BIO-DATA

1. Name : Dr. Shashi Aggarwal

2. **Designation** : Professor

3. **Department** : Zoology and Environmental Sciences

4. Date of Birth : January 27, 1957

5. Address for Correspondence Dr. Shashi Aggarwal, Professor,

Department of Zoology and Environmental Sciences,

Punjabi University, Patiala-147002,

India

Phone : 0175-3046334 **Mobile** : 08054280827

Fax: Attn. Dr. Shashi Aggarwal,

0175-3046334

E-mail: shashiuniindia@yahoo.co.in

6. Areas of Specialization

Physiology, Pathology, Fluorosis, Endocrinology, Toxicology.

7. Educational Qualifications

| Sr. | Degree | Year | Board/Univ. | Div./ | Subjects Taken |
|-----|------------------------------|------|------------------------------------|-------------------|--|
| No. | Held | | Inst. | Rank | |
| 1. | Higher Sec1 | 1973 | Punjab School Education Board | First | Math's, English, Social studies, General Science, Hindi, Physics, Chem., Biol. |
| 2. | B.Sc. | 1977 | Govt. Mahendra college, Patiala | First | Botany, Zoology, Hindi, chemistry, English |
| 3. | M.Sc. | 1979 | Punjabi University, Patiala | First | Zoology through Research |
| 4. | B.Ed | 1981 | -do- | First | Philosophy, Psychology etc. |
| 5. | Pre Ph.D. Zoology | 1982 | . –do- | Qualified | Research methodology, Advances in Entomology |
| 6. | Certificate course in French | 1983 | -do- | First | French |
| 7. | Ph.D. Zoology | 1986 | -do- | Degree awarded | |
| 8. | Certificate course in German | 1990 | -do- | First | German |
| 9. | Diploma in German | 1993 | -do- | First in univ. | German |

8. Scholarships:

i) Punjab state merit scholarship in M.Sc. awarded by Govt. of Punjab.

9. Details of Experience:

| S.No. | Name of the | Position | Duration | Major Job Responsibilities and |
|-------|---------------------|-----------|------------|-------------------------------------|
| | Inst./Employer | Held | | Nature of Experience |
| 1. | Punjabi university, | RA | 5 years | Research, Teaching M.Sc. I and II |
| 1. | Patiala | KA | 3 years | Zoology |
| 2. | Punjabi university, | Lecturer | 4 years | Research, Teaching M.Sc. I and |
| ۷. | Patiala | Lecturer | 4 years | II Zoology |
| | Punjabi university, | Senior | _ | Research, Teaching M.Sc. I and |
| 3. | Patiala | Lecturer | 5 years | II Zoology |
| | Punjabi University, | Associate | | Research, Teaching M.Phil., M.Sc. I |
| 4 | Patiala | Professor | 6 years | and II Zoology |
| | Punjabi University, | | | Research Teaching M Phil M Sc I |
| 5 | 5 Patiala Professor | | Continuing | and II Zoology |

10. Published Work

| 10. | Published Work | | | | |
|-----|---|-----|---------------|-----|-----|
| a) | Research Papers Published | | Total | = | 104 |
| | | i) | National | = | 24 |
| | | ii) | International | = | 80 |
| | | | | | |
| b) | Article in Punjabi | | | = | 06 |
| c) | Abstracts published in Conferences/Seminars | | | = | 100 |
| d) | Chapters published in books | | | = | 02 |
| 11. | Workshops, Training Programmes, Conference | es | | | |
| | and Symposia participated | | Total | = | 83 |
| | | | | | |
| | | | Workshops | s = | 19 |

Papers presented in conferences

i) International = 64 ii) National = 43 Sessions Chaired = 15

12. Foreign Visit:

Visited Amsterdam, The Netherlands & Presented research paper in "XIIth International congress for Tropical medicine & malaria" in 1988. Abstract no.1082.

13. R & D Projects

U.G.C. minor Project on "Biochemical characterization of pituitary gland and retina in experimental fluorosis" Punjabi University, Patiala

14. Invited Lectures

Extension lectures on theory and practical demonstration on microtomy for B.Sc Medical and Biotechnology students, Orgnised by G.H.G. Khalsa College, Guruser Sadar, Ludhiana, Punjab, Nov. 2008.

15. Research Guidance:

A. For Ph.D

| S.No | Name of Student | Title of Thesis | Registered Year |
|------|----------------------------------|--|------------------------|
| 1 | Mrs. Monika | Epidemiological and biochemical | Degree awarded |
| | Bhardwaj (SRF-RGNF) | characterization of fluorosis in Malwa region of Punjab, India | 601-PU(P)-2002 2011 |
| 2 | Ms. Neetika Sharma (SRF- UGC) | Clinicopathological and Biochemical study of thyroid disorders in Himachal Pradesh, India | Degree awarded 2012 |
| 3 | Mrs. Sumati Sharma | Biochemical study of lipid peroxidation and antioxidant defense system in the patients of skeletal fluorosis from Faridkot and Mukatsar districts of Punjab | 2008 |
| 4 | Mrs. Sapna | Study of selected biochemical risk factors in patients of coronary artery disease from North India. | 2009 |
| 6 | Ms.Meenakshi (SRF-RGNF) | Ultrastructural and biochemical study of red blood cells in patients afflicted with fluorosis | 2011 |
| 7 | Mr. Jatinder Kumar (JRF-RGNF) | Neuropathological and neurochemical manifestations in experimental fluorosis | 2011 |

| 8 | Ms. Imtiaza (JRF-INSPIRE) (DST) | Toxic effect of fluoride on male reproductive system of rat | 2011 |
|------|---------------------------------------|--|--------------------|
| | B. For M.Phil | | |
| 9 | Mr.Manish Kumar | Biochemical evaluation of osteorenal syndrome in fluoride toxicity | 2009 |
| 10 | Ms. Swati Singla | Thyroid function derangements in fluoride toxicosis. | 2009 |
| 11 | Ms. Meenakshi | Light and scanning electron microscopic study of human blood cell abnormalities in fluorosis. | 2010 |
| 12 | Ms. Sonam | Morphological and ultrastructure study of blood cell lesions in fluoride toxicity. | 2011 |
| 13 | Ms. Upasna | Biochemical evaluation of thyroid dysfunction in diabetes mellitus: case control study | 2012 |
| 14 | Ms. Kamini Parmar | Antioxidant activity and hepatoprotective role of leaf extract of <i>Boerhaavia diffusa</i> L. against fluoride induced oxidative stress in rat. | 2013 |
| 15 | Ms. Neha Sharma | Oxidative stress and gene expression of antioxidant enzymes in the renal cortex of fluoride induced rats. | 2013 Continuing |
| C | C. For M.Sc. | | |
| S.No | Name of Student | Title of Thesis | Completed |
| 16 | Mr. Sandeep Kumar | Hepatotoxicity and nephrotoxicity of fluoride in rat. | 2005 |
| 17 | Mr. Bharat Bhushan | Histopathological and cytochemical alteration in gastrocnemius muscles of | 2005 |

