

CURRICULUM VITAE

NAME : Dr. Saurabh Verma
DESIGNATION : SCIENTIST D
NATIONALITY : Indian
ADDRESS : National Institute of Pathology-ICMR
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Work details at present Institute:

Established the lab for cancer biology and molecular work with sophisticated equipments like FlowCytometer and Confocal Laser Scanning Microscope. As a part of Tumour Biology Lab, NIP is I am mainly involved in immunological and cellular/molecular cancer biology studies. We are evaluating the prognostic significance various biological markers in cancer patients. In addition, we are working on the assessments on the antitumour potential of certain herbal extracts/compounds. We are also working molecular evaluation and expression pattern of the cancer-associated genes involves the deciphering of complex cross talk at the level of DNA and RNA/ Proteins. There is an 'state of art' molecular biology lab facility, where some of the very important cancerous and non-cancerous cell lines are regularly and routinely maintained for the molecular analysis and therapeutic evaluation of certain biological markers. The motto is to impart training to the young scientist and work with team spirit in a tandem to ameliorate the suffering of mankind.

Educational Qualification:

PhD (1999): Department of Pharmacology, Central Drug Research Institute, Lucknow

Professional Experience and Fellowships:

Scientist D

Awards and Others:

1. Prof. S.S. Parmar award for best paper on research paper titled, "Sensitivity of iontophoretically applied Clonidine onto Ventrolateral Medullary Neurons" in XIX Annual Meeting of Indian Academy of Neurosciences and International Symposium on Neurodegeneration & Neuroprotection on 18-20th March, 2002 at Institute of Chemical Biology, Kolkata. The study of this research paper is taken from my thesis entitled, "Neuropharmacological Investigation on the Role of Nitric Oxide in Central Cardiovascular Regulation from the Ventral surface of Medulla."

2. Special Appreciation Award to paper titled, "Flow Cytometric analysis of Th1 and Th2 cytokines as immunological dysfunction in the patients of superficial transitional cell carcinoma" in 24th annual convention of Indian Association for Cancer research (IACR) and International symposium on Human Papillomavirus and Cervical Cancer which was held on 9-12 Feb, 2005 at Institute of Cancer Preventive Oncology (ICPO).

Member/Reviewer of National Editorial Advisory Board:

1. Indian Journal of Pathology and Oncology: ISSN No. 2394-6784 (Print) 2394-6792 (Online), since 2014
2. Indian Journal of Pathology Research and Practice (IJPRP). p-ISSN: 2278-148X, 2014.
2. Pharmacological Evaluation of *Allium stracheyi* (Baker) for the Development of Anti-anxiety Drug in Zebra fish (*Danio rerio*). PhD Thesis submitted by Sanjay Kumar under the supervision Head of the department, Dr Rakesh Kumar, PG Govt College, Rishikesh, Kumayun University, Nainital. Aug, 2016

Association with Scientific Projects:

A. AS PRINCIPAL INVESTIGATOR: [Completed]

1. Flow Cytometric DNA analysis and cytological diagnosis of pleural effusions (2001-2003)
2. To study the host immune response in patients of superficial TCC of bladder (2002-2005)
3. To study the expression and relevance of tissue transglutaminase in superficial and invasive human bladder Transitional Cell Carcinoma (TCC) (2004-2007)
4. To study the expression of cyclooxygenase-1 and Cyclooxygenase-2 (Cox-1 and Cox-2) in correlation with cytokine dysfunction in invasive and non invasive TCC of human. (2007-2011)

A. AS PRINCIPAL INVESTIGATOR: [On Going]

1. Identification and determination of potent inhibitors against cyclooxygenase using computer aided drug design approach. [ICMR, 2016].
2. To study antitumour potential of Centella asiatica on the human urothelial bladder cancer stem cells [Submitted to Ayush, 2016].

