

## Faculty at ACBR

- Prof. Vani Brahmachari
- Prof. B.C. Das
- Prof. Daman Saluja
- Dr. Pratibha M. Luthra
- Dr. Anju Katyal
- Dr. Madhu Chopra
- Dr. Manisha Tiwari

## Prof. Vani Brahmachari

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**Prof. Vani Brahmachari with her research group**

## Research Interest

Dr. Vani Brahmachari did her Ph.D. from Indian Institute of Science, Bangalore. She has worked at the National Cancer Centre, Tokyo during her Ph.D and subsequently at Wister Institute for Biology, Philadelphia, USA and Medical Research Council (MRC), London. She was a faculty at the department of Molecular Reproduction and Development and Genetics at the Indian Institute of Science before she moved to Delhi University.

Her research interest is in the area human molecular epigenetics and genetics and functional genomics of *M.tuberculosis*. Combining in silico analysis and experimental validation her group focuses on mining the human genome for novel cis and trans acting components of cellular memory modules (CMM) that function through chromatin remodelling. The work from her group on transgenic mouse models has led to the identification of cis-acting elements mediating repeat instability in the human genome leading to the fragile X syndrome. Research on epigenetics of complex diseases has been initiated in her lab through collaborative projects.

In the area of functional genomics of *M.tuberculosis* , Dr. Brahmachari collaborates with Prof. Mridula Bose at VPCI , Delhi University. The on going project is broadly focused on the genetic and expression plasticity in *M.tuberculosis* using clinical isolates. Presently the major focus is the mammalian cell entry (mce) operons.

**Major projects in progress:**

Understanding of mechanism of triplet repeat expansion relevant to human genetic disorders in a developmental context using transgenic mouse model.

Mining novel cis and trans acting components of CMM from the human genome.

Epigenetics of in human genetic disorders.

Functional genomics of *M.tuberculosis*.

**Selected Publications:**

Instability of CGG repeats in transgenic mice. Sujatha B., Sonal D., Arundati Mandal, Neerja Gulati, Totey S.M., Rajesh Anand and Vani Brahmachari. *Genomics* (2002), 80 , 151-157.

Characterization of a human SWI2/SNF2 like protein hINO80: Demonstration of catalytic and DNA binding activity Rachit Bakshi, Abhishek Kumar Mehta, Ritu Sharma, Souvik Maiti, Santosh Pasha, Vani Brahmachari. *Biochemical and Biophysical Research Communications* 339 (2006) 313–320.

Genomic Imprinting in coccid insects. Khosla S, Mendiratta M, and Brahmachari V *Cytogenet. Genome Res.* 2006;113(1-4):41-52.

A whole genome analysis of 5' regulatory regions of human genes for putative cis- acting modulators of nucleosome positioning. Mythily Ganapathi, Gajinder Pal Singh, Kuljeet Singh Sandhu, Samir Kumar Brahmachari and Vani Brahmachari. *Gene* 2007; *Gene* 391 (2007) 242–251.

Mining of Putative cis-acting Elements for Chromatin Mediated Regulation of Hox Genes in Mammals by in-silico Analysis. Bengani H , Ganapathi M , Singh G.P. And Brahmachari V. *J of Experimental Zoology (Mol Devel &Evolution)* 2007, 308: 1-12.

**Prof.B.C. Das**

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**Prof. B.C. Das with his research group**

### **Research Interest**

Dr. Bhudev C. Das , Professor of Biomedical Sciences at Dr. B.R. Ambedkar Center for Biomedical Research, University of Delhi and Founder Director, Institute of Cytology and Preventive Oncology (ICPO) of ICMR, NOIDA has made outstanding contributions in the field of Cancer Research, Genetics and Virology. During last 30 years of his distinguished research career he has published more than hundred research papers in reputed international journals and distinguished himself as a renowned molecular oncologist of the country. Dr. Das has pioneered the work on Human Papillomavirus (HPV) that causes cervical and other cancers and his laboratory was the HPV Referral Centre of WHO for whole of South-East Asia. His major area of interest is transcriptional regulation of viral oncogene expression, DNA vaccine and stem cell research.

