

**Dr. VIJAYAKUMAR G. R. MSc, PhD.,**  
Associate Professor, Dept. of Studies and Research in Chemistry  
University College of Science, Tumkur University, Tumkur 572103 India.

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**Date of Birth:** 18<sup>th</sup> June 1978; **Cell Phone:** +91-9880745882, **Off:** +91-816-2260220

**Place:** Chickmagalore, Karnataka, India.

**Citizenship:** Indian.

**Languages Known:** English, Indian languages (Kannada and Hindi).

**Marital Status:** Married

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**Education:**

Degree	Institution/ College	University	Year	Class	% Marks	Subjects studied
PhD in Chemistry	Central Food Technological Research Institute, Mysore 570020, India.	University of Mysore	October 2007 (01-10-2007)			<u>Thesis Title:</u> Enzymatic synthesis of selected glycosides.
M Sc	Jnana Sahyadri, Shimoga 577451, India.	Kuvempu University	2001 (10-11-2001)	First	68.47	Industrial Chemistry
B Sc	S.J.R College of Science Arts and Commerce, Bangalore. 560009, India.	Bangalore University	1999 Degree awarded (07-03-2000)	First	72.33	Industrial Chemistry, Chemistry, Mathematics
PUC	Dept. of Pre- University Education	Karnataka	1996 (01-06-1996)	First	66.16	Kan, Eng, Physics, Chemistry, Mathematics, Biology
SSLC	Karnataka Secondary Education Examination Board	Karnataka	1994 (28-05-1994)	First	73.90	Kan, Eng, Hindi, Mathematics, Science, Social Studies

**Professional Experience:**

From 23<sup>rd</sup> January 2008 to till date working as Assistant Professor in the department of Chemistry (UG and PG), University College of Science, Tumkur University, Tumkur India 572103.

**Total Teaching Experience UG and PG:** 14 Years

**Accomplishments:**

**Project assistant:**

- ❖ Synthesis of Schiff bases, copper and palladium complexes, bent core liquid crystalline compounds and their intermediates, DCC reactions involving aromatic acids and phenols, esterification, alkylation, hydrogenolysis, Haloform reactions, methylation and demethylation reactions, bromination and copper-catalyzed (CuCN) reactions. Column purification and spectral characterization of the synthesized compounds.

**PhD:**

- ❖ Glycosylation potentialities of amyloglucosidase from *Rhizopus* sp. and  $\beta$ -glucosidase isolated from sweet almonds were explored in detail in the synthesis of alkyl (alcohols of carbon chain length C<sub>1</sub>-C<sub>18</sub>), guaiacyl, eugenyl, curcuminy and tocopheryl glycosides of various carbohydrates.
- ❖ Lipase catalyzed synthesis of L-leucyl esters of D-glucose using unprotected amino acids.
- ❖ An experimental setup was developed for large-scale synthesis of glycosides using lesser enzymes and larger concentrations of substrates to give higher yields.
- ❖ Synthesized compounds were isolated through size exclusion chromatography and characterized by UV, IR, MS and 2D HSQCT (Two-dimensional heteronuclear single quantum coherence transfer) NMR.
- ❖ Stereo chemistry was studied for the synthesized glycosides.
- ❖ Response Surface Methodological (RSM) and kinetic studies were carried out for glycosylation reactions.
- ❖ Biological activities such as Angiotensin Converting Enzyme (ACE) inhibition activity and antioxidant activity of the synthesized glycosides were studied.

**Post PhD:**

- ❖ Synthesized various intermediates used for the final preparation of pharmaceutically active ingredients calcitriol and 1 $\alpha$  calcidol.
- ❖ Synthesis and scale up study of 1-piperonylpiperazine, a key intermediate for the synthesis of antagonist activity drugs.
- ❖ Isolation and purification ( $\leq 90\%$ ) of chlorogenic acid from coffee bean powder.
- ❖ Synthesis and characterization of barbiturates containing N, O and S heterocycles

**Expertise:**

- Multi step synthesis of organic compounds and scale up study.
- Preparation of inorganic complexes and characterization
- Purification of organic compounds using column chromatography, and recrystallization techniques.
- Structural elucidation using IR, MS, <sup>1</sup>H, <sup>13</sup>C and 2D NMR.
- Identifying the new compounds with the help of above mentioned spectroscopic techniques.
- Having computer knowledge including Microsoft office, Chem Skech and Chem Draw.

## ➤ Preparation of reports and papers

	Period	Project undertaken/Work Carried out	Institution/ Company
Research Associate	October 2006 to December 2007	Worked on various company projects such as calcitriol, $1\alpha$ calcidol, 1-piperonylpiperazine, and chlorogenic acid.	Brain N' Beyond Biotech Pvt Ltd, No 95A, Belagola Industrial Area, Mysore-560016. India.
Junior and Senior Research Fellow	June 2003 to September 2006	Worked for my PhD in the project entitled "Synthesis of some selected glycosides and sugar esters using hydrolytic enzymes"	Fermentation Technology and Bioengineering Department, CFTRI, Mysore 570020, India.
Project Assistant	16 <sup>th</sup> September 2002 to 31 <sup>st</sup> May 2003.	Synthesized several compounds, which exhibited liquid crystalline properties, and also few intermediate compounds, which could be used to prepare other mesogenic materials.	Raman Research Institute, Sadashivanagar Bangalore 560080, India.
M Sc	Project work during the academic year 2000 - 2001	"Isolation of curcumin, synthesis and anthelmintic studies of their complexes"	Dept. of Studies and Research in Industrial Chemistry, Jnana Sahyadri, Kuvempu University, Shimoga 577451. India.
B Sc	16 <sup>th</sup> -29 <sup>th</sup> October 1996 and 26 <sup>th</sup> -31 <sup>st</sup> May 1997	"Applications of analytical instruments for industrial sample analysis including water, soil and effluents".	Rallies Research Center, Peenya Industrial Area, P.B No. 5813, Bangalore 560058 India.
	17 <sup>th</sup> June 1998 to 23 <sup>rd</sup> June 1998	"Various aspects of soaps and detergent production process"	Karnataka Soaps and Detergents Limited (A Govt. of Karnataka Undertaken), P.B No. 5531, Bangalore 560055 India.
	2 <sup>nd</sup> November 1998 to 14 <sup>th</sup> October 1998	"Analysis of Ibuprofen"	Recon Limited, R&D Center, 32/1, Bangalore 560076 India.

