

## Curriculum Vitae

### **I Personal**

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**MANJUNATHA H**, Ph. D.

Professor

**8762661348**

**E-mail: manjunatha75@gmail.com**

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### **II Career Track**

2019 to current	Professor, Department of Biochemistry, Jnanabharathi, Bnagalore University, Bangalore -560056
2018- 2019	Associate Professor, Department of Biotechnology and Bioinformatics Jnanasahyadri, Kuvempu University, Shankaraghatta -577451
2006- 2018	Assistant Professor, Department of Biotechnology and Bioinformatics Jnanasahyadri, Kuvempu University, Shankaraghatta -577451 Karnataka, India.
2003-2006	Senior research fellow, Central Food Technological Research Institute (CFTRI), Mysore, India
2001-2003	Junior research fellow, Central Food Technological Research Institute (CFTRI), Mysore, India.

### **III Education**

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<b>DEGREE</b>	<b>YEAR</b>	<b>UNIVERSITY/INSTITUTION</b>	<b>FIELD OF STUDY</b>
B.Sc.,	1997	Kuvempu University, India	Chemistry, Botany & Zoology
M.Sc.,	1999	Kuvempu University, India	Biochemistry
Ph.D.	2006	Central Food Technological Research Institute, Mysore, India	Biochemistry

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### **IV Area of specialization**

**Major area of research:** Pharmacology and inflammation

**Area of teaching:** Biochemistry, Enzymology, Biostatistics, Molecular biology, Bioinformatics.

**V Research grants received from different funding agencies****A. Ongoing (As Principal investigator)**

Title of Project	Funding Agency	Amount (Rs)	Year
<b>Minor research project</b>			
1. Evaluation of curcumin and capsaicin as saviors against inflammatory response in LPS stressed rat models	Kuvempu University, Karnataka	38,000/-	2008-09
<b>Major research projects</b>			
1. Evaluation of antioxidant and anti-gastric ulcer property of <i>Mesua ferrea</i> Linn.	DBT, New Delhi	11,51,000/-	2010 - 13
2. Studies on the endotoxin neutralizing protein interaction network with anti-inflammatory molecules	UGC, New Delhi	8,73,500/-	2011-14
3. Molecular mechanisms of combined inhibitory effects of dietary curcumin and Capsaicin on endotoxin induced inflammation	DST-SREB, New Delhi	12,00,000/-	2013 - 15

#### **VI Awards**

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- Received project grant award under **Rapid Grant for Young Investigator** (RGYI) scheme, Department of Biotechnology, Ministry of Science and Technology, New Delhi, India on January 1<sup>st</sup> 2010.
- Qualified in **Joint Council of Scientific and Industrial Research – University Grants Commission National Eligibility Test** examination held in 19 Dec 1999 and awarded Research Fellowship from April 2001-2006 for PhD Programme.

#### **Fellowships awarded to candidates**

- Women scientist: Umme hani – 2017
- UGC PDF : Dr. Santhosh K H – 2015
- RGNF : Prathima R – 2015

#### **VII Services**

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- Worked as BOE chairman from 2013-14, Dept. of Biotechnology and Bioinformatics, Kuvempu University, Karnataka, India.
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#### **VIII Publications**