B. AS PRINCIPAL INVESTIGATOR: [NEW PROJECTS SUBMITTED]

1. Evaluation of Th17 cytokines in diabetes mellitus. [Submitted to CSIR, 2015].
2. Micro array based gene expression analysis in urothelial cell bladder carcinoma. [Submitted to DBT, 2016].
4. The project titled 'To study the serum miRNA in bladder urothelium development and tumourogenesis in UCC patients [Submitted to CSIR, 2016]

C. AS CO-INVESTIGATOR: [On-Going]

1. Study of HLA-DR3 and / or DQ2 restricted CD4+Tcells in type 1 diabetes in North India. [DST, 2016]

C. AS CO-INVESTIGATOR: [Completed]

1. An invitro model to predict chemotherapeutic response in acute leukemia [1999-2003].

2. Cytokine regulation in the immunopathogenesis of salpingitis/infertility due to Chlamydia trachomatis infection in woman [2003-2006].
3. Evaluation of estrogen (ER) and progesterone receptor in the male reproductive tract of mice [1999-2002].
4. Evaluation of estrogen receptors (ER) and progesterone receptors (PR) in the human spermatozoa from fertile subjects [1999-2002].
5. Evaluation of the profile of androgen receptor and estradiol modulated proteins in the ejaculated spermatozoa from fertile and infertile subjects [1999-2001].
6. Apoptotic cell population as a marker to predict induction of remission in patients with acute leukemia [2001-2004].
7. Role of invitro cytotoxicity, assessment and immunologic enhancement in the management of superficial bladder cancer [2002-2004].
8. Role of in vitro cytotoxicity assay and adjuvant intravesicle therapy in the management of superficial bladder cancer [2001-2005].
9. Study of tumour markers in patients of superficial TCC of bladder [2001-2006]
10. FlowCytometric assays to evaluate the prognosis and patients response to chemotherapy in patients with acute leukemia: expression of genes commonly involved in drug resistance. [2003-2006]
11. Flow Cytometric assay to correlate in vitro cellular toxicity with resistance to chemotherapeutic agents in patients with acute leukemia.
12. ICMR funded project titled," Microbial Epithelial Interaction in Innate Immune Response to Tuberculosis and its Role in Transcriptional Regulation of Inducible Nitric Oxide Synthase(iNOS).
13. Antimicrobial and immunomodulatory effects of Tulsi (ocimum sanctum Linn) on healthy human subjects [2007-2012]
14. To study the anti apoptogenic activity of Curcuma oil in Transient Focal Ischemia in Rat Brain.
15. Characterization of host immune factors associated with progression of superficial TCC of bladder by microarray analysis [2009-2012].
16. **Co Investigator** in DST project titled," Immunogenetic profile of nasopharyngeal cancer in a high-prevalence region of North-East India(2010-2013).

Guide/ Co-Guide for PhD/ DM/ MSc/ DNB Thesis:

A. Post Doctoral Fellow (ICMR-PDF): [On-Going]

1. **Guide** to Dr. Ankita Sahu who is working on the ICMR project titled; "Identification and determination of potent inhibitors against cyclooxygenase using computer aided drug design approach".

A. Doctorate of Medicine (D.M.): [Completed]

1. Co-Investigator: D.M. thesis titled “Levels of CD4+CD25+ regulatory T cells in Rheumatic heart disease” was completed and submitted by Dr Sandeep Gade, Senior Resident, Department of Cardiology, GB Pant Hospital, New Delhi at University of Delhi, 2012.

2. Co-Invetigator: D.M. thesis titled, “Circulating levels of regulatory T cells in rheumatic heart disease” . Thesis is completed by Dr Mohan Kumar, Senior Resident, Department of Cardiology, GB Pant Hospital , New Delhi, 2014.

3. Co-Investigator: D.M. Thesis titled. “Circulating levels of regulatory T cells and pro/anti-inflammatory cytokines in coronary heart disease” . Thesis completed and submitted by Dr Hariram Maharia, Senior Resident, Department of Cardiology, GB Pant Hospital, University of Delhi, New Delhi, 2015

C. PhD Thesis: [Completed]

1. Co Guide: PhD Thesis titled, “ Antimicrobial and Immunomodulatory effects of Tulsi (ocimum sanctum Linn.) was completed and submitted by Shankar Mondal at Department of Physiology, All India Institute of Medical Sciences(AIIMS), New Delhi in February, 2010.