So far 13 Ph.D. and 57 MD/MS/DNB/DM students have received their degrees under his supervision and guidance. Dr. Das is the recipient of President's medal for most prestigious Dr. B.C. Roy National Award of MCI, Sandoz Oration Award of ICMR and a fellow of International Union Against Cancer (UICC) , Geneva. He is fellow of all major national science and medical academies, FNA, FASc, FNASc & FAMS. Dr. Das is an elected President of Indian Association for Cancer Research (IACR) for 3 years (2006-09). He is a PI and an expert advisor of the Global HPV LabNet & Vaccine Program of WHO, Geneva. Dr. Das has received several other prestigious awards e.g., Ranbaxy Research Award, Dr. P.N. Wahi Award of ICMR, Ramniklal J. Kinarivala Cancer Research Award of Gujarat Cancer Research Institute , Ahmedabad, Dr. Pran Nath Chhuttani Oration Award of National Academy of Medical Sciences (NAMS), New Delhi. Recently, he has been awarded the most prestigious J.C. Bose National Fellowship to work on cancer stem cells.

After having taken over charge as first Director of ICPO, he had completely transformed the Institute to a centre of excellence of international repute in Molecular and Preventive Oncology

with the creation of several frontier areas of cancer research and facilities including development of new anticancer drugs, cancer vaccines, stem cell research and generation of several crores of extramural research grants through as many as 22 innovative research projects from national and international agencies. Dr. Das has strong administrative capabilities and offered more than 26 year of clean and distinguished service to the Indian Council of Medical Research (ICMR).

#### **Awards & Honors:**

- Elected as a Fellow of Indian Academy of Sciences (F.A.Sc.) in 2001
- Recognized as a WHO expert for HPV Vaccine Program since 2003.
- Indian Association for Cancer Research Oration Award, 2004.
- Elected as a Fellow of National Academy of medical Sciences (F.A.M.S.) in 2003.
- Elected as a Fellow on Indian National Science Academy (FNA), 2004.
- Elected President of Indian Association for Cancer Research (IACR)–2006-09.
- Pran Nath Chhutani Oration Award of NAMS, 2006.
  - Ramnical J Kinariwala Cancer Research Award of Gujarat Cancer Research Institute for 2006.
- Ranbaxy Research Award by Ranbaxy Research Foundation, 2005.
- Dr. P.N. Wahi Award–Preventive Oncology of ICMR–2005.
- J.C. Bose National Fellowship–2008-2013.

#### **Publications in Journals like:**

NATURE, LANCET, NUCLEIC ACID RES, J. VIROLOGY, J. GEN. VIROLOGY, ONCOGENE, CANCER, J. INFECTIOUS DISEASE, INT. J. GYNAECOLOGICAL CANCER, J. MEDICAL MICROBIOLOGY, J. MOLECULAR & CELLULAR BIOCHEMISTRY, BREAST CANCER RES. & TREATMENT, INT. J. CANCER, FRONTIERS IN BIOSCIENCES, CHEST, J. CLIN VIROLOGY, HEPATOLOGY, MOLECULAR MEDICINE, J. CLIN. MICROBIOLY, VACCINE, AMERICAN J GASTROENTEROLOGY etc.

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**Prof. Daman Saluja with her research group**

### **Research Interest**

My laboratory is primarily working in NAAT-based diagnosis of infectious diseases and molecular oncology. We have recently patented a prototype kit for the diagnosis of *Chlamydia trachomatis* and *Neisseria gonorrhoea*, two important organisms involved in sexually transmitted disease. Currently work is in progress to incorporate biochips in the diagnosis of these organisms.

The other major area of interest is molecular oncology where we are looking into is the early diagnosis of leukemia. For this we are studying expression of unique genes in cancer cells. It is well documented now that cancer is associated with an altered gene expression. Since transcription repression has been shown to be as important as transcription activation in regulating gene expression, my laboratory is actively involved in studying the role of chromatin remodeling proteins in cancer progression. In transcriptional regulation, SIN3 acts as a corepressor to target HDACs and repress specific promoters. DNA binding transcription factors including Max, Ume6, P53, AML/ETO, and nuclear hormone-receptors can recruit Sin3/HDAC/N-CoR complex. SIN3-mediated repression of transcription involves enzymatic deacetylation of histones and creation of a repressive chromatin structure. We have identified a two new isoforms of human Sin3B by RT-PCR. One of these alternate spliced forms is specifically expressed in lungs and placental tissue. In collaboration with other faculty, we have shown promising antitumor activity of some of the plant extracts.