**National Exams Qualified:****1. Graduate Aptitude Test in Engineering – 2002 (GATE – 2002)**

Subject – CHEMISTRY, Percentile Score – 79.12

**2. Joint CSIR-UGC Junior Research Fellowship (JRF)-2002**

Conducted by Council of Scientific &amp; Industrial Research (CSIR) – Subject CHEMICAL SCIENCES

**List of Publications:**

**Research papers published in peer-reviewed journals**

1. **Vijayakumar, G. R.,** Lohith, K., Somashekar, B.R., Divakar, S. Lipase catalyzed synthesis of L-alanyl, L-leucyl and L-phenyl alanyl esters of D-glucose using unprotected amino acids. **Biotechnol. Lett.** 2004: 26, 1323-1328. Doi:10.1023/B:BILE.0000045627.60538.4f
2. **Vijayakumar, G.R.,** Manohar, B., Divakar, S., Amyloglucosidase catalyzed synthesis of n-octyl-D-glucoside-Analysis using Response Surface Methodology. **Eur. Food Res. Technol.** 2005: 220, 272-277.
3. **Vijayakumar, G.R.,** Divakar, S. Synthesis of guaiacol- $\alpha$ -D-glucoside and curcumin-bis- $\alpha$ -D-glucoside by an amyloglucosidase from *Rhizopus*. **Biotechnol. Lett.** 2005:27, 1411-1415.
4. **Vijayakumar, G.R.,** Manohar, B., Divakar, S. Amyloglucosidase catalyzed synthesis of curcumin-bis- $\alpha$ -D-glucoside-A Response Surface Methodological study. **Eur. Food Res. Technol.** 2006: 223, 725-730.
5. Sivakumar, R., **Vijayakumar, G.R.,** Manohar, B., Divakar, S. Competitive substrate inhibition of amyloglucosidase from *Rhizopus* sp. by vanillin and curcumin. **Biocatal. Biotransform.** 2006:24, 299-305. Print ISSN: 1024-2422 <http://dx.doi.org/10.1080/10242420600784844>
6. K. Lohith, **Vijayakumar, G.R.,** Somashekar, B.R., Sivakumar, R., Divakar, S. Glycosides and amino acyl esters of carbohydrates as potent inhibitors of Angiotensin Converting Enzyme. **Eur. J. Med. Chem.** 2006: 41, 1059-1072. ISSN: 0223-5234:
7. **Vijayakumar, G.R.,** Charles G., Divakar, S. Synthesis of n-alkyl glucosides by amyloglucosidase. **Ind. J. Chem. Sec B.** 2007: 46B, 314-319.
8. **Vijayakumar, G.R.,** Divakar, S. Amyloglucosidase catalyzed synthesis of eugenyl and curcuminyl glycosides. **Biotechnol Lett.** 2007:29, 575-584.
9. Kishor kumar C, Vijaykumar H, **G. R. Vijayakumar,** Nagraja Naik. 3-Oxoisoindoline-5-carboxamides: Synthesis and their Antioxidant Activity Studies. **Journal of Pharmaceutical Science and Technology** 2010: 2(12), 380-390.
10. Shivaraj, Y., Naveen, M. H., **Vijayakumar, G. R.,** Aruna Kumar, D. B. Design, Synthesis and Antibacterial Activity Studies of Novel Quinoline Carboxamide Derivatives. **J. Korean Chem. Soc.** 2013: 57(2), 241-245. ISSN No. 1017-2548.
11. Shet Prakash M, Vaidya V P, Mahadevan K M, Shivananda M K, Sreenivasa S & **Vijayakumar G. R.** Synthesis characterization and antimicrobial studies of some novel sulphonamides containing substituted naphthofuroyl group. **Res. J. Chem. Sci.,** 2013: 3(1), 15-20. ISSN no. 2231-606X.
12. M. Shet prakash, V P Vaidya, K. M. Mahadevan, **G. R. Vijayakumar,** S. sreenivasa, M. K. Shivanada, P. A. Suchethan. Synthesis characterization and antimicrobial activities of some novel carboxamides derived from naphthofurans and 1,24-triazoles. Published in the proceedings of **National Conference on Challenges and opportunities for chemical sciences in 21<sup>st</sup> century** held on 8<sup>th</sup> January 2013 at Higher Education dept. Bangalore. Page number.
13. B. Ravi Kiran, B. S. Palakshamurthy, **G. R. Vijayakumar** and H. S. Bharath. 3,4-Difluoro-2-hydroxybenzoic acid. **Acta Cryst.** 2014: E70, o519. ISSN No. 1600-5368
14. C. Kishore Kumar, **G. R. Vijayakumar.** 1-Oxoisoindoline-4-carboxamides: design, synthesis, molecular docking and their antioxidant activity studies. **Indo American**