D. MSc Dissertations: [Completed]

1. Supervisor in the dissertation of Mr. Santosh Sharma, MSc Biochemistry from Jeevaji University. The title of dissertation was “Flow Cytometric evaluation of DNA content analysis and therapeutic responses (in vitro cytotoxicity) in superficial bladder carcinoma” with the objectives to evaluate DNA ploidy in bladder cancer samples as prognostic indicator and to correlate it with tumour grading and cytotoxicity assay of same samples. The dissertation was submitted in june, 2004.

2. Supervisor in dissertation report of Ms Priyanka Badoniya, MSc Biocemistry from Jeevaji university. The title of dissertaion was “Study on ex[ression and Correlation of estrogen Receptor, p-Glycoprotein and Tissue transglutaminase in Human Breast Cancer” submitted in june, 2005

3. Supervisor in MSc dissertation titled, “The study of Immunoexpression of tissue Transglutaminase in Brain tumour” by Miss Umang Srivastava, Msc (Biochemistry) from the Jivaji University, Gwalior was submitted in june 2006.

4. Supervisor in MSc dissertation titled, “ Flow Cytometric study of surface antigen markers (CD3, CD4 and CD8) and DNA content analysis in Breast Cancer patients” by Mr Rishikesh Shukla, MSc (Microbiology), Jeewaji University Gwalior was submitted in June 2007.

5. Supervisor in MSc dissertation titled, “FlowCytometric study of Cox-1 and Cox-2 expression in correlation with cytokines dysfunction in Transitional Cell carcinoma(TCC) patients” by Miss Swarna Saxena, Department of Biochemistry, Jeevaji University, Gwalior was submitted in June 2008.

6. Supervisor in MSc dissertation titled, “Immunofluorescence and Immunohistochemistry based studies on Cox-2 Expression in Breast and Prostate Cancer Patients.” by Miss Priynaka, School of studies in Microbiology, Jeevaji University, Gwalior was submitted in June 2009.

7. Supervisor in MSc dissertation titled, “Advanced technological applications in Research and Medical Sciences”. By Miss Rudrakshi Munshi, Department of Biotechnology, Amity University, Noida was submitted in July 2009.

8. Supervisor of MSc dissertation “To study the expression pattern of T-regulatory cells in rheumatic heart patients” successfully completed by Ms Mrunmayi S Bhouraskar, Pillai College of Arts, commerce and science on fellowship of Indian Academy of Sciences, Bangalore in July, 2014

9. Supervisor of MSc dissertation “ Proinflammatory markers in tumour cells of urothelial bladder carcinoma” completed by Nandhitha UN, B.E. Biotechnology, RV college of Engineering, Bangalore in July, 2014.

10. Supervisor of MSc dissertation titled, “ mTOR gene expression in acute leukemia” completed by Iram Mufti, MSc Biotechnology, Devi Ahilya Vishvavidalaya, Indore in July, 2014.

11. Supervisor of MSc summer training on Flow Cytometer and Confocal laser Scanning Microscopy during the month of July Kshitij jain 2014.

12. Supervisor of MSc dissertation titled, “Flowcytometric analysis of CD44+/CD24- expression in breast cancer stem cells” . The work was completed by Ms Leena Arora on Indian Science Academy fellowship in 2016.

E. DNB Thesis: [Completed]

1. Co supervisor in DNB thesis titled, “Correlation of DNA content and grading in soft tissue tumour”. Submitted by Dr. Hemant Kapoor for the partial fulfilment of Diploma of National Board (DNB), New Delhi during the year 2004.

3. Co supervisor in DNB Thesis titled, “Study of Tumour markers in superficial transitional Cell Carcinoma of the Bladder using Confocal Laser Scanning Microscope.” was successfully completed by Dr Payal Salgia in Dec, 2005 at IOP

Publications:

A. RESEARCH PAPERS:

1. Nitric oxide modulation of cardiovascular responses from ventral surface of medulla in cat. **S.Verma**, R. Raghbir and G.K. Patnaik. Ind. J. Pharmacol. 29, 125-128, 1997.