### **Patent filed:**

Several patents have been filed in India, US, UK, EU, EPO ( 11/436,063 dated 17.5.2006 , PCT/INO6/00282 dated 7.8.2006) on Multiplex PCR based diagnosis of *Chlamydia trachomatis* and *Neisseria gonorrhoeae* and designing of three prototype kits.

### Selected Publications:

Tanese, N. et al. . . ( **1996** ) Molecular cloning and analysis of the two subunits of Human TFIID complex: h TAF130 and hTAF100. **Proc. Natl. Acad. Sci. USA** 93: 13611-13616.

Amrolia P.J., Ramamurthy L., **Saluja D.**, Tanese N., Jane S.M. and Cunningham J.M.( **1997** ). The activation domain of the enhancer binding protein p45NF-E2 interacts with TAFII130 and mediates long-range activation of the alpha-beta-globin gene loci in an erythroid cell line . **Proc. Natl Acad. Sci. (USA )** **94** : 10051-10056.

Saluja, et al. (**1998**) Distinct subdomains of human TAF130 are required for interaction with glutamine rich transcription activators. **Molecular & Cellular Biology** **18**: 5734-5743.

Chaudhry, U and **Saluja D** . (**2002**) Detection of *Neisseria gonorrhoeae* by Polymerase Chain Reaction (PCR) using *orf1* gene as target. **Sexually transmitted Infections** 78:72.

Chaudhary, U., **et al (2002)** Detection of a Novel Point Mutation in *gyrA* gene of *Neisseria gonorrhoeae* Associated with increased Ciprofloxacin Resistance. **Sexually transmitted infections** 78:440-444.

Gurudutta, G., et al (**2005**) Stem Cell fate specification: Role of master regulatory switch transcription factor PU.1 in differential hematopoiesis. **Stem cell and development** **14**:140-152.

Mishra A, Bharti, A.C., Varghese, P., **Daman Saluja** , and Das, B.C. (**2006**) Differential Expression and activation of NFkB family proteins during oral carcinogenesis: Role of high risk Human Papillomavirus infection. **International Journal of Cancer** **119**: 2840-2850.

Seema, R. Kumari, H. G. Raj, Garima Gupta, **Daman Saluja** , et al. (**2007**) Microsomal Acetoxy Drug: Protein Transacetylase of Human Placenta. Characterization of Transacetylase as the Calreticulin Mediating Protein Acetylation Independent of Acetyl CoA. **Cell Biochem Biophys** . **47**: 53-64.

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**Dr. Pratibha M. Luthra with her research group**

#### **Research Interest: Medicinal Chemistry**

Dr. Pratibha Mehta Luthra completed her Ph.D. in Medicinal Chemistry from Central Drug Research Institute, Lucknow where she was involved in Synthesis of pyridocarbazoles, pyridoacridines, pyridoindoles and azabicyclononanes as anti-Parkinsonian agents. She worked as Post Doctoral Fellow (SERC) at University of Liverpool, U.K for one year on Synthesis of amphophilic compounds as electron beam lithograph (1987-1988). She worked at University College London, U.K and worked on Synthesis of peptidomimetics as CCK peptidase inhibitors to develop anti-satiety drug. (1988-1990). Further she worked on Synthesis of DNA Intercalator (Methidium, Phenyl Neutral Red) and groove binding compound (netropsin like) tethered to Nitrosourea to study the sequence specific DNA alkylation, at University of Nebraska Medical Center, Omaha, NE, USA (1990-1993). She joined worked as Pool Officer at CIMAP, Lucknow, India and worked on Semi-synthesis of anticancer drug taxol.

She joined Dr. B. R. Ambedkar Center for Biomedical Research as Reader, Research Scientist. Her research interest include the development of anti-Parkinsonian anti-tumor compounds for brain tumors and anti-microbial and anti-cancer compounds from natural products. Presently, she is carrying out synthesis of heterocycles for the development of anti-Parkinsonian compounds acting on adenosine A<sub>2a</sub> receptor (A<sub>2a</sub> receptor antagonists) as well as on dopamine receptor (dopamine receptor agonist) and is involved in development of target specific anti-tumor compounds for brain tumors, consisting the synthesis of DNA intercalating compounds tethered to nitrosourea to study their effect on the glioma. In addition she is also working on the bioassay guided lead identification of compounds from natural products for anti-microbial and anti-cancer activity. She is working on the *In Silico* structure prediction and molecular model generation for receptors and interaction of synthetic compounds with the predicted receptor structure.

