



Faculty Details proforma for DU Web-site

Title	Prof.	First Name	Gopalaiah	Last Name	Kovuru	Photograph
Designation		Professor				
Address		Room No.: 3, Block-C Department of Chemistry University of Delhi Delhi-110007, India				
Phone No	Office	+91-11-27666646				
	Residence					
	Mobile	9999330689				
Email		gopal@chemistry.du.ac.in; gopalaiah@gmail.com				
Web-Page						
Educational Qualifications						
Degree		Institution				Year
Ph.D (Organic Chemistry)		Indian Institute of Science (IISc), Bangalore				2005
M.Sc (Organic Chemistry)		Sri Venkateswara University				1998
B.Sc		Sri Venkateswara University				1996
Career Profile						
<p>2023 – Present: Professor, Department of Chemistry, University of Delhi, Delhi.</p> <p>2020 – 2023: Associate Professor, Department of Chemistry, University of Delhi, Delhi.</p> <p>2010 – 2020: Assistant Professor, Department of Chemistry, University of Delhi, Delhi.</p> <p>2009 – 2010: Associate Research Scientist, AstraZeneca India Pvt. Ltd., Bangalore, India.</p> <p>2006 – 2008: Post-doctoral Researcher, Prof. Henri B Kagan (Wolf Prize Recipient) Research Group, University of Paris-Sud, France.</p> <p>2000 – 2005: Ph.D., Department of Organic Chemistry, Indian Institute of Science (IISc), Bangalore, India.</p>						

Administrative Assignments

- Nodal person from Department of Chemistry for Vice Chancellor Internship Scheme - 2023 (May 2023)
- Member of the selection committee for conducting Ph.D program interviews (January 2023)
- Member of the admission committee for under-graduate, post-graduate and Ph.D in the Colleges/Department admissions (March 2022 to January 2023)
- Deputy Superintendent for conducting M.Sc. Chemistry, Semester-II/IV practical examinations (April 2022 to December 2022)
- Member of selection committee for conducting the Ph.D program interviews (January 2021)
- Deputy Superintendent for conducting open book examinations-2020 for M.Sc. Chemistry, Semester II & IV (May 2020 to September 2020)
- Member of the selection committee for conducting Ph.D program interviews (March 2019)
- Member of the selection committee for conducting Ph.D program interviews (October 2018)
- Member of the moderation committee for Ph.D course work examinations (March 2018)
- Member of the selection committee for conducting Ph.D program interviews (March 2018)
- Member of the moderation committee for Ph.D course work examinations (November 2017)
- Deputy Superintendent for conducting Ph.D course work examinations (Nov - Dec 2017)
- Member of the Department research committee (September 2017 - August 2019)
- Member of the selection committee for conducting Ph.D program interviews (Sept. 2017)
- Member of the moderation committee for Ph.D course work examinations (August 2017)
- Convener for Organic Chemistry Section (July 2017 to June 2018)
- Deputy Coordinator for Centralized Evaluation Centre of M.Sc Chemistry II & IV Semesters and M.Tech (CSPT) Theory examinations May 2016

- Member of the committee of courses (August 2014)
- Deputy Coordinator for Centralized Evaluation Centre of M.Sc. Chemistry I & III Semesters and M.Tech (CSPT) Theory examinations December 2013

Areas of Interest / Specialization

- Development of novel synthetic approaches/new chemical reactivity
- C-H Bond activation and functionalization
- Metal-catalyzed Cascade/Tandem reactions
- Synthesis of biologically significant heterocycles and natural products

Subjects Taught

Paper No. 102 – Course B: *Stereochemistry of Organic Compounds* (M.Sc. Semester-I)

Paper No. 202 – Course B: *Reagents and Methods in Organic Synthesis* (M.Sc. Semester-II)

Paper No. 3201 – Course B: *Heterocyclic Chemistry* (M.Sc. Semester-III)

Paper No. 302 – Course A: *Photochemistry & Pericyclic Reactions* (M.Sc. Semester-III)

Paper No. 601 – Course B: *Green and Sustainable Chemistry* (M.Tech. Semester-VI)

Paper No. 303 – Course A: *Process Development and Important Industries Technologies* (M.Tech. CSPT, Semester-III)

Unit No. 32: *Organic Synthesis* (Ph.D. course)

Paper No. 203 – Course B: *Heterocyclic Chemistry* (M.Tech. CSPT, Semester-II)

Paper No. 101 – Course B: *Stereochemistry* (M.Tech. CSPT, Semester-I)

Paper No. 104: *Practical, Organic Chemistry* (M.Sc. Semester-I)

