarus fasciatus venom in experimental animal models. Indian Journal of Experimental Biology, 54, 569-576, 2016
 Sourav Ghosh, Jayeeta Sengupta, Kalyani Saha, Subir Chandra Dasgupta, Aparna Gomes, Antony Gomes. Green synthesis of gold nanoparticle using Hygrophila spinosa T. Anders leaf extract and evaluation of hematopoietic-antioxidant properties in Swiss albino male mice. Material Focus 5, 1-8, 2016
- 2015 12. Kalyani Saha, Sourav Ghosh, Susmita Ghosh, Subir Chandra Dasgupta, Aparna Gomes, Antony Gomes. Neutralization of Naja kaouthia venom induced toxicity and stress response by Vitex negundo-gold nanoparticle (VN-GNP) in experimental animal models. Journal of Toxins, 2(1), 8 (2015).
 - 13. Susmita Ghosh, Kalyani Saha, Subir Chandra Dasgupta and Antony Gomes. In vitro and In vivo Anti-Arthritic and Anti-Inflammatory Activity of Bungarus fasciatus Venom. Journal of Toxins, 2(1), 5-10 (2015).
 - 14. Sourav Ghosh Susmita Ghosh, Subir Chandra Dasgupta & A Gomes Neutralisation of Naja kaouthia venom induced toxicity and stress response by Vitex negundo-Gold Nanoparticle (VnGnp) in experimental animal model., Journal of Toxin, 2(1) 8-12, 2015
- 2014 15. Antony Gomes, Poulami Datta, Amrita Sarkar, Subir Chandra Dasgupta, Aparna Gomes. Black Tea (Camellia sinensis) extract as an immunomodulator against immunocompetent and immunodeficient experimental rodents. Oriental Pharmacy and Experimental Medicine, 14, 37-45, 2014.
 - 16. Poulami Datta, Sanghamitra Mukherjee, Subir Chandra Dasgupta, Antony Gomes. Anti arthritic activity of theaflavin (Tf), chief flavonoid of black tea against adjuvant induced Rheumatoid arthritis in experimental animal models. Oriental Pharmacy and Experimental 2014.
- 2013 17. Amrita Sarkar, Poulami Datta, Aparna Gomes, Subir Chandra Das Gupta, Antony Gomes. Antiosteoporosis and anti-osteoarthritis activity of fresh water snail (Viviparous bengalensis) flesh extract in experimental animal model. Open Journal of Rheumatology and Autoimmune Diseases, 3, 10-17. 2013.
 - 18. Sanghamitra Mukherjee, Subir Chandra Dasgupta & Antony Gomes. Effect of Naja naja Laurenti shed snake skin extract on estrous cycle, hormone cytokine profile, histopathology of ovary & uterus of Swiss albino rats. Indian Journal of Experimental Biology, 51, 235-240, 2013
- 2011 19. Antony Gomes Md Aftab Alam. Sourav Bhattacharya Subir Chandra Dasgupta Sanghamitra Mkherjee Shamik Bhattacharya Aparna Gomes. Ethno biological usage of zoo products in rheumatoid arthritis. Indian Journal of Experimental Biology, 49, 563-573.2011
 - 20. Debarshi Basu, Subir Chandra Dasgupta,, S.K. Das and T N Khan. The genetics of rarity and extinction. Tribal World, 1,58-72, 2011
- 2010 21. Antony Gomes, Puspak Bhattacharya, Roshnara Mishra, Ajoy Kr. Biswas, Subir Chandra Dasgupta, Biplab Giri, Anindita Debnath, Subho Dasgupta, Tanaya Das, Aparna Gomes. Anticancer Potential of Animal Venoms and Toxins. Indian Journal of Experimental Biology, 48 (2), 93-103, 2010.
- 22. Halder S, Dasgupta S, Gomes A, Giri B, Dasgupta S. C, Biswas A, Mishra A, Gomes A. A high molecular weight protein Bengalin from the Indian black Scorpion Heterometrus bengalensis (C.L. Koch) venom having anti osteoporosis activity in female albino rats. Toxicon 53(1) 60-68, 2009.
- 23. 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, 45, 579-593, 2007.
- 24. B Giri, A gomes, A Debnath, A Saha, A K Biswas, S. C. Dasgupta & A Gomes. Antiproliferative, cytotoxic and apoptogenic activity of Indian Toad (Bufo melanostictus, Schneider) skin extract on U937 and K562 cells. Toxicon 48 (4)388-400, 2006
 - 25. Archita Saha, Aparna Gomes, B. Giri, A K Chakravarty, A K Biswas, S. C. Dasgupta and A Gomes, Occurrence of non-protein low molecular weight cardiotoxin in the Indian King cobra (Ophiophagus hannah) venom. Indian Journal of Experimental Biology. 44, 279-285, 2006,
- 26. D Muhuri, S. C. Dasgupta & A Gomes. Lethal oedema, haemorrhagic activity of spotted butterfish (Scatophagus argus) sting extract and its neutralization by antiserum and pharmacological antagonist. Indian Journal of Experimental Biology, 43,493-497,2005
 - 27. S Karmakar, A K Biswas, S. C. Dasgupta & A Gomes. Haematinic and immunomodulatory effects of honey on immunocompetent immunodeficient and splenectomised experimental rodents. Phytomedica, 5, 107-111.2005.
- 28. S Karmakar, Tulika Das, A Ghosh, S. C. Dasgupta, A K Biswas & A Gomes Isolation and partial structural evaluation of a cardiotoxic factor from Indian common murrel (Channa striatus). Indian Journal of Experimental Biology,42,271-278,2004.
 - 29. S. Karmakar, D. C. Muhuri S. C. Dasgupta A K Nagchoudhury & A Gomes. Isolation of a haemorrhagic protein toxin (SA-HT) from the Indian venomous Butterfish (Scatophagus argus Linn) sting extract.