2. Synthesis and opioid activity of novel dermorphin related heptapeptide. R. Raghbir, T.Naqvi, **S.Verma**, W.HAQ, K.B.Mathur and G.K. Patnaik. Med. Chem. Res., USA. 7, 16-24, 1997.

3. Effect of selective dopaminergic drugs in nicotine tolerant rats. R. jain, **S.Verma** and D. Mohan, Drug. Alcohol. Depend. 63, S72 (2001).

4. Enhanced immunocompetent cells in chlamydia cervicitis. Mittal,A, Rastogi,S, Reddy,BS, **Verma,S.**, Salhan,S. and Gupta,E. J. Reprod. Med (USA), **49**(8), 671-677, 2004(Aug)

5. Cytokine expression pattern in the genital tract of *Chlamydia trachomatis* positive infertile women implication for T-cell responses. Reddy, BS, Rstogi,S, Das,B, Salhan,S, **Verma,S** and Mittal,A. Clin Exp. Immunol. **137**, 552-558, 2004.

6. FlowCytometric DNA analysis and cytological diagnosis of pleural effusions. Veena kashayap and **S.Verma**. Ind. J. Cytology , 21(3), 120-123, 2004.

7. Flow Cytometric analysis of Th1 and Th2 cytokines in PBMCs as a parameter of immunological dysfunction in patients of Superficial Transitional cell carcinoma of bladder. Agarwal S, **Verma S**, Burra U, Murthy NS, Mohanty NK and Saxena S. Cancer Immunol Immunother, 55(6), 734-43, Jun 2006.

8. Nanotechnology.**Saurabh Verma**. IOP News Letter, Vol. 5 No. 2, April 2006

9. Limitation of FAB diagnosis in acute leukemia. Bhushan B, Saluja S, Ahuja D, **Verma S**, Gupta D K, Kapur S. J Cancer Res Ther, 2 (1), S 22, 2006.

