

## CURRICULUM VITAE

<b>Name</b>	<b>ARUN KUMAR JAIN</b>	
<b>Designation</b>	<b>Scientist 'E' (Deputy Director)</b>	
<b>Nationality</b>	Indian	
<b>Official Address</b>	Electron Microscope Laboratory, National Institute of Pathology-ICMR Sriramachari Bhawan, Safdarjung Hospital Campus, P. B. No. 4909, New Delhi-110 029, <u>INDIA</u> . <b>Phone</b> : 00-91-11-2619-8402 to 8406 Ext. 208 <b>Fax</b> : 00-91-11-2619-8401 Email: drakjain@gmail.com, jainak@icmr.org.in	
<b>Area of Specialization</b>	Electron Microscopy, Mass Spectrometry, Microbiology	
<b>Current Activity</b>	(i) Maintenance of the Electron Microscope facility for users (ii) Research involving Ultrastructural Studies & Trace Element/organic pollutants in different environmental using Transmission Electron Microscope, Energy Dispersive X-ray Microanalysis and Atomic Emission Spectrophotometry (DCP-OES), HPLC, GC, MS etc.	
<b>Education</b>	(a) <b>Ph.D.</b> Nagpur University, Nagpur (1994). Supervisors : Dr. Kunal Saha & Dr. K. V. Shankhapal (b) <b>M.Sc.(Dairy Bacteriology)</b> Minor - Dairy Chemistry) Kurukshetra University, Kurukshetra (1982). (c) <b>B.Sc (Honours) Zoology</b> (Subs. - Chemistry and Botany) University of Delhi, Delhi (1978).	
<b>Educational Distinctions</b>		
<b>M.Sc.</b>	First Division and First Position	
<b>Higher Secondary</b>	(i) First Division & Second Position in school (ii) Distinction in Physics	
<b>Experience (No. of Yrs)</b>	Deputy Director / Scientist 'E'	August 2006 till date
	Assistant Director	August 1999 to July 2006
	Senior Research Officer	April 1994 to July 1999
	Research Officer	March 1991 to April 1994
	Total Scientific & Teaching Experience	30 years
<b>Membership of Professional Bodies</b>	Electron Microscope Society of India Indian Society of Analytical Scientists Indian Association of Leprologists	
<b>Number of sponsored Research projects (As Principal Investigator)</b>	Five (Annexure 1)	
<b>Research Guidance (No. of Thesis Guided)</b>	Twenty Four (Annexure 2)	
<b>Master's / M.Tech. / M.Phil. / Ph. D.</b>		
<b>Publications</b>		
<b>Papers in Referred National / International Journals</b>	Thirty Two	
<b>Books/Chapters in books</b>	Six	
<b>Papers published in Refereed Conference Proceedings</b>	Twenty Three	

## Training

- (i) **Operation & Routine Maintenance of Electron Microscope** training by M/s JEOL Ltd. at their factory premises in **Tokyo Japan** from Aug. 27 to Sept. 14, 1984.
- (ii) **Indo-French School on Electron Microscopy** National Physical Laboratory, New Delhi from Jan. 15-26, 1990.
- (iii) Workshop on **Cryo-ultramicrotomy** at Institute of Pathology, New Delhi from September 26 to 28, 1991.
- (iv) IAEA sponsored Regional Training Course on **Sampling, Sample Preparation and Data Evaluation for Multi-element and Radionuclide Analysis by Nuclear and Instrumental Methods** at BARC, Bombay from Nov. 18-Dec. 7, 1991.
- (v) Training Programme in **Occupational & Environmental Epidemiology** by COEH, N. Delhi & Fogarty Int. Centre Research & Training, USA at India Habitat Centre, New Delhi from Nov. 15 to 20, 1999.
- (vi) **Second Fogarty Indo-US National Training Programme on Diesel Particles: Health Effects, Monitoring and Regulation by COEH, New Delhi in collaboration with COEH, University of California, Berkeley, USA at India Habitat Centre, New Delhi from Nov. 6 to 11, 2000**
- (vii) **ICMR-WHO workshop on Use of Information Technology in Biomedical Research at Institute of Pathology, New Delhi from Dec. 13 – 15, 2000**
- (viii) ICMR-WHO workshop on **IPR and WTO Issues** held at the CJIL Agra from Nov. 22 to 23, 2003
- (ix) NATP Short Term Training Course on **Analytical Methods in Pesticide Residue Analysis** held at Pesticide Referral Laboratory, Division of Agricultural Chemicals, Indian Agricultural Research Institute, New Delhi-110012 from Sept. 1 to 10, 2004
- (x) System Administrator Level training Program on **Configuration of Server 2003, ISA Server, Exchange Server, Network Management, configuration of router, & switches etc.** held at ICMR Headquarters from Mar 21 to 25, 2005.

