

CURRICULUM VITAE



Name: **Dr. ASMATULLAH**

Date of Birth: March 15, 1963

Place of Birth: Gujranwala (Punjab)

Marital Status: Married, 3 children.

N.I.C. No. 35202-2702445-9

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Address: Associate Professor,
Department of Zoology,
University of the Punjab,
Quaid-e-Azam Campus,
Lahore 54590, Pakistan.

QUALIFICATIONS

| <i>Certificate/ Degree</i> | <i>Div.</i> | <i>Subject</i> | <i>Year</i> | <i>Institution</i> |
|--------------------------------|-------------|-----------------------|-------------|---|
| Matric | 1st | Science | 1978 | Govt. High School, Wahndo (Gujranwala) |
| F.Sc. | 2nd | Pre-Medical | 1981 | Govt. College, Gujranwala |
| B.Sc. | 2nd | Zool., Bot., Chem. | 1984 | University of the Punjab, Lahore. |
| M.Sc. | 1st | Zoology | 1988 | University of the Punjab, Lahore. |
| Ph.D. | | Zoology | 2000 | University of the Punjab, Lahore. |

(EMBRYOTOXIC AND TERATOGENIC EFFECTS OF
AN ORGANOPHOSPHORUS INSECTICIDE IN MICE).

Post. Doc. University of Toronto. Canada. 2011

PRESENT POSITION/EXPERIENCE:

| | | | |
|----|--|---|---|
| 1. | Associate Professor 25-8-2001 to date | Research (Teratology), Teaching Ph.D. M.Phil & M.Sc Classes (Developmental Biology, Human embryology and teratology) | Department of Zoology, University of the Punjab, Lahore. |
| 2. | Assistant Professor 8.12.1997-24-8- 2001 | Research (Teratology) and teaching M.Sc. classes (Developmental Biology) | Department of Zoology, University of the Punjab, Lahore. |
| 3. | Lecturer in Zoology 23.01.94-7.12.1997 | Research (Teratology) and teaching M.Sc. classes (Developmental Biology, Comparative anatomy). And teratology | Department of Zoology, University of the Punjab Lahore. |
| 4. | Research Officer 1.2.90-31.1.93 | Research in teratology | Department of Zoology, University of the Punjab Lahore (NSRDB Research Project). |
| 5. | Perfusionist 4.10.88 – 31.1.90 | To control perfusion during open heart surgery. | FPGMI, Sheikh Zayed Hospital Complex, Lahore. |

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| 6. | Research Scholar 1.6.88-3.10.88 | Assistance in Research (M.Sc) | Department of Zoology, University Punjab, Lahore. |
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MEMBERSHIPS OF LEARNED SOCIETIES

A. Life Fellow

Zoological Society of Pakistan (1988)

B. Fellow

Pakistan Fisheries Society.

C. Member Executive Council

Zoological Society of Pakistan (1997-1999, 1999-2001)

D. Regular Member, 2004 to date.

The Teratology Society (Birth defects research, Education, Prevention
(Est. 1960, USA)

OTHER ACTIVITIES IN THE UNIVERSITY

A. Member

1. Board of Studies in Zoology, University of the Punjab, Lahore (1994-1997, 2000-todate).
2. Board of Faculty of Science, University of the Punjab, Lahore (1994-1997, 2000-todat).
3. Examination Committee, B.Sc. Zoology, University of the Punjab, Lahore.
4. Examination Committee, M.Sc. Zoology, University of the Punjab, Lahore.
5. Admission Committee, M.Sc. Zoology classes, University of the Punjab, Lahore.
6. Admission Committee, Ph.D. classes, Zoology.
7. B.A./B.Sc. Examination Monitoring Team, (2001, 2003, 2004)
8. Disciplinary Committee, Zoology Department.
9. Incharge, B.Sc. (Hons.), M.Sc. (Hons.) programme
10. Member/Secretary, H.E.C. National Curriculum Revision Committee (2005, 2008).

B. Associate Editor

Punjab University Journal of Zoology (2002-2005)

C. Joint Secretary

Academic Staff Association, Punjab University (2001, 2002, 2003, 2004)

D. Secretary

Academic Staff Association, Punjab University (2005, 2006, 2007)

E. Resident Officer II

Punjab University (August 2007 to October 2007)

F. Resident Officer I

Punjab University (October 2007 to January 2008)

Research Projects Completed:

A. As a Research Officer (1990-1993)

Embryotoxic and teratogenic effects of two commonly used organophosphorus insecticides (sponsored by NSRDB, UGC Islamabad).