- 10** Adjuvant Intravesical Therapy Based on In Vitro Cytotoxicity Assay In Management of Superficial Transitional Cell Cancer of Urinary Bladder. Sunita Saxena, Usha Agrawal, Abhilasha Agarwal, **Saurabh Verma**, NS Murthy, NK Mohanty. BJU International 98 (5), 1012-1017, 2006
- 10.** Relation of Cell Viability and Apoptosis with Clinical Remission following Induction Chemotherapy in ALL and AML. B. Bhushan, D. Ahuja, **S. Verma**, S. Saluja, S. Siddiqui, S. Kapur. Journal of experimental and Clinical Cancer Research, 26,3, 313-321, 2007.
- 11.** Pulmonary epithelial cells are a source of interferon- γ in response to Mycobacterium tuberculosis infection. Monika Sharma, Sadhna Sharma, Sugata Roy, **Saurabh Varma** and Mridula Bose. Immunology and Cell biology, Apr-May 85(3), 229-237, 2007.
- 12.** Malignant nodular hydradenoma with angiolymphatic invasion: a case report. Singh Arvinder, Sharma Shruti, **Verma Saurabh**, Khanna Arti. The Indian Journal of Pathology and Microbiology, 50(3), 548-549, 2007
- 13.** Curcuma oil: reduces early accumulation of oxidative product and is anti-apoptogenic in transient focal ischemia in rat brain. Priyanka Rathore, Preeti Dohare, **Saurabh Verma**, Aprajita E Ray, NR Jagannathan, Madhur Ray. Neurochemical Research, 33, 1672-1682, 2008.
- 14.** Curcuma oil modulates the nitric oxide system response to cerebral ischemia.reperfusion injury Preeti deohare, **Saurabh Varma** and Madhur Ray. Nitric Oxide, 21, 1-11, 2008.
- 15.** The neuronal apoptic death in global cerebral ischemia in gerbil:important role sodium channel modulator. Manoja Kumar Brahama, Preeti deohare, **Saurabh Varma**, Srikanta Kumar Ratha, Puja Garg, Prasanta kumar Biswal, Piyali Dhar Chowdhary and Madhur Ray. J Neurosci Res, **87**(6):1400-1411, 2009 May 1.
- 16.** Serum Th1 and Th2 cytokines balance in patients of superficial transitional cell carcinoma of bladder pre and post intravesicle combination therapy. Agarwal A, Agrawal U, **Verma S**, Mohanty NK, Saxena S. Immunopharmacol Immunotoxicol Jun;32(2):348-56.2010.
- 17.** Aberrant phenotypes in childhood and adult acute leukemia and its association with adverse prognostic factors and clinical outcome. Bharat Bhushan, Pradeep S Chauhan Sumita Saluja, **Saurabh Verma**, Ashwani K Mishra, Saeed Siddiqui, Sujala Kapur. Clin Exp Med. 10(1):33-40, Mar. 2010
- 18.** Mutation of FLT3 gene in acute myeloid leukemia with normal cytogenetics and its association with clinical and immunophenotypic features. Pradeep S Chauhan , Bharat Bhushan_ , Ashwani K Mishra, LC Singh, Sumita Saluja, **Saurabh Verma**, DK Gupta, Vishakha Mittal, Sumita Chaudhry, Sujala Kapur Med Oncol. Jun; 28(2): 544-51, 2011
- 19.** Effects of Tulsi (Oscimum sanctum Linn) on immune parameters of healthy volunteers. S. Mondal, VD Bamola, **S. Varma**, SN Naik, BR Mirdha, N. Mehta, MM Padhi, SC Mahapatra. Journal Pharmacy and Pharmacology, 62, 10, 1486-1487, 2010.
- 20.** Role of Tumour suppressor and angiogenesis markers in prediction of recurrence of non muscle invasive bladder cancer. Usha Aggarwal, AK Mishra, Payal Salgia, **Saurabh Verma**, NK Mohanty, S.Saxena. Pathol and Oncol Res. 17(1), 91-100, 2011.
- 21.** Double-blinded randomized controlled trial for immunomodulatory effects of Tulsi (Ocimum sanctum Linn) leaf extract on healthy volunteers. Shankar Mondal, **Saurabh Varma**, Vishwa Deepak Bamola, Satya Narain Naik, Bijay Ranjan Mirdha, Madan Mohan Padhi, Nalin Mehta, Sushil Chandra Mahapatra. Journal of Ethanopharmacology, 136, 452-456, 2011.
- 22.** T cell deficiency in rheumatic heart disease: A preliminary Observational study. Saibal Mukhopadhyay Regulatory, **Saurabh Verma**, Sandeep gade Yusuf jamal, Vijay Trehan, Sanjay Tyagi,. Journal of Heart Valve Disease, 22, 118-125, 2013.

23. Contribution of susceptibility locus at HLA class I region and environmental factors to occurrence of Nasopharyngeal cancer in Northeast India. Meena Lakhanpal; Laishram Chandreshwor Singh; Tashnin Rahman; Jagannath Sharma; M Madhumangal Singh; Amal Chandra Kataki; **Saurabh Verma**; Pradeep Singh Chauhan; Y Mohan Singh; Saima Wajid; Sujala Kapur; Sunita Saxena. Tumour Biology, 2014 Dec 17. [Epub ahead of print].

24. Study of single nucleotide polymorphism of tumour necrosis factors and HSP genes in nasopharyngeal carcinoma in North East India. Lakahnpal M, Singh LC, Rahman T, Sharma J, Singh MM, Kataki AC, Verma S, Pandarangi SL, Singh YM, Wajid S, Kapur S, Saxena S. Tumour Biol, 2015 Jul 22, PMID: 26198046.

25. Circulating level of regulatory T cells in rheumatic heart disease: an observational study. Saibal Mukhopadhyaya, Saurabh Verma, HN Mohan Kumar, Jamal Yusuf, Mayank Goyal, Vimal Mehta, Sanjay Tyagi. Indian heart Journal, 68, 342-348, 2016.

