

Curriculum Vitae of Amrit Gond

Amrit Gond

Assistant Professor
Department of Chemistry
B.S.N.V. P.G. College (KKV),
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Research gate: https://www.researchgate.net/profile/Amrit_Gond2

Academic Profile

Ph.D.(Org. Chemistry-Pursuing, Since March 2019): Banaras Hindu University, India.

Qualified Examination: CSIR-UGC NET Examination of December, 2016; Secured UGCJRF, UGC-SRF and UGC-NET

Title: *Synthesis of Novel Metal Complexes and their application in C-H Bond Functionalization.*

Mentor: Dr. Virendra Prasad, Professor of Organic Chemistry, BHU, India.

M.Sc. (Chemistry): IIT Madras, Chennai (2015-2017); **Qualified Examination:** IIT JAM-2015 for M.Sc. Course.

Project Title: *Transition metal complexes of N-Heterocyclic Carbene Ligands with Pendant Triazole Group.*

Mentor: Dr. Arnab Rit, Associate Professor, IIT Madras, India.

B.Sc. (Hons.)-Chemistry: Banaras Hindu University, India (2012-2015).

Professional Experience

Assistant Professor (DOJ: 10, June, 2022-Continue)

Department of Chemistry
B.S.N.V. P.G. College (KKV),
University of Lucknow,
Station Road, Charbagh,
Lucknow, Uttar Pradesh-226001

Senior Research Fellow (October, 2020 – June, 2022)

Institute of Science, Department of Chemistry, Banaras Hindu University Varanasi, India

Title: Synthesis of novel Metal Complexes and their application in C–H Bond Functionalization.

Advisor: Dr. Virendra Prasad, Professor of Organic Chemistry, BHU

Junior Research Fellow (March, 2019 – September, 2020)

Institute of Science, Department of Chemistry, Banaras Hindu University Varanasi, India

Title: Synthesis of novel Metal Complexes and their application in C–H Bond Functionalization.

Advisor: Dr. Virendra Prasad, Professor of Organic Chemistry, BHU, India

Junior Research Fellow (January, 2018 – February, 2019)

CSIR- Central Drug Research Institute (CDRI), Lucknow, India

Title: Synthesis of carbocycles/Aza-heterocycles under Visible Light photoredox catalyzed Conditions.

Advisor: Dr. Namrata Rastogi, Senior Principal Scientist, CSIR-CDRI, Lucknow, India

M.Sc. Project (July 2016 - May 2017)

Indian Institute of Technology Madras, Chennai, India

Title: Transition metal complexes of N-Heterocyclic carbene ligands with pendent triazole Group

Advisor: Dr. Arnab Rit, Associate Professor, IIT Madras, Chennai, India

Winter Internship (November 2015 - January 2016)

Institute of Science, Department of Chemistry, Banaras Hindu University Varanasi, India

Title: *To define the characteristics properties of Organic and Inorganic molecules via Gaussian Programming Software. (Through, DFT: Density Functional Theory and TD-DFT: Time Dependent-Density Functional Theory Method)*

Advisor: Dr. Satyen Saha, Professor of Physical Chemistry, BHU, India

Summer Internship (May 2016 - July 2016)

Institute of Science, Department of Chemistry, Banaras Hindu University Varanasi, India

Title: *Synthesis of novel co-ordination compounds for the biologically applications for the anticancer activity.*

Advisor: Dr. Manoj. K. Bharty, Professor In Inorganic Chemistry, BHU, India.

