



## Payal Garg

**Nationality:** Indian **Date of birth:** 20/10/1994

**Phone number:** (+91) 7206124999 **Email address:** [plgrg4@gmail.com](mailto:plgrg4@gmail.com)

**Home:** Ward No. 7, Near Jain Bhawan, Siwani Mandi, 127046 Bhiwani (India)

**Work:** Chaudhary Charan Singh Haryana Agricultural University, 125004 Hisar (India )

### WORK EXPERIENCE

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#### Assistant Professor

**G.D.C. Memorial College (A unit of BRCM education society)** [ 01/07/2018 – 13/08/2019 ]

City: Bahal

Country: India

#### Subject Matter Expert in Chemistry

**Chegg, India**

Country: India

### EDUCATION AND TRAINING

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#### Ph.D. (Organic Synthesis) Supervisor Name- Dr. Jayant Sindhu

**Chaudhary Charan Singh Haryana Agricultural University** [ 17/08/2019 – 27/02/2024 ]

Address: Hisar, 125004 Hisar (India)

Website: [hau.ac.in](http://hau.ac.in)

Field(s) of study: Organic Synthesis

Final grade: First Class

Thesis: Exploration of C-H functionalization for sulfenylation of aryl/heteroaryl conjugates (Thesis submitted)

1. Expertise in electro-organic synthesis
2. Expertise in metal-free C-H functionalization for C-S bond formation.
3. Well versed in *in silico* (Molecular docking and molecular dynamics) and DFT studies.
4. Proficient at sensing of potential analytes using absorption and fluorescence spectroscopy.
5. Expertise in handling of Electrasyn, Flash chromatography, Fluorescence spectrophotometer, UV-visible spectrometer, FT-IR Spectrophotometer, Microwave synthesizer.
6. Expertise in computational chemistry (QSAR, CORAL)

#### Master of Science (Chemistry)

**Kurukshetra University** [ 08/2014 – 06/2016 ]

Address: Kurukshetra, 136119 Kurukshetra (India)

Website: [kuk.ac.in](http://kuk.ac.in)

Field(s) of study: Organic Chemistry

Final grade: Distinction (80.50%)

#### Bachelor of Science (Non Medical)

**Kurukshetra University** [ 06/2011 – 06/2014 ]

Address: Kurukshetra, 136119 Kurukshetra (India)

Website: [kuk.ac.in](http://kuk.ac.in)

Final grade: Distinction (85%)

## 12th (Non Medical)

*Board of School Education, Haryana* [ 2010 – 2011 ]

Field(s) of study: Non-Medical

Final grade: Distinction (96.40%)

## Statistical Data Analysis (Training)

*Chaudhary Charan Singh Haryana Agricultural University* [ 14/10/2019 – 24/10/2019 ]

Address: 125004 Hisar (India)

Website: [hau.ac.in](http://hau.ac.in)

## Data Science (Training)

*Internshala* [ 15/06/2020 – 27/07/2020 ]

## Advanced organic synthesis and catalysis for a sustainable future (Workshop)

*Panjab University, Chandigarh* [ 20/11/2023 – 24/11/2023 ]

City: Chandigarh

Country: India

## DIGITAL SKILLS

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Microsoft Word / Microsoft Excel / Microsoft Powerpoint / Molecular modelling software: HyperChem, USCF Chimera, Avogadro, Autodock Vina / Schrodinger Maestro (Intermediate) / Molecular design software (PyMol, Chimera, Avogadro) / Desmond Molecular Dynamics Simulation / Computational Chemistry / Gaussian 16W

## PUBLICATIONS

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### [Electro-organic synthesis of C-5 sulfenylated amino uracils: Optimization and exploring Topoisomerase-I based anticancer profile](#)

[2023]

<https://doi.org/10.1016/j.bioorg.2023.106660>

Bioorganic Chemistry

Link: <https://doi.org/10.1016/j.bioorg.2023.106660>

### [Rationally designed C-3 sulfenylated 2-phenyl-4H-pyrido\[1,2-a\]pyrimidin-4-one based fluorescent probe for recognition of Fe<sup>3+</sup>](#)

[2024]

Journal of Molecular Structure

Link: <https://doi.org/10.1016/j.molstruc.2023.137456>

### [Development of thiazole appended novel hydrazones as a new class of \$\alpha\$ -amylase inhibitors with anticancer assets: An in silico and in vitro approach](#)

[2023]

RSC Medicinal Chemistry (Royal Society of Chemistry)

Link: <https://doi.org/10.1039/D2MD00431C>

### [Analysis of good and bad fingerprint for identification of NIR based optical frameworks using Monte Carlo method](#)

[2023]

Microchemical Journal

Link: <https://doi.org/10.1016/j.microc.2023.109549>

### **Rationally designed novel phenazine based chemosensor with real time Hg<sup>2+</sup> sensing application**

Journal of Molecular Structure

Link: <https://doi.org/10.1016/j.molstruc.2023.136150>

### **Quantitative Structure Activity Relationship Studies of Androgen Receptor Binding Affinity of Endocrine Disruptor Chemicals with Index of Ideality of Correlation, their Molecular Docking, Molecular Dynamics and ADME Studies**

[2023]

Journal of Biomolecular Structure & Dynamics (Taylor & Francis group)

Link: <https://doi.org/10.1080/07391102.2023.2193991>

### **5-Hydroxydibenzo [a,i]phenazine-8,13-dione: A selective and sensitive colorimetric and fluorescent 'turn-off' sensor for iodide ion**

[2022]

Journal of Molecular Structure (Elsevier)

