Curriculum Vitae

Ms. Sushma

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CAREER OBJECTIVE

To excel in my field with hard work, perseverance and dedication by working in a reputed institute that will provide me a good platform to utilize my teaching skills and will help me to grow my career.

ACADEMIC CREDENTIALS

Examination	Board/University	% of marks	Year of completion
Secondary School Examination (Class X)	Central Board of School Education	77.60%	2009
Senior Secondary School Examination (Class XII)	Central Board of School Education	85.40%	2011
B.Sc. (Non-Medical)	Kurukshetra University, Kurukshetra	88.48%	2014
M.Sc. (Honours School) Chemistry	Panjab University, Chandigarh	76.10%	2016
Ph.D. Inorganic Chemistry	Panjab University, Chandigarh	Submitted	07-Jan-2022

ACHIEVEMENTS

- Qualified **CSIR JRF-2018** exam with rank 61.
- Qualified **CSIR NET DEC-2016** exam with rank 31.
- Qualified **GATE FEB-2017** exam with rank 829.
- Received Master's degree with Ist division with distinction
- Received merit certificates during the graduation and school time.

TEACHING EXPERIENCE

I have taken the UG classes for **1 year** (2017-2018) at CRM Jat College, Hisar, Haryana.

FIELD of SPECIALIZATION: Inorganic Chemistry

RESEARCH WORK

I have taken practical labs of M.Sc**.** (I and II) during Ph.D. My research work is primarily based on the chemistry of 1,2,3-Triazole Encapped Organosilanes focusing precisely on the design, synthesis, and characterization of new Organosilicon compounds and further explore their applications in the field of Sensing, Biology and Dye Sensitized Solar Cell. I gained experience in various spectroscopic techniques including IR, (^{1}H and ^{13}C) NMR, UV-Vis, Fluorescence, TGA and Mass Spectrometery.

PUBLICATIONS

1. G. Singh, **Sushma**, A. Singh, Priyanka, K. Chowdhary, J. Singh, M. A. Esteban, C. E. Ruíz and D. G. Silvera, Designing of chalcone functionalized 1,2,3-triazole allied bis-organosilanes as potent antioxidants and optical sensor for recognition of Sn^{2+} and Hg^{2+} ions, *J. Organomet. Chem.*, 2021, **953**, 122049.
2. G. Singh, **Sushma**, A. Singh, P. Satija, Shilpy, Mohit, Priyanka, J. Singh and A. Khosla, Schiff base derived bis-organosilanes: Immobilization on silica nanosphere and Cu^{2+} and Fe^{3+} dual ion sensing, *Inorg. Chim. Acta*, 2021, **514**, 120028.
3. G. Singh, **Sushma**, Priyanka, Suman, Diksha, J. D. Kaur, A. Saini, A. Devi and P. Satija, Synthesis, characterization and UV–visible study of schiff base-acetylene functionalized organosilatrane receptor for the dual detection of Zn^{2+} and Co^{2+} ions, *Inorg. Chim. Acta*, 2021, **525**, 120465.
4. G. Singh, **Sushma**, Priyanka, Pawan, P. Satija, Shilpy, Diksha, G. Kaur, J. Singh and J. Singh, Colorimetric detection of Fe^{3+} ions using Schiff base-chalcone functionalized bis(1,2,3-triazolyl-γ-propyltriethoxysilanes), *Inorg. Chim. Acta*, 2021, **527**, 120576.
5. G. Singh, **Sushma**, Priyanka, Diksha, Mohit, S. Gupta, M. A. Esteban, C. E. Ruíz and D. G. Silvera, Designing of thiosemicarbazone-triazole linked organotriethoxysilane as UV-Visible and fluorescence sensor for the selective detection of Hg^{2+} ions and their cytotoxic evaluation, *J. Mol. Struct.*, 2022, **1255**, 132446.
6. P. Saini, **Sushma**, G. Singh, G. Kaur, J. Singh and H. Singh, Copper (I)-catalyzed 'Quick Click' generated 1,2,3-triazole anthraquinone linkers for selective detection of Fe (II) ions, *Inorg. Chem. Commun.*, 2022, **141**, 109524.
7. G. Singh, Priyanka, **Sushma**, Pawan, Mohit, P. Satija, M. A. Esteban, D. G. Silvera and C. E. Ruíz, Synthesis and Characterization of Antioxidant Biphenyl Appended 1,2,3-Triazoles as

Potential Chemo-Sensor for Sn^{2+} Ions: Excellent Selectivity and Low Detection Limit, *ChemistrySelect*, 2021, **6**, 7613–7621.