| | | fluoride intoxicated rat. | |
|----|--------------------|---|------|
| 18 | Ms. Shalu Makkar | Fluoride and gastrointestinal manifestations | 2005 |
| 19 | Ms.Sukhjit Grewal | Testicular damage in experimental fluorosis. | 2005 |
| 20 | Ms.Virpal Kaur | A prospective study of clinical and subclinical thyroidism in Patiala, India | 2006 |
| 21 | Ms.Shalini Sharma | Prevalence of dental fluorosis in rural school children in relation to fluoride concentration of drinking water in two villages | 2006 |
| 22 | Ms. Neetika Sharma | Neuropathogical and neurocytochemical alterations during experimental fluorosis. | 2006 |
| 23 | Ms. Neeeraj Sharma | Histopathological and cytochemical evaluation of pancreas in experimental fluorosis | 2006 |
| 24 | Mr. Ashwani Kapoor | Oral and respiratory cancer: A clinical and epidemiological case study | 2006 |
| 25 | Mr. Manish Kumar | Prevalence and biochemical study of fluorosis in rural area of Sangrur District Punjab, India | 2007 |
| 26 | Ms. Kuljeet Kaur | Prevalence and biochemical study of osteo-hepatic syndrome in fluorotoxicity. | 2008 |

16. Membership of Professional Bodies/Organizations

| 1. | The National Academy of Sciences, India. | Life Member |
|-----|--|--------------|
| 2. | Indian Association of Nuclear Chemists & Allied Scientists, | Life Member |
| ۷٠ | B.A.R.C., Mumbai. | Life Weineer |
| 3. | India Society for Comparative Animal Physiology (ISCAP) | Life Member |
| | Tirupati, India. | |
| 4. | Bioinformatics Centre Organization, Noida, India | Life Member |
| 5. | National Environmental Science Academy, New Delhi, India | Life Member |
| 6. | The Association of Physiologists & Pharmacologists of India, | |
| | New Delhi, India | Life Member |
| 7. | Indian Science Congress Association, India. | |
| 8. | Punjab Academy of Sciences, Patiala, Punjab | Life Member |
| 9. | The New York Academy of Sciences, U.S.A. | Life Member |
| 10. | The International Society for Fluoride Research, U.S.A. | Member |
| 11. | Electron Microscope Society of India, New Delhi, India | Member |
| 12. | Indian Academy of Environmental Biology, India | |
| 13. | Indian Society of Life Sciences, Kanpur, India | Member |
| 14. | Indian Society of Toxicology, Kochi, India | |
| 15. | Society for Science and Nature, Bhopal, India | Member |
| | | |

17. Member and Reviewer of Editorial Board

- 1. Asian Pacific Journal of Tropical Medicine (Elsevier), China. **Online**
- 2. Asian Journal of Microbiology, Biotechnology and Environmental Sciences (AJMBES), India.
- 3. African Journal of Pharmacy and Pharmacology **Online**
- 4. Journal of Physiology and Pathophysiology, South Africa **Online**

18. Participation in Organization of 11 symposia held in the Dept. of Zoology, Punjabi University, Patiala.

- Five International (2000, 2005, 2007, 2009, 2012)
- Six National (1996, 1997, 2003, 2005, 2006, 2010)

As member of

- i) Organizing committee
- ii) Scientific committee
- iii) Registration committee
- iv) Hospitality committee
- v) Transport and Accommodation committee