26. Synthesis, stereochemistry determination, pharmacological studies and quantum chemical analyses of bithiazolidinone derivative. Md. Mushtaque, Fernando AVECILLA, Zubair Bin Hafeez, Meriyam Jahan, Md. Shahzad Khan, M. Moshahid A. Rizvi, Mohd. Shahid Khan, Anurag Srivastava, Anwesha Mallik, Saurabh Verma. Journal of Molecular structure. 2016. Accepted

Communicated:

1. The effect of Nitric oxide on synaptic activity of ventro lateral medullary neuronal responses. **S. Verma** and Rakesh kumar. Communicated to Neurology India, 2016.

B. MONOGRAPH/ BOOKS:

1. Immunofluorescence based study on breast cancer patients: Flowcytometric study on surface antigen markers (CD3, CD4 and CD8) and DNA content analysis in breast cancer. **S. Varma** and Rishikesh Shukla. Lambert Academic Publications, Germany, 2010. ISBN: 978-3-8383-9762-7.

2. DNA content analysis and invitro cytotoxicity in bladder cancer patients: Flow cytometric evaluation of DNA content analysis and therapeutic responses (in vitro cytotoxicity) of transitional cell carcinoma patients. **S. Varma**. Lambert Academic Publications, Germany, 2010. ISBN: 978-3-8433-6413-3

3. Tissue Transglutaminase (tTG) expression in human brain tumours: An immunohistochemical study. **S. Varma** and Anwesha Mallik. Lambert Academic Publications, Germany, 2011. ISBN: 978-3-8454-3488-9

4. Study on COX-2 Expression in Breast & Prostrate Cancer patients: Flow Cytometric and IF analysis of Cox-2 expression. **S. Varma** and Anwesha Mallik. Lambert Academic Publications, Germany, 2012. ISBN: 978-3-8484-2615-7

5. Recent Advancement in Cancer and its Prevention. **S. Varma** and PD Sharma. Lambert Academic Publications, Germany, 2014. ISBN: 978-3-659-52826-2.

Membership of Professional Societies:

1. Member of Indian Pharmacological Society (IPS), India
2. Member of Indian Academy of Neurosciences (IAN), India
3. Member of International Brain Research Organization (IBRO), Paris, France.
4. Member of Indian Association for Cancer Research.

TRAININGS:

1. Lecture on "General principle of Confocal Microscopy and META" on 18.4.02 by Solveig Hehl, Zeiss Co., Germany at Jawahar Lal Nehru University , New Delhi.
2. Immunohistochemistry workshop 2002 on 9-10th April, 2002 at Apollo Hoispital, New Delhi.
3. Lecture on "Laser Microdissection and Laser tweezers" by Dr Kelwin Schultz of PALM Microlaser Technologies on 20th June, 2002 at Hayatt Regency, New Delhi.
4. One day workshop on microprocessor and Microtome by Labcon on 22.10.02.
5. Workshop on Confocal Laser Scanning Microscopy from 7-8 April, 2003 at Tuberculosis Research Centre, Chennai.
6. Attended Computer training in data analysis on SPSS and other statistical packages from 21st-25th July, 2003 at Institute for Research in Medical Statistics at ICMR Headquarter, New Delhi.
7. Participated in 3rd Indo-US workshop on application of flow Cytometry in drug Mechanics from 15-19th September, 2003 at Regional Research Laboratory, Jammu.
8. Participated in workshop on Electron Microscopy being organized on 7 and 8 July 2014. at National Institute of Pathology, New Delhi
8. Participated in Hands on workshop on In situ hybridization at NIP on 12th & 13th January, 2015
9. Participated in Hands on training in data analysis of Next Generation Sequencing on 6th Feb. 2015.
10. Member of Organizing Committee in SAFHeR "Foundation workshop on Clinical and Laboratory Medicine Research" jointly with Moving Academy of Medicine and Biomedicine, Pune from February 9-12, 2015 at NIOP, New Delhi.
11. Participated in workshop on hands Molecular cloning and expression of recombinant proteins during 18-20th March, 2015 at national Institute of Pathology, New Delhi
12. Participated in workshop on Flowcytometry experimental designing and data analysis 11-12th March, 2015 at JawaharLal Nehru centre for Advanced scientific Research, Bangalore.
13. Participated in National Workshop on Bioinformatics Tools for Biomedical Research during 24th -27th March, 2015 at National Institute of Pathology, New Delhi.