- Journal of Pharmaceutical Research**, 2014: 4(5), 2427-2434. Impact Factor 1.25. ISSN NO 2231-6876
15. Subramanyahegde, H. Amar, Y. Shivaraj, **G. R. Vijayakumar** and B. S. Palakshamurthy, 5'-([1,1'-Biphenyl]-4-yl)-1',1'',3''-trimethyldispiro[indane-2,2'-pyrrolidine-4',5''-[1,3]diazinane]-1,3,2'',4'',6''-pentaone. **Acta Cryst.** 2014: *E70*, o759.
  16. B. S. Shivakumar, **G. R. Vijayakumar**, V. P. Vaidya, M. Ramaiah. One pot-synthesis and evaluation of pharmacological activities of 2-acetyl-1-naphthol, 6-hydroxytetracene-5-12-dione and 7-acetyl-6-hydroxytetracene-5-12-dione. **Indo American Journal of Pharmaceutical Research**, 2014: 4(11), 5300-5305. Impact Factor 1.25. ISSN NO 2231-6876
  17. Bhaskarachar Ravi Kiran, Krishna Murthy Potla, **Giriyapura R. Vijayakumar**. Synthesis, X-Ray Crystallography and DFT Calculations of 3,4-Difluoro-2-hydroxybenzoic acid. Published in Proceedings of **International Inradisciplinary Conference on "The frontiers of crystallography-IICFC 2014"** organized by Field Marshal K. M. Cariappa College, Madikeri, Kodagu on 29<sup>th</sup> and 30<sup>th</sup> Dec 2014, Page number. ISBN No. 9789383701513 Page no 226
  18. Manjunath Kamble Narayana Rao, **Giriyapura R Vijayakumar**, Bandrehalli Siddagangaiah Palakshamurthy<sup>c</sup> and Susmita Kamila. Crystal structure of 1-Methyl-3-(1-methyl-1*H*-indole-5yl)spiro(indene-2,2-pyrrolidine)-1,3-dione. Published in the Proceedings of International Inradisciplinary Conference on "The frontiers of crystallography-IICFC 2014" organized by Field Marshal K M Cariappa College, Madikeri, Kodagu on 29<sup>th</sup> and 30<sup>th</sup> Dec 2014, Page number. ISBN No. 9789383701513
  19. B. Ravi Kiran, P. A. Suchetan, H. Amar, **G. R. Vijayakumar**. Crystal structure of 5,5-bis(4-methylbenzyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione monohydrate. **Acta Cryst.** 2015: *E71*, 19-21. doi:10.1107/S205698901402619X
  20. B. Ravi Kiran, **G. R. Vijayakumar**\* H. S. Bharath, R. Sivakumar, S. Sindhu, and M. Shet Prakash. Synthesis, evaluation of analgesic and anti-inflammatory activities of substituted 1,2-benzoxazolone and 3-chloro-1,2-benzoxazole derivatives. **International Journal Pharmaceutical Sciences and Research**, 2015: 6(7), 2918-2925. ISSN No: 0975-9492 (UGC 17370) (IF 1.11)
  21. B. Ravi Kiran, **G. R. Vijayakumar**\*, Subramanya hedge, P. B. Janardhana, Y. Suman Reddy. Design, synthesis and anticancer activity of functionalized spiro-quinolines with barbituric and thiobarbituric acids. **Medicinal Chemistry Research**, 2015: 24(9), 3516-3528. doi 10.1007/s00044-015-1408-7. ISSN: 1054-2523. (IF 1.436)
  22. **G. R. Vijayakumar**, B. Ravi Kiran, H. Nagabhushana. MgSiO<sub>3</sub> Nanomaterials-A catalyst for the synthesis of trisubstituted imidazoles. A research paper published in the Proceedings of National Conference on Advanced Functional Materials (AFM-2015) organized by Dayananda Sagar College of Engineering and Dayananda Sagar University, Bangalore on December 4<sup>th</sup> and 5<sup>th</sup> 2015. ISBN 978-93-85682-04-9.
  23. H Nagabhushana, RB Basavaraj, B Daruka Prasad, SC Sharma, HB Premkumar, GR Vijayakumar. Facile EGCG assisted green synthesis of raspberry shaped CdO nanoparticles, **Journal of Alloys and Compounds**, 2016, 669, 232-239.
  24. M Srinivas, TO Shrunghesh Kumar, KM Mahadevan, S Naveen, GR Vijayakumar, H Nagabhushana, MN Kumara, NK Lokanath, Synthesis, crystal structure and photoluminescence study of green light emitting bis (1 [(4-butylphenyl) imino] methyl naphthalen-2-ol) Ni (II) complex, **Journal of Science: Advanced Materials and Devices**, 2016, 1; 324-329. <http://dx.doi.org/10.1016/j.jsamd.2016.07.002>. ISSN: 2468-2179.

25. M Venkataravanappa, H Nagabhushana, GP Darshan, B Daruka Prasad, GR Vijayakumar, HB Premkumar. Udayabanu Novel EGCG assisted ultrasound synthesis of self-assembled Ca<sub>2</sub>SiO<sub>4</sub>:Eu<sup>3+</sup> hierarchical superstructures: Photometric characteristics and LED applications. **Ultrasonics sonochemistry**, 2016, 33, 226-239. (IF 4.556)
26. N Manjunatha, K Lokesh, G. R. Vijayakumar, Subramanya Gopal, Susmita Kamila, Multicomponent synthesis of spiropyrrolidine analogues derived from vinylindole/indazole by a 1,3-dipolar cycloaddition reaction. **Beilstein J. Org. Chem.** 2016, 12, 2893–2897. (IF 2.697)
27. H. J. Amith Yadav, B. Eraiah, H. Nagabhushana, G. P. Darshan, B. Daruka Prasad, S. C. Sharma, H. B. Premkumar, K. S. Anantharaju, and G. R. Vijayakumar, Facile ultrasound route to prepare micro/nano superstructures for multifunctional applications, **ACS Sustainable Chemistry & Engineering**, 2017, 5 (3), pp 2061–2074. DOI: 10.1021/acssuschemeng.6b01693 (IF 5.267).
28. R B Basavaraj, H Nagabhushana, B D Prasad, GR Vijayakumar, Zinc silicates with tunable morphology by surfactant assisted sonochemical route suitable for NUV excitable white light emitting diodes, **Ultrasonics Sonochemistry**, 2017, 34, 700-712. (IF 4.556)
29. M Venkataravanappa, H Nagabhushana, B Daruka Prasad, GP Darshan, RB Basavaraj, GR Vijayakumar, Dual color emitting Eu doped strontium orthosilicate phosphors synthesized by bio-template assisted ultrasound for solid state lightning and display applications, **Ultrasonics Sonochemistry**, 2017, 34, 803-820. (IF 4.556).
30. M. Srinivas, G.R. Vijayakumar, K.M. Mahadevan, H. Nagabhushana , H.S. Bhojya Naik, Synthesis, Photoluminescence and Forensic Applications of Blue Light emitting Azomethine-Zinc (II) Complexes of Bis(salicylidene)cyclohexyl-1,2-diamino Based Organic Ligands, *Journal of Science: Advanced Materials and Devices* 2 (2017) 156-164. <http://dx.doi.org/10.1016/j.jsamd.2017.02.008>. ISSN: 2468-2179
31. V. B. Nagaveni, K. M. Mahadevan, **G. R. Vijayakumar**, H. Nagabhushana, S. Naveen, N.K. Lokanath, Synthesis, Crystal Structure and Excellent Photoluminescence Properties of Copper (II) and Cobalt (II) Complexes with Bis(1[(4-butylphenyl)imino]methyl naphthalen-2-ol) Schiff base. *Advanced Materials and Devices*, 2018, 3; 51-58. <https://doi.org/10.1016/j.jsamd.2018.01.001>. ISSN: 2468-2179.
32. Subramanya Gopal Hegde, Lokesh Koodlur, **Vijayakumar G. Revanasiddappa**, Suchetan P. Adimule, Suman Y. Reddy, Atanu Ghoshal & H. Nagabhushana (2018) MgSiO<sub>3</sub> NPs catalyzed intramolecular cycloaddition reaction: A simple and stereoselective synthesis of unprecedented julolidine analogs, *Synthetic Communications*, 48:19, 2485-2495, DOI: [10.1080/00397911.2018.1492725](https://doi.org/10.1080/00397911.2018.1492725) IF 1.439 Print ISSN: 0039-7911 Online ISSN: 1532-2432
33. B. Somashekara, B. Thippeswamy, G. R. Vijayakumar\*, Synthesis, antioxidant and α-amylase inhibition activity of naphthalene containing 2,4,5-trisubstituted imidazole derivatives. *J. Chem. Sci.* (2019) 131:62. <https://doi.org/10.1007/s12039-019-1639-0> IF 1.496 in 2018. ISSN No. 0974-3626
34. Somashekara Bhadrachar, Giriya pura R.Vijayakumar\*, Kittappa M. Mahadevan and Thippeswamy Basavaraja, Synthesis, Molecular Docking and Radical Scavenging Activity of 1,2,4,5-Tetrasubstituted Imidazole Derivatives, *Asian Journal of Chemistry; Vol. 31, No. 11 (2019), 2448-2452*. <https://doi.org/10.14233/ajchem.2019.22107>. UGC approved journal; Journal number 8774 **Scopus Journal**