1. Manjunatha Bhat, G. K. Nagaraja, Reshma Kayarmar, S. V. Raghavendra, K. P. Rajesh, **H. Manjunatha**. (2016) Synthesis, characterization and pharmacological evaluation of some new 1,3,4-oxadiazole derivatives bearing 3-chloro-2-fluoro phenyl moiety. Res Chem Intermed 42:7771–7792.
2. Prathima Ranganathaiah, **Manjunatha Hanumanthappa**, Krishna Venkatarangaiah (2016). Evaluation of in vitro anti-inflammatory activity of stem bark extract of *Mesua Ferrea* Linn. Int, J of Pharmacy & Pharma, Sci, 8.173-177.
3. Lokeshwari D, Krishna Kumar NK, Manjunatha H. (2016) Multiple Mutations on the Second Acetylcholinesterase Gene Associated With Dimethoate Resistance in the Melon Aphid, *Aphis gossypii* (Hemiptera: Aphididae) J Econ Entomol. 109(2): 887-97.
4. Pavan Gollapalli, **Manjunatha Hanumanthappa** and Sharath Pattar (2015) In *Silico* protein-protein interaction studies of *Mycobacterium tuberculosis* during host infection. International Journal of Computational Bioinformatics and In Silico Modeling 4: 673-682.
5. Gollapalli Pavan, Manjunatha Hanumanthappa (2015) Molecular dynamics and conformational flexibility in heat shock protein 60.2 of *Mycobacterium tuberculosis* 4. 31-45.
6. Pavan Gollapalli, **Manjunatha Hanumanthappa** (2015) Molecular Dynamics and Conformational Flexibility in Heat Shock Protein 60.2 of *Mycobacterium tuberculosis*. International Journal for Computational Biology 4: 431-45.

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7. Deepa R, Manjunatha H, Krishna V and Kumara Swamy BE (2014) Evaluation of Antimicrobial Activity and Antioxidant Activity by Electrochemical Method of Ethanolic Extract of *Pterocarpus marsupium* Roxb Bark. J Biotechnol Biomater 4-1.
8. Lokeshwari D, Krishna Kumar NK and **Manjunatha H** (2014) Color polymorphism does not affect species diagnosis of the melon aphid, *Aphis gossypii* (Hemiptera: Aphididae) Florida Entomologist 97(3):1199-1207.
9. Deepa R, **Manjunatha H**, Krishna V and Kumara Swamy BE (2014) Electrochemical Investigation of Resorcinol in *Pterocarpus marsupium* RoxB by Cyclic Voltammetric Study. J Anal Bioanal Tech 2014, 5:6
10. Nagaraj G, Manjunatha H, Krishna V, Sankar P, Suma Sreenivas, Rajeev Soni and Kedarnath Sastry (2014) A New Signal Sequence for Recombinant Protein Secretion in *Pichia pastoris*. J. Microbiol. Biotechnol. 24(3):337–345.
11. Lokeshwari D, Verghese A, Shivashankar S, Krishna Kumar NK, **Manjunatha H** & Venugopalan R (2014) Effect of *Aphis odinae* (Hemiptera: Aphididae) infestation on sugars and amino acid content in mango. African Entomology 22(4):823-827.
12. Lokeshwari D, Hayat M, Krishna Kumar NK, **Manjunatha H** and Venugopalan R (2014) First occurrence of the aphid parasitoid, *Aphelinus basilicus* (Hymenoptera: Aphelinidae), on *Aphis gossypii* (Hemiptera: Aphididae) color forms in India. Florida Entomologist 97(2): 809-813.
13. Sunil Joshi, Lokeshwari D, Krishna Kumar NK, **Manjunatha H**, Abraham Verghese and Jalali SK. (2014) *Wahlgreniella nervata* (Hemiptera: Aphididae), a new pest of rose in India. Florida Entomologist 97(1):162-167.
14. Reshma Kayarmara, Nagaraja GK, Prashantha Naik, **Manjunatha H**, Revanasiddappa BC & T. Arulmoli (2014) Synthesis and characterization of novel imidazoquinoline based 2-azetidiones as potent antimicrobial and anticancer agents. Online (2014)
15. Santhosh KH, **Manjunatha H.**, Krishna V & Kumara Swamy BE (2014) Anti- proliferative and antioxidant potency of leaf methanol extract of *Cryptostegia grandiflora* R. BR. Int J Pharm Pharm Sci, 6:156-164.
16. Yadav D Bodke, Aruna Sindhe M, Rajesh K. Gupta & **Manjunatha H.** (2013) Antioxidant and anthelmintic activity of *Terminalia arjuna* Roxb. stem bark extracts. 6:33-37.
17. Bharath BR, **Manjunatha H**, Santosh Kumar H.S. & Bharath K. (2013) Non Linear Flux Assessment Model for Endotoxin Neutralizing Pathways. Journal of Computer Science & Systems Biology 6(2): 057-072.
18. Nagaraj G, **Manjunatha H**, Krishna V, Komal K, Krishnamurthy V, Amarnath C, Mutyalasetty Kusumanchi, Nitesh Dave, Partha Hazra, Sanjay Tiwari and Sastry K. (2013) PMT1 gene plays a major role in O-mannosylation of insulin precursor in *Pichia pastoris*. Protein Expression and Purification 88:164–171.
19. Bharath B. R. & Manjunatha H. (2013) Flux Balance Analysis Based Model for the Identification of Potent Drug Target: A Novel Strategy. Sci. technol. arts Res. J., 2(1): 50-55.
20. Rajesh KP, Pradeepa, **Manjunatha H.** Journal of pharmacy and Bioalliedsciences (2013) In vitro Antioxidant and H<sup>+</sup>, K<sup>+</sup> -ATPase inhibition activities of *Acalypha wilkesiana* foliage extract. J Pharm. Bioallied Sci. 2013 5(3):214–223.
21. Rajesh K.P., **Manjunatha H**, Krishna V & Kumaraswamy B.E. (2013) Potential in vitro antioxidant and protective effects of *Mesua ferrea* Linn. bark extracts on induced oxidative damage. Industrial crops and products 47:186– 198.

