

## Curriculum – Vitae

### Dr. Vibha Tandon

Professor & Chairperson

Special Centre for Molecular Medicine

Jawaharlal Nehru University

New Delhi-110 067

**Date of Birth:** 01-07-1968

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### Education

- B.Sc., year 1984, from T. D. College, Gorakhpur University in Chemistry, Zoology, Botany. **First class first in College in both previous and final examinations.**
- M.Sc., year 1986, from T. D. College, Gorakhpur University in Organic Chemistry from Department of Chemistry, **First class first in College.**
- Doctor of Philosophy, 1991.
- Topic of Thesis: “**Synthesis of Sequential Oligonucleotides using Special Protecting Groups**” from Department of Chemistry, University of Allahabad, India under Super vision of **Prof. Krishna Misra.**

### List of Positions Held

- **21<sup>st</sup> January 2014 to till date :** Joined as Full Professor in Special Centre for Molecular Medicine, JNU ,New Delhi.
- **28<sup>th</sup> March 2013 – 20<sup>th</sup> January 2014 ;** Professor at University of Delhi .
- **January 2010 – 28<sup>th</sup> March 2013 :** Associate Professor, Department of Chemistry, University of Delhi.
- **January 2009 – 2010:** Reader in Department of Chemistry, University of Delhi.
- **January 1998 – 2009:** Research Scientist (Lecturer), University of Delhi, Delhi.
- **January – December 1997:** Production In charge of a 100% EOU producing Surgical Gloves i.e. M/S KCK Latex Limited, Delhi.
- **April 1996 – December 1996:** Senior Chemist of an 100% EOU producing Surgical Gloves i.e. M/S KCK Latex Limited, Kanpur & Delhi.
- **January 1993 – March 1996:** Post Doctoral Fellow in the laboratory of Prof. Javed Iqbal, Department of Chemistry, Indian Institute of Technology, Kanpur.

### **Honours/ awards/ distinctions/fellowships/membership of National and International level committees**

- Appointed member of Subject Expert Committee – Chemical Sciences of Women Scientist Scheme (WOS – A) for three years from 2013 – 16.
- **Fulbright Senior Research fellowship** awarded for the year 2012 – 13 to visit Department of Cell Biology, Georgia State University, Atlanta USA.
- **Awarded INSA visiting fellowship** for the year 2011 – 12, to visit with Prof. George Iliakis, Institute of radiation Biology and Oncology at Essen Germany under bilateral exchange programme of Indian National Science Academy (INSA).
- DAAD fellow under Indo – German exchange program of DST – DAAD to visit and collaborate with Prof. George Iliakis, Institute of radiation Biology and Oncology at Essen Germany (2010 –2011).
- Member of National Academy of Sciences India, Allahabad.
- Awarded Royal Society fellowship for visit to Prof. Michael J. Gait’s laboratory at Cambridge University, Cambridge, U.K. under the Bilateral Exchange Programme of INSA with Royal Society, U.K. (2007 – 08).
- Invited as a participant to XI NOST Symposium October 2005 at Goa.
- Awarded fellowship for the three months visit to Prof. Stephen Neidle’s laboratory at University of London, U.K. under the Bilateral Exchange Programme of INSA with Royal Society, U.K. (2004 – 2005).
- A reviewer for JACS, JMC, Chemical Research in Toxicology, IJEB, JBSD, Molecular Biosystems.
- A member of the committee of University of Delhi, which was coordinating the visit of UGC Xth Plan Committee in Delhi University.

### **Patents Accepted**

1. Indian Patent No: 217681

Patent application No 21/DEL/2003

Title: "A process of preparing an extract of annona squamosa for treatment of diabetes"

Date of Filing-07/01/2003

Date of Grant-28/03/2008

2. Indian Patent No: 241650

Patent application No 32/DEL/2003

Title: "The process for the synthesis of bisbenzimidazoles and its derivations"

Date of Filing-09/01/2003

Date of Grant-17/07/2010

3. European Patent No: 1590332 (European patent application no. 03815133.8)  
(Priority Indian patent application No 32/DEL/2003 and PCT International patent application no.PCT/IN03/00301)

Title: "The process for the synthesis of bisbenzimidazoles and its derivations"

Date of Filing: 08.09.2003

Date of Grant: April 27, 2011

4. European Patent No: 1589983 (European patent application no. 03814526.4)  
(Priority Indian patent application No 21/DEL/2003 and PCT International Patent Application no PCT/IN03/00228)

Title: "A process of preparing an extract of *annona squamosa* for treatment of diabetes"

Date of Filing: 20.06.2003

Date of grant: (EPO intention to grant issued, further pursuance would subject to quick possibility of commercialization).