### Selected Publications:

The Design of agents to control DNA methylaiton adducts. Enhanced major groove methylation of DNA by an N-methyl-N-nitrosoureas functionalised phenylneutral red intercalator. Pratibha Mehta, K. Church, J. Williams F-X Chen, L.Encell, D.E.G. Shuker and B. Gold; *Chemical Res. Toxicol*, 9(6) 939-948, 1996.

Inhibitors of tripeptidyl peptidase II2. Generation of 1 st novel lead inhibitor of CCK 8 inactivating peptidaes, a strategy for design of peptidase inhibitors. CR Ganellin, PB Bishop, RB Bambal, *Pratibha Mehta Luthra*, AN Moore, JK Law, B Marabout, P Bourgeat, C Rose, F Varga, JC Schwartz; *J. Med. Chem.*, 43 (4), 664-674, 2000.

Antibacterial Activity of Curcuma longa rhizome extract on Pathogenic Bacteria. Rambir Singh, Ramesh Chandra, Mridula Bose and *Pratibha Mehta Luthra*; *Current Science*, 82, September 26, 2002.

A new A2a receptor cDNA probe from *Rattus norvegicus* (Norway rat). Accession no. DQ098650, NCBI, USA; *Pratibha Mehta Luthra* and S. Barodia, 17th June 2005.

Strucutre Predictions and Interaction of CD34 with Crk-L SH3 domain. G.U. Gurudutta, Vimal Kishor Singh, Yogesh Verma, Pallavi Gupta, Rajat Kumar, Rakesh Kumar Sharma, Ramesh Chandra, *Pratibha Mehta Luthra*; *Stem Cells and Development*, 14: 470-477 (2005).

Role of proteins in resistance mechanism of *Pseudomonas fluorescens* against heavy metal induced stress with proteomics approach. S Sharma, CS Sundaram, PM Luthra, Y Singh, R Sirdeshmukh, and WN Gade; *J Biotechnol*, Nov 2006; 126(3): 374-82.

Hematopoietic stem cell antigen CD34: role in adhesion or homing. GU Gangenahalli, VK Singh, YK Verma, P Gupta, RK Sharma, R Chandra, and PM Luthra; *Stem Cells Dev*, Jun 2006; 15(3): 305-13.

## Dr. Anju Katyal

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**Dr. Anju Katyal with her research group**

### **Research Interest: Molecular Immunology & Microbiology**

Dr. Anju Katyal did her Ph.D from Deptt. of Parasitology, PGIME&R ,Chandigarh .Her research work pertained to the possible implications of the use of calcium channel blockers in treating drug resistant malarias and found out that CCB can be detrimental for causing severe malaria conditions.

She joined ACBR as faculty in 1998, where in She continued work on malarial immunology and immunopathogenesis. Presently, her group is exploring the modulatory role of various cytokines, proinflammatory molecules, oxidative stress and apoptosis in immuno-pathological conditions during cerebral malaria, cerebral ischemia and cerebral hypoxia. The long term objectives are to explore the critical role of these pathways and individual molecules in the pathogenesis of these clinical conditions.

Additionally the group works on animal model for alcoholic liver disease to characterize the antigens involved in pathogenesis and longitudinal progression of disease. Present work is aimed at isolating and characterizing the specific antigen which elicits auto-immune response and their relative contribution in progression of disease is being investigated.

### **Current Projects:**

Role of Th 2 cytokines and IgE in Immuno-pathogenesis of cerebral malaria.

Pathophysiology of Cerebral ischemia/Cerebral hypoxia .

Role of Calcium antagonists in malaria infection-host parasite relationships.

Characterization of neo- antigens involved in pathogenesis of alcoholic liver disease.

### Selected Publications:

Design and Structural analysis of hairpin-TFO for transcription activation of genes in *S. cerevisiae* *Mrinal Kanti Ghosh, Anju Katyal, Vani Brahmachari & Ramesh Chandra*. *Journal of Biomolecular Structure and Design*, 2002,20:265-274.

