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Google Scholar link-

<https://scholar.google.com/citations?user=xaWjAg4AAAAJ&hl=en>

Research Interest-

I have been working in the field of Molecular Endocrinology. Primarily want to pursue research in the area of reproductive endocrinology & Toxicology.

Investigating the ecotoxicological impacts of pesticides, heavy metals and other environmental toxicants on reproductive system of vertebrates.

Completed Research Project:

- 1. Effects of environmental pollutants on thyroid: a molecular and biochemical study. DST FAST Track Scheme for Young Scientists (SERC/LS 0186/2010) Project file No. SR/FT/LS-167/2010**
- 2. Chemical Priming: A Novel Approach of Maize (Zea mays L.) Improvement For Drought Tolerance At Flowering Stage. CSIR Project No-38 (1309)/11 EMR –II dated 10/12/2011**

Ongoing Project-

- 1. Documentation of the diversity of fresh water fishes of North and South 24 Parganas of West Bengal. West Bengal Biodiversity Board. Memo No. 871/3K (Bio)-1/2017 dt. 11.09. 2017**

Academic Qualification-

- 1. Ph.D.- Indian Institute of chemical Biology, Kolkata (Degree obtained from Jadavpur University), 2007**
- 2. M.Sc. (Zoology) – The University of Burdwan, 2000.**
- 3. B.Sc. (Zoology) - The University of Burdwan, 1998.**
- 4. B.Ed (life Sc.)- The University of Burdwan, 2001.**

Performance in competitive exam

Qualified CSIR-UGC NET.

Fellowships-

1. **National Scholarship** Ministry of Human Resource Development, Government of India. 1998
2. **Junior Research Fellowship**, Council for Scientific and Industrial Research (**CSIR**), India

Positions-

Designation	Employer	Period of service From To
CSIR JRF and SRF	Indian Institute of Chemical Biology	2001-2006
Assistant Professor Stage I	Budge Budge College Kolkata – 700137 (Under Calcutta University)	01.11.2006 (forenoon) to 08.03.2009 (afternoon)
Assistant Professor Stage I	West Bengal State University	09.03.2009 (forenoon) to 30.10.2010
Assistant Professor Stage II	West Bengal State University	1.11.2010 to 30.10.2015
Assistant Professor Stage III	West Bengal State University	1.11.2015 to 30.10.2018
Associate Professor	West Bengal State University	1.11.2018 to till date

Publications-

1. **Samir Kumar Saha**, Pamela Ghosh, Aditya Konar, Samir Bhattacharya, and Sib Sankar Roy **Differential Expression of Procollagen Lysine 2-Oxoglutarate 5-Deoxygenase and Matrix Metalloproteinase Isoforms in Hypothyroid Rat Ovary and Disintegration of Extracellular Matrix.** *Endocrinology* 2005, 146(7):2963–2975
2. **Samir K. Saha**, Pamela Ghosh, Debanjali Mitra¹, Satinath Mukherjee, Samir Bhattacharya and Sib S. Roy **Localization and Thyroid Hormone Influenced Expression of Collagen II in Ovarian Tissue** *Cell Physiol Biochem* 2007;19:67-76
3. **Samir Kumar Saha**, Pamela Ghosh, Samir Bhattacharya and Sib Sankar Roy **Procollagen Synthesis is Increased in Hypothyroid Rat Ovary by a Parallel and Compensatory Pathway** *Cell Physiol Biochem* 2007;19:313-322

4. Pamela Ghosh, **Samir Kumar Saha**, Sabarna Bhattacharya, Samir Bhattacharya, Satinath Mukherjee and Sib Sankar Roy **Tachykinin Family Genes and their Receptors are Differentially Expressed in the Hypothyroid Ovary and Pituitary** *Cell Physiol Biochem* 2007;20:357-368

5. Pamela Ghosh, **Samir Kumar Saha**, Shyam Sundar Nandi, Samir Bhattacharya and Sib Sankar Roy **Involvement of Pitx2, a Homeodomain Transcription Factor, in Hypothyroidism Associated Reproductive Disorders.** *Cell Physiol Biochem* 2007;20:887-898

6. Narayan Ghorai, Sondipon Chakraborty, Shamik Gucchait, **Samir Kumar Saha** & Suman Biswas **Estimation of total Terpenoids concentration in plant tissues using a monoterpene, Linalool as standard reagent.** *Protocol Exchange* (2012) doi:10.1038/protex.2012.055. ISSN 2043-0116. **Nature Publishing Group.**