#### **Academic and Administrative assignments**

- Coordinator and Paper Setter for M.Sc.–Ph.D. Combined Degree Program in Molecular Medicine at SCMM, JNU.
- Teaching: Courses Taught in M.Sc. – Ph.D. Biomedical Sciences at Dr. B. R. Ambedkar Center for Biomedical Sciences (ACBR), University of Delhi, since 1998 – 2009.
- Courses Taught; *Advance Organic Chemistry (II Semester)*, *Biochemistry I (II Semester)*, *Spectroscopy (IR, NMR, UV, Raman Spectroscopy)*, *Special Topics in Medicinal Chemistry (IV Semester)* Convenor, *Principles of Medicinal chemistry (III Semester)* Convenor, *Clinical Chemistry & Instrumentation Techniques (III Semester)*, *Advance Organic Chemistry (II Semester)*, *Biochemistry I (II Semester)*, *Principles of Medicinal chemistry (III Semester)* Conducted Practical Classes for Organic Chemistry, Instrumentation and Clinical Technique from year 1998 – 2008.

- Full Time Teaching in Masters Program and Ph. D. course Work at Department of Chemistry from year 2009 – Till Date.
- Courses Taught; *Advances Organic Chemistry, Reaction Mechanism, Asymmetric Synthesis, Chemistry of Life Sciences, Nucleic Acids & Carbohydrates, Study of Reactive Intermediate, Medicinal Chemistry. Conducted Practical Classes of Organic Group from 2009 – January 2014.*
- Member of Course Committee Responsible for formulation of Courses at Masters Level, Undergraduate Level and as well as Four Year Undergraduate program from year 2011 – till date.
- Incharge of LC – MS Facility at ACBR and Department of Chemistry from year 2006 onwards.
- Formulated Courses for the new special papers (New Drug Discovery) introduced for M.Sc. – Ph.D. Combined degree programme.
- Admission in charge for M.Sc.–Ph.D. Biomedical Sciences courses entrance examination for year 2001 & 2002. Convenor in 2003.
- Coordinator of Summer Undergraduate Programme at ACBR in 2001, 2002 and 2005.
- **Syllabus formulation: Following courses were design for IV semester of M.Sc. – Ph.D. combined degree program in Biomedical Sciences**

#### **Advanced Drug Synthesis (MC-1408)**

#### **Medicinal Chemistry and Molecular Pharmacology**

- Coordinator of Fund for Improvement of S & T Infrastructure in Universities and Higher Educational Institutions (FIST) project Submitted for LC- MS Facility.
- Coordinator of project submitted to Department of Science & Technology for Creation of National Facility for Biomedical Research using Nuclear Magnetic Resonance Spectroscopy (NMR Facility).
- Deputy Coordinator of Project Granted under Special Assistance Programme to University Grant Commission New Delhi.
- Coordinator of Project entitled “New Drug Discovery in Biomedical Research” submitted under Innovative Programme to University Grants Commission, New Delhi
- Syllabus formulation of B.Sc. Biomedical Science Courses.
- Paper Setter for B. Tech. Examinations of Delhi College of Engineering, Delhi, M.Sc. & B. Sc. Examinations of Guru Jambheshwar University Hisar, Bundelkhand University, Jhansi.

## Organization of Symposia/Conferences

- Member Organizing committee of " Sixth Symposium on Frontiers on Molecular Medicine " on 13- 14th February 2015 at Special Center for Molecular Medicine, JNU.
- Convenor /Coordinator of Workshop /Conference jointly organized by Department of Chemistry and Three National Science Academies of India (INSA Delhi , IAS Bangalore, NASI Allahabad) entitled "Emerging Trends of Drug Development & Devices (ETDDD- 2013 )" from 21<sup>st</sup> – 23<sup>rd</sup> January 2013.
- Convenor of International Conference on "Chemistry Biology Interface: Synergistic New Frontiers" 21<sup>st</sup> – 26<sup>th</sup> November, 2004.
- Co-convenor of III "Annual Symposium on Frontiers in Biomedical Research" New Delhi, 14<sup>th</sup>–16<sup>th</sup>, April 2004.
- Member Organizing Committee 40<sup>th</sup> Annual Convention of Chemists (Annual Meeting of Indian Chemical Society) held at Bundelkhand University, Jhansi, 23<sup>rd</sup> – 27<sup>th</sup> December 2003.
- Member organizing committee for all Seminar/Symposia organized by ACBR.

