

# Curriculum Vitae

**Name:** Dr. Sumit Ghosh

## PERSONAL INFORMATION

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## EDUCATIONAL QUALIFICATIONS

### Secondary Education (Class X):

*West Bengal Board of Secondary Education, 2008*

School: South Point High School

### Higher Secondary Education (Class XII):

*West Bengal Council of Higher Secondary Education, 2010*

School: South Point High School

### Graduation (2010-2013):

*B.Sc.(Hons.) Zoology, University of Calcutta*  
College: Presidency College, Kolkata (under University of Calcutta)

### Post-Graduation (2013-2015):

*M.Sc. Zoology, University of Calcutta*  
Institution: Ballygunge Science College, Kolkata  
Elective Papers: Genetics and Immunology

Qualified NET-JRF, UGC: 2015

PhD Thesis Title: Studies on the molecular mechanisms involved in the ameliorative strategies of bioactive molecules against organ pathophysiology

Fellowship (2016-2020); Registered under  
*Department of Life Science and Biotechnology, Jadavpur University, 2017*  
Institution: Bose Institute  
Supervisor: Prof. Parames C. Sil  
Degree Awarded: 24<sup>th</sup> December, 2022

## SKILLS

1. I am well acquainted with Taxonomy, Parasitology, Ecology, Evolutionary Biology, Ethology, Biochemistry, Animal Physiology, Molecular Biology, Genetics and Immunology.
2. I am well acquainted with basic laboratory techniques like Cell and Tissue Culture, Isolation of DNA/RNA/Protein, Estimation of Biomolecules, Immunohistochemistry, Blotting Protocols, basic Programming Language (Python) and basic Bioinformatic tools.

## TEACHING EXPERIENCE

Guest Faculty at the Department of Zoology, Ramakrishna Mission Vidyamandira (RKMV), Belur Math since 11<sup>th</sup> July, 2022

## WORKSHOPS AND SEMINARS ATTENDED

1. Seminar on 'Toxicology' under DBT Star College Programme, Govt. of India, under the supervision of Dr. A. K. Anthony Gomes at Dept. of Zoology, Presidency College, Kolkata. (2011)
2. Workshop on 'Techniques in Biotechnology' under DBT Star College Programme, Govt. of India, under the supervision of Prof. G. C. Sadhukhan, Dept. of Zoology, Vidyasagar College, Kolkata. (2013)
3. Research Workshop on 'Diagnostic and Therapeutic Immunology' at Medical College and JNM Hospital, Kalyani. (2015)
4. Presented a poster titled, 'Studies on the ameliorative effect of ferulic acid against cardiomyopathy in streptozotocin induced diabetic rats', at a symposium on 'Perspectives of Cell Signaling and Molecular Medicine' of Bose Institute, Kolkata. (2016)
5. Completed the DBT Star College Scheme Sponsored Value Added Course entitled, 'Python in Biology: An Introductory Programming Course for Complete Beginners', organized by Department of Zoology, Jhargram Raj College, Jhargram, West Bengal, India. (2020)
6. Seminar on 'Selection or Elimination! – Which one does a Virus offer?' organized by the Department of Zoology, RKMV, Belur Math. (2023)

## LIST OF PUBLICATIONS

### Research Articles

**Ghosh, S.**, Chowdhury, S., Sarkar, P. and Sil, P.C., 2018. Ameliorative role of ferulic acid against diabetes associated oxidative stress induced spleen damage. *Food and Chemical Toxicology*, 118, pp.272-286.

**Ghosh, S.**, Chowdhury, S., Das, A.K. and Sil, P.C., 2019. Taurine ameliorates oxidative stress induced inflammation and ER stress mediated testicular damage in STZ-induced diabetic Wistar rats. *Food and Chemical Toxicology*, 124, pp.64-80.

**Ghosh, S.**, Kundu, M., Dutta, S., Mahalanobish, S., Ghosh, N., Das, J. and Sil, P.C., 2022. Enhancement of anti-neoplastic effects of cuminaldehyde against breast cancer via mesoporous silica nanoparticle based targeted drug delivery system. *Life Sciences*, 298, p.120525.

Chowdhury, S., **Ghosh, S.**, Rashid, K. and Sil, P.C., 2016. Deciphering the role of ferulic acid against streptozotocin-induced cellular stress in the cardiac tissue of diabetic rats. *Food and Chemical Toxicology*, 97, pp.187-198.

Rashid, K., Chowdhury, S., **Ghosh, S.** and Sil, P.C., 2017. Curcumin attenuates oxidative stress induced NF $\kappa$ B mediated inflammation and endoplasmic reticulum dependent apoptosis of splenocytes in diabetes. *Biochemical pharmacology*, 143, pp.140-155.

Banerjee, S., **Ghosh, S.**, Sinha, K., Chowdhury, S. and Sil, P.C., 2019. Sulphur dioxide ameliorates colitis related pathophysiology and inflammation. *Toxicology*, 412, pp.63-78.