The treatment of skin carcinoma, induced by UVB radiation, using 1-oxo-5 $\alpha$ ,6 $\alpha$ -epoxy-with  $\alpha$ -2-enolide, isolated from the roots of *Withania somnifera*, in a rat model. *Sheenu Mathur, Parvinder Kaur, Meenakshi Sharma, Bharat Singh, Anju Katyal, Manisha Tiwari and Ramesh Chandra*. *Phytomedicine*, 2004,11(5); 1-9.

Targeted activation of transcription in vivo through hairpin-triplex forming oligonucleotide in *Saccharomyces cerevisiae*. *Mrinal Kanti Ghosh, Anju Katyal, Ramesh Chandra and Vani Brahmachari*; *Molecular and Cellular Biochemistry*, 2005, 278:147-155.

Immunogenicity and protective efficacy of *Escherichia coli* expressed *Plasmodium Falciparum* merozoite surface protein -1 42 using human compatible adjuvants Vaccines. *Suraksha Sachdeva, Asif Mohammed, palakodeti. V.N. Dasaradhi, Brendan S. Crabb, Anju Katyal, Pawan Malhotra, Virander S. Chauhan*. *Vaccine*. 2006 15;24(12): 2007-16.

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**Dr. Madhu Chopra with her research group**

**Research Interest: Computational Chemistry & Drug Development**

Madhu Chopra is Research Scientist at the Dr. B. R. Ambedkar Center for Biomedical Research, University of Delhi, Delhi, India. Dr. Madhu Chopra obtained her doctorate at the Department of Chemistry, University of Delhi in Synthetic Organic Chemistry. Her postgraduate studies in Organic Chemistry were conducted at the University of Delhi.

Madhu Chopra is doing active research in Computer Assisted Drug Design. Her work on the Development of pharmacophore, Synthesis and Evaluation of Cholecystokinin Receptor specific antagonists has been published in the top international/national journals. She has also expertise in homology modelling of proteins and structure based drug design. Her group is involved in development of anticancer compounds considering CDK and COX-2 as molecular Targets. Her work is frequently presented in international/national conferences. She has supervised two Ph. D. students and currently 6 students are pursuing Ph. D. under her supervision. She has supervised 13 students for their M.Sc. dissertation Thesis and 13 for SURP projects.

In addition, Dr. Madhu Chopra has expertise in organic synthesis. Her group is also interested in isolating natural compounds having anticancer properties using in vitro and in vivo screening methods. Her group is also involved in synthesis of Bifunctional Chelating agents in Collaboration of Dr. Anil K. Mishra, Institute of Nuclear Medicine & Allied Sciences, Delhi, for development of target specific radiopharmaceuticals.

## Major Contributions:

**Computer aided drug design:** Pharmacophore hypothesis (CATALYST) was developed for a series of cholecystokinin-B/gastrin receptor antagonists and in silico screening of the designed ligands has been done for development of more potent compounds. Computer-Aided Design **Pharmacophore modeling** as well as **structure based drug design** followed by **insilico library screening** for design of novel inhibitors has been done for various cancer targets such as COX-2 and CDK.

**Natural Product Screening** for anticancer drug development: A novel compound has been isolated from *Boerhavia diffusa* using activity-guided fractionation and the compound is under identification process and patent.

Design, **Synthesis and Evaluation of non Peptidic CCK-B receptor** Specific Antagonists for targeting CCK-B receptor expressing Tumours. Many compounds have been synthesized and evaluated for their *in vitro* binding affinities and one of the most promising candidate has been targeted to *in vivo* receptors in animal studies.

Novel **Bifunctional chelating agents** such as <sup>99m</sup>Tc-Folate–EDTMP conjugate, have been developed for targeting skeletal tissue as well as folate receptor positive tumors. Further investigations to develop target specific bifunctional chelating agents are in progress.

<sup>99m</sup>Tc-Ciprofloxacin analogues are being developed **for infection imaging** . An effort is being made to maintain the potency and specificity of the fluoroquinolone antibiotics after chelating with radiometal <sup>99m</sup>Tc.

## Selected Publications:

Ligand-Based Molecular Modeling Study on Chemically Diverse Series of Cholecystokinin-B/Gastrin Receptor Antagonists: Generation of Predictive Model **Madhu Chopra\*** and Anil K. Mishra, *Journal of Chemical Information and Modeling* , 45, 1934-1942, 2005.

