

## Dr. CHINA RAJU BHIMAPAKA Ph. D

Senior Scientist

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Objective: To pursue a postdoctoral position that strengthens my scientific career.

### Summary of Expertise:

- Design and synthesis of biologically active molecules.
- Broad knowledge of organic synthetic skills.
- Strong skills in separation and characterization techniques.
- Experienced with instrumentation viz. NMR ( $^1\text{H}$  NMR,  $^{13}\text{C}$  NMR, and  $^{11}\text{B}$  NMR), IR, LC/LCMS, GC/GCMS, UV-Vis, HPLC, HPTLC, ASE, *personal* Sepbox (Chromatographic separation technique).
- Capable of doing independent and collaborative research.

### Education:

- Postdoctoral Fellow, Herbert C. Brown Center for Borane Research, Purdue University, West Lafayette, USA, Sep 2004-Aug 2006.
- Ph.D., Organic Chemistry, CSIR-Indian Institute of Chemical Technology (IICT), Hyderabad, India [Osmania University] 1998.  
Thesis Title: "Studies towards the synthesis of Cherylline analogues and biologically active molecules" Mentor: Dr. U. T. Bhalerao.
- M.Sc, Organic Chemistry, Osmania University, 1988.
- B.Sc, Biology & Chemistry, Osmania University, 1986.

### Research Accomplishments:

**1989-Present:** *Senior Scientist, Natural Products Chemistry Division, Natural Products Laboratory, CSIR-Indian Institute of Chemical Technology, Hyderabad-500 007, India.*

- Developed and demonstrated a process for the preparation of Esfenvalerate a synthetic pyrethroid.
- Developed and demonstrated a process for the preparation of Glyphosate a herbicide.
- Developed a process for the preparation of Pirimiphos-methyl an insecticide.
- Developed a process for the preparation of Imidacloprid an insecticide.
- Synthesis and development of new Imidacloprid derivatives.
- A member in the CSIR Co-ordinated project for identification and commercialization of bioactive molecules from plant sources- A project jointly taken up by 18 research laboratories. As part of the above programme, several new bioactive constituents were separated from Indian medicinal plants using Chromatographic separation with *personal* Sepbox.
- Isolation, synthesis of Marmesin and Coumarin derivatives.
- Drug development towards AChE inhibitory activity of 7-acetyloxycoumarin and 7-hydroxy-4-methylcoumarin.
- Synthesis of 2-chloronicotinaldehyde derivatives; 3-olefin derivatives, Baylis-Hillman adducts, 1,8-naphthyridines and their biological activities.
- Synthesis of 2*H*-chromene derivatives, 4*H*-chromene-3-carbaldehyde derivatives, tetrahydropyrimidine-5-carboxylates, benzodiazepine derivatives and biological activities.
- AP-9cd, an anticancer herbal composition from *Cedrus deodara*.
- AP-76p, a new antigastric ulcer herbal formulation.
- A Process developed for the preparation of Vanillin.
- Plants identified and extracted bioactive compounds under the Task-force project.
- Isolation of *oroxyllum indicum* and synthesis of OA-5 an antigastric compound.
- National facility for combinatorial Natural Products (Sponsored by DST).
- Development of novel fungicides (NMTLI).
- Synthesis of Borane-Ammonia, Amine-Boranes and Borazine.
- Generation of Hydrogen from Borohydrides, Ammonia-Borane and Borazane.
- Synthesis of Amine-haloboranes.
- Synthesis of Substituted Butenolides, Pyranones and  $\alpha$ -*E*-Alkylidenelactones.
- As part of Ph. D programme, Natural Products such as Cherylline analogues, Pellitorine and Trichonine were synthesized.
- Novel methodologies were developed.