## Research Areas

Medicinal Chemistry, Oligonucleotide Therapeutics, Radiation Biology, Natural Products.

## Sponsored R & D Projects (Grants)

### *Grants Completed*

1. Project Title: Antisense Oligonucleotides as Chemotherapeutic Agents: Physico – Chemical and Biological Studies (PI) **Funding Agency: DST**. Amount: 8 Lakhs. Duration: 2001 – 03.
2. Project Title: Synthesis of Oxandrolone, **Funding Agency: Hikma Pharmaceuticals**, Jordan. Amount: \$ 15000. Duration: 2002 – 03.
3. Project Title: Inhibition of HIV-1 replication: Design, Synthesis and Characterization of Small Molecule Libraries. (Co-PI) **Funding Agency: UGC**. Amount: 9.5 Lakhs. Duration: 2004 – 07.
4. Project Title: Structure Activity Relationship Studies of Marine Natural Products – Apratoxins, (PI) **Funding Agency: UGC**. Amount: 4.6 Lakhs. Duration: 2004 – 07.

5. Project Title: Drug target validation and antiinfective Development for HIV/AIDS and associated infections, **Funding Agency: Swedish International Development Cooperation Agency (SIDA)** under the Asian-Swedish Research Partnership Programme. Amount: Total 324 000 SEK. Duration: 2005 –2007.
6. Project Title: Nutritional & Hypoglycemic effect of Fruit Pulp & Leaves of *Annona squamosa*. **Funding Agency: ICMR**. Amount: 4.76 Lakhs. Duration: 2002 – 2005.
7. Project Title: Identification and Characterization of Antidiabetic compounds from *Annona squamosa* and *Ocimum sanctum*. **Funding Agency: ICMR**. Amount: 11.50 Lakhs. Duration: 2005 – 08.
8. Project Title: Synthesis and Characterization of DNA Minor Groove Binding Ligands for Biological Applications. **Funding Agency: INMAS, DRDO**. Amount: 11.20 Lakhs. Duration: 2005 – 08.
9. Project Title: Investigation of the Characteristics of the Biologically Active Systems Using the Probes showing Proton Transfer & Electron Transfer Behaviours: Synthesis and Photophysics **Funding Agency: DST**. Amount: 25 Lakhs. Duration: 2005 – 2008.
10. Project Title: Radioprotectors against Radiation Induced Damage in Normal cells during Radiotherapy in Cancer: Development and Molecular Mechanism Study. **Funding Agency: DST** Amount: Rs. 23 Lakhs. Duration: 2005 – 09.
11. Project Title: Investigating the Molecular Mechanism of Action of Non-toxic Radioprotectors. **Funding Agency: DBT**. Amount: 41.50 Lakhs + Overhead. Duration: 2005 -09.
12. Project Title: DNA Topoisomerase I- Design, Synthesis and characterization of novel benzimidazoles and an insight into mechanism of selective inhibition of bacterial Topoisomerase I by these molecules. **Funding Agency: CSIR**. Amount 25 Lakhs. Duration: 2009 – 12.
13. Project Title: Synthesis and characterization of modified peptide nucleic acid having pyrazolo (3, 4-d) pyrimidine as base analogues and its antisense effect (PNA) on dimerization and translational frameshifting of HIV-1. **Funding Agency: UGC**. Amount: 11.65 Lakhs. Duration: 2009 – 12.
14. Project Title: Design & Synthesis of New class of DNA intercalating agent under pursue scheme. **Funding Agency: Delhi University**. Amount; 28.7 lakhs. Duration: 2009 – 12. (Co – Investigator).

### Running Grants (Major Grants)

1. Project Title: Design, Synthesis and Biological Evaluation of Novel Indole and 2,3-dihydro-1H-indene derivatives in the search of Potent HIV-1 Integrase inhibitors. Funded by Department of Science & Technology , Amount : 55.00 Lakhs , Duration; 2013 -16.
2. Project Title: Development of Bisbenzimidazole as E. coli. Topoisomerase inhibitor: Funded by Council of Scientific & Industrial Research, Amount ; 25 lakhs. Tenure of project: 2012 – 15.
3. International Collaborative Project: Indo South Africa INT/SAFR/P(2/2011)–03/10–2011) Design Synthesis and Evaluation of 1,2 –dihydroisoquinolines as HIV Integrase Inhibitors. Tenure of Project; 2011 – 13. Funded By Department of Science & Technology, India. & South Africa jointly. Amount : 8 lakhs, PIs are from: University of Delhi and Johannesburg Medical School.
4. Project Title: International collaborative Project: Indo German Project; Validation and Testing of DNA binding ligands as Radiomodulator in Human Cells. Tenure of Project: 2011-13. PIs from University of Delhi & Essen Medical School, University of Duisburg, Essen, Germany.
5. Design & Synthesis of a Library of Heterocyclic Compounds and Their Biological Evaluation as Antibacterial Agents with Special References to Topoisomerase Inhibitors. Funded by University Grants Commission (UGC) ,Amount : 12 Lakhs, Tenure ; 2013.