Flow-cytometric analysis of reactive oxygen species in peripheral blood lymphocytes of patients with thyroid dysfunction. Mita Sarkar, Rajeev Varshney, **Madhu Chopra** , Tarun Sekhri, Jawahar S. Adhikari and Bilikere S. Dwarkanath, In Press, **Cytometry** : Part B- Clinical Cytology, 2005.

Convenient Route for Synthesis of Bifunctional Chelating Agent: 1-( *p* -Aminobenzyl)ethylene. Anil Kumar Mishra, **Madhu Chopra** and Vinay Jain, **Chemistry Letters** , Vol. 34, No. 8, 1098-1099, 2005

Novel <sup>99m</sup>Tc radiolabeled quinazolinone derivative [Qn-In]: synthesis, evaluation and biodistribution studies in mice and rabbit. Saroj Kumari, Neetu Kalra, Pushpa Mishra, Krishna Chutani, Anil Mishra and **Madhu Chopra\*** , *Nuclear medicine and Biology* , Vol. 31, 1087-1095, 2004.

Synthesis of novel bifunctional Schiff-base ligands derived from condensation of 1-( *p* -nitrobenzyl)ethylenediamine and 2-( *p* -nitrobenzyl)-3-monooxo-1,4,7-triazaheptane with salicylaldehyde. Anil Kumar Mishra, Puja Panwar , **Madhu Chopra** , Rakesh Kumar Sharma, Jean-Francois Chatal . *New Journal of Chemistry* , 7 , 1054, 2003.

## Dr. Manisha Tiwari

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**Dr. Manisha Tiwari with her research group**

### Research Interest:

The work in our laboratory mainly focuses on Medicinal Chemistry and Natural Product Chemistry. We have obtained some preliminary data on the anticancer properties of certain medicinal plants.

These include data obtained on the ability of the extracts of the plant *Withania somnifera* to treat/prevent UVB radiation induced skin cancer. These studies were carried out in an animal model.

Studies carried out in our laboratory have shown the extracts of the plant *Asparagus racemosus* is able to prevent/treat Diethylnitrosamine induced hepatocarcinoma in Wistar rats.

We are presently attempting to investigate the anticancer activities of the plant *Acacia catechu*. In the area of Medicinal Chemistry, our focus is on two main classes of molecules:-

- i. We have synthesized certain molecules which have the potential to treat hyperlipidemia and studies are in progress to outline their mechanism of action.
- ii. We are also assessing the biological activity of some novel heterocyclic compounds.

### Selected Publications:

Effect of Hyperhomocysteinemia on cardiovascular risk factor and initiation of atherosclerosis in Wistar rats. Meenakshi Sharma, Santosh Kr. Rai, **Manisha Tiwari** , Ramesh Chandra. European Journal of Pharmacology; 574(1):49-60, 2007.

The effects of the aqueous extract of the roots of *Asparagus racemosus* on hepatocarcinogenesis initiated by Diethylnitrosamine. Alka Agarwal, Meenakshi Sharma, Bharat Singh, **Manisha Tiwari** and Ramesh Chandra; *Phytotherapy Research* (in press) 2007.

Bis[3-(4'-substituted phenyl)prop-2-ene]disulfides as a new class of antihyperlipidemic agents. Meenakshi Sharma, **Manisha Tiwari** and Ramesh Chandra; *Bioorganic & Medicinal Chemistry Letters* 14, 5347-5350, 2004.

The treatment of skin carcinoma, induced by UVB radiation, using 1-oxo-5 $\alpha$ , 6 $\alpha$ -epoxy-witha-2-enolide, isolated from the roots of *Withania somnifera*, in a rat model. Sheenu Mathur, Parvinder Kaur, Meenakshi Sharma, Anju Katyals, Bharat Singh, **Manisha Tiwari** and Ramesh Chandra; *Phytomedicine*, 11(5), 452-460, 2004.

Effect of 1-oxo-5 $\alpha$ , 6 $\alpha$ -epoxy-witha-2-ene-27-ethoxy-olide, isolated from the roots of *Withania Somnifera* (Ashwagandha) on Stress Indices in Wistar rats. Parvinder Kaur, Meenakshi Sharma, Sheenu Mathur, **Manisha Tiwari**, Harish Divekar, Kaushal K. Srivastava and Ramesh Chandra; *Journal of Alternative and Complementary Medicine*, 9(6), 897-907, 2003.