

B-368 MIG FLATS
East of Loni Road
Delhi-110093
Res: 011-22811395
Mob: 9868831288

Dr. S.B Tyagi

E-mail:shashi_tyagi2005@yahoo.co.in

Designation: Associate Professor, Department of Chemistry.

Institution: SSN College, University of Delhi.

Objective: To develop the Pace in Academic and Professional growth of Institution.

Educational Details:

Course	Year	Institution
B.Sc.	1974	Agra University
M. Sc.	1977	Agra University
Ph.D	1987	University of Delhi

Teaching Experience:

Undergraduate		
B.Sc (PROGM)	27years (1987-88 till Date)	SSN College, University Of Delhi
B.Sc (Applied Life Science)	27years (1987-88 till Date)	SSN College, University Of Delhi
Post Graduate		
PG Diploma(ACPM)	4years (1987-88 to 1990-1991)	SSN College, University Of Delhi
M.Sc	12 years (1991-92 to 2002-2003)	Department of ACPM, University Of Delhi

Professional Experience:

- **1982-88:** Work on Organometallics.
- **2000-04:** Independent project work on Pesticide.

Research:

Title of Thesis: “**Synthesis and Characterization of Hf (IV) Complexes with N, O or S Donor Ligands**”
The main constituents of the thesis “Chemistry of Hafnium (IV) complexes in Non-aqueous solutions” are not only the Collection of physical and analytical data’s but the studies of Biological activities were also given the due emphasis.

Area of Research: Organometallic and Transition Metal Complexes.

Duration: 6 Years (1982 to 1988).

Work Place: Department of Chemistry, University of Delhi, Delhi 110007.

Supervisor: Prof. R.N Kapoor.

Published work: The papers related to the research work were published in Journals of International Repute are given as

- 1984-1985:** **Chemistry of Hafnium: Complexes of Hafnium (IV) with 2-amino-1 Cyclopentene 1-dithiocarboxylic acid and its N-alkyl derivative.**
S.B.Tyagi, B.Singh and R.N Kapoor.
Trans. Met.Chem. 10, 73(1985)
- 1985-1986:** **Reactions of Tetra (Isopropoxy) hafnium isopropanol with Semicarbazones.**
S.B.Tyagi, B.Singh and R.N.Kapoor.
Indian.J.Chem 24A, 965(1985)
- 1986-1987:** **Reactions of Hafnium (IV) isopropoxide isopropanol with 2-amino Cyclopent- 1-ene-1-dithiocarboxylic acid and its N-alkyl derivatives.**

S.B.Tyagi, B.Singh and R.N Kapoor.
Trans. Met.Chem. 11, 74 (1986)

- 1986-1987:** **Reactions of Hafnium (IV) isopropoxide isopropanolate with 1,5 diaryl thiocarbazonates.**
S.B.Tyagi, B.Singh and R.N. Kapoor.Acta Chim. Hungarica. 122, 229 (1986)
- 1987-1988:** **Reactions of Hafnium (IV) isopropoxide isopropanol with oximes.**
S.B.Tyagi, B.Singh and R.N.Kapoor.
Indian.J.Chem. 26A, 162(1987).
- 1987-1988:** **Hafnium (IV) complexes with Schiff basis.**
S.B.Tyagi, B.Singh and R.N.Kapoor
Trans. Met.Chem. 12,405(1987).
- 1988-1989:** **Complexes of alkyl pyruvate benzoyl hydrazones with Ti (IV), Zr (IV) and Hf (IV) chlorides.**
A.K.Bhagi, S.B.Tyagi, B.Singh and R.N.Kapoor
Indian.J.Chem 28A, 995(1989)
- 1988-1989:** **Synthesis of some new organozirconium (IV) dithizonates.**
Y. Singh, S. B. Tyagi and R. N. Kapoor
Acta Chim. Hungarica 126(5), 665 (1989).
- 2013-2014:** **One-pot synthesis of CuInS₂ and CuInS₂/MS (M=Cd, Zn) core-shell luminescent nanocrystals: a low-temperature and low-cost approach**
A. Kharkwal, K. Jain, S. B. Tyagi, A. K. Singh, S. N. Sharma, M. Kharkwal, Colloid Polym Sci. DOI 10.1007/s00396-014-3326-5. 292, 2913(2014).
- 2014-2015** **Novel Synthesis of Selective Phase-Shape Orientation of AgInS₂ Nanoparticles at Low Temperature**
A.Kharkwal, N. Chhikara, S. B. Tyagi, Kiran Jain, M. Kharkwal, DOI 10.1007/s00396-015-3574-z, Colloid Polym Sci. 293, 1953(2015).
- 2015-16** **Impact of cooking on nutritional content of food, S. B. Tyagi, M. Kharkwal, T. Saxena, DU Journal of Undergraduate Research and Innovation, 1(3), 180 (2015) ISSN: 2395 – 2334.**