### **Publications:**

1. A facile synthesis of novel substituted chromenopyrrolones and triazolylchromenopyrrolones. G. Saidachary, K. Veera Prasad, B. China Raju. (Manuscript communicated). **2013**
2. A novel approach for C-C, C-N, and C-O bond formation reactions: A facile synthesis of benzophenazine, quinoxaline and phenoxazine derivatives via ring-

- opening of benzoxepines. B. China Raju, K. Veera Prasad, G. Saidachary, B. Sridhar (Manuscript communicated). **2013**
3. Convenient one-pot synthesis of novel benzoxepinoisoxazolones and pyrazolones as an effective anti-mycobacterial and anticancer agents, G. Saidachary, K. Veera Prasad, Divya Duscharla, Ashita Singh, Ummanni Ramesh, Balasubramanian Sridhar, **B. China Raju** (Manuscript communicated). **2013**
  4. Anti-mycobacterial activity and cytotoxicity of *Knoevenagel* and (*E*)- $\alpha,\beta$ -unsaturated esters & ketones from 2-chloronicotinaldehydes. P. Suman, R. Nageswara Rao, **B. China Raju**, D. Sriram, P.V.Koushik, *Medicinal Chemistry Research*. **2013**. DOI 10.1007/s00044-013-0622-4
  5. Pancreatic  $\alpha$ -amylase inhibition and free radical scavenging activity of substituted pyranochromene derivatives, J. Ashok Kumar, Ashok K Tiwari, G. Saidachary, Chandan Kishore, D. Anand Kumar, Zehra Ali, B. Sridhar, A. Addlagatta, **B. China Raju** *Medicinal Chemistry Research*. **2013**. DOI 10.1007/s00044-013-0867-y.
  6. New Convenient Approach for the Synthesis of Benzyl 2*H*-Chromenes and Their  $\alpha$ -Amylase Inhibitory, ABTS Scavenging Activities. J. Ashok Kumar, Ashok K Tiwari, G. Saidachary, D. Anand Kumar, Zehra Ali, B. Sridhar, **B. China Raju** *Medicinal Chemistry*. **2013**, 9 (6), 806-11.
  7. Synthesis, anticancer activity and photophysical properties of novel substituted 2-oxo-2*H*-chromenylpyrazolecarboxylates. J. Ashok Kumar, G. Saidachary, G. Mallesham, B. Sridhar, Nishant Jain, S. V. Kalivendi, V. Jayathirtha Rao, **B. China Raju** *Eur J Med Chem*. **2013**, 65, 389.
  8. Microwave-Assisted convenient Synthesis of (*E*)- $\alpha,\beta$ -unsaturated esters and ketones via Aldol-adduct elimination, P. Suman, R. Nageswara Rao, **B. China Raju**, *Helv. Chim. Acta*. **2013**, 96, 1548.
  9. Simultaneous estimation and Validation of Levosulpiride and Rabeprazole sodium in bulk and Pharmaceutical dosage form by RP-HPLC method. S.Shilpa, T.Sai Annapurneswari, V. Jayathirtha Rao, B. Rajesh, P. Venkateswara Rao, **B. China Raju**. *Journal of Pharmacy Research* **2012**, 5, 5010.
  10. One-Pot Synthesis of Ammonia-Borane and Trialkylamine-Boranes from Trimethyl Borate, P. V. Ramachandran, **B. China Raju**, P. D. Gagare, *Org. Lett.* **2012**, 14, 6119.