## Awards and Citations

- (i) The article "Utility of semithin sections in the diagnosis of donovanosis" published in IJMR 90:270-274, 1989 has been cited in "Cutting Edge Section" of **Journal of Histotechnology**.
- (ii) Awarded 3rd Prize in Debate on "How successful is use of Hindi in Scientific Literature". The debate was organized by Indian Council of Medical Research as a part of celebration of Hindi Week (1993).
- (iii) Awarded HITACHI Best Poster Paper Award in Life Science at XXVII Annual Conference of Electron Microscopy and Allied Fields (EMSI-2004) at National Physical Laboratory, New Delhi – 110012.
- (iv) Awarded INSA Visiting Fellowship (2004-05) for undertaking collaborative study on Human Environmental Biomonitoring at Vertox Laboratory, DRDE Gwalior from 17<sup>th</sup> Nov. 2004 to 16<sup>th</sup> March 2005.
- (v) Joint paper entitled "Role of EM in diagnosis of diabetic nephropathy in preclinical stage" was conferred Prof. V. Ramalingaswami Award for the best oral paper at annual conference of Delhi Chapter of Indian Association of Pathologists and Microbiologists on 16<sup>th</sup> April 2006

- (vi) Awarded second Best Poster Award in Life Science in the National Conference on Electron Microscopy held at Regional Research Laboratory, Thiruvananthapuram during April 19 to 21, 2006
- (vii) Joint paper entitled “**Ultrastructural studies in mice tail model of psoriasis**” was conferred best oral paper in Biological Science Category at XXX Annual meeting of Electron Microscope Society of India, Bundelkhand University, Jhansi January 17-20, 2009.
- (viii) Awarded International Collaboration/ Bilateral Exchange Fellowship (2009-2010) of Indian National Science Academy to visit Kings College London, United Kingdom for 3 months.
- (ix) Awarded Fellow of Electron Microscope Society of India at BARC Mumbai in 2010
- (x) Joint paper entitled “**Apoptosis regulatory proteins in Hydatidiform Mole: A light and electron microscopic study**” was conferred Prof. Yasuzumi Award for best oral paper in Biological Science at International Conference on Electron Nanoscopy held at Ramoji Film City, Hyderabad from 6th -8th July 2011
- (xi) Joint paper entitled “**Ultrastructural studies and the expression of hypoxia induced factor in placental tissue of tobacco smoking mothers** ” was awarded best poster presentation in Biological Science at XXXIII Annual meeting of Electron Microscope Society of India, held at Indian Institute of Science, Bangalore from July 2-4, 2012.

#### **Research Specialization (Major scientific fields of interest)**

- Electron microscopy and ultra structural pathology / Research
- Environmental Biology / Monitoring / Toxicology
- Trace Element Research

#### **EXPERIENCE**

##### **1. RESEARCH : THIRTY ONE YEARS**

Post-graduation dissertation 1981 - 1982 1 Year

National Institute of Pathology-ICMR 1982 - 2012 30 Years

**M. Sc. Dissertation** Studies on the Fine Structural Morphology of Bacterial Chains with particular reference to Lactic Streptococci.