19. List of theory papers/course taught & practicals conducted at Post-graduate level and M.Phil.

| Sr. No. Paper Class 1. Research Methodology M. Phil 2. Advances in Physiology -do- 3. Comparative Animal physiology M. Sc. II Zoology 4. Mammalian physiology -do- 5. Cell physiology -do- 6. Reproductive Physiology -do- 7. Biology of Parasites -do- 8. Embryology -do- 9. Membranes & the cytoplasm: Structure and Function -do- 10. Cell division, differentiation & cellular Interaction -do- 11. General Endocrinology -do- 12. Functional Anatomy M.ScI Zoology 13. Invertebrates -do- 14. Comparative Anatomy of Vertebrates -do- 15. General Physiology -do- | graduate tever and with mi. | | | | | |
|--|-----------------------------|------------------------------------|-------------------|--|--|--|
| 2. Advances in Physiology 3. Comparative Animal physiology 4. Mammalian physiology 5. Cell physiology 6. Reproductive Physiology 7. Biology of Parasites 8. Embryology 9. Membranes & the cytoplasm: Structure and Function 10. Cell division, differentiation & cellular Interaction 11. General Endocrinology 12. Functional Anatomy 13. Invertebrates 14. Comparative Anatomy of Vertebrates 15. II Zoology 16. II Zoology 17. do- 18. II Zoology 18. Invertebrates 19. Invertebrates 10. John M. Sc. II Zoology 10. Invertebrates 10. John M. Sc. II Zoology 10. John M. Sc. II Zoology 11. John M. Sc. II Zoology 12. John M. Sc. II Zoology 13. Comparative Anatomy of Vertebrates 14. Comparative Anatomy of Vertebrates | Sr. No. | Paper | Class | | | |
| 3. Comparative Animal physiology 4. Mammalian physiology 5. Cell physiology 6. Reproductive Physiology 7. Biology of Parasites 8. Embryology 9. Membranes & the cytoplasm: Structure and Function 10. Cell division, differentiation & cellular Interaction 11. General Endocrinology 12. Functional Anatomy 13. Invertebrates 14. Comparative Anatomy of Vertebrates 15. Izoology 16. Izoology 17. Interaction 18. General Endocrinology 19. Invertebrates 19. General Endocrinology 10. General Endocrinology 11. Comparative Anatomy of Vertebrates 12. General Endocrinology 13. Invertebrates 14. Comparative Anatomy of Vertebrates | 1. | Research Methodology | M. Phil | | | |
| 4. Mammalian physiology -do- 5. Cell physiology -do- 6. Reproductive Physiology -do- 7. Biology of Parasites -do- 8. Embryology -do- 9. Membranes & the cytoplasm: Structure and Function -do- 10. Cell division, differentiation & cellular Interaction -do- 11. General Endocrinology -do- 12. Functional Anatomy M.ScI Zoology 13. Invertebrates -do- 14. Comparative Anatomy of Vertebrates -do- | 2. | Advances in Physiology | -do- | | | |
| 5. Cell physiology -do- 6. Reproductive Physiology -do- 7. Biology of Parasites -do- 8. Embryology -do- 9. Membranes & the cytoplasm: Structure and Function 10. Cell division, differentiation & cellular Interaction 11. General Endocrinology -do- 12. Functional Anatomy M.ScI Zoology 13. Invertebrates -do- 14. Comparative Anatomy of Vertebrates -do- | 3. | Comparative Animal physiology | M. Sc. II Zoology | | | |
| 6. Reproductive Physiology -do- 7. Biology of Parasites -do- 8. Embryology -do- 9. Membranes & the cytoplasm: Structure and Function 10. Cell division, differentiation & cellular Interaction 11. General Endocrinology -do- 12. Functional Anatomy M.ScI Zoology 13. Invertebrates -do- 14. Comparative Anatomy of Vertebrates -do- | 4. | Mammalian physiology | -do- | | | |
| 7. Biology of Parasites -do- 8. Embryology -do- 9. Membranes & the cytoplasm: Structure and Function 10. Cell division, differentiation & cellular Interaction 11. General Endocrinology -do- 12. Functional Anatomy M.ScI Zoology 13. Invertebrates -do- 14. Comparative Anatomy of Vertebrates -do- | 5. | Cell physiology | -do- | | | |
| 8. Embryology -do- 9. Membranes & the cytoplasm: Structure and Function 10. Cell division, differentiation & cellular Interaction 11. General Endocrinology -do- 12. Functional Anatomy M.ScI Zoology 13. Invertebrates -do- 14. Comparative Anatomy of Vertebrates -do- | 6. | Reproductive Physiology | -do- | | | |
| 9. Membranes & the cytoplasm: Structure and Function 10. Cell division, differentiation & cellular Interaction 11. General Endocrinology 12. Functional Anatomy 13. Invertebrates 14. Comparative Anatomy of Vertebrates -dodododo- | 7. | Biology of Parasites | -do- | | | |
| and Function 10. Cell division, differentiation & cellular Interaction 11. General Endocrinology -do- 12. Functional Anatomy M.ScI Zoology 13. Invertebrates -do- 14. Comparative Anatomy of Vertebrates -do- | 8. | Embryology | -do- | | | |
| Interaction 11. General Endocrinology -do- 12. Functional Anatomy M.ScI Zoology 13. Invertebrates -do- 14. Comparative Anatomy of Vertebrates -do- | 9. | • • | -do- | | | |
| 12. Functional Anatomy M.ScI Zoology 13. Invertebrates -do- 14. Comparative Anatomy of Vertebrates -do- | 10. | | -do- | | | |
| 13. Invertebrates -do- 14. Comparative Anatomy of Vertebrates -do- | 11. | General Endocrinology | -do- | | | |
| 14. Comparative Anatomy of Vertebrates -do- | 12. | Functional Anatomy | M.ScI Zoology | | | |
| 1 | 13. | Invertebrates | -do- | | | |
| 15. General Physiology -do- | 14. | Comparative Anatomy of Vertebrates | -do- | | | |
| | 15. | General Physiology | -do- | | | |

20. Technical Proficiency

Undertook training at various prestigious institutes of India and have hand on experience of the techniques including Radioimmunoassay of hormones, Scanning and transmission electron microscopy, STM, Ultramicrotomy, Biochemical analysis, TLC, Paper chromatography, DNA isolation, Northern and Southern Blotting, PCR, and single cell gel electrophoresis.

21. List of Papers Published

1. *1985 Singh JP; Shashi; Thapar SP.

Effect of fluoride on total lipid, cholesterol and triglyceride levels in liver of albino rabbits.

Fluoride, 18(3):146-149.

ISSN 0015-4725

Impact Factor: 1.611

2. **1986** Singh JP; Shashi; Thapar SP.

Effect of fluoride on glycogen content of the kidneys of white albino rabbit.

J. Sci. Res., 8(2 & 3): 139-140.

ISSN 0253-7230

3. *1987 Shashi; Singh JP; Thapar SP.

Effect of fluoride administration on organs of gastro-intestinal tract. An experimental study on rabbits: Effect on tissue proteins.

Fluoride, 20(3):183-188.

ISSN 0015-4725

Impact Factor: 1.611

4. **1987** Shashi; Singh JP; Thapar SP.

Fluoride induced pathological changes in trachea:

An experimental study in rabbits.

J. Anat. Soc. India, 36(3):179-183.

ISSN 0003-2778

5. *1988 Shashi.

Biochemical effects of fluoride on thyroid gland during experimental fluorosis.

Fluoride, 21(3):127-130.

ISSN 0015-4725

Impact Factor: 1.611

6. *1988 Shashi; Thapar SP; Singh JP.

Changes in glycogen content in some tissues during fluorosis An experimental study on rabbits.

Fluoride, 21(2):82-86.

ISSN 0015-4725

Impact Factor: 1.611

7. *1988 Shashi; Thapar SP; Singh JP.

Pulmonary damage caused by fluoride in rabbit during experimental fluorosis.

Acta Pathol. Microbiol.et Immunol. Scand, 96:333-336.

ISSN 1600-0463

Impact Factor: 1.944

8. **1988** Sood V, Shashi.

Morphogenesis of scapula with special reference to acromian process in mammals.

Geobios New Reports, 7(2):111-116.

ISSN 0253-3340

9. **1988** Shashi; Singh JP.

Histomorphology of the fat body during development and metamorphosis of *Coccinella Septempunctata* L.

(Coleoptera: Coccinellidae).

Ann. Entomol., 6(2):35-40.

ISSN 0970-3721

10. **1988** Shashi; Singh JP.

Structure and development of fat body in Dysdercus koenigii Fab.

J. Insect. Sci., 1(1):23-26.

ISSN 0970-3837

11. **1988** Shashi; Singh JP.