7. Chandrima Dey and **Samir Kumar Saha*** Dimethoate (30%EC) induced toxicities on the tissues of the Indian major carp: *Labeo rohita* (Hamilton) *International Journal of Fisheries and Aquatic Studies* 2014; 1(6): 232-236
1014 ISSN-2347-5129

* **Correspondence author**

8. Chandrima Dey and **Samir Kumar Saha***A Comparative Study on The Acute Toxicity Bioassay of Dimethoate and Lambda-cyhalothrin and Effects on Thyroid Hormones of Freshwater Teleost Fish *Labeo rohita* (Hamilton) *Int. J. Environ. Res.*, 8(4):1085-1092, Autumn 2014 ISSN: 1735-6865

* **Correspondence author**

9. Shaw AK, Bhardwaj PK, Ghosh S, Roy S, Saha S, Sherpa AR, **Saha SK**, Hossain Z. β -aminobutyric acid mediated drought stress alleviation in maize (*Zea mays* L.). *Environmental Science and Pollution Research* (Impact Factor: 2.83). 09/2015; DOI: 10.1007/s11356-015-5445-z ISSN: 0944-1344 (Print) 1614-7499 (Online)

10. Sondipon Chakraborty, Tanmoy Dutta, Keshav Rai, Joydip Ghosh, **Samir Kumar Saha**, Suman Biswas, Soumen Bhattacharjee, Chiranjib Pal, Hemanta Chowdhury, Ipsit Chakrabarti, Narayan Ghorai **Preliminary investigation on terpenoids present in the bark of major host plants, and lacencrustations made by the Indian lac insect *Kerria lacca* (Kerr.) with respect to host plant selections.** *Journal of Entomology and Zoology Studies* 2016; 4(4): 591-594. E-ISSN: 2320-7078 P-ISSN: 2349-6800 JEZS 2016; 4(4): 591-594 © 2016 JEZS Received: 27-05-2016 Accepted: 28-06-2016 UGC approved (SI no. 8331)

11. Chandrima Dey, **Samir Kumar Saha*** **Histological Alteration in Different Tissues of Freshwater Teleost *Labeo rohita* (Hamilton) Induced by Lambda-cyhalothrin 5% EC and Marshal (Carbosulfan**

25%EC J. Biol. Today's World. 2016 Jul; 5 (7): 107-112, Received: 22 May 2016 Accepted: 27 July 2016 , Journal e- ISSN: 2322-3308, Journal p-ISSN-2476-5376. UGC approved (SI No. 7508)

12. Sondipon Chakraborty, Ankur Chaudhuri, Tanmoy Dutta, Joydip Ghosh, **Samir Kumar Saha**, Suman Biswas, Sibani Chakraborty, Soumen Bhattacharjee, Chiranjib Pal, Ipsit Chakrabarti, Hemanta Chowdhury and Narayan Ghorai **Isolation of a major host plant-terpenoid and its probable impact on the degenerative growth of female Indian lac insect, Kerria lacca (Kerr.)** Journal of Entomology and Zoology Studies 2016; 4(4): 1351-1358. E-ISSN: 2320-7078 P-ISSN: 2349-6800. Received: 23-05-2016 Accepted: 24-06-2016 UGC approved (SI no. 8331)

13. Sondipon Chakraborty, Sibnarayan Guria, Joydip Ghosh, **Samir Kumar Saha**, Suman Biswas, Chiranjib Pal, Narayan Ghorai . **Secondary metabolites of lac host plants and their impact on lac resin and dye production by the female Indian lac insect Kerria lacca (Kerr.)** International Journal of Entomology Research ISSN: 2455-4758; Impact Factor: RJIF 5.24 www.entomologyjournals.com Volume 1; Issue 7; November 2016; Page No. 13-19 **UGC approved (SI no. 4989)**

14. Arun K. Shaw, Pardeep K. Bhardwaj, Supriya Ghosh, Ikbal Azahar, Sinchan Adhikari, Ayan Adhikari, Ang R. Sherpa, **Samir K. Saha** and Zahed Hossain. **Profiling of BABA-induced differentially expressed genes of Zea mays using suppression subtractive hybridization** RSC Advances RSC Adv., 2017, 7, 43849–43865 Received 3rd June 2017 Accepted 4th September 2017 DOI: 10.1039/c7ra06220f, ISSN 2046-2069, IF-3.1 (UGC approved SI no. 62918)