Chowdhury, S., **Ghosh, S.**, Das, A.K. and Sil, P.C., 2019. Ferulic acid protects hyperglycemia-induced kidney damage by regulating oxidative insult, inflammation and autophagy. *Frontiers in pharmacology*, 10, p.27.

Mahalanobish, S., Saha, S., Dutta, S., **Ghosh, S.** and Sil, P.C., 2022. Melatonin counteracts necroptosis and pulmonary edema in cadmium-induced chronic lung injury through the inhibition of angiotensin II. *Journal of Biochemical and Molecular Toxicology*, 36(10), p.e23163.

Das, A.K., Hossain, U., **Ghosh, S.**, Biswas, S., Mandal, M., Mandal, B., Brahmachari, G., Bagchi, A. and Sil, P.C., 2022. Amelioration of oxidative stress mediated inflammation and apoptosis in pancreatic islets by Lupeol in STZ-induced hyperglycaemic mice. *Life Sciences*, 305, p.120769.

Mahalanobish, S., Kundu, M., **Ghosh, S.**, Das, J. and Sil, P.C., 2022. Fabrication of phenyl boronic acid modified pH-responsive zinc oxide nanoparticles as targeted delivery of chrysin on human A549 cells. *Toxicology Reports*, 9, pp.961-969.

Dutta, S., Mahalanobish, S., Saha, S., Mandal, M., Begam, S., Sadhukhan, P., **Ghosh, S.**, Brahmachari, G. and Sil, P.C., 2023. Biological evaluation of the novel 3, 3'-((4-nitrophenyl) methylene) bis (4-hydroxy-2H-chromen-2-one) derivative as potential anticancer agents via the selective induction of reactive oxygen species-mediated apoptosis. *Cellular Signalling*, 111, p.110876.

### Scientific Reviews

**Ghosh, S.**, Basak, P., Dutta, S., Chowdhury, S. and Sil, P.C., 2017. New insights into the ameliorative effects of ferulic acid in pathophysiological conditions. *Food and Chemical Toxicology*, 103, pp.41-55.

Sarkar, P., Basak, P., **Ghosh, S.**, Kundu, M. and Sil, P.C., 2017. Prophylactic role of taurine and its derivatives against diabetes mellitus and its related complications. *Food and Chemical Toxicology*, 110, pp.109-121.

Ghosh, S., **Ghosh, S.** and Sil, P.C., 2019. Role of nanostructures in improvising oral medicine. *Toxicology Reports*, 6, pp.358-368.

Banerjee, S., **Ghosh, S.**, Mandal, A., Ghosh, N. and Sil, P.C., 2020. ROS-associated immune response and metabolism: a mechanistic approach with implication of various diseases. *Archives of Toxicology*, pp.1-25.

Hossain, U., Das, A.K., **Ghosh, S.** and Sil, P.C., 2020. An overview on the role of bioactive  $\alpha$ -glucosidase inhibitors in ameliorating diabetic complications. *Food and Chemical Toxicology*, p.111738.

**Ghosh, S.**, Mahalanobish, S. and Sil, P.C., 2021. Diabetes: discovery of insulin, genetic, epigenetic and viral infection mediated regulation. *The Nucleus*, pp.1-15.

Mahalanobish, S., **Ghosh, S.** and Sil, P.C., 2024. Genetic Underpinnings of Pulmonary Fibrosis: An Overview. *Cardiovascular & Hematological Agents in Medicinal Chemistry*. (Article in Press)

### Book Chapters

1877-1254 Heat shock proteins and stress, Springer - Role of heat shock proteins in oxidative stress and stress tolerance 2018

978-012-81-5724-4 Discovery and development of therapeutics from natural products against neglected tropical diseases, Elsevier - Oxidative stress in schistosomiasis, echinococcosis and trypanosomiasis: a therapeutic approach 2019

978-981-10-6141-7 Pathophysiological aspects of proteases, Springer - Unfolding the mechanism of proteases in pathophysiology of gastrointestinal diseases 2017

978-981-10-3162-5 Proteases in human diseases, Springer - Proteases in neuropathophysiology 2017

978-012-82-0593-8 Nutraceuticals in brain health and beyond, Elsevier - Nutraceuticals in neurodegenerative diseases 2021

978-3-030-46458-5 Carotenoids: structure and function in the human body, Springer - Carotenoids as coloring agents 2021

### **PUBLICATIONS WITH STUDENTS OF RKMV**

Deb D., Chakraborty S., Ghosh S. & Sil P.C., 'Challenges associated with nanocurcumin anticancer drug delivery systems' in Curcumin-Based Nanomedicines as Cancer Therapeutics, Academic Press, ISBN: 978-0-443-15412-6.

Chakraborty S., Ghosh S., Dalui S., Dey A., An overview on the anti-parasitic activity of ruthenium compounds. (*Communicated*)

### **DECLARATION**

I hereby declare that all the information mentioned above is correct to the best of my knowledge.