**Pre-PhD Research** Staining of Semi thin Sections, EM studies in vitiligo, leprosy, nephrotic syndromes ICC, Bhopal Disaster

**Ph.D. Thesis** Elemental Composition of Dermal Granulomas formed by *Mycobacterium leprae* & other Mycobacteria in Leprosy & other Mycobacterial Infections respectively with special reference to Mycobacteria present in Lesions.

##### **Post-PhD Independent Research Work**

Ultrastructural studies in Leprosy, PKDL, Muscular Dystrophy, Placenta (Toxaemia, Tobacco Smokers), Tumours etc., and Human Environmental Bio Monitoring & EDS Studies

##### **2. ACADEMIC**

###### **i) Teaching**

a) **M. S.** (Biomedical Sciences) of **BITS, Pilani** at Institute of Pathology from 1994 to 1999.

(i) **Bio statistics & Modelling**

(ii) **Ultrastructural Histology**, and

(iii) **Use & Development of Computers**

- b) **Pre- Ph.D.** program of **BITS, Pilani** at Institute of Pathology from 2005 onwards
- (i) **Development and use of Computer Software**
- c) Participated in various training programs in the Electron Microscopy Division including those for Senior Research Fellows and Research Associates joining Institute of Pathology.
- d) Faculty Member WHO in-country fellowship program for Pathologists / Advanced and Basic Level Training Course for Lab. Technicians conducted under the auspices of Ministry of Health and Family Welfare, Govt. of India and World Health Organization.

**ii) Examiner**

- a) National Dairy Research Institute, (Deemed University), Karnal
- B.Sc. Practical examinations
  - M.Sc. Programs Theory examinations
- b) All India Institute of Medical Science, New Delhi
- B.Sc. (Hons.) Human Biology (Electron Microscopy) examination
- c) University of Delhi, Delhi
- M. Sc. Dissertation

**Annexure 1**

**Extramural Projects (as principal investigator)**

S. No.	Project Title	Duration	Agency
1	Expression of sperm proteins, lipids and sperm functional parameters in human treated with RISUG injected v/s NSV subjects: A comparative study.	01-11-2009 to 31-10-2012	ICMR New Delhi
2	Assessment of cadmium and lead toxicity on intrauterine growth restriction (IUGR) and its association with growth factors (VEGF & PlGF)	14.08.2008 to 13.08.2010	ICMR New Delhi
3	Assessment of Pesticide Exposure in Tea Garden Workers of NE States of India	1.01.2008 to 31.12.2011	ICMR New Delhi
4	Environmental monitoring of phthalate esters in human blood and urine and its correlation with serum oestrogen levels and testicular marker enzymes	30.10.2007 to 29.10.2008	ICMR New Delhi
5	Monitoring of Organic Chemical Pollutants in Placental Tissue: A new approach to HEBM	1.04.2002 to 31.03.2005	DBT New Delhi

**Supervision****i) B. Sc. / B. Tech.**

- a) Techniques in Electron Microscopy in Biotechnology. B. Tech (Biotechnology) Amity University, UP. August 2005
- b) General Electron Microscopy Techniques. B. Tech (Biotechnology) College of Engineering Technology, Moradabad. August 2006.
- c) Processing of Specimen for TEM. B. Tech (Biotechnology) GGSIP University, New Delhi July 2009.
- d) Extraction and characterization of Latex protein. B. Tech (Biotechnology) Jaypee Institute of Information Technology, NOIDA, UP. July 2010.
- e) Exploring PASI Score (Psoriasis Area and Severity Index) B. Tech (Biotechnology) Lovely Institute of Engineering, Lovely Professional University. May 2011.