35. M. K. Ravindra, K.M. Mahadevan, R.B. Basavaraj G.P. Darshan, S.C.Sharma, M.S.Raju, G.R.Vijayakumar, Kiran B. Manjappa, Ding-YahYang, H.Nagabhushana, New design of highly sensitive AIE based fluorescent imidazole derivatives: Probing of sweat pores and anti-counterfeiting applications, *Materials Science and Engineering: C*; 101, 2019, 564-574. <https://doi.org/10.1016/j.msec.2019.03.089> IF 4.959 2019 **Impact Factor 6.259** ISSN: 0928-4931
36. Thippeswamy Basavaraja, Somashekara Bhadrachar, Kittappa M. Mahadevan and Giriya pura R. Vijayakumar\*, Transition Metal Complexes of Pyridyl Ligand as Light Emitting Materials in OLEDs, *Asian Journal of Chemistry*; Vol. 32, No. 1 (2020), 161-166, <https://doi.org/10.14233/ajchem.2020.22371>; UGC approved journal; Journal Number 8774. **Scopus Journal**
37. B. Thippeswamy, P. A. Suchetan, K. M. Mahadevan, H. Nagabhushana and G. R. Vijayakumar\*, Crystal structure and photoluminescent properties of bis(4'-chloro-2,2':6,2"-terpyridyl)cobalt(II) dichloride tetrahydrate, *Acta Cryst.* (2020). E76, 496–499. <https://doi.org/10.1107/S205698902000287X> IF 0.32 ISSN no 2056-9890
38. B. Thippeswamy, G. R. Vijayakumar\*, Synthesis, Spectral Characterization and Luminescent Properties of Ni(II) Complex Bearing 4,4'-dimethyl-2,2'-bipyridyl and Isothiocyanate Ligands for OLED Applications. *Asian Journal of Chemistry*; Vol. 32, No. 8 (2020), 1909-1913, <https://doi.org/10.14233/ajchem.2020.22670>; UGC approved journal; Journal Number 8774.
39. B. Somashekara<sup>a</sup>, G. R. Vijayakumar\*. Synthesis, antioxidant and antibacterial activities of quinoline incorporated 2,4,5-trisubstituted imidazole derivatives. *Indian J Chem*, Vol. 60B, (2021), 1601-1606. **IF 0.592** 0975-0983(Online); 0376-4699(Print), <http://nopr.niscair.res.in/handle/123456789/58606>  
<http://nopr.niscair.res.in/bitstream/123456789/58606/1/IJC%20%28Section%20B%29%2c%2060B%2c%201601-1606%20%28Dec%2c2021%29.pdf>
40. S. Sahana, G. R. Vijayakumar\*, R. Sivakumar, D. Sriram, and D. V. Saiprasad . Synthesis, Docking Study and In-vitro Evaluation of Anti- Tuberculosis Activity of Tri Substituted Imidazoles Containing Quinoline Moiety. *Journal of the Korean Chemical Society* 2022, Vol. 66, No. 3 pp 194-201. **IF 0.35** <https://doi.org/10.5012/jkcs.2022.66.3.194> ISSN 1017-2548(Print) ISSN 2234-8530(Online) Received : 2022.01.29, Accepted : 2022.04.15, Published : 2022.06.20.
41. S. Sahana, G. R. Vijayakumar\*, Isoquinoline Containing Azo Schiff Derivatives as Potential Antitubercular Agents: Synthesis, Characterization, Molecular Docking, PASS Prediction and ADME Studies. *Asian Journal of Chemistry*; Vol. 35, No. 5 (2023), 1207-1217. <https://doi.org/10.14233/ajchem.2023.27599>. UGC Care List journal; Journal Number 8774.
42. Sahana Satisha, Vijayakumar G. Revanasiddappa,\* and Sivakumar Ramaiah, Antimycobacterial, Molecular Docking and ADME Studies of Spiro Naphthyridine Pyrimidine and N-(Quinolin-8-yl)acetamide Derivatives. *ChemistrySelect*, Volume8, Issue28, 2023. [doi.org/10.1002/slct.202301047](https://doi.org/10.1002/slct.202301047), e202301047 page 1-14 IF 2.4.

#### Patents Filed:

1. Lohith, K., **Vijayakumar, G. R.**, Manohar, B., Divakar, S., 2003. Enzymatic Process for Preparing Aminoacyl Esters of Monosaccharides. PCT/IN03/00466, NF-492. **US20080020430 A1**, WO2005064004A1.