11. La(OTf)<sub>3</sub> catalyzed an efficient synthesis of Quinoxalines, **B. China Raju**, K. Ramachandra. *Ind J Chem* **2012**, 51B, 756.
12. Wittig homologation of 2-(chloromethyl)-2*H*-chromen-2-ol derivatives: A new facile synthesis of substituted 2,3-dihydrobenzoxepine-4-carboxylates. **B. China Raju**, G. Saidachary, J. Ashok Kumar *Tetrahedron* **2012**, 68, 6289.
13. Synthesis and  $\alpha$ -glucosidase inhibitory, DPPH scavenging activity of 2-oxo-2*H*-7-chromenyl dihydrogen phosphate analogues. J. Ashok Kumar, A K Tiwari, A Z Ali, R. Ranga Rao, **B. China Raju** *J Heterocyclic Chem* **2011**, 48, 1251.
14. Custom Synthesis of Substituted butenolides, Dihydropyranones, and  $\alpha$ -E-Alkylidenelactones via Alkenylaluminum. P. V. Ramachandran, D. Pratihari, G. Garner, **B. China Raju** *Tetrahedron. Lett.* **2011**, 52, 4985.
15. Acetylcholine/butylcholinesterase inhibitory activities of substituted chromenone derivatives. J. Ashok Kumar, G. Saidachary, P. Kavitha, J. V. Rao, B. Sridhar, **B. China Raju**, *IJDDD* **2011**, 2 (2), 435-441.
16. Synthesis, structure-activity relationship of novel substituted 4*H*-chromen-1,2,3,4-tetrahydropyrimidine-5-carboxylates as potential anti-mycobacterial and anticancer agents, **B. China Raju**, R. Nageswara Rao, P. Suman, P. Yogeewari, D. Sriram, S. K. Basha, S. V. Kalivendi. *Bioorg. Med. Chem. Lett.* **2011**, 21, 2855.
17. An Efficient Stereoselective Approach for the Synthesis of (+)-(4*S*,5*S*)-Muricatacin. Ch. Srinivas, Ch. N. S. Sai Pavan Kumar, **B. China Raju**, V. Jayathirtha Rao, *Helv. Chim. Acta.* **2011**, 94, 669.
18. Facile synthesis of substituted ethyl 2-(chloromethyl)-2-hydroxy-2*H*-chromene-3-carboxylates, **B. China Raju**, G. Saidachary, J. Ashok Kumar and B. Sridhar, *Helv. Chim. Acta.* **2011**, 94, 248.
19. New and facile approach for the synthesis of (*E*)- $\alpha,\beta$ -unsaturated esters and ketones, **B. China Raju** and P. Suman, *Chem. Eur. J.* **2010**, 16, 11840.
20. New antihyperglycemic,  $\alpha$ -glucosidase inhibitor, cytotoxic derivatives of benzimidazoles, J Ashok Kumar, A. K. Tiwari, A. Zehra Ali, K. Madhusudana, B. Srinivasa Reddy, S. Ramakrishna and **B. China Raju**, *J Enz Inhib Med Chem* **2010**, 25 (1), 80-86.
21.  $\alpha$ -Glucosidase inhibitory antihyperglycemic activity of substituted chromenone derivatives. **B. China Raju**, A K Tiwari, J. Ashok Kumar, A Zehra Ali, Sachin B. Agwane, G. Saidachary, K. Madhusudana, *Bioorg. Med. Chem.* **2010**, 18, 358.

22. Synthesis of imidacloprid analogues from novel chloronicotinaldehydes, B. Gangadasu, **B. China Raju** and V. Jayathirtha Rao. *J Heterocyclic Chem* **2009**, 46 (6), 1213-1217.
23. Synthesis, photochemical *E* (*trans*)-*Z* (*cis*) isomerization and antimicrobial activity of 2-chloro-5-methylpyridine-3-olefin derivatives. B. Gangadasu, M. Janaki Ram Reddy, M. Ravinder, S. Bharath Kumar, **B. China Raju** and V. Jayathirtha Rao, *Eur J Med Chem* **2009**, 44, 4661.
24. First stereoselective total synthesis and anticancer activity of new amide alkaloids of roots of pepper. Ch. Srinivas, Ch. N. S. Sai Pavan Kumar, **B. China Raju**, V. Jayathirtha Rao, V. G. M. Naidu, S. Ramakrishna, and P. V. Diwan, *Bioorg. Med. Chem. Lett.* **2009**, 19, 5915.
25. Synthesis of substituted 1,8-Naphthyridines from *Baylis-Hillman* adducts of substituted 2-chloronicotinaldehydes, P. Narender, M. Ravinder, P. S. Sadhu, **B. China Raju**, Ch. Ramesh and V. Jayathirtha Rao. *Helv. Chim. Acta.* **2009**, 92 (5), 959-966.
26. Efficient and Inexpensive Synthesis of Benzimidazoles & Quinoxalines, **B. China Raju**, N. Dharma Theja and J Ashok Kumar. *Synth. Commun.* **2009**, 39, 175.
27. La(OTf)<sub>3</sub> catalyzed synthesis of substituted-benzylidene cycloalkanones, **B. China Raju**, N. Rajesh, J. Ashok Kumar and R. Ranga Rao, *Organic Chemistry: An Indian Journal*, **2009**, 5 (1), 31.
28. H<sub>3</sub>PW<sub>12</sub>O<sub>40</sub> catalyzed efficient synthesis of 4-substituted coumarins, **B. China Raju**, T. Hari Babu and J. M. Rao. *Ind. J. Chem*, **2009**, 48B, 120.
29. Synthesis of *N*-(substituted benzyl)-2-(3',5'-dimethyl-4'-hydroxyphenyl) acetamides. **B. China Raju**. *Ind. J. Chem*, **2008** 47B, 1903.
30. A facile one-pot Friedlander synthesis of quinoline derivatives P. Prabhakar Reddy, **B. China Raju**, and J. M. Rao. *J. Chem. Res (s)* **2008**, 12, 679.
31. CBr<sub>4</sub> catalyzed synthesis of aryl-14*H*-dibenzo [*a,j*] xanthenes under solvent free conditions. **B. China Raju**, D V S Pradeep, P. Prabhakar Reddy, and J. M. Rao. *Lett. Org. Chem* **2008**, 5 (6), 450.
32. *p*-TsOH catalyzed efficient synthesis of bis(indolyl)methanes. **B. China Raju**, and J. Madhusudana Rao. *Ind. J. Chem* **2008**, 47B, 623.
33. Larvicidal Efficacy of Neonicotinoid Classes of Compounds on Culex