- Indian Journal of Experimental Biology, 42, 452-460, 2004.
- 30. D.Muhuri, S. Karmakar. S. C. Dasgupta, A K Nagchowdhury & A Gomes. Pharmacological studies on the venomous spotted butterfish (Scatophagus argus Linn) sting extract on experimental animals Indian Journal of Experimental Biology, 42, 461-467, 2004.
- 2002 31. Surajit Karmakar, S. C. Dasgupta and A. Gomes. . Pharmacological and haematological study of the shol fish (Channa striatus) skin extract on experimental animal. Indian Journal of Experimental Biology, 115-118, 2002
 - 32. Pallabi De, S. C. Dasgupta & A Gomes. A lethal neurotoxic protein from the Indian King Cobra (Ophiophagus hannah) venom. Indian Journal of Experimental Biology, 40, 1359-1364, 2002.
 - 33. Sanjoy Kumar Pal, Aparna Gomes, S. C. Dasgupta & Antony Gomes Snake venom as therapeutic agents: From toxin to drug development. Indian Journal of Experimental Biology. 40. 1353- 1358.2002.
 - 34. S. Karmakar S. C. Dasgupta & A Gomes. Pharmacological and Hematological study on the shol (Channa straitus) fish skin extract on experimental animals.. Indian Journal of Experimental Biology, 40,115-118,2002.
- **2001** 35. A Gomes, Pallabi De, & S. C. Dasgupta. Occurrence of an unique protein toxin from the Indian King Cobra (Ophiophagus hannah) venom. Toxicon, 39, 363-370 2001.
 - 36. A Gomes, Manika Das & S C Dasgupta. Haematinic effect of Hygrophila spinosa T Anderson extract on experimental Animals. Indian Journal of Experimental Biology. 39, 381-382, 2001.
 - 37. Manika Das, S. C. Dasgupta & A Gomes. Isolation, purification and partial chemical characterization of a lethal factor from common Indian toad (Bufo melanostictus schneider) skin extract. Indian Journal of Experimental Biology, 39, 781-785.2001
- 2000 38. Manika Das, B N Mallick, S. C. Dasgupta & A Gomes. A sleep inducing factor from the common Indian Toad (Bufo melanostictus) skin extract. Toxicon, 38, 1267-1281 2000.
 - 39. A Gomes, Manika Das, M I Alam & S. C. Dasgupta. Bidder's organ extract induced anaphylaxis in experimental animals. Indian Journal of Experimental Biology, 38, 177-179, 2000.
 - 40. A Gomes and S. C. Dasgupta. Antihistaminic and antianaphylactic properties of polyherbal immunimodulator pulmoflex. Phytomedica, 21, (1&2),9-15, 2000.
- 1998 41. Pallabi De, S. C. Dasgupta & A Gomes. . Immunopotentiating and Immunoprophylactic activity of Immune 21, a polyherbal product. Indian Journal of Pharmacology, 30, 163-168 1998.
 - 42. Manika Das, S. C. Dasgupta & A Gomes. Immunomodulatory and antineoplastic activity of common Indian Toad (Bufo melanostictus Schneider) skin extract. Indian Journal of Pharmacology, 30, 311-317 1998.
 - 43. Manika Das, S. C. Dasgupta & A Gomes. Toad (Bufo melanostictus Schneider) skin extract induced haematological and biochemical changes in rodents. Indian Journal of Pharmacology, 30, 68-72 1998.
- 44. A Gomes, M I Alam, D C Muhuri, B Auddy & S. C. Dasgupta. A lethal Cardiotoxic protein isolated from the Bidder's organ of the common Indian Toad (Bufo melanostictus Schneider. Indian Journal of Experimental Biology, 34,211-215, 1996.
- 45. A Gomes, M I Alam, B Auddy & S. C. Dasgupta. Isolation purification and partial characterization of a haemolytic protein from the Bidder's organ of the toad Bufo melanostictus (Schneider). . Indian Journal of Experimental Biology, 32,119-123, 1994.
- 46. S. C. Dasgupta, A Gomes & S C Lahiri. Detection and distribution of scorpion (Heterometrus bengalensis) venom in rabbit tissue by enzyme linked immunosorbent assay. Indian Journal of Experimental Biology, 29,691-692, 1991
- 47. S.C. Dasgupta, A Gomes, Aparna Gomes, A Basu & S C Lahiri. Isolation purification and immunological evaluation of a toxin (Toxin Hb) isolated from the scorpion Heterometrus bengalensis (C.L. Koch) venom. Indian Journal of Experimental Biology, 28,114-148, 1990.
 - 48. A Basu, A Gomes, Aparna Gomes, S. C. Dasgupta & S C Lahiri. Isolation and purification of a lethal scorpion toxin with neuromuscular blocking activity. Indian Journal of Experimental Biology, 28,451-454, 1990
- 49. S. C. Dasgupta, A Gomes, Aparna Gomes, A Basu & S C Lahiri. Immunological cross reactivity and paraspecificity of the scorpion Heterometrus bengalensis antivenom. Indian Journal of Medical Research, 90, 140-146, 1989
 - 50. A Basu, A Gomes, Aparna Gomes, S. C. Dasgupta & S C Lahiri. Pharmacological actions of the venom of the scorpion Lychas laevifrons with special reference to its neuromuscular activity. Indian Journal of Experimental Biology, 27,1028-1031, 1989.
 - 51. S. C. Dasgupta, A Gomes, Aparna Gomes, A Basu & S C Lahiri, Comparative detoxification and protection of scorpion (Heterometrus bengalensis) venom by toxoid antiserum. Indian Journal of Experimental Biology, 27,568-537, 1989.
 - 52. S. C. Dasguputa, A Gomes, Aparna Gomes, A Basu & S C Lahiri. Pharmacological and immunological evaulation of scorpion (Heterometrus bengalensis) venom antiserum. Indian Journal of Experimental Biology, 27,47-51, 1989