2. **Vijayakumar, G.R.**, Manohar, B., Divakar, S., 2004. An enzymatic method for the preparation of curcumin glycoside. Patent number 247611, **Indian Patent 756/DEL/2005**. <http://www.allindianpatents.com/patents/247611>

### **Book Chapters**

### **Academic Conferences: Participation and Paper/Poster Presentation**

#### **Academic Conferences: Participation**

1. Lohith, K., **Vijayakumar, G.R.**, Divakar, S., 2003. Lipase catalyzed synthesis of glucose esters of amino acids. A poster presented at 5<sup>th</sup> International Food Convention 2003 held at CFTRI, Mysore, India on 5<sup>th</sup> – 8<sup>th</sup> December 2003.
2. **Vijayakumar, G.R.**, Divakar, S., 2004. Amyloglucosidase catalyzed synthesis of food additive glucosides. A poster presented at the 73<sup>rd</sup> annual meeting of Society of Biological Chemists (India), held at G.B. Pant University of Agriculture and Technology, Pantnagar, India on 21<sup>st</sup> – 24<sup>th</sup> November 2004.
3. **Vijayakumar, G.R.**, Divakar, S., 2005. Amyloglucosidase catalyzed synthesis of curcuminyl-bis- $\alpha$ -D-glucoside. A poster presented at the 74<sup>th</sup> Annual meeting of Society of Biological Chemists (India), held at CDRI, Lucknow on 7<sup>th</sup> – 10<sup>th</sup> November 2005.
4. Participated in seminar on “Recent Trends in Life Sciences, BIOSUMMIT-2009” at Govt. Science College, Tumkur-03 on 1<sup>st</sup> March 2009.
5. Participated in UGC sponsored one day seminar on “Battery technology-A novel power device” at SJR College, Bangalore-09 held on 6<sup>th</sup> March 2009.
6. Participated in UGC sponsored one day workshop on “Importance of evaluation in teaching and learning process to improve the quality in higher education” on 8<sup>th</sup> March 2009 at Govt. Science College, Tumkur-03.
7. Participated in UGC sponsored two days National level conference on “Best practices in College education with reference to Employability and Quality enhancement” on 20<sup>th</sup>-21<sup>st</sup> March 2009 held at Siddaganga Degree College, Tumkur.
8. Participated in National Seminar on Display Phosphors and Its Applications, NSDPA-2009 organized by Vivekananda Degree College, Bangalore-55 on 22<sup>nd</sup>-23<sup>rd</sup> October 2009.
9. **G. R. Vijayakumar**, B.N. Devaraju, B.M. Kiran, A. Sudakara & K.M Mahadevan. 2009. Large Scale, High Yield Synthesis of 1-piperonylpyperazine. A poster presented at International Conference on Current Trends in Chemistry and Biochemistry, ICCTCB-2009 organized by Department of Chemistry and Biochemistry at Central College campus, Bangalore University, Bangalore-01, India, on December 18<sup>th</sup> to 19<sup>th</sup>, 2009.
10. Participated in the workshop on “**Nanotechnology**” conducted at Siddaganga Institute of Technology, Tumkur-03, on 18-01-2010.
11. **G. R. Vijayakumar**, Subramanya hedge, R. Yashoda, K. C. S. Sowmya, K. Manjunatha, and D. P. Hanumantaharaju. One pot synthesis of 2, 4, 5-trisubstituted imidazole derivatives and their metal complexes. A poster presented at “Knowledge Utsav” a national level conference held on 28<sup>th</sup> August 2010, organized at Jain University Campus, Bangalore.
12. Kishor kumar C, **Vijayakumar G. R**, Nagraj Naik. Microwave-assisted synthesis of N-methyl 6-heterocyclic-1-oxoisindoline derivatives. A poster presented at two day National Conference on Social Relevance of Chemical Sciences (SRCS-2011) held in the



Department of Chemistry, Kuvempu University, Jnana Sahyadri during 26 & 27, March 2011.

13. Kishor kumar C, **Vijayakumar G. R**, Nagraj Naik. Synthesis and antioxidant activity studies of 3-Oxoisoindoline-5-carboxamides. A poster presented at two day National Conference on Social Relevance of Chemical Sciences (SRCS-2011) held in the Department of Chemistry, Kuvempu University, Jnana Sahyadri during 26 & 27, March 2011.
14. Participated at the “**Summer School on Nanomaterials and Their Applications in Chemical Sciences**”, Department of Chemistry, University College of Science, Tumkur University, Tumkur-572103 on 19<sup>th</sup> April 2011.
15. Participated in the seminar on “**GM CROPS-FUTURE PROSPECTS**” at Tumkur University organized by the centre for science and technology for rural development, Tumkur University and sponsored by Karnataka State Council for Science and Technology Bangalore on 16<sup>th</sup> July 2011.
16. Participated at the “**National Conference on Chemistry of Materials NCCM-2011**” organized by Centre for Advance Materials, Tumkur University, Tumkur, Board of Research in Nuclear Sciences (BRNS), Mumbai and Council of Scientific and Industrial Research (CSIR), New Delhi on 28<sup>th</sup> September 2011.
17. Participated in the national conference on “**Vedantha: A Holistic Approach**” held at Tumkur University during 26-28<sup>th</sup> December 2011.
18. Participated in the national conference on “**Social Relevance of Nano-Materials and Applications: An Interdisciplinary Approach (SNAIA-2011)**” held at Karnataka State Higher Education Council, Palace Road, Bengaluru-560001 on 31<sup>st</sup> December 2011.
19. Participated and presented: Naveen M H, Shivaraj Y and **Vijayakumar G R**, Synthesis and Characterization of Novel Quinoline carboxamide derivatives. A poster presented at one day National Conference on Green and Sustainable Chemistry held on 25<sup>th</sup> February 2012 at University College of Science, TU, Tumkur.
20. Participated as a delegate in the national conference on “Molecular Diagnosis” organized by Dept. of studies and research in Biochemistry, Tumkur University, Tumkur on 13<sup>th</sup> July 2012.
21. M Shet prakash, V P vaidya, K. M. Mahadevan, **G. R. Vijayakumar**, S. Sreenivasa, M. K. Shivanada, P. A. Suchethan. Synthesis characterization and antimicrobial activities of some novel carboxamides derived from naphthofurans and 1,24-triazoles. Participated and presented paper in a National Conference on Challenges and opportunities for chemical sciences in 21<sup>st</sup> century held on 8<sup>th</sup> January 2013 at Karnataka State Higher Education Council, Palace Road, Bengaluru-560001.
22. Ravi Kiran B and **Vijayakumar G. R**. Design synthesis of 1,2-benzoxazole derivatives. A national level seminar on “Recent trends in chemical biology: An over view” on 25<sup>th</sup> to 26<sup>th</sup> October 2013 at Teresian College, Mysore.
23. Synthesis, characterization of imidazole derivatives and antimicrobial studies” Somashekhar. B and **Vijayakumar. G.R**. International conference on recent advances in material science and technology (ICRAMST-13), Dept. of Chemistry, NITK, Surathkal, Mangalore on 17<sup>th</sup> to 19<sup>th</sup> January-2013.
24. Synthesis, characterization of 3-Substituted imidazole derivatives as potent antimicrobial agent. Somashekhar B and **Vijayakumar. G.R**. Midyear Symposium 2013 Chemical research society of India. Dept. of Chemistry, NITK, Surathkal, Mangalore on 12<sup>th</sup> -13<sup>th</sup> July 2013.