- quinquefasciatus: M. Srinivasa Rao, U S N Murthy, B. Gangadasu, **B. China Raju**, Ch. Ramesh, S. Bharat Kumar, and V. Jayathirtha Rao. *Journal of Entomology*, **2008**, 5(1), 45.
34. Synthesis and Evaluation of Phenyl Substituted Sydnone as Potential DPPH-radical Scavengers: Shanta G. Mallur, A. K. Tiwari, **B. China Raju**, K. Suresh Babu, A. Zehra Ali, B. S. Sastry and J. Madhusudana Rao. *Ind. J. Chem* **2007**, 46B, 1686.
35. Synthesis of *N*-(3',5'-dimethyl-4'-hydroxybenzyl)-*N*-tosyl-3,4-dimethoxybenzyl amine: **B. China Raju**, Parvathi Neelakantan and U. T. Bhalerao. *Ind. J. Chem* **2007**, 46B, 201.
36. Rats with unilateral median forebrain bundle, but not striatal or nigral, lesions by the neurotoxin MPP+ or rotenone display differential sensitivity to amphetamine and apomorphine: K. M. Sindhu, R. Banerjee, K. S. Senthilkumar, K. S. Saravanan, **B. China Raju**, J. Madhusudana Rao and K. P. Mohanakumar. *Pharmacology, Biochemistry and Behavior*, **2006**, 84, 321.
37. Facile and selective synthesis of chloronicotinaldehydes by the Vilsmeier reaction: B.Gangadasu, P. Narendar, S. Bharath Kumar, M. Ravinder, B. Anand Rao, Ch. Ramesh, **B. China Raju** and V. Jayathirtha Rao. *Tetrahedron* **2006**, 62, 8398.
38. Calcium chloride catalyzed three component, one-pot condensation reaction: An efficient synthesis of 3,4-dihydropyrimidine-2(1*H*)-ones. B.Gangadasu, P. Narendar, **B. China Raju** and V. Jayathirtha Rao. *Ind. J. Chem*, **2006**, 45B, 1259.
39. Base Induced Carbon-Nitrogen (C=N) Double bond Migration in Schiff bases. B.Gangadasu, P. Narendar, **B. China Raju** and V. Jayathirtha Rao. *Ind. J. Chem*, **2005**, 44B, 2598.
40. Tungstophosphoric Acid (H<sub>3</sub>PW<sub>12</sub>O<sub>40</sub>) Catalyzed Regioselective Ring Opening of Epoxides with Amines. K.Suresh Babu, **B. China Raju**, S.Praveen Kumar, Shanta G. Mallur, S. Venkat Reddy and J.Madhusudana Rao. *Synth. Commun*, **2005**, 35, 879.
41. Quinone Methide initiated cyclization reaction: Synthesis of 4-aryl-1,2,3,4-tetrahydroisoquinolines. **B. China Raju**, Parvathi Neelakantan and U.T.Bhalerao *Tetrahedron. Lett*, **2004**, 45, 7487.
42. ZrCl<sub>4</sub> Catalyzed Solvent Free Synthesis of Coumarins. B.Gangadasu, P.Narendar, **B. China Raju** and V. Jayathirtha Rao. *J. Chem. Research* (s), **2004**, 7, 480.