8. G. Singh, Priyanka, **Sushma**, Diksha, Mohit, Suman, J. D. Kaur, A. Saini and P. Satija, Design, synthesis and photophysical aspects of 1,2,3-triazole appended Schiff base functionalized silanes and silatranes, *New J. Chem.*, 2021, **45**, 17356–17365.
9. G. Singh, Priyanka, **Sushma**, Pawan, Diksha, Suman, Mohit, A. Devi and S. Gupta, Tetrazole conjoined organosilane and organosilatrane via the 'click approach': a potent Mycobacterium tuberculosis enoyl ACP reductase inhibitor and a dual sensor for Fe(III) and Cu(II) ions, *New J. Chem.*, 2022, **46**, 2094-2104.
10. G. Singh, Pawan, Mohit, **Sushma**, B. Singh, D. G. Silvera, C. E. Ruíz, M. A. Esteban and A. Kaur, Anthracene-Based Triazolyl Triethoxysilanes as Selective and Colorimetric Sensor for Cysteine: Rationalization towards Stability Factors, Therapeutics Evaluation and Molecular Docking, *ChemistrySelect*, 2021, **6**, 8899–8911.
11. G. Singh, P. Satija, A. Singh, **Sushma**, G. Sharma, Mohit, Pawan, Suman and Priyanka, First Report on the Synthesis of Antipyrine Crowned Siloxy Framework: Optical Recognition of Fe^{2+} and Hg^{2+} Ions, *ChemistrySelect*, 2020, **5**, 8823–8830.
12. A. Rani, P. Saini, G. Singh, **Sushma**, H. Singh, G. Kaur and J. Singh, 'Quick CuAAC' Chemistry for Hg(II) and Mn(II) ion sensing via 9H-carbazole derivatives, *Inorg. Chim. Acta*, 2021, **527**, 120560.
13. G. Singh, Shilpy, A. Singh, **Sushma**, Mohit, P. Satija, A. Saroa, D. Kumar and K. N. Singh, Design of pyrene functionalized triazole linked organosilane for specific detection of Ce^{3+} ions, *J. Mol. Struct.*, 2021, **1243**, 130787.
14. G. Singh, J. D. Kaur, Pawan, **Sushma**, Priyanka, K. N. Singh, M. A. Esteban and C. E. Ruíz, A veratraldehyde-appended organosilicon probe and its hybrid silica nanoparticles as a dual chemosensor for colorimetric and fluorimetric detection of Cu^{2+} and Fe^{3+} ions, *New J. Chem.*, 2022, **44**, 15157–15168.
15. G. Singh, Suman, Diksha, **Sushma**, Mohit, Priyanka, J. D. Kaur, A. Saini and Anita, Pyrazine derived 1,2,3-triazole linked silanes and their magnetic nanoparticles for the colorimetric and fluorimetric dual sensing of Cu^{2+} ions, *J. Mol. Struct.*, 2022, **1259**, 132512.
16. G. Singh, J. D. Kaur, Pawan, Diksha, **Sushma**, Suman, Shilpy, P. Satija and K. N. Singh, 1-Adamantanamine based triazole appended organosilanes as chromogenic "naked-eye" and fluorogenic "turn-on" sensors for highly selective detection of Sn^{2+} ions, *New J. Chem.*, 2022, **46**, 7055–7069.
17. G. Singh, Diksha, Mohit, Suman, **Sushma**, Priyanka, A. Devi, S. Gupta, C. E. Ruiz and M. A.

Esteban, Pyridine derived organosilatranes and their silica nanoparticles as "Turn-on" fluorescence sensor for selective detection of Zn^{2+} ions and their cytotoxicity evaluation, *Inorg. Chim. Acta*, 2022, **537**, 120926.