25. Participated in the UGC sponsored National Conference on “Conservation of Biodiversity in Decan Plateau” held at University College of Science, Tumkur University, Tumkur on 10<sup>th</sup> October 2014.
26. Ravi Kiran B and **Vijayakumar G.R.** Preparation and characterization of biologically important 5,5-dibenzylpyridine-2,4,6(1H,3H,5H)-trione derivatives. A poster presented at two day National Conference on “Present Scenario of Chemical Science and its Technological Perspectives-2014”-PSCSTP organized by Karnataka Science College, Dharwad on 10<sup>th</sup>-11<sup>th</sup> October 2014.
27. Bhaskarachar Ravi Kiran, Krishna Murthy Potla, **Giriyapura R. Vijayakumar.** Synthesis, X-Ray Crystallography and DFT Calculations of 3,4-Difluoro-2-hydroxybenzoic acid. Participated and presented a poster at two days International inradisciplinary Conference on “The frontiers of crystallography-IICFC 2014” organized by Field Marshal K M Cariappa College, Madikeri, Kodagu on 29<sup>th</sup> and 30<sup>th</sup> Dec 2014.
28. Manjunath Kamble Narayana Rao, **Giriyapura R Vijayakumar,** Bandrehalli Siddagangaiah Palakshamurthy<sup>c</sup> and Susmita Kamila. Crystal structure of 1-Methyl-3-(1-methyl-1*H*-indole-5yl)spiro(indene-2,2-pyrrolidine)-1,3-dione. Participated and presented a poster at two days International inradisciplinary Conference on “The frontiers of crystallography-IICFC 2014” organized by Field Marshal K M Cariappa College, Madikeri, Kodagu on 29<sup>th</sup> and 30<sup>th</sup> Dec 2014.
29. Ravi Kiran B, Subramanyahegde and **Vijayakumar G.R.** Synthesis and characterization of 5-((5-phenylfuran-2-yl)methylene)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione derivatives. A poster presented at one day National Conference on “Synthetic and Structural Chemistry” NCSSC-2015 organized by Department of Chemistry, UCS, Tumkur University Tumakuru on 19<sup>th</sup> March 2015.
30. Sindhu S, Ravi Kiran B and **Vijayakumar G.R.** Synthesis and characterization of 5-benzylidenepyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione derivatives. A poster presented at one day National Conference on “Synthetic and Structural Chemistry” NCSSC-2015 organized by Department of Chemistry, UCS, Tumkur University Tumakuru on 19<sup>th</sup> March 2015.
31. Ravi Kiran B, **G. R. Vijayakumar\***, Lingaraju K and Raja Naika H. Synthesis of dibenzylpyrimidine trione derivatives and evaluation of activity against disease causing bacteria. A poster presented at 18<sup>th</sup> National Conference on impact of Aerosols on Health, Heritage and Environment (NCIAHHE-2015) organized by Departments of Sciences, Tumkur university in Association with Indian Aerobiological Society® at Tumkur University, Tumakuru from September 28 to 30, 2015.
32. **G. R. Vijayakumar,** B. Ravi Kiran, H. Nagabhushana. MgSiO<sub>3</sub> Nanomaterials-A catalyst for the synthesis of trisubstituted imidazoles. A research paper published in the Proceedings of National Conference on Advanced Functional Materials (AFM-2015) organized by Dayananda Sagar College of Engineering and Dayananda Sagar University, Bangalore on December 4<sup>th</sup> and 5<sup>th</sup> 2015. ISBN 978-93-85682-04-9. A poster of the work also been presented at conference.
33. Participated in Science Academics Lecture workshop on “Future perspective and emerging technologies for sustainable energy resources” organized by Tumkur University in association with Indian Academy of Sciences-Allahabad on 18<sup>th</sup> and 19<sup>th</sup> August 2015 at Tumkur University.