M.Sc. Thesis Supervised: **02 Students**

1. Riddhi Kamla (2023-24)
2. Rishita Sharma (2023-24)

List of Publications

1. **Amrit Gond**, Abhishek Upadhyay. New developments in electrocatalysts for oxygen reduction reaction: A case of Pt-Ni Octahedron. (Under review in Journal of Materials Science, JMISC-D-24-08182, Dec. 2024).
2. **Amrit Gond**, Ashvani Yadav, Devendra Kumar. Synthesis of Symmetrical Thiosulfonates by NH₄SCN by Reductive Homocoupling of Sulfonyl Chlorides. (Under Review in Tetrahedron Letters, TETL-D-24-00849, 2024).
3. **Amrit Gond**, Ashvani Yadav. Transition Metal-Free Sulfonylation of Indoles with Sulfonyl Chlorides Mediated by KSCN. (Under Review in Chemistry Select, slct.202405652, 2024).
4. Ashvani Yadav, **Amrit Gond**, Virendra Prasad*. Synthesis of Symmetrical Disulfides via NIS-PPh₃-Mediated Reductive Self coupling of Sulfonyl Hydrazide. *Synlett* **2024**, 35(12), 1453-1457.
5. **Amrit Gond**, Subhash Chandra, Ashvani Yadav, Virendra Prasad, Vijay Shankar, Lallan Prasad, Rajesh Ram. Synthesis of Novel NHC-Based Transition Metal Complexes of Pd(II), Au(I), Cu(I) and Ir(III) with Pendant 1,2,3-Triazole Group. *Inorganica Chimica Acta*, **2023**, 556, 121617.
6. Rajesh Ram, **Amrit Gond**, Mamta Verma. Reversal of Hair Loss: A Novel Discovery of Poly Herbal Oil Formulation. *Anusandhan Sodh Patrika* **2022**, 10(1), 122-130.
7. Rajesh Ram, Shubhash Chandra, **Amrit Gond**, Mamta Verma. Air Quality Index (AQI) Scenario: Challenges for Environmental Sustainability to Protect Human Life. *Anusandhan Sodh Patrika* **2023**, 11 (1), 55-67.

Book Chapters:

1. Vikas Yadav, Rohit Kumar, **Amrit Gond**, Ashvani Yadav, Mitushree Ghosh, Ram Singh Kuri, Virendra Prasad*. New Trends in Asymmetric Catalysis: Chiral Hypervalent Iodine Compounds as Green and Sustainable Catalysts. (**Wiley Publications**, Scrivener, 2024).
2. **Amrit** et al. New Developments in Electrocatalysts for Oxygen Reduction Reaction: A Case of Pt-Ni Octahedron. (Published in, 2023).
3. Rajesh Ram, **Amrit Gond**, Subhash Chandra, Mamta Verma. Climate Change Scenario and Human Health Implications. (Published in, 2023).

Awards

1. **1st Prize in Oral Presentation (Best Oral Presentation Award)** awarded from **KTHM College, University of Pune**, Govt. of India, (on 27 Oct 2021).
2. **Doctoral Research Fellowship** awarded from **College of Science, Department of Chemistry, Korea University, Seoul, South Korea**. (on November 2018).
3. **UGC- Senior Research Fellowship (SRF)** awarded from **University Grants Commission**, Govt. of India. (October, 2020 to June, 2022).
4. **UGC- Junior Research Fellowship (JRF)** awarded from **University Grants Commission**, Govt. of India, (January, 2018 to October, 2020).
5. **UGC- National Eligibility Test** certificate awarded from **University Grants Commission**, Govt. of India (on 23rd March 2017) for the **Assistant Professor Position** in India.

Qualified Examination and Achievements

1. **Qualified All India Engineering Entrance Examination (AIEEE) in 2012.**
2. **Qualified Institute of Engineering and Rural Technology (IERT), Allahabad.** (Secured **All India Rank- 25th**)
3. **BHU Undergraduate Entrance Examination 2012.** (Secured **All India Rank-121**)
4. **IIT JAM-2015.** (Joint Admission Test for MSc Course)
5. **Qualified BHU Postgraduate Entrance Examination 2015.** (Secured **All India Rank- 2nd**)

6. **Qualified CSIR-UGC National Eligibility Test of December 2016.** (Secured **All India Rank-158**)
7. **Qualified BHU Research Entrance Test of March 2019.** (Secured **All India Rank- 1st**)
8. **UPHESC (Uttar Pradesh Higher Education Service Commission Examination, 2022 for Assistant Professor).** (Secured **Rank- 1st**)

Administrative Services/Position at BSNV PG College (KKV)

Member of Admission Committee (Undergraduate)
Member of IT Cell
Member of Website Committee
Member of Digi-Shakti
Member of IPR Cell (IIC)
Member of Skill and Developments Cell (IIC)
Member of Research and Developments Cell
Assistant Nodal Officer (G-20 Painting Competition)
Life time membership of Anusandhan Sodh Patrika