No.	Name of Students	Topic of Thesis	Award Year
1.	Sudha Kohli	DNA Finger Printing of Indian Rice Varieties.	1999
2.	Urmila Tawar	Molecular Recognition Studies between Minor Groove Binding Ligands and Nucleic Acids.	2005
3.	Akash K. Jain	Non-intercalating DNA Binding Ligands: Synthesis and Their Interaction with Double and Triple Helical DNA.	2006
4.	Braham Parkash	Modulation of Dimerization and Translational Frameshifting Processes of Human Immunodeficiency Virus Type-1 by Using Polyamide Nucleic Acids (PNA).	2006
5.	B.S. Chhikara	Synthesis of Bifunctional Chelating Agents to Label Monoclonal Antibody and Peptides for Radioimmunodiagnosis of Cancer.	2006

6.	P. Shokeen	Shokeen, P. Awarded in 2008; Antidiabetic and Antibacterial Properties of Some Medicinal Plants.	2006
7.	M. Gupta	Deciphering the Role of Serine and Threonine Kinases in Regulation of Cell Growth and Development of Mycobacterium Tuberculosis.	2009
8.	S. K. Gupta	Synthesis of modified Peptide nucleic acids (PNA) and its cellular uptake.	2010
9.	M. Singh	Synthesis of Biological Evaluation of the Bis benzimidazole.	2011
10.	Nirpendra Singh	Identification and Functional Characterization of Integrase Interacting Human T-Cell Protein. (Co-Supervisor)	2010
11.	Sandhya Bansal	A systematic study of Benzimidazole in search of selective Antimicrobial targeting Topoisomerase.	2012
12.	Navrinder Kaur	Gene Expression studies in response to a Benzimidazole analogue: Implications for the development of a Minor Groove Binding Ligand as a Radioprotector.	2012
13.	Atul Ranjan	To elucidate the molecular mechanism of DNA binding molecule as Radiation modulator. (Co-Supervisor).	2013
14.	Piyush Dikshit	Biochemical Studies on Antidiabetic Effect of Central Part of Stem of "Musa sapientum" (Co-Supervisor).	2013
15.	Hemlata Nimesh	Design, Synthesis & Biological Evaluation of benzimidazole; Pharmacokinetic & Distribution of these compounds in Animals.	2015
16.	Souvik Sur	Synthesis of modified Peptide nucleic acid (PNA) and its evaluation as an antisense. (Viva Awaited)	2015

### Graduate Students Working under Supervision (07)

1. **Tiwari V. 2011;** To study radioprotecting effect of DNA binding ligand and elucidate their mechanism of action.
2. **Sinha D. 2011;** To study the mechanism of action of bisbenzimidazole with DNA topoisomerase I, both in human and *E. coli*.
3. **Yadav P. 2014;** To screen Potent HIV Integrase Inhibitor from Library of synthesized Anti HIV compound.
4. **Pandey S. 2014;** Synthesis and Evaluation of Novel heterocyclic molecule as potential Radiomodulators and Antibacterial Agents.
5. **Urvashi. 2014;** Design, Synthesis and Biological Evaluation of Novel Anti HIV – 1 integrase inhibitors.
6. **Sadh K. 2015;** recently allotted at SCMM, Jawaharlal Nehru University.
7. **Tripathi Pragya. 2015;** recently allotted at SCMM, Jawaharlal Nehru University.



## **Details of Contractual Research/ Industrial Linkage**

**Synthesis of Oxandrolone by a new cost effective route (HIKMA Pharmaceutical, Jordan funded project)-since July 2001 (US\$ 30,000).**

Oxandrolone is an anabolic steroid. Anabolic steroids are natural or synthetic versions of testosterone, a hormone that is produced naturally in males and to a lesser extent, in females. Anabolic steroids are used in combination with appropriate diet and moderate exercise to promote build up or gain of protein in the body to form lean body mass (including muscle tissue). **A technology has been developed and transferred to Hikma Pharmaceuticals, Jordan for a pilot scale production of Oxandrolone.**

**Identification and Characterization of anti diabetic compounds from some Indian Medicinal plants (DIAKRON, USA) since 2001-03. (US \$15,000)**

Isolated Antidiabetic Active constituents from the Seeds of Fenu Greek, identified Structure of active components and determined ED<sub>50</sub> as well as LD<sub>50</sub> and performed long term as well as short term toxicity in two animal species rabbit and Swiss Albino Mice.