34. Participated in the State level Multidisciplinary Workshop on Emerging Trends in Basic Sciences and Humanities” held on 26<sup>th</sup> August 2015, organized by University College of Science, Tumkur University, Tumakuru, Karnataka Sponsored by University Grants Commission, New Delhi.
35. Synthesis, Crystal Structure and Photophysical Properties of Green Light Emitting Bis(1[(4-butylphenyl)imino]methyl naphthalen-2-ol) Ni(II) complex. Mahadevan K M, Srinivas M, Shrunghesh Kumar T O, Naveen S, **Vijayakumar G R**, Nagabhushana. Participated and presented poster in the National Symposium on Nano Science & Technology (NSNST-2016) conducted at the center for Nano Science and Engineering, Indian Institute of Science (IISc), Bangalore, from 29-30 June 2016.
36. Transition metal complexes of pyridyl ligand for OLED applications. Chetana S, Kavyashree L S, Thippeswamy B, **Vijayakumar G R**, Nagabhushana H, Mahadevan K M. A poster presented at National Conference on Recent Advances in Industrial Engineering and Applied Chemistry on 21<sup>st</sup> and 22<sup>nd</sup> October 2016 organized at Sri Siddartha Institute of Technology, Tumakuru-05.
37. Participated and presented poster entitled “Synthesis and OLED characterization of self blue light emitting 3-(phenyl)-2h-coumarins at the National conference on “Trends in Advanced Materials and their Applications” TAMA-2017 held at DOS&R in Physics, Tumkur University Tumakuru on 30<sup>th</sup> Nov 2017
38. Synthesis and characterization of substituted 5-(2-(*o*-tolylamino) acetyl) pyrimidine-2,4,6 (1*H*,3*H*,5*H*)-trione derivatives. National conference on “Current advances in Chemical Sciences”, at Dept. of studies and Research in Chemistry, UCS, TU, on 16<sup>th</sup> March 2018.
39. Synthesis, Photoluminescence Properties and OLED Applications of New Zn(II) and Ni(II) Complexes Containing Schiff Base Ligands. National conference on “non-conventional Energy Sources-The need of the Hour (NCES-2018), at SSCASC, Tumkur on 9<sup>th</sup> Feb 2018.
40. Participated in the one day skill development workshop on “spectroscopic methods for analysis of simple compounds and molecules” on 17<sup>th</sup> July 2018 at Dept of chemistry, UCS,TU, tumakuru.
41. Participated in the UGC-CPE Sponsored one day skill development workshop on separation techniques for organic compounds/molecules” on 28<sup>th</sup> July 2018 at Dept of chemistry, UCS, TU, Tumakuru.
42. Participated in one day Conference on “Quality in Higher Education: Teachers’s Response” held on 13<sup>th</sup> Nov 2018 at TU, Tumakuru.
43. Participated in National level Symposium on Today’s Techniques in Engineering Materials (T’s TEM) organized by the Dept. of PG Studies and Research in Physics, Albert Einstein Block, UCS, TUT on 29<sup>th</sup> March 2019.
44. **Participated and presented Paper** entitled “Synthesis, spectral characterization and luminescent properties of Ni(II) complex bearing 4,4'-dimethyl-2,2'-bipyridyl and thocyanate ligands for OLED applications”. at International Conference On 'Advances in Materials, Ceramics & Engineering Sciences' (AMCES- 2020) organized by Dayananda Sagar College of Engineering, Bengaluru, India. 17<sup>th</sup> - 18<sup>th</sup> January, 2020 Jointly with ICS - Karnataka Chapter and Department of Nanotechnology, VTU
45. **Participated and presented paper** entitled “Design, Synthesis and *In-vitro* Cytotoxic Activity of Barbiturates Containing Substituted Aromatic Amine Analogues.” in the “International Conference on Chemical Sciences: Academia,

Industry & Society Interface” jointly organized by the Department of Chemistry, Post Graduate Centre, Jyoti Nivas College Autonomous Bangalore and Karnataka Science and Technology Academy, Department Of Science And Technology, Government Of Karnataka from 23<sup>rd</sup> to 25<sup>th</sup> June 2022.

46. **Participated and presented paper** entitled “Design, synthesis and characterization of aromatic N-substituted amides containing N, O heterocycles” at National Conference on 3<sup>rd</sup> and 4<sup>th</sup> August 2022 entitled "NEW VISTAS IN CHEMISTRY" at the Department of Chemistry, Bangalore University.

47.

#### Conferences/Workshop/Symposium organized

1. Organized one day National Conference on “Synthetic and Structural Chemistry” **NCSSC-2015** as organizing Chairman and is organized by Department of Chemistry, UCS, Tumkur University Tumakuru on 19<sup>th</sup> March 2015.
2. Worked as organized member in the Karnataka Science and Technology sponsored Special Lecture Workshop for PG students of Chemistry on 10<sup>th</sup> and 11<sup>th</sup> of March 2016.
3. Organized as Convener for 18<sup>th</sup> National Conference on impact of Aerosols on Health, Heritage and Environment (NCIAHHE-2015) organized by Departments of Sciences, Tumkur University in Association with Indian Aerobiological Society® at Tumkur University, Tumakuru from September 28 to 30, 2015.
4. Organizing member and Participated in the one day workshop entitled “Stereo Chemistry” on 31<sup>st</sup> July 2018 at DOS&R in Chemistry, UCS,TU, tumakuru.
5. Organized member in the pre-event Lecture Series & Exhibition conducted by Dept of Studies and Research in Chemistry, UCS, TUT on 20 th Nov 2018
6. Organizing committee member in Special Lecture Workshop organized by DOSR in Organic Chemistry TUT in association with Karnataka Science and Technology Academy, Govt. of Karnataka on 3<sup>rd</sup> and 4<sup>th</sup> Dec 2018.
7. As Organizing Chairman Organized Webinar Series at Department of Studies and Research in Chemistry, University College of Science, Tumkur University, Tumku on 28<sup>th</sup> July 2020.

#### Research Guidance

Sl. No	Degree	Name of the Research Scholars	Funding Agency	Thesis title	Remarks (registered/thesis submitted/degree awarded)

1	PhD	Ravi Kiran B 12CH5010	Full time, DST- SERB	SYNTHESIS, CHARACTERIZATION AND EVALUATION OF ANTICANCER ACTIVITIES OF BARBITURATES CONTAINING NITROGEN, OXYGEN AND SULPHUR HETEROCYCLES	<b>Awarded in June 2018</b>
		Somashekara B 12CH5005	-	SYNTHESIS, CHARACTERIZATION AND BIOLOGICAL STUDIES OF SOME NEW FUSED RING CONTAINING IMIDAZOLE DERIVATIVES	<b>Thesis Submitted in Feb 2020 Degree Awarded on 26-02-2021</b>
		Thippeswamy B 13CH-IN012	-	SYNTHESIS AND CHARACTERIZATION OF CERTAIN TRANSITION METAL COMPLEXES CONTAINING PYRIDYL, BIPYRIDYL AND TERPYRIDYL LIGANDS FOR OLED APPLICATIONS	<b>Thesis Submitted in May 2020 Degree awarded in Dec 2020</b>
	Sahana S 18CH005	-	SYNTHESIS AND CHARACTERIZATION OF ORGANIC COMPOUNDS CONTAINING QUINOLINE AND ISOQUINOLINE SCAFFOLDS AS ANTITUBERCULOSIS AGENTS	Registered in November 2018 Thesis submitted in Nov 2023	
	Latha R 20CH003	-	SYNTHESIS OF CERTAIN TRANSITION METAL COMPLEXES CONTAINING HETEROCYCLIC LIGANDS AND STUDY THEIR BIOLOGICAL APPLICATIONS	Registered in May 2021	
2	MSc Dissertation	Guided 27 Students			