Expertise in the Research Field

N-Heterocyclic Carbene Chemistry, Organometallic Chemistry, Diazo Chemistry, Photoredox Catalysis Chemistry, Medicinal Chemistry, Asymmetric Synthesis, C–H Bond Activation & C–H Bond Functionalization, Synthetic Organic Chemistry, Coordination Chemistry, Inorganic Chemistry, Gaussian Programming Software (DFT and TD-DFT), MATLAB Software, Molecular Simulation

Experimental and Analytical Skills

1. Interpretation of ^1D (^1H -NMR, ^{13}C -NMR) and ^2D -NMR
2. IR and Raman Spectroscopy
3. UV – Visible Spectroscopy
4. Mass Spectrometry
5. MS Office (MS word, Powerpoint, MS Excel, etc.)
6. Column Chromatography and Preparative TLC for the isolation of mixtures and recrystallization, Paper and Ion-exchange chromatography.
7. Experience of Computer Software's /Interfaces such as Chem. Bio Office, Mercury 3.7, 3.8 version & Diamond 4.0, Origin 8.5 version, EC lab Software, Topspin, MestReNova Software
8. Gaussian Programming Software
9. MATLAB Software
10. Expertise of DFT, TD-DFT, Semi-empirical Method, NBO, NPA, Optimization, Frequency Prediction, Thermodynamic Variable Calculation (ΔQ , ΔU , ΔH , ΔS , ΔG) from Gaussian Programming Software
11. Cyclic Voltammetry (CV) Analysis
12. Flash Column Chromatography
13. Molecular Simulation

Conferences/ Seminar/Workshops

1. One-day lecture workshop on **Writing of a Good Research Paper: Technical & Ethical Aspects** organized by Varanasi Local Chapter of NASI.
2. Three-day lecture workshop on **Research Methodology and Effective Paper Writing** organized by Research on Web.
3. Three days **27TH International Conference of International Academy of Physical Science (CONIAPS XXVII)** of *Sustainable Chemistry for Future Technologies*

organized by Department of Chemistry, Institute of Chemical Technology, Mumbai, India.

4. Three days **27TH International Conference of International Academy of Physical Science (CONIAPS XXVII)** of *Recent Advances in Chemical Sciences* organized by Department of Chemistry, Institute of Science, BHU, Varanasi, India.
5. Three days **International Conference** of *Recent Trends in Drug Discovery and Development* organized by Department of Chemistry, Maitreyi College, University of Delhi, India.
6. Three days **International Conference** of *Recent Trends in Green and Sustainable Development in Chemical Sciences* organized by Department of Chemistry, KTHM College, University of Pune, India.
7. Three days **National Symposium on Contemporary Trends and Future Prospects of Functional Materials (CTFM-2019)** organized by Department of Chemistry, Institute of Science, BHU, Varanasi, India.
8. Two days **Chemistry in House Symposium Conference (CIHS-2015 & 2016)** organized by Department of Chemistry, IIT Madras, India.
9. Two days **Medicinal Chemistry Conference (MEDCHEM-2016)** organized by Department of Chemistry, IIT Madras, India.
10. Three days **Indo-USA Conferences**, organized by Institute of Science, Department of Chemistry, BHU, India and **Rice University, USA**.
11. Three days **National Seminar** on *Breaking Gender Biases: A Step Towards Sustainable Development* organized by Navyug Kanya Mahavidyalaya, Lucknow.
12. Two days **Emerging Trends in Chemical Sciences [ETCS 2023]** organized by Department of Chemistry, BHU, India.