B. As Principal Investigator

1. Teratogenic and embryotoxic effects of a commonly used organophosphorus insecticide in mice (sponsored by University of the Punjab, Lahore). (1997-1999)
2. Embryotoxic Effects of hexavalent chromium in mammals sponsored by University of the Punjab, Lahore (2009-2010).

Research Supervision

A. M.Sc theses supervised.

| S. No. | Title of Theses | Name of Student | Years |
|--------|---|----------------------|-------|
| 1. | Embryotoxic effects of Hexavalent chromium in <i>Gallus domesticus</i> . | Shama Noreen Qureshi | 1996 |
| 2. | Effect of hexavalent chromium on post-hatching development of <i>Gallus domesticus</i> . | Asma Abdul Latif | 1997 |
| 3. | Effect of oral administration of hexavalent chromium on total body weight, chromium uptake and histological structure of mouse liver. | Malika Azmat Noreen | 1998 |
| 4. | Toxicity of Methamidophos in pregnant mice and developing fetuses. | Tayyaba Aslam | 1999 |
| 5. | Embryotoxicity of Methamidophos in mice. | Asma Rashad Khan | 1999 |
| 6. | Teratogenicity of dichlorvos to chick embryos. | Rabia Hanif | 2000 |
| 7. | The effects of DDVP on the development of chick. | Shamaoona Nazir | 2000 |
| 8. | Effects of chlorpyrifos on the embryogenesis | Noureen Zahra | 2001 |

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| | in chick. | | |
| 9. | Teratogenicity of an organophosphate insecticide in chick embryos. | Earfa Salah | 2001 |
| 10. | Effects of Methylparathion on embryonic development of chick. | Asia Iqbal | 2002 |
| 11. | Developmental anomalies induced by dichlorvos in mice. | Naveeda Akhtar | 2002 |
| 12. | The effect of fenvalerate on chick development. | Fizza Arif | 2003 |
| 13. | The effect of Endosulfan on developing chick. | Asma Akhtar | 2003 |
| 14. | Embryotoxicity of malathion on chick development. | Bushra Ijaz | 2003 |
| 15. | Teratogenic effects of cypermethrin, a pyrethroid insecticide on chick. | Sheema Hashmi | 2004 |
| 16. | Developmental anomalies induced by Dursban, an organophosphate in chick embryo. | Saira Batool | 2004 |
| 17. | Effects of Tenekil an organochlorine on development of chick. | Riffat Mahboob | 2004 |
| 18. | Cyproxin- induced developmental defects in developing chick. | Razia Aslam | 2005 |
| 19. | Vibramycin-induced developmental defects in mice. | Rizwana Aslam | 2005 |
| 20. | Developmental defects caused by Septran in mice. | Asma Kousar | 2005 |
| 21. | Teratogenic effect of Doxycycline in mice. | Misbah | 2006 |
| 22. | Developmental anomalies induced by Chloramphenicol in mice. | Sobia Sarwar | 2006 |
| 23. | Embryotoxic effects of Chronic exposure of Carbamazepine to developing mice. | Zakiya Javed | 2006 |
| 24. | Carbamazepine induce developmental defects in mice. | Sidra Ihsan | 2006 |
| 25. | Developmental anomalies induced by Chlorpyrifos in chick embryos. | Arzoo Mushtaq | 2007 |
| 26. | Embryotoxic effects of Chlorpyrifos in developing chick. | Nausheen Akhtar Malik | 2007 |
| 27. | Study of developmental defects induced by clonazepam in mice | Misbah Noureen | 2008 |
| 28. | Study of embryotoxicity of glucophage in mice | Sehrish Naz | 2009 |
| 29. | Morphological and morphometric anomalies caused by rifadin in developing mice. | Fatima Bashir Ahmad | 2010 |

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| 30. | Sodium Fluoride induced teratogenicity in <i>Gallus domesticus</i> . | Amna Amin | 2011 |
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B. B.Sc. (Hons.) theses supervised.