CONFERENCES/ WORKSHPS:

***NATIONAL CONFERENCES / SYMPOSIUM ATTENDED:**

1. Presented a research paper in the 12th annual conference of Indian Academy of Neurosciences on Jan. 15-16, 1994 at MLB Medical College, Jhansi, U.P.
2. Attended the 27th annual conference of Indian Pharmacological Society on Nov. 21-24, 1994 at GK Seth Medical College, Bombay.

3. Participated and presented a research paper in 28th annual conference of Indian Pharmacological Society on Nov. 23-26th, 1995 at Punjabi University, Patiala.
4. Attended and presented research paper in 29th annual conference of Indian Pharmacological Society on 20-22nd Dec., 1996 at Deccan College of Medical Sciences, Hyderabad.
5. Participated and presented a research paper in trideccanial annual conference of Indian Pharmacological Society on 14-16th Dec., 1997 at Government Medical College, Jammu.
6. Attended ICMR-WHO workshop on use of Information Technology in Biomedical Sciences Research on 13-15 Dec., 2000 at Institute of Pathology (ICMR), New Delhi.
7. NIC-ICMR training programme on Emerging Technologies for Effective Management of Library and Information services on 12-16th Feb., 2001 at NIC Pune.
8. Attended symposium on human Chlamydial Infection on 27th July, 2001 at Institute of Pathology, New Delhi.
9. Attended silver jubilee meeting of Indian Association of Medical Microbiology on 21-22 Nov, 2001 at All India Institute of Medical Sciences, New Delhi.
10. Attended 50th Annual Conference of IAPM (Indian Association of Pathologists and Microbiologists) on 14-16th Dec, 2001 at Nehru Centre, Mumbai
11. Attended and presented paper in XIX Annual meeting on Indian Academy of Neurosciences and International Symposium on Neurodegeneration and Neuroprotection on 18-20th March, 2002 at Institute of Chemical Biology, Kolkata.
12. Immunohistochemistry workshop 2002 on 9-10th April, 2002 at Apollo Hospital, New Delhi, India.
13. Workshop on Confocal Laser Scanning Microscopy from 7-8 April, 2003 at Tuberculosis Research Centre, Chennai.
14. Attended Computer training in data analysis on SPSS and other statistical packages from 21st-25th July, 2003 at Institute for Research in Medical Statistics at ICMR Headquarter, New Delhi.
15. Participated in 3rd Indo-US workshop on application of flow Cytometry in drug Mechanisms from 15-19 September, 2003 at Regional Research Laboratory, Jammu.
16. Participated in 23rd Annual Convention of the Indian Association for Cancer Research and presented paper titled, "Flow Cytometric DNA analysis of Cytological diagnosis of Pleural Effusions." On 29-31st January, 2004 at Advanced Centre for Treatment, Research & Education in Cancer, Navi Mumbai.
17. Attended a workshop on cytogenetics workstation at Hotel Parkland, Safdarjung Enclave, New Delhi on 5th May, 2011.
18. Foundation workshop on "clinical and laboratory medicine research" for UG medical students from 26th-28th July, 2011 at NIOP.
19. Wiley Blackwell and ICMR organized THE COCHRANE LIBRARY WORKSHOP on Sept 5, 2011 at NIOP, New Delhi.
20. Participated as Faculty to train the technicians in WHO training for advanced technical course for the technicians from 24th Nov, 2011 to 23rd Dec, 2011.
21. As Principal Investigator presented project titled "Evaluation of Th17 cytokine in diabetes mellitus" before ethical committee on 21/12/11 at Conference room, Dean office, Maulana Azad Medical College, Delhi.
22. As faculty participated in Lecture presentation and training for undergraduate students (4) of MBBS from Dept of pathology, Govt medical college Amritsar on 8th Feb, 2012.
23. As faculty participated in Lecture presentation and training session on special techniques for the Post Graduate (MD Pathology) students, department of pathology from Govt Medical College, Amritsar at NIOP on 15/2/12.
24. Organized a lecture cum presentation for faculty and students on "Individual cell sorting with Dielectrophoretic (DEP) array" by Dr Varun Kumar from Mars Bioanalytical Pvt Ltd on 14/2/12 at NIOP.
25. Organized training session on Flow Cytometer (Calibur and FACS Aria) for students and faculty at NIP. The training sessions were held from 15-17 Feb, 2012.
26. Attended workshop on Workshop on Scholarly Publishing held at National Institute of Pathology, ICMR auditorium on 21st September 2012.
27. Participated as scientific faculty and delivered lecture on FACS in workshop on research methodologies for medical scientists held from 9-12th Oct, 2012 at NIP, New Delhi.
28. Participated in workshop on "analysis of biological networks" organized by DBT from 6-7th Nov., 2012 at IIT Guwahati