15. Samir Kumar Saha. Odonate (Insecta: Odonata) diversity of West Bengal State University Campus; a checklist and pictorial catalogue. International Journal of Zoology Studies. September, 2017, Volume 2, issue - 5, 132-138. ISSN: 2455-7269. (UGC approved SI. No. 1 Journal NO. 64528)

16. Samir Kumar Saha. Diversity of butterflies (Order: Lepidoptera) in West Bengal State University Campus, West Bengal, India. International Journal of Zoology Studies. September, 2017, PP-150-156. ISSN: 2455-7269. (UGC approved SI. No. 1 Journal NO. 64528)

17. Samir Kumar Saha. Diversity of moth fauna in the West Bengal state university campus: A pictorial catalogue. International Journal of Zoology Studies ISSN: 2455-7269. www.zoologyjournals.com Volume 3; Issue 1; Page No. 35-38, January 2018 (UGC approved SI. No. 1 Journal NO. 64528)

18. Zinia Parvin and **Samir Kumar Saha*** **A comparative Study of Concept and Practice of Personal Hygiene.** International Journal of

Scientific Research and Reviews, IJSRR 2018, 7(4), 2182-2193, Jan, 2019, ISSN: 2279-0543. UGC Journal No. -63179.

19. Manisha Parial and **Samir Kumar Saha*** **A study of stress, anxiety, and depression among undergraduate and postgraduate degree students.** PARIPEX - INDIAN JOURNAL OF RESEARCH , Volume-8, Issue-1, January-2019, 393-396 ISSN - 2250-1991.

20. Zinia Parvin and **Samir Kumar Saha*** **Attitude, Feeling & Perception about menstruation among boys.** International Journal of Scientific Research and Reviews, IJSRR 2019 (accepted) Vol 8, Issue 2, 2918-2933, UGC Journal No. -63179.

21. Soumen Roy, **Samir Kumar Saha**, Narayan Ghorai, **The fine structure of gametogenesis and somatic cells in the ovotestis of the terrestrial pulmonate slug, Laevicaulis alte (Férussac, 1822).** Molluscan Research, Volume 39, accepted on 30th June, 2019.
<https://doi.org/10.1080/13235818.2019.1634307>. Taylor & Francis Online.
IF 0.98, UGC Care Listed

22. Soumen Roy, **Samir Kumar Saha**, Narayan Ghorai, **Note on the vitellogenesis and the yolk granules in a Veronicellidae slug, Laevicaulis alte (Férussac, 1822)** Zoomorphology, 13 March 2020, <https://doi.org/10.1007/s00435-020-00486-1> ISSN 0720-213X, E-ISSN-1432-234X IF-1.2, UGC Care Listed

23. Dey Chandrima and **Saha Samir Kumar**, **Determination of 96 h LC50 Value and Acute Toxicity of Marshal (Carbosulfan 25%EC) on Thyroid and Reproductive Hormones of Labeo rohita (Hamilton).** International Journal of Zoological Investigations Vol. 7, No. 1, 82-89 (June 2021). ISSN: 2454-3055 <https://doi.org/10.33745/ijzi.2021.v07i01.008>. UGC Care Listed

24. Roy Tushar Kanti and **Saha Samir Kumar** **Impact of Cypermethrin 25% EC and pH on Certain Haematological Parameters of Cyprinid Fish Puntius javanicus.** International Journal of Zoological Investigations Vol. 7, No. 1, 182-192 (2021) ISSN: 2454-3055

25. Roy Tushar Kanti and **Saha Samir Kumar** **Effect of Cypermethrin 25% EC, an Endocrine Disrupting Chemical and pH on Reproductive Health of Puntius javanicus.** International Journal of Zoological Investigations Vol. 7, No. 1, 217-229 (2021) ISSN: 2454-3055

26. Roy S*, Ghosh S, Ghorai N, **Saha SK**, Dasgupta SC and Chaki KK **Effects of the Shed Skin Aqueous Extract of the Non-Poisonous Snake, Ptyas Mucosus (Linnaeus, 1758) on the Development of the Ovotestis of Onchidium tigrinum (Stoliczka 1869)**

(Systellommatophora: Eupulmonata: Gastropoda) International Journal of Zoology and Animal Biology, , Volume 4, issue 5 Pg-1-18, ISSN :2639-216X, IF :1.7594

Recognition-

One DST research project was recognized by Science and Engineering Research Board, Govt. of India, in their 5 year (2010-15) Research highlights in Life Science category.