## **List of Invited/Special Lectures in International and National Events**

- 1) Invited talk at 20th Refresher course in Environmental sciences organized by SES ,JNU on 23rd April at JNU Staff College.
- 2) Invited talk on “DMA (3,4 – dimethoxybisbenzimidazole) a Small Molecule Provides Radioprotection through I $\kappa$ B Mediated NF $\kappa$ B Activation” on 12<sup>th</sup> April, at ‘**International Conference on Translation Medicine in 21<sup>st</sup> Century “Stem Cell Transplantation: Current Status”**’ from April 11-14, 2015. ICTM, Barkatullah University, Bhopal – 2015.
- 3) Invited talk on “Odyssey of Bisbenzimidazole as Therapeutic Agent for Human Well Being” at Faculty Development Program (FDP) entitled “NEXT GENERATION DRUGS AND DRUG DELIVERY SYSTEMS: FUTURE PROSPECTIVE” at Chandigarh College of Pharmacy, Landran ,Mohali-140307, Chandigarh on 11<sup>th</sup> March , 2015.
- 4) Invited talk on “Activation of PTEN/Akt/ TNF $\alpha$ /NF $\kappa$ B pathway triggered by DMA, a Bis Benzimidazole provides protection against Ionizing” at International Symposium on Current Advances in Radiobiology, Stem Cells and Cancer Research ,

February 19-21, 2015 ,School of Life Sciences, Jawaharlal Nehru University, New Delhi.

- 5) Invited talk on “Novel Smart C2-Symmetrical NDI Derivatives as G-Quadruplex Stabilizing Ligand with a Potential to Differentiate between Topological Structures” from 17-20<sup>th</sup> February, 2015 at National Symposium on Biophysics and Golden Jubilee meeting of the Indian Biophysical Society February 14-17, 2015 at Jamia Milia Islamia , New Delhi .
- 6) Invited talk on Bisbenzimidazole as Therapeutic Agent for Human Well Being; Annual Convention of Chemist , Indian Chemical Society Meeting, Kurukshetra University , Kurukshetra,9<sup>th</sup> – 12<sup>th</sup> December – 2014.
- 7) Invited talk on Co –activation of AKT/NF- $\kappa$ B triggered by DMA, a Bisbenzimidazole Confers Protection against Ionizing Radiation Induced Apoptosis; International Conference on Molecular Signaling: Recent Trends in Biomedical and Translational Re-search,” scheduled from 17-19 December 2014 organized by Indian Institute of Technology Roorkee.
- 8) Invited talk on Bisbenzimidazole as Therapeutic Agent for Human Well Being at DDNPTM an International Conference organized by NIPER Chandigarh at NIPER ,from 21<sup>st</sup> – 24<sup>th</sup> November , 2015.
- 9) Invited talk on Bisbenzimidazole as Therapeutic Agent for Human Well Being at Rajguru College, Delhi University on 30<sup>th</sup> December in a National Conference, UMCCD – 2014.
- 10) Invited Talk on “DMA; A Novel Bisbenzimidazole Confers Protection Against Ionizing Radiation through PTEN/AKT/NF $\kappa$ B” in an International Conference of Radiation Biology 2014; Frontiers in Radiobiology: Immunomodulation, Countermeasures & Therapeutics; 12<sup>th</sup> Biennial Meeting of Indian Society for Radiation Biology (ISRB) during SILVER JUBILEE YEAR of ISRB New Delhi, organized by INMAS from 12<sup>th</sup> – 15<sup>th</sup> Nov. - 2014 .
- 11) Invited talk on “DMA; A Novel Bisbenzimidazole Confers Protection Against Ionizing Radiation through PTEN/AKT/NF $\kappa$ B” at Indo-French conference- 2015 Organized by IFFCOS at Puducherry University from 10-12<sup>th</sup> November 2014.
- 12) Invited Special Lecture at Sensitization Meeting of Women Scientist Scheme of DST at Sophitorium Institute of Technology , Bhubaneswar during September 13, 2014.