22. Santhosh KH, **Manjunatha H**, Krishna V, Pradeepa K & Rajesh KP (2012) Analgesic activity of *Cryptostegia grandiflora* (Roxb.) R. br. leaves methanol extract using mice. Asian Pacific Journal of Tropical Disease 2: S494–S498.
23. Rajesh KP, **Manjunatha H** & Bharath BR (2013) Simulated Screening of flavonoids as probable anti-*Helicobacter pylori* drug. Med Chem Res 22:4537–4546.
24. Vidya SM, Krishna V, Manjunatha BK, Bharath BR, Rajesh KP, **Manjunatha H**, Mankani KL (2012). Wound healing phytoconstituent from seed kernel of *Entada pursaetha* DC. and their molecular docking studies with glycogen-synthase-kinase-3- $\beta$ . Med Chem Res 21:3195–3203
25. Darshanraj CG, Sarojini BK, Ramakrishna MK, Ramesh R Saraf and **Manjunatha H**. (2012). *In vivo* peritoneal antiangiogenesis and *in vitro* antiproliferative properties of some bischalcone derivatives. Med Chem Res 21(4):453-458.
26. Satyendra RV, Vishnumurthy KA, Vagdevi HM, Rajesh KP, **Manjunatha H**, Shruthi A. (2012) *In vitro* antimicrobial and molecular docking of dichloro substituted benzoxazole derivatives. Med Chem Res 21:4193–4199.
27. Sarojini BK, Darshanraj CG, Ramakrishna MK, Ramesh R Saraf, Bharath BR and **Manjunatha H**. (2011) *In Silico* Studies of (2E,5E)-2,5-bis(3-methoxy-4-hydroxy-benzylidene) Cyclopentanone on Proteins AChE and BChE Involved in Alzheimer's disease and Ameliorative Effects on Paraquat Induced Oxidative Stress Markers in *Drosophila melanogaster*. Letters in Drug Design & Discovery, 8(3):260-267.
28. Satyendra RV, Vishnumurthy KA, Vagdevi HM, Rajesh KP, **Manjunatha H**, Shruthi A. (2011). Synthesis, *in vitro* antioxidant, anthelmintic and molecular docking studies of novel dichloro substituted benzoxazole-triazolo-thione derivatives. Eur J MedChem46(7):3078-84.
29. Sarojini BK, Vidyagayatri M, Darshanraj CG, Bharath BR and Manjunatha H. (2010) Synthesis, characterization, *in vitro* and molecular docking studies of new 2,5-dichloro thienyl substituted thiazole derivatives for antimicrobial properties. Euro J Med Chem 45(8):3490-6.
30. Goutam Chandra, Riaz Mahmood, Manjunatha. H (2010) Antioxidant, Wound healing, DNA binding property of *Clerodendrum infortunatum*. Environmental Toxicology and Pharmacology 30: 11-18.
31. Sarojini BK, Vidyagayatri M, Darshanraj CG, Bharath BR and Manjunatha H. (2010) DPPH scavenging assay of novel 1, 3-disubstituted-1H-pyrazol-5-ols and their *in silico* studies on some proteins involved in Alzheimer's disease signaling cascade. Letters in Drug Design and Discovery 7(3):214-224.
32. Vidyavati, HG, Manjunatha H, Hemavathy J, Srinivasan K. (2010). Hypolipidemic and antioxidant efficacy of dehydrated onion in experimental rats. J Food Sci. Technol 47(1):55– 60.
33. Ravikumar YS, Mahadevan KM, Manjunatha H, Satyanarayana ND. (2010) Antiproliferative, apoptotic and antimutagenic activity of isolated compounds from *Polyalthia cerasoides* seeds. Phytomedicine 17(7):513-8.
34. Habbu PV, Mahadevan KM, Shastry RA, Manjunatha H. (2009). Antimicrobial activity of flavanoid sulphates and other fractions of *Argyrea speciosa* (Burm.f) Boj. Indian Journal of Experimental Biology 47:121-128.
35. Ravikumar YS, Mahadevan KM, Kumaraswamy, MN, Vaidya VP, **Manjunatha H**, Kumar V, Satyanarayana ND. (2008). Antioxidant, cytotoxic and genotoxic evaluation of