**ii) M.S. / D.N.B. / M.D.**

- a) A study on Ultrastructural changes in the dermal vasculature with special emphasis on endothelial cells in Leprosy. M.S. (Biomedical Sciences) BITS, Pilani, June 1995.
- b) Conjunctival biopsy – to evaluate the effect of prolonged use of various topical drugs on the conjunctiva. M. S. (Ophthalmology) CCS University, Meerut. 1997.
- c) Study of Glomerular Structural Changes in Diabetic Nephropathy. D.N.B. (Pathology). Institute of Pathology, New Delhi. Dec. 2005
- d) An investigation into the role of oxidative stress in psoriasis. D.N.B. (Dermatology, Venereology and Leprosy) VMMC and SJH, New Delhi. 2010.
- e) Assessment of biological trace elements (essential and toxic), hormonal profile and its association with ultrastructural changes in placenta in deliveries with intrauterine growth restriction (IUGR) M.D (Obs.& Gyn) VMMC&SJH, New Delhi. GGSIP University, New Delhi 2010.

**iii) M. Sc./M.Tech**

- a) Microwave-assisted staining for semithin sections of plastic embedded tissue for Histopathological Diagnosis. M.Sc. (Biotechnology) Jiwaji University, Gwalior July 2004
- b) Electron Microscopic Study of Breast Tumour. M.Sc. (Biotechnology) Indian Institute of Technology, Roorkee. July 2005
- c) Ultrastructural features and immunohistochemical staining of cell cycle regulatory proteins in Benign Prostatic Hyperplasia and Carcinoma Prostate. M.Sc. (Biotechnology). Allahabad Agricultural Institute (Deemed University), Allahabad. August 2006.
- d) Ultrastructural and immunological studies in Psoriasis. M.Sc. (Biotechnology). Allahabad Agricultural Institute (Deemed University), Allahabad. August 2006.
- e) Periodic Acid Schiff's and Masson Trichrome Staining of semithin section. M.Sc. (Biotechnology), H. N. B. Garhwal University, Srinagar, Uttaranchal. August 2006
- f) Correlation between ultrastructural feature of sperm and lipid peroxidation status in idiopathic infertile male" M.Sc. (Biomedical Sciences). Institute of Biomedical Sciences, Bundelkhand University, Jhansi. August 2006
- g) A Comparative Study of Ultrastructural features in Lymphocytic and Collagenous Colitis. M.Sc. (Biotechnology) Bundelkhand University, Jhansi. July 2007.

- h) Ultrastructural Studies on Transgression of Lymphocytes and Neutrophils from blood circulation to epidermis in Psoriasis vulgaris patients. M.Sc. (Biotechnology) Bundelkhand University, Jhansi. July 2007.
- i) Immunohistochemical and Structural Studies of Placenta in Tobacco Users. M.Sc. (Biochemistry), Jiwaji University, Gwalior. July 2007
- j) Ultrastructural, immunohistochemical and trace element studies of placenta in Indian women with IUGR deliveries. M.Sc. (Biotechnology). Jiwaji University, Gwalior. July 2008.
- k) Transmission Electron Microscopy of Biological Samples. M.Sc. (Biotechnology) Amity University, NOIDA, UP. July 2009
- l) Studies on efficiency of placental barrier for lead and its fine structure in the women giving birth to IUGR Baby. M.Sc. (Biotechnology) Jiwaji University, Gwalior. August 2009.
- m) Detection of endosulfan in placental tissue by High Performance Liquid Chromatography. M.Sc. (Biosciences) Jamia Milia Islamia, New Delhi (May 2010)
- n) Estimation of Pesticides in pregnant women by HPLC and correlation with Low Birth Weight outcomes. M. Tech. (Biotechnology) Amity University, NOIDA (July 2011)