Project title: Effects of environmental pollutants on thyroid: a molecular and biochemical study.

Project file No. SR/FT/LS-167/2010

Gene submitted to NCBI PubMed GenBank:- (Accession-KT306679)
Staphylococcus sp. LAC9 16S ribosomal RNA gene, partial sequence, LOCUS-KT306679, 1472 bp DNA, linear BCT, Accession-KT306679, VERSION -KT306679.1, GI:901694318, SOURCE-Staphylococcus sp. LAC9

AUTHORS : Chakraborty, S., Chaudhuri, A., Chakraborty, S., Saha, S. K., Pal, C. and Ghorai, N. 09-MAR-2016.

Patent

Patent no: 2021102338. Australian Govt. IP Australia.

Title of invention:

A System of Yolk Formation in Veronicellidae Slug

Name of inventor(s):

Roy, Soumen; Saha, Samir Kumar and Ghorai, Narayan

Term of Patent:

Eight years from 3 May 2021

Chapter of a book:

Samir Kumar Saha, Pamela Ghosh, Debanjali Mitra, Aditya Konar, Samir Bhattacharya, Satinath Mukherjee and Sib Sankar Roy (2007) Ovarian Tissue Remodelling: The Role of Extra Cellular Matrix. Hormone Biotechnology, Ed by S. K. Maitra, Daya Publishing House, New Delhi, pp 179-188.

Proceedings:

1. Sib Sankar Roy, **Samir Kumar Saha**, Pamela Ghosh and Samir Bhattacharya Two differentially expressed gene families from hypothyroid rat: their characterization and role in reproductive disorders. **5th congress of Asia and Oceania society for Comparative Endocrinology Nara, Japan 2004, pp. 26-29.**

2. **Samir Kumar Saha**, Pamela Ghosh, Debanjali Mitra, Aditya Konar, Satinath Mukherjee, Samir Bhattacharya and Sib Sankar Roy Thyroid hormone regulated expression of MMP and TIMP isoforms and disintegration of extracellular matrix in rat ovary. **The 5th Intercongress Symposium of the Asia and Oceania society for Comparative Endocrinology, Bangkok, Thailand, 2006, pp. 347-351.**

3. **S. K. Saha**, P. Ghosh, D. Mitra, S. Bhattacharya, S. Mukhopadhyay, S. Bhattacharya and S. S. Roy. Differential expression of PLOD isoforms in hypothyroid ovary and disintegration of extracellular matrix. **Comparative Endocrinology and Biodiversity in Asia and Oceania Bangkok**, Thailand, 2006, pp 155-159

Abstracts published in different international and national symposium.

1. Navneet, A.K, Malabika Datta, **Samir Kumar Saha**, Sib Sankar Roy and Samir Bhattacharya. Thyroid Hormone Induced Protein (TIP) gene expression in the ovarian follicle: its role in steroidogenesis. Society of Biological Chemistry. April 12-14, 2002. Visva Bhatari, Santiniketan, India.

2. **Samir Kumar Saha**, Debashis Bandyopadhyay, Pamela Ghosh, Aditya Konar, Navnet A.K., Sib Sankar Roy and Samir Bhattacharya. Differential mRNA expression and the induction of oxidative stress in the hypothyroid rat ovary. **International Symposium on Molecular Endocrinology and Cellular signals**. November 14-16, 2002. **Kolkata, India**.

3. **Samir Kumar Saha**, Pamela Ghosh, Samir Bhattacharya and Sib Sankar Roy. Characterization of two differentially expressed gene families from hypothyroid rat: their role in reproductive disorders. **90th Indian Science Congress**. January 3-7, 2003. **Bangalore, India**.

4. **Samir Kumar Saha**, Pamela Ghosh, Navneet A. K., Aditya Konar, Sib Sankar Roy and Samir Bhattacharya. Identification and characterization of two differentially expressed gene families from hypothyroid rat: their possible role in reproductive disorders. **10th Congress of Federation of Asian & Oceanian Biochemists and Molecular Biologists**. December 7-11, 2003. **Bangalore, India**.