18. G. Singh, Priyanka, A. Singh, P. Satija, **Sushma**, Pawan, Mohit, J. Singh and J. Singh, Schiff base-functionalized silatrane-based receptor as a potential chemo-sensor for the detection of Al^{3+} ions, *New J. Chem.*, 2021, **45**, 17356–17365.
19. G. Singh, Suman, Diksha, Pawan, Mohit, **Sushma**, Priyanka, A. Saini and P. Satija, Design and synthesis of 4-aminoantipyrine appended triazole linked bis-organosilane and their silica nanoparticles for selective recognition of Fe^{3+} ions, *J. Mol. Struct.*, 2022, **1250**, 131766.
20. G. Singh, Shilpy, A. Singh, Diksha, P. Satija, **Sushma**, Mohit, J. D. Kaur and K. N. Singh, Triazole Containing Salicylimine Linked Organosilocane for Recognition of Ce^{3+} Ions in Aqueous Media, *J. Inorg. Organomet. Polym. Mater.*, 2021, **31**, 997–1005.
21. G. Singh, Diksha, Mohit, Suman, **Sushma**, Priyanka, A. Devi, J. D. Kaur and A. Saini, Chalcone Appended Organosilanes and their Silica Nanoparticles Based UV-vis and Fluorometric Probes for Co^{2+} ions Detection, *Inorg. Chim. Acta*, 2022, **535**, 120827.
22. G. Singh, P. Satija, A. Singh, Diksha, Pawan, Suman, **Sushma**, Mohit and S. Soni, Azo dye featuring triazole appended organosilicon multifunctionalized sensor: Paradigm for detection of Cu^{+2} and Fe^{+2} ions, *Mater. Chem. Phys.*, 2020, **249**, 123005.
23. G. Singh, Pawan, Mohit, Diksha, Suman, Priyanka, **Sushma**, A. Saini and A. Kaur, Design of new bis-triazolyl structure for identification of inhibitory activity on COVID-19 main protease by molecular docking approach, *J. Mol. Struct.*, 2022, **1250**, 131858.
24. G. Singh, P. Satija, F. S. Lin, Pawan, Mohit, **Sushma**, Priyanka, J. D. Kaur and K. C. Ho, New energy harvesting using conjugated chalconyl-organosiloxyl framework, *Mater. Chem. Phys.*, 2022, **279**, 125751.
25. G. Singh, K. Chowdhary, A. Singh, P. Satija, Shilpy, Diksha, Suman, **Sushma** and Mohit, Benzothiazole Encapped Silane and Its Nano Composites for Sequential Detection of Copper Ions and Cysteine in Aqueous Solution, *ChemistrySelect*, 2021, **6**, 2281–2287.
26. G. Singh, Shilpy, A. Singh, S. Singh, **Sushma**, Mohit, Y. Thakur, K. N. Singh and S. Soni, Design, Synthesis, Drug-Likeness And In Silico Prediction of Polycyclic Aromatic Schiff Base Tethered Organosilatranes, *J. Inorg. Organomet. Polym. Mater.*, https://doi.org/10.21203/rs.3.rs-1076661/v1.
27. G. Singh, S. Sharma, A. Singh, Diksha, **Sushma**, Pawan, Suman, Mohit and Priyanka, Graphene oxide functionalized organosilane based fluorescent biosensor for detecting guanine

in human urine, *Mater. Chem. Phys.*, https://doi.org/10.1016/j.matchemphys.2022.126130.

CONFERENCES

1. Poster presentation in the **International Conference** organised by the Department of Chemistry, Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Sonipat, India on "*Advanced Developments in Chemistry and Allied Sciences-2021 (ADCAS-21)"* held during 16-17th December, 2021.
2. Poster presentation in the **International Conferen**ce organised by the Panjab University, Chandigarh, India on "*Next-Gen Paradigms in Health Care"* held during 12-14th February, 2020.
3. Poster presentation in the **Professor Ram Chand Paul National Symposium** organised by the Department of Chemistry, Panjab University, Chandigarh, India on "*Emerging Chemical Sciences with Modern World"* held during 11th March, 2022.
4. Poster presentation in the **Professor Ram Chand Paul National Symposium** organised by the Department of Chemistry, Panjab University, Chandigarh, India on "*Chemistry and Interdisciplinary Sciences"* held during 5th March, 2021.
5. Poster presentation in the **Professor Ram Chand Paul National Symposium** organised by the Department of Chemistry, Panjab University, Chandigarh, India on "*Emerging Chemical Innovations for Swachh, Swasth,& Sarvatra" Bharat* held during 27-28th February, 2020.

STRENGTHS

- ✓ Self confident and hardworking.
- ✓ Adaptability to work in any environment.
- ✓ Convenient to work as a part of a team.
- ✓ To maintain congeniality at the work place.

REFERENCES

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Panjab University, Chandigarh, India
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Curriculum Vitae

PERSONAL DETAILS

Name: Ms. Sushma

Gender: Female

Date of Birth: 21-12-1994

Nationality: Indian

Father's Name: Sh. Suresh Kumar

Mother's Name: Smt. Kamlesh Devi

Address: #169, Friends Colony, Hisar, Haryana

I certify that the information stated above is true and correct to the best of my knowledge.

(Sushma)