**iv) Ph.D.**

- a) Expression of Apoptotic Markers in Molar Pregnancy: Correlation with the Prognosis; Submitted in Dec., 2010; School of Medical and Paramedical Health Sciences, Guru Gobind Singh-IP University, Delhi.
- b) Development and Evaluation of Topical Treatment for Psoriasis using extracts of *Curcuma longa*, *Azadirachta indica* and *Aloe barbadensis* using individualised morphological animal models. Submitted in Dec. 2010, DIPSAR, University of Delhi, Delhi
- c) Assessment of Cadmium and Lead toxicity on IUGR and its association with Growth Factors (VEGF and PlGF); Registered in 2007; SOS in Biotechnology, Jiwaji University, Gwalior, M.P.
- d) Health Hazards of Phthalates vis-à-vis Idiopathic Male Infertility; Registered in 2007; School of Medical and Paramedical Health Sciences, Guru Gobind Singh-IP University, Delhi.
- e) The association between expression of Hypoxia, Apoptosis and Pesticide in placental tissue of Tea garden Workers and their correlation with Low Birth weight babies; Registered in Nov., 2007; SOS in Biochemistry, Jiwaji University, Gwalior, M.P.
- f) Molecular, Biochemical and Ultrastructural studies of effects of Tobacco (Nicotine) on Fetoplacental-Maternal System with specific reference to Hypoxia and Pregnancy Outcome; Registered in June, 2009; CCS University, Meerut, U.P.

**LIST OF PUBLICATION****Papers in Referred Journals/ Books**

1. **JAIN A K** and Prasad D N. Studies on the chain formation in Dairy Micro-organisms : I Ultrastructural Aspects. *Asian J. Dairy Res.* 3:79-83 (1984).
2. **JAIN A K** and Prasad D N. Studies on the chain formation in Dairy Micro-organisms : II Chemical nature of chain connections in *Streptococcus cremoris*. *Asian J. Dairy Res.* 3:161-164 (1984).
3. **JAIN A K** and Mukherjee A. An appraisal of utility of stained semithin plastic sections for routine histology. *Indian J. Med. Res.* 85:212-221 (1987).
4. Chandra M, **JAIN A K**, Ganguli D D, Sharma A K and Bhargawa N C. An ultra-structural study of Donovanosis. *Indian J. Med. Res.* 90:158-164 (1989).
5. **JAIN A K**, Chandra M, Ganguli D D and Bhargawa N C. Utility of semithin sections in routine diagnosis of Donovanosis. *Indian J. Med. Res.* 90:270-274 (1989).
6. Ramesh V, Mukherjee A, Chandra M, Sehgal S K, Saxena U, **JAIN A K** and Wadhwa A. Clinical, histopathologic & immunologic features of cutaneous lesions in acute meningococcaemia : *Indian J. Med. Res. [A]* 91:27-32 (1990).
7. Chandra M and **JAIN A K**. Fine structure of *Calymmatobacterium granulomatis* with particular reference to the surface structure. *Indian J. Med. Res.[A]*. 93:225-231(1991)
8. Kapur S, Jain N, **JAIN A K** and Chandra M. Viral particles in persistent generalized lymphadenopathy. *Indian J. Pathol. Microbiol.* 35:201-208 (1992).
9. **JAIN ARUN**, Mukherjee Ashok, Chattopadhyaya Debasis and Saha Kunal. Biometals in skin and sera of leprosy patients and their correlation to trace element contents of *M. leprae* and histological types of the disease; A comparative study with Cutaneous Tuberculosis. *Internat. J. Lepr.*, 63:249-258 (1995).
10. **JAIN A K** and Iyengar B. An ultrastructural study of ultraviolet induced nuclear changes in melanocytes. In : Growth Disorders of the Pigment Cell (edited by Iyengar B and Singh A). B I Churchill Livingstone Pvt. Ltd., New Delhi. pp. 80-89 (1996).
11. Singh A V, **JAIN A K**, Pandey K K and Iyengar B. Melanocyte differentiation, proliferation and nuclear changes in melanomas. In : Growth Disorders of the Pigment Cell (edited by Iyengar B and Singh A). B I Churchill Livingstone Pvt. Ltd., New Delhi. pp. 163-178 (1996).
12. Saxena S, **JAIN A K**, Pandey K K and Dewan A K. Role of steroid hormone and growth factor receptors and Proto-oncogenes in the behavior of human mammary epithelial cancer cells in vitro. *Pathobiology*, 65:75-82 (1997).
13. Sriramachari S and **JAIN A K**. Book Review of Trace elements in human nutrition and health (World Health Organization, Geneva, 1996). *Ind. J. Med. Res.*, 105 : 246-247 (1997).
14. Saxena S, Mohanti N.K and **JAIN A K**. Screening of Prostate Cancer in males with Prostatism. *Ind. J. Pathol. Microbiol.*, 40 : 441-450 (1997).
15. Sharma M C, Mahapatra A K, Gaikwad S, **JAIN A K** and Sarkar C. Pigmented medulloepithelioma : report of a case and review of literature. *Child's Nerv. Syst.*, 14 : 74-78 (1998).