Histomorphology of the oenocytes during development and metamorphosis of *Coccinella Septempunctata* L. (Coleoptera).

Zoological Orientalis, 5(1 & 2):24-28.

ISSN 0970-3837

12. **1989** Shashi.

Morphogenesis of oenocytes in the post-embryonic development of *Dysdercus koenigii*. Fab.

J. Insect Sci., 2(1):20-23.

ISSN 0970-3837

13. *1989 Shashi; Singh JP; Thapar SP.

Effect of fluoride in excess on lipid constituents of respiratory organs in albino rabbits.

Fluoride, 22(1):33-39.

ISSN 0015-4725

Impact Factor: 1.611

14. **1989** Shashi; Singh JP; Thapar SP.

Experimental studies on the changes in lipid constituents of the kidney due to fluorosis.

Proc. Natl. Symp. Recent Trends in Immunobiol. Biochem., Vikram University, Ujjain.

March 24-26, 1988. PP 55-62.

15. ***1989** Shashi.

Fluoride toxicity and muscular manifestations: Histopathological effects in rabbit.

Fluoride, 22(2):72-77.

ISSN 0015-4725

Impact Factor: 1.611

16. **1990** Shashi; Singh JP; Thapar SP.

Effect of sodium fluoride on protein, free amino acid and DNA content in kidneys during experimental fluorosis.

Indian J. Pathol. Microbiol., 33:1 (Suppl.): 101-107

ISSN 0377-4929

17. **1990** Shashi.

Fluoride - induced changes in rabbit lens during experimental fluorosis. *J. Environ. Biol.*, 11 (2 suppl.): 247-251.

ISSN 0254-8704

18. **1990** Shashi.

Histopathological changes in rabbit ovary during experimental fluorosis.

Indian J. Pathol. Microbiol., 33(2):113-117.

ISSN 0377-4929

19. **1990** Shashi

Histopathological changes in rabbit testes during experimental fluorosis.

Folia Morphologica, 38(1):63-65.

ISSN 0015-5659

20. 1991 Shashi; Singh JP; Thapar SP.

Quantitative analysis of glycogen in gastrointestinal organs of rabbit during experimental fluorosis.

J. Ecotoxicol. Environ. Monit., 1(2):148-152.

ISSN 0971-0965

21. ***1992** Shashi, A.

Studies on alterations in brain lipid metabolism following experimental fluorosis.

Fluoride, 25(2):77-84.

ISSN 0015-4725

Impact Factor: 1.611

22. *1992 Shashi, A.

Biochemical effects of fluoride on lipid metabolism in the reproductive organs of male rabbits.

Fluoride, 25 (3): 149-154.

ISSN 0015-4725 Impact Factor: 1.611

23. *1992 Shashi A, Singh JP; Thapar SP.

Protein degradation in skeletal muscle of rabbit during experimental fluorosis.

Fluoride, 25(3): 155-158.

24. **1992** Shashi; Kaur D.

Testicular proteins and DNA in experimental fluorosis.

Indian J. Pathol. Microbiol., 35(4):351-356.

ISSN 0377-4929

25. **1992** Sood V, Shashi.

Comparative morphology of mammalian scapula.

J. Curr. Biosci., 9(1):34-40.

ISSN 0256-0011

26. *1993 Shashi A.

Nucleic acid levels in thyroid gland in acute and chronic fluoride intoxication.

Fluoride, 26(3):191-196.

ISSN 0015-4725

Impact Factor: 1.611

27. *1994 Shashi A.

Preliminary observations on alterations in rabbit ovary DNA and RNA content in experiment fluorosis.

Fluoride, 27(2): 76-80.

ISSN 0015-4725

Impact Factor: 1.611

28. *1994 Shashi; Singh JP; Thapar SP.

Effect of long term administration of fluoride levels of protein, free amino acids and RNA in rabbit brain.

Fluoride, 27(3):155-159.

ISSN 0015-4725

Impact Factor: 1.611

29. **1995** Singh JP, Shashi A, Kaur R.

The retrocerebral neuroendocrine complex in *Idiocerus atkinsoni* Leth. (Jassidae : Hemiptera).

Ann. Entomol., 13(2):27-30.

ISSN 0970-3721

30. **1996** Singh JP, Shashi A, Mann S.

Histomorphology of the alimentary canal in Flea beetle *Altica cyanea* Weber (Coleoptera).

Ann. Biol., 12(1):139-143.

ISSN 0970-0153

31. **1995** Singh JP, Mukesh D, Shashi A.

The yolk and yolk cells during embryogenesis of a phytophagus Aulacophora foveicollis Lucas and a carnivorus Chilomenes sexmaculata Fabr. (Coleoptera).

Ann. Entomol., 13 (2): 49-53.

ISSN 0970-3721

32. **1995** Shashi A, Kaur D.

Alterations in hepatic lipid metabolism of the rabbits in experimental fluorosis.

J. Ecotoxicol. Environ. Monit., 5(2): 143-146.

ISSN 0971-0965-0005-95-143

33. **1995** Singh JP, Shashi A, Aggarwal D.

Histomorphology of the brain of Mylabris pustulata Thunb.

(Meloidae: Coleoptera).

Ann. Entomol., 13(2):37-43.

ISSN 0970-3721

34. **1995** Singh JP, Shashi A, Kaur H.

Bis (Phenyl dithiocarbamate) Cd II- a cadmium derivative as a chemosterilant for *Musca domestica nebulo* F. (Diptera : Muscidae).

Ind. J. Comp. Anim. Physiol., 13(2):73-76.

ISSN 0255-7150

35. **1996** Singh JP, Mukesh D, Shashi A.

The embryology of sympathetic nervous system in *Aulacophora foveicollis* Lucas and *Chilomenes sexmaculata* Fabr. (Coleoptera).

J. Ecobiol., 8(1):033-036.

ISSN 0970-9037

36. **1996** Singh JP, Shashi A, Mukesh D.

Embryonic movements during the development of *A. foveicollis Lucas* (Coleoptera: Chrysomelidae).

J. Ecobiol., 8 (2):153-158.

ISSN 0970-9037

37. **1996** Singh JP; Shashi A; Mukesh D.

Segmentation and appendages formation in the early embryos of *Chilomenes sexmaculata Fabr*. (Coleoptera:Coccinellidae).

J. Ecobiol., 8(3):189-194.

ISSN 0970-9037

38. **1996** Singh JP, Shashi A, Mukesh D.