Project Supervision:

Project/Research work for M.Sc (ACPM) Students both accompanied by Theoretical/ Practical studies was completed with proper Academic Interaction. The summarized details are as follows:

- 1990-1991:** Role of Pesticides in Indian Agriculture.
- 1991-1992:** Pesticide and Fertilizer Comparative Studies.
- 1992-1993:** Effect of Solvent on Pesticide Translocation.
- 1993-1994:** Role of Biological Agents in Agriculture.
- 1994-1995:** Studies on Recent Development in Biological Agent and Fungicide Interaction.
- 1995-1996:** Phytotoxicity in Pesticides (Fungicides).
- 1996-1997:** Studies on Toxicity Impact: Structure of Compounds.
- 1996-1997:** Study on Formulation Stability under Environmental Conditions
- 1997-1998:** Microbial Degradation of Pesticides.
- 1998-1999:** Non-target Effects of Fungicides.
- 1999-2000:** Effects of Degradation Products of Pesticides.
- 2000-2001:** Role of Pesticides Metabolites on Environment

Research Project conducted as Principal Scientist

Project Title: Preparation of Shelf Life Enhanced Formulation their Bio efficacy Studies. The project was sanctioned and funded by Indian Council of Agricultural Research (ICAR) New Delhi.

Positions: Principal Investigator ----- 1
: Senior Research Fellow---- 2

Duration of Project: Feb.2000 – Jan.2004

Project Work: The whole work performed regarding the project was confined to the organophosphorous insecticide (Phorate). The Experimental and Analytical data observed by the Principal Investigator along with Two SRFs were submitted to the relevant agency.

*** Note: - Project report could not be published as per the instructions of the concerned Ministry.**

Industry Interaction: Various important pesticide industries were visited from 1991 to 1999 at Mumbai (thane industrial area), Bangalore and Udaipur etc. occupied with major pesticide industries.

Innovation Project by University of Delhi (2013-2014) Where Chemistry Meets Culture: Estimation of Nutrient Content of Food Cooked by Different Methods and its Impact on Health of People of Various Regions of India (SSNC 204). From University of Delhi.

Innovation Project by University of Delhi (2015-2016) Entitled “High Luminescent and small band gap Quantum Dots” SSNC-305.

Academic Contribution:

Convener: When University of Delhi for the first time introduced the Internal Assessment Program in Academic Institutions the responsibility to Implement the same in true sense was accepted and performed Effectively as Convener of Academic Supervisory Committee.

Duration: 2003 – 2004 to 2006 – 2007.
2008 - 2012

Administrative Contribution:

College level

Bursar : Worked for three consecutive sessions Sept.1997 to May 1999

Proctor : Worked as proctor of S.S.N College for the sessions 1999 - 2000 to 2000 - 2001 , 2006 -2007 and 2010-1012.

Advisor Student union: The responsibility was performed effectively for the sessions, 2001-02, 2002-03, 2007-08, 2012-2013 and 2013-14.

Professional Development: The Managerial and Administrative duties were also discharged by Organizing the refresher and orientation courses at “**Center. For Professional Development in Higher Education**” University of Delhi

Course convener:

Refresher

CH-81, 1997 May 12-31: Chemistry teaching and human life.

CH-90, 2000 Nov-15-Dec-5 Course in Chemistry.

CH-91, 2001 April 3 -25: Course in Chemistry.

2003 September 1-20 : Course in Chemistry.

2006 Feb 22 – March 14: Environmental Studies.

2007 Feb 15 – March 08: Environmental Studies.

2011, Feb 14 – March 08: Course in Chemistry

2011, Dec 1 – Dec – 22: Course in Chemistry

Course Convener:

Orientation

OR-51, 2006 July 24 – Aug 22: Orientation Course.

OR-58, 2009 Jan 21– Feb - 18: Orientation Course.

International Seminars:

2006 January, 10 – 13:

Green / Sustainable Chemistry Symposium,
Department of Chemistry, University of Delhi 110007.

2008 September 4 -6:

Biodiversity Environmental and Sustainability. Challenge for Future, SSN College, University of Delhi -110007

National Seminars:

2011 January, 27-29

Role of analytical techniques in biological and environmental science. University of Delhi.