43. Yeast and mammalian  $\alpha$ -glucosidase inhibitory constituents from Himalian rhubarb *Rheum emodi* wall ex Meisson. K.Suresh Babu, A. K. Tiwari, P.V. Srinivas, A. Z. Ali, **B. China Raju** and J. Madhusudana Rao *Bioorg. Med. Chem. Lett.* **2004**, *14*, 3841.
44. A Facile and Convenient method for the synthesis of Nitro phenols and chloropyridinols. **B. China Raju**, Parvathi Neelakantan and U. T. Bhalerao. *Synth. Commun.* **2004**, *16*, 2903.
45. Bismuth triflate catalyzed one-pot synthesis of tetrahydrochromanoquinolines. K.Suresh Babu, **B. China Raju**, A. Sridhar Rao, S. Praveen Kumar and J. Madhusudana Rao. *J. Chem. Research (s)* **2004**, *7*, 421.
46. Antibacterial constituents from the berries of *p-nigrum*. S. Venkat Reddy, P.V. Srinivas, B. Praveen, K.Harakishore, **B. China Raju**, U.S.N. Murthy and J. Madhusudana Rao *Phytomedicine*, **2004**, *11*, 697.
47. Facile and selective synthesis of Chloromethylpyridines and chloropyridines using diphosgene/triphosgene. P. Narendar, B. Gangadasu, Ch. Ramesh, **B. China Raju** and V. Jayathirtha Rao. *Synth. Commun.* **2004**, *34* (6), 1097.
48. Highly efficient and Chemoselective deprotection of prenyl ethers using  $ZrCl_4/NaBH_4$ . K.Suresh Babu, **B. China Raju**, P.V.Srinivas and J. Madhusudana Rao. *Tetrahedron. Lett.* **2003**, *44*, 2525.
49. A simple, effective and highly selective cleavage of -2- methylbut-2-enyl (prenyl) ethers using *p*-Toluenesulfonic acid. K. Suresh Babu, **B.China Raju**, P. V. Srinivas, A. Sridhar Rao, S. Praveen Kumar and J. Madhusudana Rao. *Chem. Lett.* **2003**, *32* (8), 704.
50. Microwave assisted Synthesis and biological activity of certain 2,2 dimethyl chromenes. K. Suresh Babu, **B. China Raju**, B. Praveen, K. Harakishore, U. Suryanarayana Murthy and J. Madhusudana Rao. *Heterocyclic Commun.* **2003**, *9* (5), 519.
51. Synthesis of 2-nitroimino-1,3-diazacycloalkanes. **B. China Raju** and V.Jayathirtha Rao. *Indian. J. Chem.* **2002**, *41B*, 2180.
52. A simple and convenient preparation of 2-chloro-5-methylpyridine-3-carbaldehydeimines. B.Gangadasu, **B. China Raju** and V.Jayathirtha Rao. *Heterocyclic Commun.* **2002**, *8*, 243.
53. Stereo selective synthesis of conjugated dienals: A new approach for the synthesis

of Pellitorine and trichonine. U. T. Bhalerao, **B. China Raju** and Parvathi Neelakantan. *Indian. J. Chem.* **1996**, 35B, 530.

54. A simple debenzoylation of O-substituted phenol ethers using hydrobromic acid in presence of phase transfer catalyst. U.T.Bhalerao, **B. China Raju** and Parvathi Neelakantan. *Synth. Commun.* **1995**, 25(10), 1433.

55. A facile halogen exchange of active methylene chloro compounds. U. T. Bhalerao, **B. China Raju** and Parvathi Neelakantan. *Indian. J. Chem.* **1994**, 33B, 1197.