Comparative embryology of respiratory system in *Aulacophora* foveicollis Lucas and Chilomence sexmaculata Fabr. (Coleoptera).

J. Ecobiol., 8 (3): 209-213.

ISSN 0970-9037.

39. 1996 Singh JP, Mukesh D, Shashi A.

Embryonic development of circulatory system in *Aulacophora foveicollis* Lucas (Coleoptera: Chrysomelidae).

Ann. Biol., 12(2):314-319.

ISSN 0970-0153

40. 1996 Singh JP, Mukesh D, Shashi A.

Morphogenesis of appendages in the embryos of *Aulcophora foveicollis Lucas* (Coleoptera: Chrysomelidae).

Ind. J. comp. Anim. Physiol., 14(1):48-52.

ISSN 0255-7150.

41. 1996 Singh JP, Mukesh D, Shashi A.

Structure and development of germ band and embryonic envelopes in *Aulacophora foveicollis* Lucas (Coleoptera Chrysomelidae).

J. Ecobiol., 8 (4): 251-258.

ISSN 0970-9037

42. **1996** Singh JP, Shashi A, Mukesh D.

The origin of mesoderm and formation of coelomic sacs in the early embryos of *Aulacophora foveicollis* Lucas and *Chilomenes sexmaculata Fabr.* (Coleoptera).

Ann. Biol., 12(2):320-327.

ISSN 0970-0153

43. **1996** Singh JP, Shashi A, Kaur R.

Structure of brain and optic peduncle in *Idiocerus atkinsoni* Leth.

(Jassidae : Hemiptera).

J. Ecobiol., 8 (4):263-270

ISSN 0970-9037

44. **1997** Singh JP, Shashi A, Mukesh D.

Blastokinesis in the early embryonic development of *Chilomenes sexmaculata Fabr.* (Coleoptera: Coccinellidae).

Ind. J. Comp. Animal Physiol., 15:15-18.

ISSN 0255-7150

45. 1997 Singh JP, Mukesh D, Shashi A.

Early embryonic development of central nervous system in *Aulacophora foveicollis Lucas* (Coleoptera : Chrysomelidae).

Ad. Biosci., 16 (2):71-80.

ISSN 0970-0315

46. **1997** Singh JP, Mukesh D, Shashi A.

The origin and development of midgut in two coleopteran beetles.

J. Ecobiol., 9 (2):121-126.

ISSN 0970-9037

47. **1997** Singh JP, Mukesh D, Shashi A.

Development of the germ band and embryonic envelopes in *Chilomenes sexmaculata Fabr*. (Coleoptera: Coccinellidae).

Ad. Biosci., 16 (1):75-84.

ISSN 0970-0315

48. 1997 Singh JP, Mukesh D, Shashi A.

The origin and development of Malpighian tubules in the early embryos of *Chilomenes sexmaculata Fabr*. (Coleoptera : Coccinellidae).

J. Natcon., 9 (1):107-110.

ISSN 0970-5945

49. **1999** Shashi A.

Gastric lesions in experimental fluorosis.

Asian J. Microbiol. Biotech. Env. Sci., 1 (3-4):171-175.

ISSN 0972-3005

50. **1999** Shashi A, Sharma R, Dhiman S.

Biological warfare.

Disabil. Impairm.,13(1 & 2):43 - 51.

ISSN 0970-356X

51. **2000** Shashi, A, Dhiman RS.

Thalassemia- A haemoglobin disorder.

Disabil, Impairm., 14 (1):48-52

ISSN 0970-356X

52. 2000 Dhiman RS, Shashi, A, Sharma, R.

DNA fingerprinting.

Disabil. Impairm., 14 (2):121-124.

ISSN 0970-356X

53. ***2000** Shashi A, Thapar SP.

Histopathology of fluoride-induced hepatotoxicity in rabbits.

Fluoride, 34(1):34-42

ISSN 0015-4725

Impact Factor: 1.611.

54. *2001 Shashi A, Thapar, SP.

Histopathology of myocardial damage in experimental fluorosis in rabbits.

Fluoride, 34 (1):43-50.

ISSN 0015-4725 <u>Impact Factor: 1.611</u>

55. *2002 Shashi A.

Histopathological effects of sodium fluoride on the duodenum of rabbits.

Fluoride, 35(1):28-37.

ISSN 0015-4725 <u>Impact Factor: 1.611</u>

56. *2002 Shashi A.

Toxic effects of fluoride on rabbit Kidney.

Fluoride, 35(1):38-50.

ISSN 0015-4725 Impact Factor: 1.611

57. ***2003** Shashi A.

In vivo studies concerning toxic effects of sodium fluoride on hepatic function in rabbits.

Fluoride, 36(1):30-37.

ISSN 0015-4725 <u>Impact Factor: 1.611</u>

58. *2003 Shashi A.

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Asian J. Microbiol. Biotech. Env. Sci., 5(4):477-481. ISSN 0972-3005

60. *2003 Shashi A.

Fluoride and adrenal gland function in rabbits.

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61. 2007 Shashi A, Sharma N, Bhardwaj M.

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Asian J. Microbiol. Biotech. Environ. Sci. 9(4):953-957.

ISSN 0972-3005

62. **2007** Shashi A, Sharma N, Bhardwaj M, Sharma N.

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Asian J. Microbiol. Biotech. Environ. Sci. 9(4):977-981 ISSN 0972-3005

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Asian J. Microbiol. Biotech. Environ. Sci.,9(4):1007-1012.

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Oral health status in students exposed to fluoride in drinking water.

Asian J. Microbiol. Biotech. Environ. Sci., 10(2):323-328.

ISSN 0972-3005

65. **2008** Shashi A, Kumar M.

Effect of high fluoride ingestion on serum biochemical indexes in patients of skeletal fluorosis.

Asian J. Microbiol. Biotech. Environ. Sci., 10(3):63-70.

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66. **2008** Shashi A, Kaur V.

Pathology and clinical aspect of autoimmune thyroiditis and non autoimmune thyroid disease.

Asian J. Microbiol. Biotech. Environ. Sci.,10(3):130-136. ISSN 0972-3005

67. **2008** Shashi A, Kumar M.

Age specific fluoride exposure in drinking water- a clinical multiparametric study.

Asian J. Microbiol. Biotech. Environ. Sci.,10(3):655-660. ISSN 0972-3005

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Incidence of skeletal deformities in endemic fluorosis.