Paper No. 204: *Practical, Organic Chemistry* (M.Sc. Semester-II)

Paper No. 3202: *Practical, Organic Chemistry* (M.Sc. Semester-III)

Paper No. 4205 & 4206: *Practical and Project Evaluation, Organic Chemistry* (M.Sc. Semester-IV)

Paper No. 205: *Practical* (M.Tech. CSPT, Semester-II)

Paper No. 305: *Practical* (M.Tech. CSPT, Semester-III)

Paper No. 605: *Practical* (M.Tech. CSPT, Semester-VI)

Time table of the subjects taught during the current semester
<p>Paper No. 202 – Course B: <i>Reagents and Methods in Organic Synthesis</i> (M.Sc. Semester-II)</p> <p>Paper No. 204: <i>Practical, Organic Chemistry</i> (M.Sc. Semester-II)</p>
Research Guidance
<p>Ph.D. Awarded: Six</p> <p>1) <i>Name of the Student:</i> S. Naga Chandrudu <i>Thesis Title:</i> Synthesis of Imines and Nitrogen-Containing Heterocycles by Oxidative Coupling of Amines</p> <p>2) <i>Name of the Student:</i> Alka Devi <i>Thesis Title:</i> Novel Approaches for Synthesis of Quinazolines, Quinazolinones and 3-Aryl-3,4-Dihydro-(2H)-1,2,4-Benzothiadiazine 1,1-Dioxides from Benzylamines</p> <p>3) <i>Name of the Student:</i> D. C. Rao <i>Thesis Title:</i> Synthesis of Functionalized Azaheterocycles, Bis(indolyl)methanes and Amides by Oxidative Annulation/Coupling Methods</p> <p>4) <i>Name of the Student:</i> Anupama Saini <i>Thesis Title:</i> Synthesis of Quinoxalines, Quinazolines and Schiff Bases using Primary Amines</p> <p>5) <i>Name of the Student:</i> Ankit Tiwari <i>Thesis Title:</i> Oxidative Functionalization and Annulation Strategies for Construction of Bicyclic and Polycyclic Nitrogen-Containing Heterocycles</p> <p>6) <i>Name of the Student:</i> Renu Choudhary <i>Thesis Title:</i> Synthesis of Pyridines and Benzo-Fused Pyridines through Oxidative Condensation and Coupling Methodologies</p>

31) Pd-catalyzed one-pot approach for installation of 9-aminoacridines via Buchwald-Hartwig amination and cycloaromatization

Kovuru Gopalaiah, Renu Choudhary, K. R. S. Sambasiva Rao

Arkivoc **2022**, part vi, 24-37.

30) Synthesis of Kröhnke pyridines through iron-catalyzed oxidative condensation/ double alkynylation/amination cascade strategy

Kovuru Gopalaiah, Renu Choudhary

Tetrahedron, **2021**, 98, 132429.

29) Microspherical core-shell MoO₂-graphitic C₃N₄ heterojunction promoted integration leading to Kröhnke pyridines and degradation of xylenol orange

Priyanka Yadav, Kovuru Gopalaiah, Vipul Shrivastava, Rajamani Nagarajan

Materials Today Communications, **2021**, 26, 102117.

28) Synthesis of (*E*)-3-Alkylideneindolin-2-ones by an Iron-Catalyzed Aerobic Oxidative Condensation of Csp³-H Bonds of Oxindoles and Benzylamines

Kovuru Gopalaiah, Ankit Tiwari

European Journal of Organic Chemistry **2020**, 7229-7237.

- This article has been selected for the Hot Topics: **C-H activation**

27) Straightforward Access to 3,4-Dihydro-2H-1,2,4-benzothiadiazine 1,1-dioxides and Quinazolines via Iron-Catalyzed Aerobic Oxidative Condensation of Amines

Kovuru Gopalaiah, Ankit Tiwari, Renu Choudhary, Kuldeep Mahiya

ChemistrySelect **2019**, 4, 5200-5205.

26) An Anti-Hypertensive Cardio-Protective Composition

Kundu Suman, Thelma Bittianda Kuttapa, Kovuru Gopalaiah, Prabhakar Pankaj, Dey Sanjay Kumar, Maulik Subir Kumar, Saini Manisha

Indian Patent, Application No. IN201811005899, Date of Award: 30.08.2019

25) Iron-Catalyzed Aerobic Oxidative Cleavage and Construction of C-N Bonds: A Facile Method for Synthesis of 2,4,6-Trisubstituted Pyridines

Kovuru Gopalaiah, Devarapalli Chenna Rao, Kuldeep Mahiya, Ankit Tiwari

Asian Journal of Organic Chemistry **2018**, 7, 1872-1881.