**PhD: 3 Students Awarded, Guiding 2 Students**

**Projects (Completed/awarded)**

Sl. No.	Title	Duration	Budget	Funding agency/Remarks
1	Co investigator for research project entitled "Development of transition metal ion doped CeO <sub>2</sub> thin films for possible thermal sensors and anti-fouling coatings"	30-05-2011 to 30-05- 2013  (2 Years)	9.09 Lakhs	Ministry of defense  NAVAL RESEARCH BOARD
2	Development of rare earth doped nanophosphors for display and dosimetric applications SR/NM/NS-48/2010	11-02-2011 to 10-02- 2014 (3 years)	90.84 lakhs	DST Nano Science group, Nano mission

3	Principal Investigator “Design, synthesis, characterization and evaluation of anticancer activities of novel barbiturates containing substituted amine derivatives” SR/FT/CS-145/2010	08-05-2012 to 07-05-2015 (3 years)	22.82 Lakhs	DST Fast Track completed
4	Principal Investigator “Synthesis and characterization of cancer inhibiting molecules containing functionalized diazole based heterocycles”	2 years	4.65 Lakhs	UGC minor sanctioned

#### Orientation/Refresher Course/FDP/STC

1. Participated in the UGC sponsored **Orientation Programme** conducted at Academic Staff College, Bangalore University, Bangalore from 12<sup>th</sup> May to 7<sup>th</sup> June 2008 and obtained ‘A’ Grade.
2. Participated in the UGC sponsored **Refresher Course** in Chemistry conducted by UGC-Academic Staff College, Bharathiar University, Coimbatore, Tamil Nadu from 06-09-2011 to 26-09-2011 and obtained ‘A’ Grade.
3. Participated in the UGC sponsored **Refresher Course** in Environmental Studies conducted by UGC-HRDC, Goa University, Goa, from 10-01-2017 to 30-01-2017. Obtained ‘B’ Grade.
4. SWAYAM ARPIT Online **Refresher Course** in Chemistry for Higher Education conducted from 1<sup>st</sup> Dec 2020 to 31<sup>st</sup> March 2021 with B grade in the examination held on 21-08-2021.

Nature of the Course	Place	Duration	Sponsoring Agency
9th Online Short Term Course on E-Content Development [D-1]	Online course	7 Days 28/05/2020 to 03/06/2020	UGC – Human Resource Development Centre, GUJARAT UNIVERSITY, Ahmedabad.
Faculty Development Programme on Coordination chemistry [D-2]	Online course	12 weeks online course July-October 2019	Indian Institute of Technology, Kharagpur, NPTEL SWAYAM ONLINE COURSE CERTIFICATION
Online Short Term Program (STTP) on Human Values, Ethics,	Online course	1 Week 23 <sup>rd</sup> November to 28	KIIT College of Engineering, Gurugram

Morals, Behavioral Science and Attitude [D-3]		November 2020	(Haryana)
Online Refresher Course In Chemistry For Higher Education [D-4]	Online course	16 weeks From 1st Dec 2020 to 31st March 2021	S.G.T.B. Khalsa College, University of Delhi SWAYAM ARPIT ONLINE COURSE CERTIFICATION

### Participation as Resource person

1. Participated and delivered a lecture entitled “**Application of spectroscopy in the identification and characterization of drug molecules**” in ‘DBT sponsored Certificate course on “Advanced Analytical Techniques for monitoring recombinant and other drug/products for healthy care” on 19<sup>th</sup> March 2018 at Ramaiah Medical College, Bengaluru.
2. Delivered Special lecture entitled “**Application of spectroscopy**” at Kalpatharu First grade Science College, Tiptur on 16 Feb 2019.
3. Participated as resource person in the workshop entitled “Experimental Science and Science awareness” conducted on 26-10-2019 at Sree Gurukrupa High School, Giriyapura, Kadur Tq, Chickmagalore Dist. Karnatka 577550.
4. Participated as resource person and delivered a lecture on Research Methodology in PhD Course Work 2021.
5. Delivered Special lecture entitled “**CHEMISTRY OF ORGANOMETALLICS AND ITS APPLICATIONS**” at Kalpatharu First grade Science College, Tiptur on 16<sup>th</sup> July 2022.
6. Delivered Special lecture entitled “**CHEMISTRY OF ORGANOMETALLICS AND ITS APPLICATIONS**” at Sree Siddaganga College of Arts Science and Commerce (SSCASC), Tumakuru on 23<sup>rd</sup> July 2022.
7. Delivered the presentation as Key note speaker on the topic "**Application of Spectroscopy in the Identification and Characterization of Molecules and Materials**" on 14<sup>th</sup> September 2022 in One-Week Online Faculty Development Programme on "Recent Trends in Materials Science and Engineering (RTMSE-2022)" organized by the Department of Chemistry, Dayananda Sagar Academy of Technology & Management, Bangalore from 12<sup>th</sup> September to 16<sup>th</sup> September 2022.

### Administrative/Department academic assistance service

1. Served as Special officer, Exam section, TU from 20-07-2016 to 08-03-2018.
2. Served as HOD, Under Graduate dept of Chemistry from 14-11-2013 to 04-01-2016.
3. Serving as Coordinator, Dept of Studies and Research in Chemistry from 23-12-2019 to till date

### Membership

Member of Board of Studies for PG studies in Chemistry, Tumkur University, Tumkur, for the the years 2009-10, 2011-12, 2012-14. 2021 to till date

Member of Board of examiner, PG studies in Chemistry Tumkur University, Tumkur, for the academic years 2016-17.

**Reviewer**

Journal of Heterocyclic Chemistry, Wiley Science Publication

Journal of Chemical Science, Springer Publication

Journal of molecular structure, Elsevier Science Direct

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