Tropical Doctor, 38:231-233.

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ISSN 0974-6455

70. **2008** Shashi A, Neetika N, Bhardwaj M, Neeraj S.

Fluoride - induced depletion of mucosubstances in rat brain cortical slices

Biosci. Biotech. Res. Commun., 1(1):42-46.

ISSN 0974-6455

71 **2008** Shashi A, Grewal S Bhardwaj M.

Effect of fluoride intoxication on spermatogenesis in rat.

Biosci. Biotech. Res. Commun., 1(2):121-127

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Experimental fluorosis.

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73. **2008** Shashi, A, Neetika S, Sharma N.

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Biosci. Biotech. Res. Commun., 1(2):143-146.

ISSN 0974-6455

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Asian J. Microbiol. Biotech. Environ. Sci., 11(1):55-59.

ISSN 0972-3005

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Asian J. Microbiol. Biotech. Environ. Sci., 11(3):629-632.

ISSN 0972-3005

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Asian J. Microbiol. Biotech. Environ. Sci., 11(2):349-353

ISSN 0972-3005

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Asian J. Microbiol. Biotech. Environ. Sci., 11(3):643-646.

ISSN 0972-3005

80. **2009** Shashi A, Kumar M.

Clinical and biochemical evaluation of blood serum enzymes in osteofluorosis.

Asian J. Microbiol. Biotech. Environ. Sci., 11(3):647-651. ISSN 0972-3005

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Biosci. Biotech. Res. Commun.,2(2):155-161.

ISSN 0974-6455

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Online J. Biotech. Res., 1(3):140-143.

ISSN 0975-1734

83. **2009** Shashi A, Kaur V, Sharma N.

Thyroid disorders: Prevalence and clinical relevance.

Asian J. Microbiol. Biotech. Environ. Sci., 11(4):819-824.

ISSN 0972-3005

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Cytochemical analysis of gastrocnemius muscle of

fluoride intoxicated albino rat.

Biosci. Biotech. Res. Commun., 2(2):207-209.

ISSN 0974-6455

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Asian Pacific J. Tropical Med., 3(2):136-140.

ISSN 1995-7645

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Pathological evaluation of pancreatic exocrine glands in experimental fluorosis.

Asian Pacific J. Tropical Med., 3(1):36-40.

ISSN 1995-7645

87. **2010** Shashi A, Neeraj S, Bhardwaj M.

Histochemical assessment of mucosubstances in pancreas of fluoridated rats.

Asian J. Microbiol. Biotech. Environ. Sci., 12(4):849-853. **ISSN 0972-3005**

88. **2011** Shashi A, Bhardwaj M.

Distribution of fluoride in groundwater and its correlation with physicochemical parameters.

Asian J. Water Environ. Pollution., 8(2):137-142. **ISSN 0972-9860**

89. *2011 Shashi A, Bhardwaj M.

Study on blood biochemical diagnostic indices for hepatic function biomarkers in Endemic skeletal fluorosis.

Biol. Trace Elem. Res., 143(2):803-814.

Abstract published in *Fluoride*, 2011, 44(2):115-116.

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90. **2011** Shashi A, Sharma N.

The pathology of muscle lesions in experimental fluorosis.

Int. J. Sci. Innov. Discoveries, 1(2): 255-262.

ISSN 2249-5347

91. **2011** Shashi A, Sharma N.

Cytohistologic characterization of papillary carcinoma of thyroid: A prospective study.

Int. J. Sci. Innov. Discoveries, 1(3): 344-352.

ISSN 2249-5347

92. **2011** Shashi A, Bhardwaj M.

Prevalence of dental fluorosis in endemic fluoride areas of Punjab, India.

Biosci. Biotech. Res. Commun., 4(2):155-163 ISSN 2249-5347.

93. **2011** Shashi A, Ghodda M, Sonam J.

Clinical pathological evaluation of leukocytes in patients of fluorosis from Bathinda, Punjab.

Biosci. Biotech. Res. Commun. 4(2): 134-138.

ISSN 0974-6455

94. **2012** Shashi A, Meenakshi G.

Scanning electron microscopic study of human red blood cell abnormalities in fluoride toxicity.

Int. J. Sci. Innov. Discoveries, 2 (2): 274-289.

ISSN 2249-5347

95. **2012** Shashi A, Sharma N.

Lipid profile abnormalities in hypothyroidism.

Int. J. Sci. Nature. 3(2): 356-360.

ISSN 1539-7262

96. *2011 Shashi A, Sharma N.

Clinical study of sodium- potassium ATPase activity in patients with thyroid dysfunction.

J. Endocrinol. (Accepted)

ISSN 1479-6805

Impact Factor: 3.09

97. ***2011** Shashi A, Sharma N.

Goitrous thyroiditis: Clinical and pathological implications.

J. Clin. Pathol (Accepted)

ISSN 1472-4146

Impact Factor: 2.47

98. *2011 Shashi A, Sharma N.

Cerebral neurodegeneration in experimental fluorosis.

Asian Pacific J. Tropical Med. (Accepted)

ISSN 0019-5189

99. 2013 Shashi A., Devi U.

Clinical study of insulin resistance in diabetic patients with subclinical and clinical hypothyroidism

Aust. J. Basic Appl.Sci. (In Press)

100. 2013 Shashi A, Devi U.

Association Between Hypothyroidism and Metabolic Syndrome in type 2 Diabetic Patients: A Cross Sectional Study

Int. J. Basic Appl. Med. Sci. (In Press)

101. 2013 Shashi A., Singla S.
Parathyroid function in osteoflurosis

World J. Med.Sci. (In Press)

102. 2013 Shashi A, Singla S.