#### **Patents:**

1. Method of controlled alcoholysis and regeneration of a borohydride P.V.Ramachandran, D.Hazra, **B. China Raju**, M.Venkatram Reddy, and A. Bhattacharya. *US 7601797 2009*.
2. Process for preparing (+) 2-(4-chlorophenyl)-3-methyl butanoic acid. V.V.Narayana Reddy, K.Ishratullah, P.V.K.Raju, **B. China Raju**, A.Narasimha Rao and T.Ramesh Babu. *US 0142667 A1 2007*.
3. Process for the Synthesis and Methanolysis of Ammonia Borane and Borazine. P.V.Ramachandran, Pravin D Gagare and **B. China Raju**. *US Patent Applied 2007*.
4. Preparation of ammonia borane for use in generating hydrogen useful in internal combustion engines involves reacting metal borohydride with ammonia salt under ambient condition. P.V.Ramachandran, Pravin D Gagare and **B. China Raju**. *WO 2007106459-A2; US2007243122-A1; WO 2007106459-A3 2007*.
5. Synthesis of Amine-boranes including Ammonia Borane. P.V.Ramachandran and **B. China Raju**. *US Patent Applied 2006*.
6. An improved Process for the preparation of 2-Chloro-5-methylpyridine-3-Carbaldehyde using Diphosgene and Triphosgene. Banda Gangadasu, **B. China Raju** and V.Jayathirtha Rao. *Indian Patent GI No: 194815, 2006*. Appl No: 0401DEL2002.
7. Process for the Preparation of 1-(2-chloro-5-methyl-3-pyridylmethyl)-2-nitroiminoimidazolidine. **B. China Raju** and V.Jayathirtha Rao. *Indian Patent GI No: 194306, 2006*. Appl No: 1103DEL2001.
8. Process for preparing (+)2-(4-chlorophenyl)-3-methyl butanoic acid. V.V.Narayana Reddy, K.Ishratullah, P.V.K.Raju, **B. China Raju**, A.Narasimha Rao and T.Ramesh Babu. *WO 2004060850, 2004*.



9. Process for preparing (+)2-(4-chlorophenyl)-3-methyl butanoic acid. V.V.Narayana Reddy, K.Ishratullah, P.V.K.Raju, **B. China Raju**, A.Narasimha Rao and T.Ramesh Babu. *AU 2003303655 A1*, **2003**.
10. Process for preparing (+) 2-(4-chlorophenyl)-3-methyl butanoic acid. V.V.Narayana Reddy, K.Ishratullah, P.V.K.Raju, **B. China Raju**, A.Narasimha Rao and T.Ramesh Babu. *EP 1583732*, **2003**
11. Process for preparing (+) 2-(4-chlorophenyl)-3-methyl butanoic acid. V.V.Narayana Reddy, K.Ishratullah, P.V.K.Raju, **B. China Raju**, A.Narasimha Rao and T.Ramesh Babu. *IN 200300421-II*, **2003**.
12. Process for the preparation of 2-Chloro-5-methylpyridine-3-Carbaldehyde. **B. China Raju** V.Jayathirtha Rao and K.V.Raghavan. *Indian. Patent No: 220778*, **2008**.
13. Process for the preparation of 2-Chloro-5-methylpyridine-3-Carbaldehyde. **B. China Raju** V.Jayathirtha Rao and K.V.Raghavan. *U.S. Patent No: 6,737,529*, **2003**.
14. Process for the preparation of 2-Chloro-5-methylpyridine-3-Carbaldehyde. **B. China Raju** V.Jayathirtha Rao and K.V.Raghavan. *EP Patent No: 1348699*, **2003**.
15. Process for the preparation of 2-Chloro-5-methylpyridine-3-Carbaldehyde. Banda Gangadasu, **B. China Raju** and V.Jayathirtha Rao. *EP Patent No: 1346984*, **2003**.
16. 1-(2-chloro-5-methyl-3-pyridylmethyl)-2-nitroiminoimidazolidine and process for the preparation thereof. **B. China Raju** and V.Jayathirtha Rao. *U.S. Patent No: 6,566,528*, **2003**.
17. Process for the preparation of 2-chloro-5-methylpyridine-3-carbaldehyde. B.Gangadasu, **B. China Raju** and V.Jayathirtha Rao. *U.S. Patent No: 6,479,664* **2002**.
18. An improved process for the manufacture of phosphorothioic acid O-(2-diethylamino)-6-methyl-4-pyrimidinyl) O,O-dimethyl ester. U. T. Bhalerao, Parvathi Neelakantan, **B. China Raju**, B. Vittal Rao and Ch. Ramesh. *Indian Patent GI No: 180510. Appl No: 067/Del/1994*.
19. Synthesis of substituted phenols/ hydroxy compounds by active chlorine displacement with metal hydroxide in low polarity solvent. U.T.Bhalerao, Parvathi Neelakantan and **B. China Raju**. *Indian Patent GI No: 190984. Appl No: 3700/Del/1998*.