- *Selected as a Very Important Paper*

24) An Insight into the Synthesis, Crystal Structure, Geometrical Modelling of Crystal Morphology, Hirshfeld Surface Analysis and Characterization of *N*-(4-Methylbenzyl) benzamide Single Crystals

Sahil Goel, Harsh Yadav, Nidhi Sinha, Budhendra Singh, Igor Bdikin, Devarapalli Chenna Rao, Kovuru Gopalaiah, Binay Kumar

Journal of Applied Crystallography, **2017**, 50, 1498–1511.

23) Iron-Catalyzed Cascade Reaction of 2-Aminobenzyl Alcohols with Benzylamines: Synthesis of Quinazolines by Trapping of Ammonia

Kovuru Gopalaiah, Anupama Saini, Alka Devi

Organic and Biomolecular Chemistry **2017**, 15, 5781–5789.

22) Copper-Catalyzed Aerobic Oxidative Coupling of *o*-Phenylenediamines with 2-Aryl/Heteroarylethylamines: Direct Access to Construct Quinoxalines

Kovuru Gopalaiah, Anupama Saini, S. N. Chandrudu, D. Chenna Rao, Harsh Yadav, Binay Kumar

Organic and Biomolecular Chemistry **2017**, 15, 2259–2268.

21) Growth, Crystal Structure, Hirshfeld Surface, Optical, Piezoelectric, Dielectric and Mechanical Properties of Bis(L-Asparaginium Hydrogensquarate) Single Crystal

Harsh Yadav, Nidhi Sinha, Sahil Goel, Budhendra Singh, Igor Bdikin, Anupama Saini, Kovuru Gopalaiah, Binay Kumar

Acta Crystallographica, **2017**, B73, 347-359.

20) A Solvent-Free Process for Synthesis of Imines by Iron-Catalyzed Oxidative Self- or Cross-Condensation of Primary Amines Using Molecular Oxygen as Sole Oxidant

Kovuru Gopalaiah, Anupama Saini

Catalysis Letters **2016**, *146*, 1648–1654.

19) Iron-Catalyzed Oxidative Coupling of Benzylamines and Indoles: Novel Approach for Synthesis of Bis(indolyl)methanes

Kovuru Gopalaiah, S. N. Chandrudu, Alka Devi

Synthesis **2015**, *47*, 1766-1774.

- This article has been selected for the themed collection: **Iron in Organic Synthesis**

18) Iron(II) Bromide-Catalyzed Oxidative Coupling of Benzylamines with *ortho*- Substituted Anilines: Synthesis of 1,3-Benzazoles

Kovuru Gopalaiah, S. N. Chandrudu

RSC Advances **2015**, *5*, 5015-5023.

17) Anion (Fluoride)-Doped Ceria Nanocrystals: Synthesis, Characterization, and its Catalytic Application to Oxidative Coupling of Benzylamines

Shahzad Ahmad, Kovuru Gopalaiah, S. N. Chandrudu, Rajamani Nagarajan

Inorganic Chemistry **2014**, *53*, 2030–2039.

16) Chiral Iron Catalysts for Asymmetric Synthesis

Kovuru Gopalaiah

Chemical Reviews **2013**, *113*, 3248–3296.

- *Most Read Article in 2013*

15) Recent Developments in Samarium Diiodide Promoted Organic Reactions

Kovuru Gopalaiah, Henri B. Kagan

The Chemical Record **2013**, *13*, 187–208.

14) Use of Nonfunctionalized Enamides and Enecarbamates in Asymmetric Synthesis

Kovuru Gopalaiah, Henri B. Kagan

Chemical Reviews **2011**, *111*, 4599–4657.

13) Early History of Asymmetric Synthesis: Who Are the Scientists Who Set Up the Basic Principles and the First Experiments ?

Henri B. Kagan, Kovuru Gopalaiah

New Journal of Chemistry **2011**, *35*, 1933–1937.

12) Equilibrium of Homochiral Oligomerization of a Mixture of Enantiomers. Its Relevance to Nonlinear Effects in Asymmetric Catalysis

Masaki Tsukamoto, Kovuru Gopalaiah, Henri B. Kagan

Journal of Physical Chemistry B **2008**, *112*, 15361–15368.

11) Use of Samarium Diiodide in the Field of Asymmetric Synthesis

Kovuru Gopalaiah, Henri B. Kagan

New Journal of Chemistry **2008**, *32*, 607–637.