Thyroid peroxidase activity as toxicity target for fluoride in patients with thyroid dysfunction

Curr. Res. Microbiol. Biotech. (In Press)

103. 2013 Shashi A , Singla S.
Colloid Goiter in Endemic Fluorosis - A Case Report
World J. Med. Sci. (In Press)

104. 2013 Shashi A, Singla S.
Syndrom of Low Tiiodothyronine in Chronic Fluorosis

Int. J. Basic Appl. Med. Sci. (In Press)

22. List of Workshops and Training Programmes participated

- 1. **Winter School on lasers in chemical and biological sciences.** Indian Institute of Technology, New Delhi. December 15-23, 1987.
 - 2. **Workshop on lasers in chemical and biological sciences** Indian Institute of Technology, New Delhi. December 15-23, 1988.
 - Computer Concepts and Basic Programming. Punjabi University, Patiala.
 23.1.1989.
 - 4. **6th National Training Programme in Electron Microscopy: Biological Applications,** Regional Electron Microscope Faculty (DST), Department of Anatomy, All India Institute of Medical Sciences, New Delhi. 28.11.1989 18.12.1989.
 - 5. **Training Course on Radioimmunoassay Techniques and their clinical Applications** conducted by the Isotope Division, Bhabha Atomic Research Centre, Bombay. September 02-25, 1992.
 - 6. **Reorientation course on Fundamentals of Genetic Engineering.** The Centre of Biotechnology, Panjab University, Chandigarh. March 30 April.7, 1993.
 - 7. **Winter School on STM for imaging Biological Macromolecules.** Central Scientific Instruments Organisation Chandigarh and Centre for Cellular and Molecular Biology, Hyderabad. Feb. 6-10, 1995.
 - 8. **Workshop on Techniques of molecular biology and Biotechnology in Drug Research and 28th. Conference of Indian Pharmacological society** organised by Department of Pharmaceutical Sciences, and Drug Research, Punjabi University, Patiala. November 23-26, 1995.
 - 9. **National Workshop on Radiochemistry and Application of Radioisotopes,** Punjabi University Patiala. October 11-19, 1996.
 - 10. **Orientation Courses** organised by Academic Staff college, Panjab University, Chandigarh. 19.3.1997 15.4.1997.

- 11. **National Workshop on Carrier Detection and Antenatal diagnosis of Thalassemia,** Department of Genetics, Sanjay Gandhi Post-graduate Institute of Medical Sciences, Lucknow. November 13-15, 1997.
- 12. **Refresher Course in Environment,** Academic Staff College, Himachal Pradesh University, Shimla. 18.5.98 to 10.6.98.
- 13. **Workshop on Single Cell Gel Electrophoresis Assay**, The Centre for Genetic Disorders, Guru Nanak Dev University, Amritsar in association with Bhagwan Mahavir Medical Research Centre, Hyderabad and Cancer Institute (WCA) Chennai. Dec. 5, 1998.
- 14. **Patent Awareness Workshop**, Punjab State Council for Science and Technology, Chandigarh at Thapar Institute of Engineering and Technology, Patiala. 9.10.99.
- 15. International Training and Research on Emerging Infectious Diseases, Asian Regional Workshop on Intracellular Pathogens, Jawaharlal Nehru University, New Delhi. India Dec. 6-10, 1999.
- 16. **Research Interface workshop on Insect Directing with Emphasis on Microlepidoptera.**Ministry of Environment and Forest, Govt. of India, Punjabi University Patiala. March, 2004
- 17. **Training program on Application of Sophisticated Instruments for Chemical and Environmental Analysis,** Thapar Centre for Industrial Research & Development, Patiala. September 23-25, 2005.
- 18. **International Workshop on Down Syndrome: Etiology and management** Guru Nanak Dev University, Amritsar. February 19, 2008.
- Workshop on Practical aspects on the importance of patents in research, ISCA-Patiala Chapter, Punjabi University, Patiala, on Feb 12, 2013

23. CONFERENCES/ SEMINARS/ SYMPOSIA PARTICIPATED AND PAPER PRESENTED

- 20. **National Symposium on Recent Trends in Immunology and Biochemistry** Vikram University, Ujjain. March 24-26, 1988.
- 21. XIIth International Congress for Tropical Medicine and Malaria, Amsterdam, The Netherlands. September 18-25, 1988. National Meeting of Young' Scientists and Research Fellows on Impact of Sciences on Human Welfare, Punjabi University, Patiala. January 17-19, 1989.
- 22. **National Symposium on Indian Studies of chrysomelidea,** Department of Zoology, Punjabi University, Patiala, March 8-9, 1989.
- 23. **UGC Seminar on Biotechnology: Present and Future Prospectives,** Department of Biotechnology, Punjabi University, Patiala March 14-15, 1989.
- 24. **All India Symposium on Biophysical Aspects of Cell Structure and Function,** Department of Biophysics, Panjab University, Chandigarh. November 6-9, 1989.
- 25. **International Symposium on Genetics, Health and Disease,** Guru Nanak Dev University, Amritsar. Feb. 6-9, 1990.
- 26. **2nd International Symposium on Genetics, Health and Disease,** Guru Nanak Dev University, Amritsar. 15-18, 1993.
- 27. Fifth All India Conference on Cytology and Genetics, Department of Zoology,

- Kurukshetra University, Kurukshetra. Sept. 26-28, 1994.
- 28. **Sixty Fourth Annual Session of The National Academy of Sciences, India,** Panjab University Chandigarh and Institute of Microbial Technology, Chandigarh. Sept.29-0ct.1,1994.
- 29. **3rd International Symposium on Genetics, Health and Disease**, Guru Nanak Dev University, Amritsar. Dec. 1-4, 1995.
- 30. **83rd Indian Science Congress**, Punjabi University, Patiala. Jan. 3-8, 1996.
- 31. **First Punjab Science Congress**, Punjabi University, Patiala. April 28-30, 1997.
- 32. **14th National Symposium on Recent Trends in Life Sciences,** Dept. of Zoology, Punjabi University, Patiala. October 23-25, 1997.
- 33. **National Seminar on Recent Advances in Human Biology**, Department of Human Biology, Punjabi University, Patiala. Feb. 3-5, 1998.
- 34. **15th Punjabi Vikas Conference,** Punjabi University, Patiala. March 28-30, 1998.
- 35. **4th International Symposium on Genetics, Health and Disease,** Guru Nanak Dev University, Amritsar. Dec. 1-4, 1998.
- 36. **16th International Punjabi Vikas Conference {Sciences},** Punjabi University, Patiala. January 13-15, 1999
- 37. **5th International Symposium on Vectors and Vector borne disease,** Punjabi University, Patiala. Feb. 16-18, 2000.
- 38. Joint Conference of Geriatric Society of India {mid term national conference} and IInd Annual Conference North Zone Chapter of Association of Physicians of India, Government Medical College, Patiala. 30th September 1st October, 2000.
- 39. International conference on pathophysiology & drug therapy of cardiovascular disorders, Punjabi University, Patiala January 22-26, 2001.
- 40. **Refresher course in Human Biology, Life Sciences**, Punjabi University, Patiala Nov. 20 to Dec. 10, 2001.
- 41. **5th Punjab Science Congress on Science & Technology,** Thapar Institute of Engineering & Technology, Patiala. Feb. 7-9, 2002.
- 42. **International symposium on Forensic Science**, Punjabi University, Patiala, Feb. 14-17, 2002.
- 43. **Refresher course in Human Biology (Life Sciences),** Dept. of Human Biology, Punjabi University, Patiala, Nov. 8-29, 2002.
- 44. **5th Punjab Science Congress** held at Thapar Institute of Engineering & Technology, Patiala from Feb. 7-9, 2002.
- 45. **National Symposium on Recent Trends in Zoological Sciences,** partment of Zoology, Punjabi University, Patiala from March 12-13,2003.
- 46. **National Symposium on Advances in Industrial Biotechnology**, Department of Biotechnology, Punjabi University, Patiala. February 23-24, 2004.
- 47. **Med Biotech 2005. A National Symposium**, Department of Biotechnology, Punjabi University, Patiala. February 2-3, 2005.
- 48. **8th Punjab Science Congress**, Punjabi University, Patiala. February 7-9, 2005.
- 49. **7th International Symposium on Vectors and Vector borne diseases**, Department of Zoology, Punjabi University, Patiala. February 18-20, 2005.
- 50. **21**st International Punjabi Development Conference, (Section Science), Punjabi University,