20. An improved process for the preparation of 2-nitroimino-1,3-diazacyclopentane. **B. China Raju**, V.Rajgopal, V.Jayathirtha Rao and J.Madhusudana Rao. *Indian Patent*: 1418/Del/1999.
21. An improved process for the preparation of 2-chloro-5-methylpyridine-3-carbaldehyde. **B. China Raju** V.Jayathirtha Rao and K.V.Raghavan. *Indian Patent*. NF-306/2001.
22. A Process for the preparation of 1-(2-chloro-5-methyl-3-pyridylmethyl)-2-nitroiminoimidazolidine. **B. China Raju** and V. Jayathirtha Rao. *E.P & Indian Patent* NF-359/2001.
23. Naturally occurring coumarins and their precursors as acetylcholineesterase inhibitors. J.Madhusudana Rao, **B. China Raju**, P. V. Srinivas, K. Suresh Babu, J.S.Yadav, K.V.Raghavan, H.K.Singh, C.Nath. *PCT, US & Indian Patents applied* **2004. WO 2007/107846**

**Ph. D Students:**

- 1) Mr Jaladi Ashok Kumar April 2007-2012 (Presently in Korea)
- 2) Mr Malineni Jagadeesh Jun 2007-2008 (Presently in German)
- 3) Mr Gannerla Saidachary Jan 2009-2014 (Senior Research Fellow)
- 4) Mr Rayala Nageswara Rao Jan 2009-2014 (Senior Research Fellow)
- 5) Mr Pathi Suman Feb 2009-2014 (Senior Research Fellow)
- 6) Mr. Kasagani Veera Prasad 2013 (Junior Research Fellow)
- 7) Mr. Ch.Dayakar 2013 (Junior Research Fellow)
- 8) Mr. G.Sairam 2013 (Junior Research Fellow)

**M. Sc & M. Pharm Students:**

- 1) Mr. D V S Pradeep; April 2007
- 2) Ms. K Chandra Deepthi; April 2007
- 3) Mr. N. Dharma Teja; May 2008
- 4) Mr. K. Ramachandra; Sep 2008
- 5) Mr. N. Rajesh; Dec 2008
- 6) Mr. B Linga Reddy; Feb 2009
- 7) Mr. K. Ram Reddy; Feb 2009
- 8) Ms. T. Priyanka; Mar 2009
- 9) Mr. I. Jahangir; Jun 2009
- 10) Mr. N. Sampath Kumar; Nov 2009

- 11) Ms K. Krishna Veni; Feb 2010
- 12) Mr A. Eshwar Rao; Apr 2010
- 13) Ms. S.Shilpa
- 14) Mr. Srikanth
- 15) Mr. Vishnu
- 16) Mr. Srikanth Reddy; Apr 2013
- 17) Mr. Ashutosh Kumar Tiwari
- 18) Ms Navajyothi
- 19) Ms Swathi
- 20) Mr AK Pandey
- 21) Mr. D.Naveen Kumar

**INVITED LECTURE:**

- 1) Delivered Invited Lecture on “**Natural Products: Inspired path way for the synthesis of biologically active compounds**” Gurraraj Govt.College, Nizamabad, India, 21<sup>st</sup> Nov **2010**.
- 2) Delivered Invited Lecture on “**Natural Products: Isolation, Synthesis and Chromatography**” NG College, Nalgonda, India, 25<sup>th</sup> Feb **2009**.
- 3) Delivered invited lecture at **Herbert C Brown Center for Borane Research**, Purdue University, West Lafayette, USA **2006**.
- 4) Delivered Lecture on **Hydrogen Research at Purdue Brown Borane Center**, Sandiago, USA, Feb **2006**.
- 5) Delivered invited Lecture on **Medicinal Plants and biodiversity**, at Osmania University, Hyderabad, India, **2004**.
- 6) Delivered invited lecture: **Recent Extraction and Fractionation Techniques for Medicinal Plant based Research**. The federation of Andhra Pradesh Chambers of Commerce and Industry. Red Hills, Hyderabad-500 004, India. October 10-11, **2003**.
- 7) Worked as Adhoc lecturer in undergraduate college, Bhadrachalam, KMM dist, Andhra-Pradesh for one year **1988-1989**.