16. Sahoo P K, Mukherjee SC, **JAIN A K** and Mukherjee A. Histopathological, Histochemical and Ultrastructural alterations in liver of *Labeo rohita* (Hamilton) due to Experimental Aflatoxicosis. *Ind. J. Veterinary Pathol.* **23**: 1 – 7 (1999)
17. Rath G, **JAIN A K**, Bastia B, Sood M and Mukherjee A. The Effects of Passive Smoking on the Terminal Villi of Human Placenta *J. Anat. Soc. India.* 50: 19-23 (2001)
18. Saxena S, **JAIN A K**, Mohil R and Bhatnagar D. Study of events leading cellular senescence to Human mammary-epithelial cancer cells in vitro. *Ind. J. of Cancer.* 38:103-116 (2001)
19. Dash K, Saha K, Pandey A K, **JAIN A K** and Mukherjee A. Ultrastructural observations on the lymphoid organs of the freshwater catfish, *Clarias batrachus* (Linnaeus). *J. Environ Biol.* **24**:265-269 (2003)
20. Sriramachari S, Nayak N C, .... **JAIN A K**, Muthuswamy V, Kumar V, Singh P and Pandey A. (eds) Indian Childhood Cirrhosis (ICC): A Multicentric National Collaborative Study of ICMR. Indian Council of Medical Research (2006).
21. **JAIN A K**, Tomar R, Kumar S N, Mohanty N K and Singh V P. Health hazards of phthalates vis-à-vis idiopathic male infertility. *Embryo Talk.* **1** (Supplement 1): 48-54 (2006)
22. Rath G, **JAIN A K**, Sood M, Garg K and Mukherjee A. Morphometric analysis of Vasculosyncytial Membranes in pregnancy induced Hypertensive mothers. *J. Internat. Med. Sci. Acad.*, **20**: 121-124 (2007)
23. **JAIN A K** and Saxena S (Eds.) Handbook of Laboratory Techniques. Volume 1 and 2 Institute of Pathology, New Delhi (2007)
24. Tyagi I, Agrawal U, Amitabh V, **JAIN A K** and Saxena S. Thickness of glomerular and tubular basement membranes in preclinical and clinical stages of diabetic nephropathy. *Ind. J Nephrol.* **18**: 64-69 (2008)
25. Deval R, Ramesh V, Prasad G, **JAIN A K**. Natural rubber latex allergy. *Ind. J Dermatol Venereol Leprol.* **74**:304-10 (2008)
26. **JAIN A K**. Declining semen quality: Role of persistent organic pollutants. In: Sharma R.S., Rajanna A. and Rajalkashmi M. (eds.) Recent Advances and Challenges in Reproductive Health Research. New Delhi, Indian Council of Medical Research. Pp 437 – 456 (2008)
27. Das R P, **JAIN A K** and Ramesh V. Current concepts in pathogenesis of psoriasis. *Ind. J Dermatol* **54**: 7-12 (2009)
28. Soni S, Rath G, Prasad C P, Salhan S, Saxena S and **JAIN A K**. Apoptosis and Bcl-2 Protein Expression in Human Placenta over the Course of Normal Pregnancy. *Anat. Histol. Embryol.* **39**: 426-431 (2010)
29. Sriramachari S, **JAIN A K**, Shah B, Shukla DK, Jain SK, Vijayan VK, Vijayraghvan R, Luthra U, Saxena HMK and Satyanarayana K. (eds) Health effects of toxic gas leak from Union Carbide Methyl Isocyanate Plant in Bhopal: Technical Report on Pathology and Toxicology. Indian Council of Medical Research (2010).
30. Agrawal U, Rai H, **JAIN A K**. Morphological and ultrastructural characteristics of Extracellular matrix changes in Oral Squamous Cell Carcinoma. *Ind J of Dental Res.* **22**(1): 16-21 (2011)