Oration Lecture: Dr.N. M. Bose Memorial Lecture, Department of Zoology, City College, 2016 Books/Book chapters: 03

- ✓ Study Material for Post Graduate course in Zoology, Laboratory Course, Paper v, Group-B, Netaji Subhas Open University, 2006 (Writer)
- ✓ Study Material for Post Graduate Course in Zoology, Molecular Biology, Paper III, Group: B(II) 2008, (Editor).
- ✓ Study material for Postgraduate Course in Zoology, Biotechnology, Paper- IV, Group-A, 2008 (Writer-Chapter 4, 5, & 10)

Popular Scientific article/video film:

- ✓ Toad skin pharmacy: In Natural History, August, 2000.
- ✓ Sleep inducing toad: In BBC wild Life, January 2001
- ✓ Venomics: A bioinformatics approach in venom research 2010
- ✓ Video Film: "Working Animal- The Medicine Maker" Discovery Channel, 2008

Conference/Seminar volumes: 38 (National + International)

Membership of learned societies:

Life Member, Indian Pharmacological Society.

Life Member, Indian Science Congress Association.

Life Member, The Zoological Society.

Life Member, Indian Association of Biomedical Scientist.

Life Member, Toxinological Society of India.

Life Member: The Asiatic Society. Fellow (FZS): The Zoological Society.

Other notable activities

- Coordinator DBT STAR College scheme for Life Science departments (20012 2017)
- ❖ Member UG Board of studies in Zoology, Calcutta University [2004-08]
- ❖ Member UG Board of studies in Zoology, Calcutta University [2015-2019]
- ❖ Member UG Board of Studies, State University, Barasat [2016-2020]
- Member PG Board of studies Netaji Subhas Open University [2005-2008] [2012-till date].
- ♦ Member PG Board of studies, Bethune College Kolkata [2005-2009] [2009-till date]
- Member PG Board of studies, Bangabasi College, Kolkata [2005-2009] [2009-2016] [2017—till date]
- ❖ Member PG Board of Studies, Barasat Govt. College, Kolkata [2012 –2016]
- ❖ Member PG Board of studies, Dinobandhu Andrews College [2017—till date]
- Member & Convener, PG Board of studies, Maulana Azad College, Kolkata [2005-2008]
- Head & Chairman, PG Board of Studies, Maulana Azad College [2008-till date].
- ❖ Member, syllabus committee West Bengal Higher Secondary Council [2009-2012]
- Member Advisory Committee, DBT Star College Scheme, Presidency College, [2010-2013]
- ❖ Co-ordinator, DST FIST Programme, Maulana Azad College [2010-15]
- Co- ordinator-DBT Star College Programme, Maulana Azad College [2011-16]
- ❖ Member DBT Star College programme Lady Braborne College, Kolkata [2012 -2016]
- ❖ Member, DBT Star College Programme Hooghly Mohosin College, [2012-2014]
- ❖ PG Board of Studies, External Member, Burdwan University [2014-till date]
- Ph.D. Advisory Committee External Member, Vivekananda University, [2015-till date]
- ❖ Board of Studies External member, Belurh College, College {2017 -till date}
- Resource person, JBNSTS, Kolkata [2017 -till date]
- Editorial Board Member: Journal of Zoology (2017)

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