| S. No. | Title of Theses | Name of Student | Years |
|--------|--|------------------|-------|
| 1. | Developmental anomalies induced by Avil (R), An antihistamins in Chick embryo. | Sehrish Ali Rana | 2006 |
| 2. | Developmental anomalies induced by Phenytoin in mouse embryos. | Bela Anwar | 2008 |
| 3. | Birth defects caused by Diazepam in developing mouse. | Wajeeha Iqbal | 2008 |
| 4. | Adverse effects of Lorazepam on pre-natal development in mice | Zahra Naseem | 2008 |
| 5. | Teratological effects induced by metformin in mice. | Amara Shaukat | 2009 |
| 6. | Rifampicin induced embryotoxocity in <i>Mus musculus</i> | Ayesha Zafar | 2010 |
| 7. | Birth defects caused by sodium fluoride in chick embryos. | Huma Mehmood | 2011 |

C. Research Supervision of MS/M.Phil.

| S.No. | Title of Thesis | Name of Student | Year of graduation |
|-------|--|----------------------|--------------------|
| 1. | Teratogenic effects of Cytotec (Prostaglandin E1) on developing mice. | Khaula Ahmad | 2005 |
| 2. | Teratological effects of Deltamethirn on developing mice. | Rabia Rashid | 2008 |
| 3. | Teratogenecity induced by β -Cyfluthrin in mice embryos. | Naveed Ahmad | 2008 |
| 4. | Teratolglcal effects of Lambda Cyhalothrin on pre natal development of mice. | M. Khalil Ahmad Khan | 2008 |
| 5. | Teratogenic and embryotoxic effect of Fluoxetine on developing chick embryo. | Sarah Masood | 2009 |
| 6. | Studies of organ toxicology and testicular Histopathology of chromium | Tahir Abbas | 2009 |

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| | in <i>Mus musculus</i> . | | |
| 7. | Embryotoxic effects of Captopril in mice. | Wajeeha Iqbal | 2010 |
| 8. | Developmental defects induced by Enlapril in mice. | Aasia Sharif | 2010 |

D. Research Supervision of Ph.D.

| S.No. | Title of Thesis | Name of Student | Year of graduation |
|--------------|---|--------------------------------------|---------------------------|
| 1. | Teratogenic effects of chlopyrifos; an organophosphate insecticide, in mice. | Kh. Raees Ahmad (M.Sc.) | Awarded 2008 |
| 2. | Teratogenic effects of an organophosphate insecticide dichlorvos in mice. | Nadia Ghani (M.Sc.) | Awarded 2009 |
| 3. | Developmental abnormalities induced Cytotec (Protaglanclin EI) in developing mice. | Khadija Naeem M.Sc. | Awarded 2009 |
| 4. | Developmental anomalies induced by Clomiphene citrate (an ovulation inducing agent) in mice. | Chaman Ara | Awarded 2010 |
| 5. | Effects of <i>in vitro</i> glucocorticoid exposure on rat renal development during portnatal period. | Dr. Nargis Hussain (M.B.B.S. M.Phil) | Submitted 2010 |
| 6. | Effects of folic acid on Chlorpyripos induced Teratogenecity in developing mice. | Dr. Raafia Tafweez (M.B.B.S. M.Phil) | Awarded 2011 |
| 7. | Anatomical changes in testis and prostate of mouse exposed to spironolactone. | Dr. Jala ud Din Gohar(MBBS, M Ph.) | Thesis submitted 2011 |
| 8. | Teratogenic effects of Cypermethrin; A synthetic pyrethriod insecticide; in mice. | Kausar Raees M.Sc. | Thesis submitted 2011 |
| 9. | Defects Induced by Losartan, An Anti-Hypertensive Agent' in Mice | Ms. Asia Iqbal | Awarded 2012 |
| 10. | Embryotoxic and teratogeneci effects of a synthetic Pyrethroid insecticide (Bifenthrin) in mice.Developmental | Muhammad Zafar | Work in Progress |
| 11. | Developmental Defects Induced by Neomercazole in Mice. | Ms. Asma Rashid Kahn | Work in Progress |
| 12. | Teratogenic effects of Deltamethrin-A synthetic pyrethriod insecticide, in mice. | M.Khalil Khan | Work in Progress |
| 13. | Embryotoxic effects of Hexavalant Chromium (Cr+6) in Mammals. | Naveed Ahmad | Work in Progress |

Research Publications:

1. Mufti, S.A. and Asmatullah, 1991. Embryotoxicity of Diazinon in mice. *Proc. Pakistan Congr. Zool.*, **11**: 33-40.
2. Mufti, S.A., Cheema, A.M. and Asmatullah, 1992. Teratogenic studies in mouse embryos exposed to Diazinon. *Proc. Pakistan Congr. Zool.*, **12**: 341-348.
3. Asmatullah, Mufti, S.A. and Cheema, A.M., 1992. Toxicity of organophosphorus insecticides in pregnant mice. *Proc. Pakistan Congr. Zool.*, **12**: 349-355.
4. Ali, M., Asmatullah and Sultana, R., 1992. Effect of different feeds on some aspects of reproduction in Grey Partridges (*Francolinus pondicerianus*). *Sci. Int. (Lahore)*, **4**(2): 173-176.
5. Iqbal, J., Mufti, S.A. and Asmatullah, 1992. Effect of chronic exposure of Diazinon on the reproduction of freshwater fish, *Colisa faciata*. *Sci. Int. (Lahore)*, **4**(4): 403-408.
6. Ali, M., Sultana, R. and Asmatullah, 1992. The effects of different feeds on some aspects of growth in Grey partridges (*Francolinus pondicerianus*). *Acta Scientia*, **2**: 139-146.
7. Asmatullah, Mufti, S.A., Cheema, A.M. and Iqbal, J., 1993. Embryotoxicity and teratogenicity of Malathion in mice: Morphometric studies. *Punjab Univ. J. Zool.*, **8**: 53-61.
8. Lone, K.P., Asmatullah, Hussain, S. and Saeed, A., 1994. Effect of feeding Brassica meal on the growth and biochemical components of the brain of the Japanese quail (*Coturnix coturnix japonica*). *Pakistan J. Zool.*, **26**(1): 43-50.
9. Ali, I., Khan, A.A., Ali, M., Asmatullah and Jafri, R.H., 1996. Birds as bioindicators of radioactive nuclides in Pakistan. *Punjab Univ. J. Zool.*, **11**: 33-39.
- 10.* Khan, A.A., Khan, R., Asmatullah, Ali, M., Mahmood, J.A. and Sheikh, K.M., 1996. Conservation perspectives of the Imperial *Aquila heliaca* and Steppe Eagle *Aquila nipalensis* in Pakistan. Eagle Studies (eds. B.U. Meyburg and R.D. Chancellor), pp.459-461. World Working Group on Birds of Prey (WWGBP), Berlin.
11. Mufti, S.A. and Asmatullah, 1997. Effects of organophosphates on mammalian development. *Proc. Pakistan Acad. Sci.*, **34**: 95-106.
12. Asmatullah, Latif, A.A., Mufti, S.A. and Mufti, S.A., 1998. Developmental defects induced by Methamidophos in chick embryos. *Punjab Univ. J. Zool.*, **13**: 127-133.
- 13.* Asmatullah, Qureshi, S.N. and Shakoory, A.R., 1998. Hexavalent chromium-induced congenital abnormalities in chick embryos. *J. Appl. Toxicol.*, **18**: 167-171.
- 14.* Asmatullah, Qureshi, S.N. and Shakoory, A.R., 1998. Embryotoxic and teratogenic effects of hexavalent chromium in developing chicks of *Gallus domesticus*. *Bull. Environ. Contam. Toxicol.*, **61**: 281-288.