**Training Programme Attended:**

- 1) Drafting of patent applications, patent prosecution and litigation, HRDC, Ghaziabad, Oct 8<sup>th</sup>-10<sup>th</sup> **2007**.
- 2) Crafting effective S&T communication, HRDC, Ghaziabad, Dec 22<sup>nd</sup> - 24<sup>th</sup> **2008**.

**CONFERENCES/SYMPOSIA ATTENDED:**

1. National Seminar on “Emerging Trends in Analytical Sciences” CSIR-IICT,

- Hyderabad, Nov 27-28<sup>th</sup> **2013** (Executive member and Chairman, Transport & accommodation).
2. 2<sup>nd</sup> UK-India Med Chem Congress, CSIR-IICT, Hyderabad, Mar 22-23<sup>rd</sup> **2013**.
  3. International Symposium on Chemistry and Chemical Biology of Natural Products, CSIR-IICT, Hyderabad, Aug 2-4<sup>th</sup> **2012**. (Chairman, Reception & Registration).
  4. National Seminar on Recent Advances in Analytical Sciences-Indian Perspective, IICT, Hyderabad, 20-21<sup>st</sup> Jan **2011**.
  5. National Seminar on "Recent Advances in Organic Chemistry" GG College, Nizamabad, 21<sup>st</sup> Nov **2010**.
  6. Organic Synthesis and human well-being: Emerging opportunities and challenges, IICT, India, Aug 1<sup>st</sup> -4<sup>th</sup> **2010**.
  7. 12<sup>th</sup> CRSI National Symposium in Chemistry, Hyderabad, India, Feb 5<sup>th</sup>-7<sup>th</sup> **2010**
  8. 5<sup>th</sup> BASF Boron Conference, Hyderabad, India, March 3<sup>rd</sup>-4<sup>th</sup> **2009**.
  9. National Workshop on Green Chemistry, JNTU, Hyderabad, India, Feb 14<sup>th</sup>-15<sup>th</sup> **2009**.
  10. National conference on recent advances in Chemical Sciences, Osmania University, Hyderabad, India, Feb 6<sup>th</sup>-7<sup>th</sup>, **2009**.
  11. National Symposium on recent trends in Organic and Medicinal Chemistry (OMCS), National Institute of Technology, Warangal, India, Jan 16<sup>th</sup>-17<sup>th</sup> **2009**.
  12. Asian Symposium on Medicinal plants, spices and other natural products (ASOMPS) XIII, Indian Institute of Chemical Technology, India, November, **2008**.
  13. Asian Symposium on Medicinal plants, spices and other natural products (ASOMPS) XII, IICT, Hyderabad, India, Nov **2006**.
  14. Herbert C. Brown Lectures in Organic Chemistry, Department of Chemistry, Purdue University, West Lafayette, Indiana, US, April **2006**.
  15. Herbert C. Brown Lectures in Organic Chemistry, Department of Chemistry, Purdue University, West Lafayette, Indiana, US, April **2005**.
  16. National Seminar on "Biodiversity, Conservation and Commercial exploitation of Medicinal plants" November 8-10, **2003**. Osmania University, Hyderabad. Invited for Oral presentation on "Isolation of Bioactive molecules using *personal* Sepbox.
  17. International Seminar on "Global scenario of herbal medicines" September 19-20, **2003**. Conducted By IGNA- IICT, Indian Institute of Chemical Technology, Hyderabad. India.
  18. Fourth National Symposium in Chemistry, February 7-9, **2003**, Chennai, India.
  19. Third National Symposium in Chemistry, February 2-4, **2002**, Chandigarh, India.
  20. UNDP-CSIR International Work shop on technology up-gradation of

Agrochemicals and Pharma Industries for global competitiveness, November 30-December 4, **1999**, Indian Institute of Chemical Technology, India.

21. International seminar on integrated pest management, October 8-9, **1999**, Indian Institute of Chemical Technology, India.

**MEMBERSHIP:** 1) Chemical Research Society of India, Bangalore. (**Life Member**).

2) Indian Society of Analytical Scientists, Hyderabad (**Executive Member**).

**Editorial Board Member**

1) **Oriental Journal of Chemistry**

2) **International Journal of Chemistry and Applications**

3) **E-Journal of Chemistry**