5. Sib Sankar Roy, **Samir Kumar Saha**, Pamela Ghosh and Samir Bhattacharya Two deferentially expressed gene families from hypothyroid rat: their characterization and role in reproductive disorders. **Fifth Congress of the Asia and Oceania Society for Comparative Endocrinology**. March 26-30, 2004. **Nara, Japan**.

6. Pamela Ghosh, **Samir Kumar Saha**, Aditya Konar, Satinath Mukherjee, Samir Bhattacharya and Sib Sankar Roy. The role of PitX and Plod isoforms in hypothyroid induced reproductive disorders. **91th Indian Science Congress**. 2004. **Chandigarh, India**.

7. **Samir Kumar Saha**, Pamela Ghosh, Aditya Konar, Satinath Mukherjee, Samir Bhattacharya and Sib Sankar Roy. Hypothyroid induced gene

expression in reproductive disorders. **Biotech 2004**, October 13-15, 2004. **Delhi, India.**

8. Pamela Ghosh, **Samir Kumar Saha**, Satinath Mukherjee, Samir Bhattacharya and Sib Sankar Roy. The role of different isoforms of the homeodomain transcription factor, PitX, in hypothyroid induced reproductive disorders. **International Symposium On Steroid Hormone Receptor Superfamily & Molecular Signalling**. November 25-27, 2004. **Kerala, India.**

9. **Samir Kumar Saha**, Pamela Ghosh, Satinath Mukherjee, Aditya Konar, Samir Bhattacharya and Sib Sankar Roy. Differential expression of PLOD and MMP isoforms in hypothyroid rat ovary and disintegration of extracellular matrix. **International Symposium on Advances and Challenges in Reproductive Health Research in Post Genomic Era**. January 9-12, 2005. **Mumbai, India.**

10. **Samir Kumar Saha**, Pamela Ghosh, Debanjali Mitra, Sabarna Bhattacharya, Aditya Konar, Satinath Mukherjee, Samir Bhattacharya and Sib Sankar Roy. The role of plod and pitx isoforms in hypothyroid induced reproductive disorders. **Symposium on Trends in Molecular and Applied Approaches to Reproduction**. February 4-6, 2005. **Kolkata, India.**

11. Pamela Ghosh, **Samir Kumar Saha**, Debanjali Mitra, Sabarna Bhattacharya, Aditya Konar, Satinath Mukherjee, Samir Bhattacharya and Sib Sankar Roy. The role of different isoforms of the homeodomain transcription factor, Pitx, in hypothyroid induced reproductive disorders. **Symposium on Trends in Molecular and Applied Approaches to Reproduction**. February 4-6, 2005. **Kolkata, India.**

12. **Samir Kumar Saha**, Pamela Ghosh, Aditya Konar, Satinath Mukherjee, Samir Bhattacharya and Sib Sankar Roy. Collagens and Hypothyroid Induced Reproductive Disorders. **XXIII National Symposium on Reproductive Biology and Comparative Endocrinology**. February 7-9, 2005. **Visva Bhatari, Santiniketan, India.**

13. **Samir Kumar Saha**, Pamela Ghosh, Debanjali Mitra, Sabarna Bhattacharya, Pomy Burma, Satinath Mukhopadhyay³, Samir Bhattacharya² and Sib Sankar Roy. Differential Expression of Plod and MMP isoforms: Disintegration of Extra Cellular Matrix. **Molecular Mechanism of Diseases and Drug Action**. November 16-18, 2005. **Kolkata, India.**

14. **Samir Kumar Saha**, Pamela Ghosh, Debanjali Mitra, Sabarna Bhattacharya, Satinath Mukherjee, Samir Bhattacharya and Sib Sankar Roy. Differential Expression of Pitx and Plod Isoforms in Hypothyroid Ovary and

Disintegration of Extra Cellular Matrix. **Frontiers in Molecular Endocrinology**. December 12-15, 2005. **Hyderabad, India.**

15. Pamela Ghosh, **Samir Kumar Saha**, D. Mitra, S. Bhattacharya, S. Mukherjee, S. Bhattacharya and Sib Sankar Roy. Thyroid hormone regulated expression of Pitx isoforms in rat ovary. **Frontiers in Molecular Endocrinology**. December 12-15, 2005. **Hyderabad, India.**