- 15.* Asmatullah, Latif, A.A. and Shakoori, A.R., 1999. Effect of hexavalent chromium on egg laying capacity, hatchability of eggs, thickness of egg shell and post-hatching development of *Gallus domesticus*. *Asian-Aus. J. Anim. Sci.*, **12**: 944-950.
16. Asmatullah and Noreen, M.A., 1999. Effect of oral administration of hexavalent chromium on total body weight, chromium uptake and histological structure of mouse liver. *Punjab Univ. J. Zool.*, **14**: 53-63.
17. Asmatullah and Aslam, T., 1999. Toxicity of an organophosphorus insecticide in pregnant mice and developing fetuses. *Punjab Univ. J. Zool.*, **14**: 141-151.
18. Asmatullah and Hanif, R., 2000. Teratogenicity of dichlorvos in chick embryos. *Punjab Univ. J. Zool.*, **15**: 15-29.
19. Asmatullah and Khan, A.R., 2000. Teratogenic effects of sublethal doses of Methamidophos in mice. *Punjab Univ. J. Zool.*, **15**: 35-43.
20. Asmatullah and Nazir, S., 2001. The effects of DDVP on developing chick. *Punjab Univ. J. Zool.*, **16**: 1-8.
21. Asmatullah, Salah, E. Andleeb, S. and Iqbal A 2002. Embryotoxicity of methylparathion in developing Chick. *Punjab Univ. J. Zool.*, **17**:28-34
22. Asmatullah, Jabeen Z. and Andleeb, S. 2002. Embryotoxic effects of fenvalerate in developing Chick. *Punjab Univ. J. Zool.*, **17**:28-34.
23. Ghani, N. and Asmatullah, 2003. Maternal and fetal toxicity of Dichlorvos, an organophosphate in mice. *Punjab Univ. J. Zool.* **18**:117-125
24. Asmatullah, Iqbal, A. and Andleeb, S. 2003. Effects of methylparathion on embryonic development of chick. *Punjab Univ. J. Zool.* **18**:147-153.
25. Asmatullah, and Ijaz, B., 2004. Embryotoxicity of Malathion in developing Chick. *Punjab Univ. J. Zool.* **19**: 1-8.
26. Asmatullah, Andleeb, S. and Zohra, N. 2004. Teratological effects of Chlorpyrifos on Chick development. *Punjab Univ. J. Zool.* **19**: 9-16.
27. Asmatullah, Andleeb, S. and Akhtar, N., 2004. Developmental defects induced by dichlorvos in mice. *J. Res. Sci.* **15**: 271-279.
28. Iqbal, J., Asmatullah, and Mufti, S.A. 2004. Effects of acute and chronic exposure to Diazinon on the fecundity and egg size in *Colisa fasciata*. *Punjab Uni. J. Zool.*; **19**: 59-66.
29. Ahmad, K.R., Asmatullah, Raees, K., and Mufti, S.A. 2005. Effects of hypo-&-hyperthyroidism on three bellies of tenotomized gastrocnemius muscle in pigeons (*Columba livea*). *Punjab Uni. J. Zool.* **20**: 77-86.
30. Asmatullah, Mahboob R, and Andleeb, S. 2005. Effects of Tenekil plus, an organochlorine, on development of Chick. *Punjab Uni. J. Zool.* **20**: 7-9.

31. Ahmad, K.R., Saleem, S., Raees, K. Asmatullah, and Mufti, S.A. 2005. Histology, Histochemistry and morphometry of overloaded skeletal muscles under normal, Hypo and Hyper-Thyroid status in Pigeon. *Punjab Uni. J. Zool.*, **20**: 189-199.
- 32* Ahmad, K.R. and Asmatullah, 2007. Teratological effects of Chlorpyrifos in mice. *Iranian J. Toxicol.* **1(2)**: 91-99.
- 33* Tawakal N, Mubarak Kahlaid A, Farooq Khan U, Raees Ahmad K, Asmatullah, 2008. Depletion of ovarian primordial follicles after gamma irradiation Iranian Journal of Toxicol **2 (1)**: 178-183
- 34* Ismat F, Munawar AM, Misbahul AK, Asmatulla, Afia T, and Muhammad K, 2010. Antithyroid Activity of 6-Chloropurine J.Braz. Chem.Soc.21:1699-1703 .
- 35* Khadija N, Naveed A, and Asmatullah, 2010. Cytotec Induced Embryotoxicity in Developing Mus musculus. Asian-Aust.J. Anim. Sci. 23:1282-1290.
- 36* Khadija Naeem*, Naveed Ahmad and Asmatullah, 2011. Embryotoxicity of Orally Administered Misoprostol to Pregnant Mice. Pakistan J.Zool. 43: 511-521
- 37* Chaman Ara and Asmatullah. 2011. Teratogenic and embryotoxic effects of clomiphene citrate in developing mice. Asian-Aust. J.Anim Sci.:1053-1059.
- 38* Asmatullah, Bashir, F. and Chaman Ara and. 2012. Toxic potential of Rifadin in developing mice. *J. Anim. Prod. Adv.* **2(4)**:189-198.
- 39* Raees, K., Asmatullah, Abbas, T., Mukhtar, M.K., Arshad, M., Khan S.Y., Tahir, H.M. and Ahmad, K.R. 2012. Fetal neurohistopathology of chlorpyrifos in mice. *African J. Biotech.* **11(29)**: 7565-7569.