- 13) Invited talk on “An Odyssey of Bisbenzimidazole as Therapeutic Agent for Human Well Being” at Perspective of Natural Products -16-17<sup>th</sup> June, 2014 organized CMMRI ,Bhavnagar, Gujarat.
- 14) Invited talk on “An Odyssey of Cytprotective Bisbenzimidazole as Therapeutic Agent for Human Well Being” at Jaypee Hotel , in International Conference of XIV National Organic Symposium Trust – 2014 on 6th April , 2014.
- 15) Invited talk at “An Odyssey of Bisbenzimidazole as Therapeutic Agent for Human Well Being” in BIOSPARKS – 2014 from 20<sup>th</sup> – 22<sup>nd</sup> March 2014 organized by SLS ,JNU ,New Delhi.
- 16) Invited talk on “DMA a bisbenzimidazole : An odyssey of a small molecule as Radioprotectant” at 20<sup>th</sup> *ISCB International Conference on “Chemistry and Medicinal Plants in Translational Medicine for Healthcare”* organized by Department of Chemistry, University of Delhi from 1<sup>st</sup> - 4<sup>th</sup> March, 2014.
- 17) Invited talk on “Novel Bisbenzimidazole a potential Radioprotector Mitigates DNA Damage in Radiotherapy.” at SFRR – India - 2014 organized by Free radical Society of India & BARC, India at Lonavala from 25- 28<sup>th</sup> Feb. 2014.
- 18) Special Lecture on Development of Novel Bisbenzimidazoles as Antibacterial Agents, Preferentially Inhibiting Bacterial Topoisomerase I delivered on 9th April, 2013 at Division of Medicinal & Natural Product Chemistry, University of Iowa, Iowa, USA.
- 19) Special Lecture on Coactivation of AKT/NFkB Triggered by DMA: A Bisbenzimidazole Provides Protection Against Ionizing Radiation-Induced Apoptosis delivered on 12th April at Department of Chemistry & Biochemistry, Florida International University, Miami, USA.
- 20) Invited talk entitled; Bisbenzimidazole Mitigates Radiation Induced Damage Through activation of AKT/NFkB Signalling Pathways in Cells during Radiotherapy in a two days Symposium “Trends in Chemoprevention & Cancer” organized at University of Louisville, Kentucky,USA from 30th -31st May, 2013.
- 21) Special Lecture on Novel Bisbenzimidazole – DMA; A potential Radioprotector Miti-gates DNA Damage in Radiotherapy on 3rd July, 2013 at Centre for Diagnostics & therapeutics, Georgia State University, Atlanta,USA .

- 22) Invited Talk entitled; 3,4 - dimethoxy Bisbenzimidazole (DMA); a radiomodulator prevents radiation induced apoptosis via activation of PI3K/Akt/IKK/ NFκB pro-survival pathway in mammalian cells in 3rd Biennial International Conference on Drug Discovery and Natural Products and Traditional Medicines (DDNPTM -2012) organized by NIPER Chandigarh, 22nd to 24th November 2012.
- 23) Invited talk on topic "Cytoprotector Bisbenzimidazole and its derivatives offer Radio-protection in cells during Radiotherapy in cancer treatment promoting NFκB transactivation through NIK/IKK in mammalian cells, Annual Convention of Chemist convened by Indian Chemical Society, on 5th November 2011 at Allahabad University.
- 24) Invited talk on the topic "Effect of Metal Toxicity on Human Health" in a Workshop on Defining the role of Women Scientists and Teachers in Promotion and Application of Science & Technology organized by National Academy of Sciences, India (NASI), Allahabad.
- 25) Invited talk on the topic "Cytoprotector Bisbenzimidazole and its derivatives offer Radioprotection in cells during Radiotherapy in cancer treatment promoting NFκB transactivation through NIK/IKK in mammalian cells : An underlying mechanism is Activation of MAPkinase and Wnt signalling pathway in irradiated Cells after treatment with Bisbenzimidazole in a conference" Chemical research society of India, North Zone Meeting, 2011, University of Jammu, Jammu, India
- 26) Invited talk on the topic "Modulation of Hybridizing Properties of PNA with Modified Nucleic Acid Bases and their Biological Evaluation against HIV-1" in International conference on "Nucleic Acids in Disease & Disorder" December 7th to 9th, 2011 in Kusuma School of Biological Sciences, IIT Delhi.
- 27) An invited talk in Rajkot in a International conference of Society of Chemists and Bio-chemists on 5th February 2011 on "A systematic study of benzimidazoles in search of selective antimicrobials targeting topoisomerase I : Development of E.coli. inhibitors."
- 28) An invited talk in an international conference on Drug Discovery and Natural Products and traditional Medicine organized by NIPER. Chandigarh 22nd to 25th November, 2010 on "Molecular Investigations of the Antidiabetic Effects of Cinnamomum zeylenicum, Brassica nigra & Ricinus communis in Experimental Diabetes."