16. **Samir Kumar Saha**, P. Ghosh, D. Mitra, A. Konar, S. Mukherjee, S. Bhattacharya, and S.S. Roy. Thyroid hormone regulated expression of MMP and TIMP isoforms and disintegration of extracellular matrix in rat ovary. **The 5th Intercongress Symposium of the Asia and Oceania Society for Comparative Endocrinology**. February 7-10, 2006. **Bangkok, Thailand**. Proceedings of AOSCE 2006, Comparative Endocrinology and Biodiversity in Asia and Oceania, pp 347-351

17. Pamela Ghosh, **Samir Kumar Saha**, Sabarna Bhattacharya, Satinath Mukherjee, Samir Bhattacharya and Sib Sankar Roy. Thyroid Hormone Regulated Expression of Pitx Isoforms in Rat Ovary. **National Seminar on Frontiers in Zoology**. February 22-24, 2006. **Goa, India.**

18. Pamela Ghosh, Shyam Sundar Nandi, Samir Kumar Saha and Sib sankar Roy (2007) interaction of Pitx2 transcription factor with its target genes in ovary: a possible regulatory network in maintenance of ovarian structure and function. **International symposium on chemical biology**, held at IICB, Kolkata 7-9 2007, page 8

19. **Samir Kumar saha**, Shyam Sundar Nandi, Pamela Ghosh, samir Bhattacharya and Sib Sankar Roy. A parallel and compensatory pathway of collagen metabolism is activated in hypothyroid ovary. **6th congress of the Asia and Oceania Society for Comparative Endocrinology (AOSCE)**, December 10-14, 2007, North Bengal University.

20. Pamela Ghosh, Shyam Sundar Nandi, **Samir Kumar Saha**, Sudarshan Bhattacharya, Samir Bhattacharya and Sib Sankar Roy. Pitx2, a multifunctional transcription factor in ovary: its implication in hypothyroid associated ovarian dysfunction. **6th congress of the Asia and Oceania Society for Comparative Endocrinology (AOSCE)**, December 10-14, 2007, North Bengal University.

21. P Ghosh, S. S. Nandi, **S. K. Saha**, S. Bhattacharya and S. S. Roy. Pitx2, a multifunctional transcription factor in ovary. SBC symposium on Frontier in Biological Research, held at Visva Bharati University, Santiniketan, August 3-4, 2007

22. Conservation of biodiversity: Assessment and Awareness. UGC, Hoogly Mohsin College, 29th and 30th October, 2010.

23. National Conference on CME in Immunology, Indian Immunology Society, New Delhi, West Bengal State University, 4th and 5th November, 2011.

24. Orientation and Training in Ecological field studies and documentation of biodiversity, West Bengal Biodiversity Board, Bakkhali and West Bengal State University, 15th, 17-19 and 28th November 2011

25. Biodiversity: interrelationship between flora, fauna and human (Act as Reportear), U.G.C., Mrinalini Datta Mahavidyapith, Birati, 29th & 30th Setember, 2013.

26. 1st National Conferences on Advancing Biology Through Technology and Computation, Department of Microbiology, WBSU & Kingston College of Science, Kingston College of Science, 22nd August 2014.

27. Soumen Roy, Narayan Ghorai, **Samir Kumar Saha**, Subir Chandra dasgupta, Korak Kanti Chaki. Effects of snake (*Ptyas mucous*) Shed Skin Extract (SSE) on the Development of Ovotestis of Hermaphrodite Pulmonate *Onchidium tigrinum*. 2nd Regional Science & Technology Congress, University of Kalyani, 14-15 December 2017.

28. Soumen Roy, Narayan Ghorai, **Samir Kumar Saha**. Effects of snake (*Ptyas mucous*) Shed Skin Extract (SSE) on the Development of Ovotestis of Hermaphrodite Pulmonate *Onchidium tigrinum*. 2nd Regional Science & Technology Congress, 14-15 December 2017. Facets of Basic Science & Application, Bijoy Krishna Girls College, February 5-7, 2018.

29. **Invited Lecture**- State Level Webinar, Disaster & Environment, 17th July 2020

30. **Invited Lecture**- Govt. General Degree College Singur, 31st July, 2010
Topic-Corona Crisis and Impact on Environment: Blessings in Disguise.