29. Participated and delivered guest lecture on "Applications of FlowCytometer" in National Conference on Innovations in Ethnopharmacology on Recent Developments in Biological and Chemical Sciences for Societal Benefits held on 1st- 3rd March, 2013 Organized by Department of Zoology, L. S. M. Govt. Post Graduate College, Pithoragarh, Uttarakhand.

30. As Organizing secretary Organized Flowcytometry workshop "Hands-on training in Basic Flowcytometry and its applications" held on 28-29th Aug, 2014 at National Institute of Pathology, ICMR, New Delhi

31. Organized a lecture on "Importance of Surfaces for a Successful Animal Cell Culture" which is on 14.11.14 (Friday) at 11AM (Conference hall).

32. Participated in workshop on Flowcytometry experimental designing and data analysis 11-12th March, 2015 at JawaharLal Nehru centre for Advanced scientific Research, Bangalore.

33. Participated in workshop on hands Molecular cloning and expression of recombinant proteins during 18-19th March, 2015 at national Institute of Pathology, New Delhi

34. Participated in National Workshop on Bioinformatics Tools for Biomedical Research during 24th -27th March, 2015 at National Institute of Pathology, New Delhi.

35. Participated in AIIMS-TCS Flow Cytometry workshop during 25-27th March, 2015 at Department of transplant immunology and immunogenetics, All India Institute of Medical Sciences, New Delhi.

***INTERNATIONAL CONFERENCES/ SYMPOSIUM ATTENDED:**

1. Attended and presented a research paper in the International Symposium on the perspective in Biomolecular Research on 12-13 Jan., 1998 at the Central Drug Research Institute, Lucknow,

2. Participated and presented a research paper in The International Congress on Frontiers in Pharmacology and Therapeutics in 21st Century on 1-4 Dec., 1999 at New Delhi, India.

3. Attended International Symposium on Sudershan Kriya, Pranayam and Conciousness on 2nd and 3rd March, 2002 at All India Institute of Medical Sciences, New Delhi, India.

4. Attended and participated in 3rd Indo-US workshop on Flow Cytometry and Drug Mechanistics held on 15-19 Sept., 2003 at RRL, Jammu.

ADMINISTRATIVE DUTIES:

Consultancy Assignments:

Consultancy regarding the work plan, protocol, experimental work, standardization of techniques given in the various studies carried out side the NIOP.

Member in institutional committee of

- a. Member of Interview panel for the selection of students doing PhD in Institute.
- b. Member of Condemnation committee.
- c. Member of Physical verification of the Institute property committee
- d. Member Tender opening Committee
- e. Officer-in-Charge of Institutional Maintenance Committee.
- f. Member of Institutional library Committee

TEACHING COURSES:

1. WHO-Health Ministry sponsored basic level training for lab Technicians.
2. WHO-Health Ministry sponsored advance level training for lab Technicians.
3. WHO-Health Ministry sponsored training for pathologists.
4. As Faculty for teaching course of PhD students registered at NIOP

Faculty member for

5. Kishore vacyanic protsahan awardees of ICMR.
6. Students from Rohtak Medical College.

7. Research Programme on Research Management and Research Information for scientists
from Nepal Health Research council, kathmandu on 23.10.02