31. Rath G, Roy S, Goyal U, **JAIN A K** Mukherjee A. Placental Vasculosyncytial membrane in tobacco exposed Indian mothers: A quantitative and ultrastructural study. *Journal Internat. Med. Sci. Acad.* **24**(2):53-56 (2011)
32. Soni S, Rath G, Prasad C P, Salhan S, **JAIN A K**, Saxena S. Fas-FasL System in Molar Pregnancy. *Am J Reprod Immunol.* **65**(5): 512-520 (2011)
33. Kumar S N, Telang A G, Singh K P, **JAIN A K**, Afroz M, Patil R D. Experimentally induced toxicity of Ochratoxin A and endosulfan in male wistar rats: A hormonal disorder. *J Animal Veterinary Adv.* **10**(13): 1750-1755 (2011)
34. Rath G, Soni S, Prasad C P, Salhan S, **JAIN A K**, Saxena S. Bcl-2 and p53 Expression in Indian Women with Complete Hydatidiform Moles. *Singapore Med J.* **52**(7): 502-507 (2011)
35. Rao R P, **JAIN A K** and Srinivasan B P. Dual therapy versus monotherapy of trandolapril and telmisartan on diabetic nephropathy in experimentally induced type 2 diabetes mellitus rats. *J. Renin-Angiotensin-Aldosterone System.* **12**(3):169-175 (2011)
36. Rao R P, Singh A, **JAIN A K** and Srinivasan B P. Dual therapy of rosiglitazone/ pioglitazone with glimepiride on diabetic nephropathy in experimentally induced type 2 diabetes rats. *Journal of Biomedical Research* **25**(6): 411-417 (2011)
37. Nyati K, Prasad KN, Husain N, Vinita, **JAIN A K**. Immunopathology and Th1/Th2 immune response of *Campylobacter jejuni* induced paralysis resembling Guillain-Barré syndrome in chicken. *Medical Microbiology and Immunology.* (Accepted for publication) (2012)
38. Kumar S N, Telang A G, Singh K P, **JAIN A K**, Afroz M, Patil R D. Genotoxic Effects of Ochratoxin A and Endosulfan in Male Wistar Rats. *J Animal Veterinary Adv.* (Accepted for publication)
39. Tomar R, **JAIN A K**, Mishra A and Mohanty NK. Altered expression of succinic dehydrogenase in asthenozoospermia infertile male. *Am J Reprod Immunol.* (Tentatively Accepted for publication)
40. Bastia B, Naik P K, **JAIN A K**. A case tool for prediction of squamous cancerous and non-cancerous cells using digital image processing and artificial neural network. *Bioinformation (ISSN:0973-2063)* (Submitted for publication)