2004 Feb 9-11

National symposium on industrial applications of micro emulsion technology (NSO1AOMT-2004)

Paper Presentation in Conferences:

1. 9th National Conference on Solid State Chemistry and Allied Areas (ISCAS-2015), organized by Bhaskaracharya College of Applied Sciences (University of Delhi) from May 8-10, 2015. "Solvochemical Synthesis of Nanocrystalline CuInS₂(CIS), Cu(In_xGa_{1-x})S₂ (CIGS) and CuInSe₂(CISE): A phases controlled approach". A. Kharkwal, S. B. Tyagi, K. Jain, M. Kharkwal.
2. International conference on Recent Advances in Nano Science and Technology (RAINSAT-2015), organized by Sathyabama University, Chennai from July 8-10, 2015. "In situ-Synthesis of CuInS₂/Cu(In_xGa_{1-x})S₂- poly(3-hexylthiophene) organic-inorganic hybrid nanocomposites" A. Kharkwal, S. B. Tyagi, K. Jain, J. Singh, M. Kharkwal.

Courses Participated:

Ten Refresher Courses on Latest Developments in Chemistry.

Workshop on e- Learning:

"e Learning & Content Design" at ILL, University of Delhi (2007 October, 26-27).

Workshop on Improvement of Chemistry lab safety manual: Held on 3rd August 2010 at the Institute of lifelong learning , University of Delhi.

Honor and Memberships: Lifetime Member ICAS (Mumbai).

Extra Curricular Activities: Convener of Library, Purchase, Sports and Cultural Committees.

Invited lecturers

Lecturers delivered at International workshops:

1. May 11, 2005; Technical requirements for herbicide applications. (I. P. F. T)
2. July 25, 2007; Herbicide safeners. (I. P. F. T)
3. March 07, 2006; WP and Granular formulation. (I. P. F. T)
4. April 02, 2008; Conventional Formulation of Pesticide. (I. P. F. T)
5. March 05, 2009; Botanical pesticides and their Formulations. (I. P. F. T)
6. January 23, 2010; Neem formulations as an safe alternate to synthetic chemical based pesticide for mosquito control. (C. R. D. T), I I T, Delhi.
7. March 16, 2010 : Role of surfactants in pesticide Formulations. (I. P. F. T)
8. November 10, 2010; Gel baits for cockroach control. .(C. R. D. T), I I T, Delhi.
9. November 25, 2010; Surfactants for conventional formulations. (I. P. F. T)
10. March 23, 2011: Conventional Formulation of Pesticides. (I. P. F. T)
11. March 2, 2011: Pesticides (Refresher course in chemistry). (University of Delhi)

Poster Presentation at international conference on Agrochemicals Protecting Crops.

1. January 8 – 11, 2008: Combination of Bs and Bt for Mosquito control.
2. January 8 – 11 2008: Shelf life enhancement of phorate granules.
3. February 15 – 18, 2012: Bioefficacy enhancement of Neem as insecticide.
4. February 15 – 18, 2012: Utilization of bio-diesel waste for pest control.
(C. R. D. T), I I T, Delhi

Evaluation Work at refresher

and Orientation Course

CH-81, 1997 May 12-31: Chemistry teaching and human life.

CH-90, 2000 Nov-15-Dec-5 Course in Chemistry.

CH-91, 2001 April 3 -25: Course in Chemistry.

2003 September 1-20 : Course in Chemistry.

2006 Feb 22 – March 14: Environmental Studies.

2007 Feb 15 – March 08: Environmental Studies.

2011, Feb 14 – March 08: Course in Chemistry

2011, Dec 1 – Dec – 22: Course in Chemistry

OR-51, 2006 July 24 – Aug 22: Orientation Course.

OR-58, 2009 Jan 21– Feb -18: Orientation Course.

Undergraduate Project Supervision

Five Years.

List of Books:

1. Chemistry of d and f block element–ISBN 81-86038-09-7 2007
2. Elementary Inorganic Chemistry – ISBN 978-81-7880-690-7 2010
3. Introduction of coordination chemistry – ISBN 978-81-7880-691-4 2010
4. Chemical Bonding : An Overview – ISBN 978-81-7880-692-1 2011

5. Inorganic Complexes	ISBN 978-81-7880-693-8	2011
6. Elementary Eenvironmental Management	ISBN 978-81- 7880-696-9	2012
7. Chemical Metabolism in Plants	ISBN 978-81-7880-694-5	2012
8. Chemistry of Hf(iv) Complexes	ISBN 978-93-93-82825-04-3	2013
9. Structure and toxicity	ISBN 978-93-82825-09-8	2013
10. Concept of atomic structure	ISBN 978-81-7880-699-0	2014
11. Fungicides: Effects and Control	ISBN 978-93-82825-19-7	2014
12. Chemistry and Metabolism of Herbicides	ISBN 978-81-7880-694-5	2014
13. Chemistry of periodic elements	ISBN 978-81-7880-695-2	2014
14. Selective principles in Inorganic Chemistry	ISBN 978-81-7880-697-6	2014