**Ruchi Bakshi, Ph D**

1600 Skyline Drive, Apt # 3, Lowell MA 01854

Tel: 978-996-7160, Email: ruchi\_bakshi@uml.edu

**SUMMARY**

* In depth knowledge of synthetic chemistry with extensive experience in multi-step synthesis
* Broad analytical skills for structural determination of various kinds of organic and inorganic compounds
* Self-motivated, innovative, strategically minded, result oriented and well organized problem solver with good interpersonal skills
* Excellent oral / written communication and presentation skills

**EDUCATION**

* **Ph D Chemistry *University of Delhi, Delhi, India* July 2006- May 2010**

**Thesis Title:** *“Synthesis and Characterization of Copper (II), Manganese (II) and Iron (III) Complexes of Some Multidentate Bis Benzimidazolyl Diamide Ligands with Varying Spacer Groups and their Utilization as Catalysts for Oxidation of Some Organic Substrates”*

**Research Focus:** Development of novel bisbenzimidazolyl diamide ligand containing transition metal complexes and their use as oxidase catalysts in oxidation reactions of organic compounds such as catechols, dopamine, hindered phenol and aniline, aminophenol and alkyne

* **MS**  **Chemistry**  ***University of Delhi, Delhi, India*** **June 2004-June 2006**
* **BS Chemistry** ***University of Delhi, Delhi, India*****June 2001-June 2004**

**TEACHING EXPERIENCE**

**Lecturer (Adhoc) *DDU College, University of Delhi, Delhi, India* July 2010- April 2011**

* **Courses Teaching:** *Introduction to Organic and Biochemistry (1st year undergraduate students),**Reaction Mechanism-II (3rd year undergraduate students)*

RESEARCH EXPERIENCE

**Post doctoral research University of Massachusets, Lowell MA May 2011-Present**

**Area of Research: “**Synthesis and characterization of polymeric materials for flame retardant application”

**TECHNICAL SKILLS AND COMPETENCE**

* Hands on experience in basic laboratory techniques required for synthetic work:
* Separation techniques like flash column chromatography, preparative chromatography and crystal growth techniques
* Skilled in handling of moisture sensitive chemicals
* Adapt for doing reactions in milligrams level
* Hands on experience in using and operating instruments *viz.* UV-Visible Spectrometer, FT-IR Spectrometer, Cyclic Voltameter, NMR and TGA
* Good knowledge of softwares such as ISIS Draw and Chem Draw, word processing and database management softwares (Word, Excel, Powerpoint), Scifinder Scholar, EndNote 7.0.0, ORIGIN 6.0.0 and 6.0.1 and molecular modeling Hyperchem 8.0

**AWARDS**

* Awarded **“Research Fellowship in Science for Meritorious Students** (RFSMS)” by University Grants Commission (UGC), Government of India, Delhi, India. **(2008-2010)**
* Recipient of **Shri Guru Das Trikha Memorial Award from the Department of Chemistry (certificate of merit)** for standing third among class of 63 students in BS Degree in **2004** at Hansraj College of Delhi University, Delhi

**CONTRIBUTION IN CONFERENCES**

* ***Poster Presentation***

“Organo- peroxyl compounds *via* catalytic oxidation of a hindered phenol and aniline utilizing new Manganese (II) bis benzimidazole diamide based complexes.” **Ruchi Bakshi** and Pavan Mathur.

**13th ISCB International Conference on Interplay of Chemical and Biological Sciences: Impact on Health and Environment (ISCBC-2009)** held at Department of Chemistry, University of Delhi (26th February – 1st March 2009)

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| * ***Poster Presentation***

“Oxidation of electron deficient olefins using a copper (II) complex based on a bis-benzimidazole diamide ligand.” Manisha Singla, **Ruchi Bakshi**, Manisha Gupta and Pavan Mathur. **Modern Trends in Inorganic Chemistry (MTIC-XII)** held at Department of Chemistry, Indian Institute of Technology- Madras, Chennai (December 6-8, 2007) |
| **PUBLICATIONS**1. Bis-Benzimidazole diamide Iron (III) complexes as mimics of Phenoxazinone Synthase.

**Ruchi Bakshi**, Ravinder Kumar, Pavan Mathur\*, Catalysis Communications, (2012), 17, 140–1451. Copper (II) complexes of a new N-Picolylated bis benzimidazolyl diamide ligand:

Synthesis, crystal structure and catechol oxidase studies**Ruchi Bakshi**, Miriam Rossi, Francesco Caruso, Pavan Mathur\*, Inorganica Chimica Acta, (2011), 376(1), 175-188.1. Oxidation of terminal alkyne catalyzed by non-heme Iron(III) bis benzimidazole diamide

 complex as catalyst under ambient condition. **Ruchi Bakshi**, Ravinder Kumar and Pavan Mathur\*, Indian Journal of Chemistry Sec A, 2011, 50A(5), 658-663.1. Organo- peroxyl compounds via catalytic oxidation of a hindered phenol and aniline utilizing new Manganese (II) bis benzimidazole diamide based complexes.

**Ruchi Bakshi** and Pavan Mathur\*, *Inorganica Chimica Acta, Inorganica Chimica Acta 363*, **2010**, 363(13), 3477–3488.

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| 1. Intramolecularly H-bonded bis benzimidazole diamide ligand and its Mn(II) complexes:

 Synthesis, spectral and superoxide quenching study.  Subash Chandra Mohapatra, **Ruchi Bakshi**, M.S.Hundal and Pavan Mathur\*, *Indian Journal of*  *Chemistry Sec A*, **2010**, 49A(2), 159-166.1. Squashed tetrahedral [CuCl4]2- H-bonded to a cationic bis-benzimidazolyl diamide ligand: Spectral and Structural study.

**Ruchi Bakshi**, M.S. Hundal and Pavan Mathur\* (to be communicated)1. Oxidase Studies of new Copper (II) complexes of a N-Picolylated bis benzimidazolyl diamide ligand. **Ruchi Bakshi** and Pavan Mathur\* (to be communicated)
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| **REFERENCES**Available on request |

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