10) The Generalized Anomeric Effect in the 1,3-Thiazolidines: Evidence for Both Sulphur and Nitrogen as Electron Donors. Crystal Structures of Various *N*-Acylthiazolidines Including Mercury(II) Complexes. Possible Relevance to Penicillin Action

Sosale Chandrasekhar, Deepak Chopra, Kovuru Gopalaiah, T. N. Guru Row

Journal of Molecular Structure **2007**, *837*, 118–131.

9) A Simple and Effective Glycine-Catalysed Procedure for the Preparation of Oximes

M. Maheswara, V. Siddaiah, Kovuru Gopalaiah, V. Madhava Rao, C. Venkata Rao

Journal of Chemical Research **2006**, 362–363.

8) Oxalic Acid: A Very Useful Brønsted Acid in Organic Synthesis

Kovuru Gopalaiah

Synlett **2004**, 2838–2839.

- 7) Ketones to Amides via a Formal Beckmann Rearrangement in 'One Pot': A Solvent-Free Reaction Promoted by Anhydrous Oxalic Acid. Possible Analogy with the Schmidt Reaction
Sosale Chandrasekhar, Kovuru Gopalaiah
Tetrahedron Letters **2003**, 44, 7437–7439.
- 6) Beckmann Reaction of Oximes Catalysed by Chloral: Mild and Neutral Procedures
Sosale Chandrasekhar, Kovuru Gopalaiah
Tetrahedron Letters **2003**, 44, 755–756.
- 5) Juspurpurin, an Unusual Secolignan Glycoside from *Justicia Purpurea*
Jakka Kavitha, Kovuru Gopalaiah, Dodda Rajasekhar, Gottumukkala V. Subbaraju
Journal of Natural Products **2003**, 66, 1113–1115.
- 4) Effective 'Non-Aqueous Hydrolysis' of Oximes with Iodic Acid in Dichloromethane under Mild, Heterogeneous Conditions
Sosale Chandrasekhar, Kovuru Gopalaiah
Tetrahedron Letters **2002**, 43, 4023–4024.
- 3) Beckmann Rearrangement of Ketoximes on Solid Metaboric Acid: A Simple and Effective Procedure
Sosale Chandrasekhar, Kovuru Gopalaiah
Tetrahedron Letters **2002**, 43, 2455–2457.
- 2) Beckmann Rearrangement in the Solid State: Reaction of Oxime Hydrochlorides
Sosale Chandrasekhar, Kovuru Gopalaiah
Tetrahedron Letters **2001**, 42, 8123–8125.
- 1) *Justicia* lignans: Part 9[†] – Two new lignans from *Justicia neesii* Ramamoorthy (white flower variety)
Kovuru Gopalaiah, Jakka Kavitha, Raju V Kanumuri, Dodda Rajasekhar, G. V. Subbaraju
Indian Journal of Chemistry **2001**, 40B, 596–600.

Conference Organization/ Presentations (in the last three years)
<p>1) Indian Council of Chemists 41st Annual National Conference, Organized by Institute of Basic Sciences, Khandari (27-29 December 2022); “Bond Formations between Two Nucleophiles: Construction of Biologically Interesting N-Heterocycles”.</p> <p>2) National Science Day Celebrations – 2022, Organized by SR & BGNR Govt. Arts & Science College (25-26 February 2022); Title of the Talk: “Tandem Oxidative Annulations for the Synthesis of Biologically Active N-Heterocycles”.</p> <p>3) Indian Council of Chemists 40th Annual National Conference, Organized by Satavahana University, Karimnagar (29-30 December 2021); Title of the Talk: “Oxidative Coupling and Annulation Strategies for the Construction of Privileged N-Heterocycles”.</p>
Awards and Distinctions
<ul style="list-style-type: none"> • ISCAS Dr. Lakshmi Endowment Medal received from <i>Indian Association of Solid State Chemists and Allied Scientists</i>, December 2019. • Prof. D. Bhaskar Reddy Excellence Award received from <i>Sri Venkateswara University</i>, March 2016. • Prof. Sudheer K. Banerjee Memorial Award – 2014 received from <i>Indian Council of Chemists</i>, December 2014.
Association With Professional Bodies
<ul style="list-style-type: none"> • Life Member of Chemical Research Society of India. • Life Member of Indian Council of Chemists. • Life Member of Indian Chemical Society. • Life Member of Him Science Congress Association.

- Life Member of Indian Association of Solid State Chemists and Allied Scientists.

Other Activities

Reviewer

Chemical Reviews, Accounts of Chemical Research, Organic Letters, Journal of Organic Chemistry, ACS Omega, RSC Advances, Organic & Biomolecular Chemistry, Synthesis, Tetrahedron.

Signature of Faculty Member

- You are also requested to also give your complete resume as a DOC or PDF file to be attached as a link on your faculty page.