- 29) A member of Indian Scientific delegation sent to Thailand and Indonesia from 17th to 24th October 2010 by DST under scientific cooperation between these countries and India.
- 30) An invited talk in Training Program in Bioinformatics and Computational Biology at SCFBIO Facility of I.I.T. Delhi on 21st September, 2009.
- 31) A member of Indian delegation sent to Pretoria, South Africa under Indo-South Africa from 28th February to 2nd March. A talk delivered on Different Approaches of HIV-1 inhibition.
- 32) An invited talk in 2nd Indo–South Africa workshop in INMAS, Delhi on Inhibition of HIV–1 using Antisense Approach. 2009.
- 33) A Poster cum Oral Presentation in “Albany 2007: Conversation 15 (Nucleic Acids Symposium) Identification and Functional Characterization of Cellular Proteins inter-acting with HIV-1 integrase and its Inhibition by Specific DNzyme from June 19th –June 23rd 2007 at University of Albany, NY, USA.
- 34) Oral presentation entitled “Interactions between Mycobacterium tuberculosis Nucleoside-diphosphate kinase and DNA involves formation of a covalent protein-DNA complex” at “Fifth International Congress of the Genetics, Biochemistry and Physiology of NDP Kinase/NM23/AWD”, Lexington, Kentucky, USA, Oct 13-15, 2003.
- 35) Oral presentation entitled “Minor Groove Binding Ligands interactions with repetitive sequences and their role in nucleosome remodeling and gene expression” at annual conference of the Indian society of Developmental Biologists, February 17th – 20th , 2002.
- 36) A paper entitled” Design and synthesis of a sequence specific Novel Hoechst 33258analogue: Physico-chemical and biological studies” was accepted for poster presentation at 5th world conference on SCI, 22–25, July 2001.
- 37) Invited talk on the Topic “Current Status of Oral and Implantable contraceptive agents” November 1998, Frontiers in Biomedical Research, Dr. B. R. Ambedkar Center of Biomedical Research, University of Delhi
- 38) Invited talk on the topic “Differential regulation of protein expression in Benzimidazole treated Mammalian cells under ionizing radiation” in Translational Research in Molecular Oncology at Punjab University, Dec. 2008.
- 39) Invited talk entitled “Synthesis and Characterization of modified Peptide Nucleic Acid (PNA) having pyrazolo (3,4-d) Pymiridine as base analogue and its Antisense

effect at SERC Summer School in Modelling and Informatics in Drug Design at NIPER, Mohali, 14th July 2008.

- 40) Invited talk entitled “Systematic investigation of twenty one medicinal plants or their Antigonorrhoeal activity (Sexually Transmitted Disease) in search of lead compound” at Drug Discoveries in Natural Products and Traditional Medicine, NIPER, Mohali in Nov 2008.\
- 41) Invited talk entitled “Elucidation and evaluation of mechanisms of action of novel Benzimidazoles as radioprotectors” at International Conference on Radiation Biology and Molecular Oncology, Jaipur, Rajasthan University on 13th Nov 2008.
- 42) Invited talk entitled “Evaluation of twenty one medicinal plants for antigonorrhoeal activity leading to structural identification of a single active compound against *Neisseria gonorrhoea*” at New Bioactive molecule in pharmaceutical research contribution of natural products Indo-US conference IICT, Hyderabad 13-14 Nov 2006.
- 43) Invited talk on the topic “Cytoprotector Bisbenzimidazole and its derivatives offer Radioprotection in cells during Radiotherapy in cancer treatment promoting NFκB transactivation through NIK/IKK in mammalian cells : An underlying mechanism is Activation of MAPkinase and Wnt signalling pathway in irradiated Cells after treatment with Bisbenzimidazole in a conference” Chemical research society of India, North Zone Meeting , 2011 ,University of Jammu , Jammu , India
- 44) Invited talk on the topic “Modulation of Hybridizing Properties of PNA with Modified Nucleic Acid Bases and their Biological Evaluation against HIV-1” in International conference on “Nucleic Acids in Disease & Disorder” December 7th to 9th, 2011 in Kusuma School of Biological Sciences, IIT Delhi.
- 45) An invited talk in Rajkot in a International conference of Society of Chemists and Bio-chemists on 5th February 2011 on “A systematic study of benzimidazoles in search of selective antimicrobials targeting topoisomerase I : Development of E.coli. inhibi-tors.”
- 46) An invited talk in a international conference on Drug Discovery and Natural Products and traditional Medicine organized by NIPER. Chandigarh 22nd to 25th November, 2010 on “Molecular Investigations of the Antidiabetic Effects of *Cinnamomum zeylanicum*, *Brassica nigra* & *Ricinus communis* in Experimental Diabetes.”
- 47) A member of Indian Scientific delegation sent to Thailand and Indonesia from 17th to 24th October 2010 by DST under scientific cooperation between these countries and India.