Link: <https://doi.org/10.1016/j.molstruc.2022.134621>

### **Unravelling the thermodynamics and binding interactions of bovine serum albumin (BSA) with thiazole based carbonylhydrazone: Multi-spectroscopic, DFT and molecular dynamics approach**

[2022]

Journal of Molecular Structure (Elsevier)

Link: <https://doi.org/10.1016/j.molstruc.2022.133939>

### **Indolizine: A Promising Framework for Developing a Diverse Array of C-H Functionalized Hybrids**

[2023]

ChemistrySelect (Wiley)

Link: <https://doi.org/10.1002/slct.202203531>

### **Experimental and Computational Validation of Structural Features and BSA Binding Tendency of 5-Hydroxy-5-trifluoromethyl-3-arylpyrazolines**

[2021]

ChemistrySelect (Wiley)

Link: <https://doi.org/10.1002/slct.202102669>

### **Transition metal-free C-3 functionalization of quinoxalin- 2(1H)-ones: Recent advances and sanguine future**

[2021]

New Journal of Chemistry (Royal Society of Chemistry)

Link: <https://doi.org/10.1039/D1NJ03445F>

### **Design and development of COX-II inhibitors: Current scenario and future perspective**

[2023]

ACS omega (American Chemical Society)

Link: <https://doi.org/10.1021/acsomega.3c00692>

**Precisely designed NIR based conjugated framework as a solid state emitter for selective recognition of cyanide ion in solid state and cancer cells**

[2023]

Journal of Photochemistry & Photobiology A: Chemistry

Link: <https://doi.org/10.1016/j.jphotochem.2023.115373>

**Precisely designed oxazonaphthoimidazo[1,2-a] pyridine based sensor for the detection of Fe<sup>3+</sup> and DCP with cell imaging application**

[2023]

<https://doi.org/10.1016/j.jphotochem.2023.114841>

Journal of Photochemistry & Photobiology A: Chemistry

Link: <https://doi.org/10.1016/j.jphotochem.2023.114841>

**Frontier Organometallic catalysis: Traditional methodologies and future implications (Accepted)**

Book Chapter

**Pyrano[2,3-c]pyrazoles fused spirooxindole linked 1,2,3-triazoles: Multitargeted antidiabetic agents with antioxidant assets (Under Review in 'Bioorganic Chemistry')**

**Pushing Boundaries: What's next in Metal-Free C-H functionalization for Sulfenylation? (Minor Revision in 'Topics in Current Chemistry')**

**Structural attributes driving  $\lambda_{max}$  towards NIR region: A QSPR approach (Under Review)**

**Base-Mediated Bis-Sulfenylation of Acetyl Naphthoindolizines: BSA and DNA Binding Analysis using biophysical and computational methods (Under review)**

**Mechanistic insights and design of novel ACE-I inhibitors through QSAR modeling (Under review)**

**NETWORKS AND MEMBERSHIPS**

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Life time member of Indian Science Congress Association

**CONFERENCES AND SEMINARS**

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**International Conference on Molecules and Materials Technology**

[ National Institute of Technology (NIT), Kurukshetra, 21/04/2023 – 22/04/2023 ]

Oral Presentation

**2nd International Conference on Advanced Developments in Chemistry and Allied Sciences-2023**

[ DCRUST, Murthal, Sonapat, 17/01/2023 – 18/01/2023 ]

Oral Presentation

**2nd International Conference on Integrative Chemistry, Biology & Translational Medicine**

[ University of Delhi, Delhi, 06/12/2022 – 08/12/2022 ]

Poster Presentation

**1st International Conference on Advanced Developments in Chemistry and Allied Sciences-2021**

[ DCRUST, Murthal, Sonapat, 16/12/2021 – 17/12/2021 ]

Poster Presentation

## **National Conference on Recent Trends in Decision Sciences and their Implications for Business**

[ CBLU, Bhiwani, 01/03/2019 – 01/03/2019 ]

Oral Presentation

## **National Conference on Sustainable Development & Geospatial Technology**

[ GDC Memorial College, Bahal, 20/10/2018 – 21/10/2018 ]

Oral Presentation

## **2nd International Conference of Indian Science Congress Association- Rohtak Chapter on Science and Technology for Sustainable Future**

[ UIET, MDU, Rohtak, 07/02/2024 – 08/02/2024 ]

Poster Presentation

## **HONOURS AND AWARDS**

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### **Senior Research Fellowship**

University Grant of Commission [ 17/08/2021 ]

### **Junior Research Fellowship**

University Grant of Commission [ 17/08/2019 ]

### **Promotion of Science Education (POSE) Scholarship**

Department of Science & Technology, Haryana [ 2014 ]

### **Innovation in Science Pursuit for Inspired Research (INSPIRE) scholarship**

Department of Science & Technology, Government of India [ 2011 ]

### **Certification of Participation & Merit**

Chaudhary Charan Singh Haryana Agricultural University, Hisar, Haryana [ 2020 ]

Third position in English essay writing competition organised by 'Literary & Debating Society', CCSHAU, Hisar

### **Certificate of Merit**

Government Post Graduate College, Hisar [ 2013 ]

First position in college in university exam for semester II (May 2012)

### **Certificate of Outstanding Performance**

Board of School Education, Bhiwani, Haryana [ 2012 ]

Secured a position among the top 0.1 percent of appeared candidates in senior secondary examination held in March 2011.

## **TEST SCORES**

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### **Council of Scientific & Industrial Research (CSIR)- National Eligibility Test (NET)**

All India Rank-64 (Dec. 2017)

### **Graduate Aptitude Test in Engineering (GATE)**

All India Rank- 509 (2017)

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