- Patiala. March 10-12, 2005.
- 51. **National Congress of Entomology,** Punjabi University, Patiala. March 15-17, 2006.
- 52. **National Symposium on Biological Anthropology- Recent Perspectives,** Department of Human Biology, Punjabi University, Patiala, March 24-25, 2006.
- 53. **International Symposium on Current Issues in Zoology and environmental Sciences**, D.D.U. Gorakhpur University, Gorakhpur (U.P) November 11-13, 2006.
- 54. **6th ANeT International Conference on Ants and Other Social Hymenoptera.** Punjabi University Patiala. 2007
- 55. **3rdNational Workshop on Reorientation In Life Sciences,** Dolphin (PG) College of Life Sciences, Chunni Kalan, January 20-21, 2007.
- 56. Conference on Recent Advances and Challenges in Reproductive Health Research, ICMR, New Delhi, February 19-21, 2007.
- 57. **Research Interface Workshop on Insect Diversity with Emphasis on Microlepidoptera**, Punjabi University, Patiala. March 24-25, 2007
- National Seminar on Technical Advances in Environment Management and Applied Zoology Kurukshetra University, Kurukshetra. January 23-25, 2008.
 (Session Chaired)
- 59. **11th Punjab Science Congress**, Thapar University, Patiala. February 7-9, 2008.
- 60. **5th International Symposium on Genetics, Health and Disease**, Guru Nanak Dev University, Amritsar. February 17-19, 2008.
- 61. **International Workshop on Down Syndrome: Etiology & Management** Guru Nanak Dev University, Amritsar, February 19, 2008.
- 62. **National Symposium on Biodiversity Cell and Molecular Biology**, Panjab University, Chandigarh. February 26-27, 2008.
- 63. **2nd Chandigarh Science Congress**, Panjab University, Chandigarh. March 14-15, 2008.
- 64. **22nd National Symposium of Indian Society of Life Sciences on Recent Advances** in Zoological Sciences: Application to Agriculture Environment and Human Health, Punjab Agriculture University, Ludhiana, November 6th -7th, 2008. (Session Chaired
- 65. **78th annual session of National Academy of Sciences and Symposium on Novel Approach for Biomedical Research**, Panjab University, Chandigarh, November 21-23, 2008
- 66. Ist Annual Conference on Recent Advances in Chemical and Environmental Sciences, M.M Modi College, Patiala, January 17-18, 2009.
- 67. **12th Punjab Science Congress,** Punjab Agriculture University, Ludhiana, February 7-9, 2009.
- 68. **International Conference on Entomology,** Punjabi University, Patiala, February 20-22, 2009.
- 69. **National Conference on Innovations in Drug Discovery and Research**. Department of Pharmaceutical Sciences and Drug Research Punjabi University, Patiala, March 3-5,

- 2009.
- 70. **Biotech-2009, Present and future prospective.** Department of Biotechnology, Punjabi University, Patiala, March 19-20, 2009.
- 71. **National Symposium on Recent Advances in Biological Sciences.** DAV College, Chandigarh, Nov.6-7, 2009
- 72. TOXOCON-5 (5th Annual National Conference of the indian Society of Toxicology), Government Medical College, Chandigarh, 7-8, 2009.
- 73. **2nd Annual Conference on Recent Advances in Chemical and Environmental Sciences**, M.M Modi College, Patiala, January 22-23, 2010.
- 74. **National conference on Advances in Biological Sciences** Panjab University, Chandigarh, March 29-30, 2010.
- 75. National Conference on Environmental Degradation and its Impact on Mankind, Punjabi University, Patiala, 19-20 November, 2010.
- 76. XXIX International Conference of the International society of Fluoride Research University of Rajasthan, Jaipur, December 2-5, 2010. (Session Chaired)
- 77. **80**th Annual Session and National Symposium on "Climate Change- Research, Awareness and Capacity Building, Jaipur National University, Jaipur, December 2-4. 2010.
- 78. **3rd National Conference on Recent Advances in Chemical and Environmental Sciences**, MM Modi College, Patiala. Feb. 28, March 01, 2011.
- 79. **National conference on Impact of Science and Technology on Societal Development.** Shaheed Udham Singh Group of Institutions, Tangori. Mohali, Punjab, November 3-5, 2011.
- 80. World Congress for Man and Nature "Global Climate Change and Bioderversity Conservation", department of Zoology and Environmental Science, Gurukula Kangri Vishwavidyalaya, Haridwar, Uttarakhand, November 11-13, 2011. (Session Chaired)
- 81. **Redefining Approaches to Address Current Issues for Sustainable Biodiversity**, department of Zoology, Panjab University, Chandigarh, December 2-3, 2011.
- 82. **International Conference on Entomology**, department of Zoology and Environmental Sciences, Punjabi University, Patiala, February 19-21, 2012.
- 83. **National Conference on Man and Environment,** department of Zoology and environmental Sciences, Punjabi University, Patiala, Oct 15-16, 2012.

Date: 23/04/2013 Prof. (Dr.) Shashi Aggarwal