- 48) An invited talk in Training Program in Bioinformatics and Computational Biology at SCFBIO Facility of I.I.T. Delhi on 21st September, 2009.
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- 50) An invited talk in 2nd Indo-South Africa workshop in INMAS, Delhi on Inhibition of HIV-1 using Antisense Approach. 2009.
- 51) A Poster cum Oral Presentation in “Albany 2007: Conversation 15 (Nucleic Acids Symposium) Identification and Functional Characterization of Cellular Proteins interacting with HIV-1 integrase and its Inhibition by Specific DNzyme from June 19th –June 23rd 2007 at University of Albany, NY, USA.
- 52) An invited member of “National Organic Symposium Trust” organised at Goa, India in 2005.
- 53) Oral presentation entitled “Interactions between Mycobacterium tuberculosis Nucleoside-diphosphate kinase and DNA involves formation of a covalent protein-DNA complex” at “Fifth International Congress of the Genetics, Biochemistry and Physiology of NDP Kinase/NM23/AWD”, Lexington, Kentucky, USA, Oct 13-15, 2003.
- 54) Oral presentation entitled “Minor Groove Binding Ligands interactions with Repetitive Sequences and their Role in Nucleosome Remodeling and Gene Expression” at annual conference of the Indian society of Developmental Biologists, February 17th - 20th , 2002.
- 55) A paper entitled” Design and synthesis of a sequence specific Novel Hoechst 33258 analogue: Physico-chemical and biological studies” was accepted for poster presentation at 5th World Conference on SCI, July 22-25, 2001.
- 56) Participated in National Symposium of Green Chemistry, Department of Chemistry, University of Delhi in January, 1999.
- 57) Oral presentation on “Current Status of Oral and Implantable contraceptive agents” November 1998, Frontiers in Biomedical Research, Dr. B. R. Ambedkar Center of Biomedical Research, University of Delhi
- 58) Invited talk on the topic “Differential regulation of protein expression in Benzimidazole treated Mammalian cells under ionizing radiation” in Translational Research in Molecular Oncology at Punjab University, Dec.2008.

- 59) Invited talk entitled “Synthesis and Characterization of modified Peptide Nucleic Acid (PNA) having pyrazolo (3,4-d) Pymiridine as base analogue and its Antisense effect at SERC Summer School in Modelling and Informatics in Drug Design at NIPER, Mohali, 14th July 2008.
- 60) Invited talk entitled “Systematic investigation of twenty one medicinal plants or their Antigonorrhoeal activity (Sexually Transmitted Disease) in search of lead compound” at Drug Discoveries in Natural Products and Traditional Medicine, NIPER, Mohali in Nov 2008.
- 61) Invited talk entitled “Elucidation and evaluation of mechanisms of action of novel Benzimidazoles as radioprotectors” at International Conference on Radiation Biology and Molecular Oncology, Jaipur, Rajasthan University on 13th Nov 2008.
- 62) Invited talk entitled “Evaluation of twenty one medicinal plants for antigonorrhoeal activity leading to structural identification of a single active compound against *Neisseria gonorrhoea*” at New Bioactive molecule in pharmaceutical research contribution of natural products Indo-US conference IICT, Hyderabad 13-14 Nov 2006.

#### **Membership and Fellowship of Professional/Academic Bodies, Societies etc.**

Member- Indian Science Congress Association, Calcutta.

Member- Indian Chemical Society, Calcutta.

Member- Institution of Chemists, India.

Member- Asian Federation of Clinical Pharmacologists.

Member- Indian Society of Analytical Scientists.

Member- Society of Biological Chemists, India.

Member- Chemical Research Society, India.

Member- Society of Clinical Biochemists, India.

Member -Indian Association for Cancer Research, India.

Member - Indian Society for Radiation Research, India

#### **Three patents are recently filed on various projects.**

##### **Books/Monographs (Authored/Edited)**

1. Tandon, Vibha. 2005. *Molecular Modelling*. Shree Publishers & Distributors, Delhi.
2. Tandon, Vibha, Tiwari Manisha. 2004. *Natural Products Volume1*. Isha Books, Delhi.
3. Tandon, Vibha, Tiwari Manisha. 2004. *Natural Products Volume2*. Isha Books. Delhi.