* Foreign Journals

Congresses/workshops/Seminars attended and papers presented

(Abstracts)

1. Lone, K.P., Asmatullah, Saeed, A. and Hussain, S., 1988. Effect of feeding rapeseed meal on the growth and biochemistry of the brain of the Japanese quail (*Coturnix coturnix japonica*). *Pakistan J. Zool. Abstracts*, **8**: 45-46.
2. Mufti, S.A. and Asmatullah, 1990. Embryotoxic effects of Diazinon in mice. *Pakistan J. Zool. Abstracts*, **10**: 19.
3. Mufti, S.A. and Asmatullah, 1991. Embryotoxicity of Diazinon in mice. *Pakistan J. Zool. Abstract*, **11**: 4-5.
4. Asmatullah, Mufti, S.A. and Cheema, A.M., 1992. Toxicity of organophosphorus insecticides in pregnant mice. *Pakistan J. Zool. Abstracts*, **12**: 115-116.

5. Mufti, S.A., Cheema, A.M. and Asmatullah, 1992. Teratogenic studies in mouse embryos exposed to Diazinon. *Pakistan J. Zool. Abstracts*, **12**: 113.
6. Mufti, S.A., Asmatullah and Cheema, A.M., 1993. Embryotoxicity and teratogenicity of Malathion in mice: 1-morphological studies. *Pakistan J. Zool. Abstracts*, **13**:
7. Asmatullah and Mufti, S.A., 1995. Studies on cardiogenesis in mouse embryos exposed to sublethal doses of Malathion. *Pakistan J. Zool. Abstracts*, **15**: 21.
8. Asmatullah, Qureshi, S.N. and Shakoori, A.R., 1996. Embryotoxic effects of chromium in chick. *Pakistan J. Zool. Abstracts*, **16**: 12-13.
9. Asmatullah, 1996. Workshop on latest developmental in Molecular Biology. held at NIBGE, Faisalabad, organized by UGC, Islamabad.
10. Asmatullah, Qureshi, S.N. and Shakoori, A.R., 1997. Teratogenicity of hexavalent chromium in developing chicks of *Gallus domesticus*. *Pakistan J. Zool. Abstracts*, **17**: 126.
11. Asmatullah, Latif, A.A., Haq, R. and Shakoori, A.R., 1997. Effect of hexavalent chromium on post-hatching development of *Gallus domesticus*. *Pakistan J. Zool. Abstracts*, **17**: 129.
12. Asmatullah and Mufti, S.A., 1998. Effects of sub-lethal doses of Malathion on mouse embryo development. *Pakistan J. Zool. Abstract*, **18**: 46.
13. Asmatullah and Mufti, S.A., 1999. Teratogenicity of Methamidophos in chicks. *Pakistan J. Zool. Abstracts*, **19**: 44-45.
14. Asmatullah, Aslam, T. and Shakoori, A.R., 1999. Toxicity of organophosphorus insecticide in pregnant mice and developing fetuses. *Pakistan J. Zool. Abstracts*, **19**: 198-199.
15. Asmatullah, Khan, A.R. and Shakoori, A.R., 1999. Embryotoxicity of Methamidophos in mice. *Pakistan J. Zool. Abstracts*, **19**: 199-200.
16. Asmatullah, 2004. Developmental defects in animals induced by pesticides. *International conference on environmentally sustainable developmental*. March, 2004, Kinnard College for Women, Lahore.
17. Asmatullah, 2004. A seminar on "Informal Economy" held at Dhaka, Bangladesh, 7-8 August, 2004.
18. Asmatullah, and Mufti S.A., 2005. Embryotoxicity of Methylparathion in Developing Chick. *45th Teratology Society Annual Meeting*, to be held at trade Winds Island Grand Resort, St. Pete Beach, Florida. USA.
19. Khadija Naeem and Asmatullah, 2007. Morphometric and Morphological Anomalies induced by Cytotec (misoprostol) in developing mice. *Pakistan J. Zool. Abstracts*, **27**: 155.
20. Khawaja Raees Ahmad and Asmatulalh, 2007. Embryotoxic and teratogenic effects of Chlorpyrifos in mice: Maternal exposure at

- the inception of Organogenesis. *Pakistan Cong. Zool. Abstracts*, **27**: 23-24.
21. Khawaja Raees Ahmad, Asmatullah, Tahir Abbas, Kausar Raees Ahmad and Shahzad Ahamd Mufti. 2008. Chlorpyrifos-route of exposure and susceptibility for mammary line Tumor development. *Pakistan Cong. Zool. Poster session*, **28**: 129.