#### **Papers published in Refereed Conference Proceedings**

1. Iyengar B. Misra R S and **JAIN A K**. Pathogenesis of vitiligo - A histochemical and ultrastructural study. *Proc. XIV Internat. Pigment Cell Conference, Kobe, Japan, VAP-2:149* (abstract) (1990).
2. Iyengar B. Misra R S and **JAIN A K**. Changes in Melanocyte Morphology in vitiligo - A follow-up study. *Proc. XIV Internat. Pigment Cell Conference Kobe, Japan, VAP-2:150* (abstract) (1990).
3. Iyengar B. Misra R S and **JAIN A K**. Langerhans cell-Lymphocyte interaction and pigmentation in skin. *Proc. XIV Internat. Pigment Cell Conference, Kobe, Japan, VAP-2:152* (abstract) (1990).
4. **JAIN A K**, Kumar S J, Saha K, Shankhapal K V, Misra R S and Mukherjee A. Trace element studies in different cutaneous lesions of leprosy. *Internat. J. Toxicol. Occup. and Environ. Hlth.*, **2:73**(abstract) (1993).
5. **JAIN A K**, Sindhu J K, Rohini, Acharyulu S L N, Krishnamachari S L N G & Sriramachari S. Particle (Electron) induced x-ray emission microanalysis on wet digested biological tissue analytes using microdroplet technique. *Internat. J. Toxicol. Occup. and Environ. Hlth.*, **2:105-106**(abstract) (1993).

6. Sriramachari S, Iyengar B, Sundaravalli N, Srivastava V K, Sindhu J K, **JAIN A K**, Kumar S J, Prasad P V A, Arunachalam J and Gangadharan S. Tissue trace element composition in ICC and allied disorders. *Internat. J. Toxicol. Occup. and Environ. Hlth.*, 2:85(abstract) (1993).
7. Sindhu J K, **JAIN A K**, Rao H T, Acharyulu S L N, Gangadharan S and Sriramachari S. Sample preparation of tiny biological tissue for trace and ultra-trace element analysis. *Internat. J. Toxicol. Occup. and Environ. Hlth.* 2:137-138(abstract) (1993).
8. Sriramachari S, **JAIN A K**, Das S K, Bapu Rao S and Sindhu J K. Use of Human Placenta for Environmental Biomonitoring : Preliminary observations on multi-elemental analysis of placental tissue in a Delhi Hospital. Proceedings of an International Symposium on Harmonization of Health Related Environmental Measurements using Nuclear and Isotopic Techniques organized by International Atomic Energy Agency and held at Hyderabad, India. International Atomic Energy Agency, Vienna. pp 377-385 (1997).
9. Sriramachari S, Sindhu J K, Bapu Rao S and **JAIN A K**. Scope of Human Placental Tissue for E.S.B. Proceedings of International Workshop on Ultra-Long-Term Cryogenic Preservation Network of Biological and Environmental Specimen, held at Senri Life Science Center, Osaka, Japan, pp 95-99 (1997).
10. **JAIN A K**, Mukherjee A, Jaikumar S and Sriramachari S. An integrated study of bio-metals in skin of leprosy and cutaneous tuberculosis patients through atomic absorption spectroscopy and energy dispersive x-ray microanalysis. *J. Tr. Elem. Exptl. Med.*, 11 : 476-477 (1998).
11. Sriramachari S, Sindhu J K and **JAIN A K**. Hepatic copper toxicity or toxicosis in ICC? (Indian Childhood Cirrhosis and allied disorders). *J. Tr. Elem. Exptl. Med.*, 11 : 477 (1998).
12. **JAIN A K** and Sriramachari S. A simple technique for determination of optimal screen illumination for exposure of film during low magnification transmission electron microscopy of low contrast samples. In : Electron Microcopy 1998 : Volume I ; Benavides H A C and Yacaman M J (eds.) Institute of Physics Publishing, Bristol. pp 653-654 (1998).
13. Rath G, **JAIN A K**, Mukherjee A, Iyengar B, Garg K and Raghunandan C. Ultrastructure of trophoblastic epithelium and localization of alkaline phosphatase in placenta of pregnancy induced hypertensive mother. In : Electron Microcopy 1998 : Volume IV ; Benavides H A C and Yacaman M J (eds.) Institute of Physics Publishing, Bristol. pp 647-648 (1998).
14. Saxena S, **JAIN A K**, Mohil R and Bhatnagar D. "Role of cellular and autocrine growth regulatory factors in propagation of human mammary epithelial cancer cells in vitro. Proceedings of 4th International symposium on Impact of cancer Biotechnology on predictive oncology and therapy. Nice, France (1998).
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