Poster Presentation/Invited/Delivered Lectures in Conference or Seminar

1. Delivered a poster presentation on *Synthesis of Symmetrical Disulfides via NIS-PPh₃-Mediated Reductive Self coupling of Sulfonyl Hydrazide*, in the **International Conference of Emerging Trends in Chemical Sciences [ETCS 2023]** organized by Department of Chemistry, BHU, India, **Date:** 16/12/2023
2. Delivered a poster presentation on *Palladium catalyzed selective ortho C-H bond activation of N-benzylbenzamide for arylation using directing scaffolds*, in the **27TH International Conference of International Academy of Physical Sciences (CONIAPS XXVII)** of *Recent Advances in Chemical Sciences*, jointly organized by Department of Chemistry, BHU and JNU, India, **Date:** 28/10/2021.
3. Delivered an oral/paper presentation on *Arylation of N-benzylbenzamide through intramolecular directing group assisted selective ortho C-H bond activation strategy under the catalysis of palladium*, in the **International Conference** of *Recent Trends in Green and Sustainable Development in Chemical Sciences*, organized by Department of Chemistry, KTHM College, University of Pune, Pune, India, **Date:** 25/10/2021.
4. Delivered an oral/paper presentation on *Directing group guided selective ortho C-H bond activation of N-benzylbenzamide for arylation under the catalysis of palladium*, in the **International Conference** of *Recent Trends in Drug Discovery and Development*, organized by Department of Chemistry, Maitreyi College, University of Delhi, New Delhi, India, **Date:** 08/10/2021.
5. Delivered an oral/paper presentation on *Intramolecular directing group assisted ortho C-H bond activation of N-benzylbenzamide for arylation under the catalysis of palladium*, in the **27TH International Conference of International Academy of Physical Science (CONIAPS XXVII)** of *Sustainable Chemistry for Future Technologies*, organized by Department of Chemistry, Institute of Chemical Technology, Mumbai, India, **Date:**

28/10/2021.

6. *Transition metal complexes of N-heterocyclic carbene ligands with pendent triazole group and its catalytic application*, delivered talk in seminar in Department of Chemistry, IIT Madras, Chennai, India, **Date:** 08/04/2017.
7. *Quantum dots: It's properties and applications*, delivered talk in seminar in Medicinal and Process Chemistry Unit, CSIR-Central Drug Research Institute, Lucknow, India, **Date:** 15/12/2018.
8. *Asymmetric visible light photoredox catalysis*, delivered talk in Medicinal and Process Chemistry Unit, CSIR-Central Drug Research Institute, Lucknow, India, **Date:** 07/06/2018.
9. *Synthesis of biologically important organic compounds through C-H bond functionalization*, delivered talk in seminar in Department of Chemistry, Institute of Science, Banaras Hindu University, Varanasi, India, **Date:** 16/03/2021.

Project Details

1. *Amination of N-Heterocyclic and Non-Heterocyclic Compounds via C-H Functionalization under Metal/Metal Free Catalysis*, written with supervisor and submitted by the supervisor in **DST-Science and Engineering Research Board**, Govt. of India.
2. *Design and Development of Novel C-H Amination/Arylation Strategies as Environmentally Sustainable Alternative to Transition Metal Catalysts*, written with supervisor and submitted by the supervisor in **CSIR-HRDG New Delhi**, Govt. of India.
3. *Design and Development of novel synthetic route to access biologically important heterocyclic scaffolds via C-H bond functionalization strategies*, written with supervisor and submitted by the supervisor in BHU under **Institute of Eminence** (special funds) in **Banaras Hindu University**, Varanasi, UP, India, Govt. of India.
4. *Antihypertensive activity of N-Heterocyclic Compounds developed from the C-H Bond Activation Strategies and Extraction from The Medicinal Plants (Arjuna, Cinnamon) for The*

Cardiovascular Diseases Control written and submitted by me under **Council of Science & Technology, Uttar Pradesh (CST-UP, 2023)**, Govt. of Uttar Pradesh.

5. *Design and Development of Novel C-H Amination/Arylation Strategies as Environmentally Sustainable Alternative to Transition Metal Catalyst* written and submitted by me under **Council of Science & Technology, Uttar Pradesh (CST-UP, 2024)**, Govt. of Uttar Pradesh
6. *The Investigation of Physico-Chemical Parameters of The Beso River Water, Uttar Pradesh Purvanchal* written by Shri. Lallan Prasad and submitted by me under **Council of Science & Technology, Uttar Pradesh (CST-UP, 2024)**, Govt. of Uttar Pradesh
7. *Developing New C-H Amination/Arylation Techniques as an Eco-Friendly Substitute for Transition Metal Catalyst* written and submitted by me under **Council of Science & Technology, Uttar Pradesh (CST-UP, 2024)**, Govt. of Uttar Pradesh.

References

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Dr. Biswajit Ray, Ph.D.
Professor of Physical Chemistry,
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Dr. Manoj K. Bharty
Professor of Inorganic Chemistry
Department of Chemistry,
Institute of Science,
Banaras Hindu University,
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I hereby declare that the information given above is true to the best of my knowledge and belief.

Yours Sincerely