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- alcoholic extract of *Polyalthia cerasoides* (Roxb.) Bedd. Environmental Toxicology and Pharmacology. 26:142–146.
36. **Manjunatha H**, Srinivasan K. (2008) Hypolipidemic and antioxidant potency of heat processed turmeric and red pepper in experimental rats. African J. Food Sci., 2:1-6.
  37. **Manjunatha H**, Srinivasan K. (2007) Hypocholesterolemic and antioxidant effect of curcumin and capsaicin in induced hyper-cholesterolemic rats. Lipids, 42:1133-1142.
  38. **Manjunatha H**, Srinivasan K. (2007) Hypolipidemic and antioxidant effect of curcumin and capsaicin in high fat fed rats. Can. J. Physiol. Pharmacol., 85:588-596.
  39. Suresh D, **Manjunatha H**, Srinivasan K. (2007) Effect of heat processing of spices turmeric, red pepper and black pepper on the concentration of their bioactive principles. Journal of Food Composition and Analysis 20:346-351.
  40. **Manjunatha H**, Srinivasan, K. (2006) Protective effect of dietary Curcumin, capsaicin on induced oxidation of low-density lipoprotein, iron-induced hepatotoxicity and carrageenan-induced inflammation in rats. FEBS Journal. 273:4528–4537.
  41. Kempaiah RK, **Manjunatha H**, Srinivasan K. (2005) Protective effect of dietary capsaicin on induced oxidation of low-density lipoprotein in rats. Mol Cell Biochem 275:7-13.

#### Poster presentations

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21. “Effects of dietary Curcumin and Capsaicin on proinflammatory cytokines IL-6 and TNF- $\alpha$  in Peripheral blood mononuclear cells (PBMCs) of human subjects.” (Oral presentation) Thriveni Vasanthkumar., Manjunatha H., Rangaswamy Laxminarayana. Presented at National seminar on “Frontier research in diversity and taxonomy of medicinal plants.” held at Biological Sciences Departments, Jnana sahyadri, Kuvempu University, Shankaraghatta, Shimoga, Karnataka, India during 4th – 5th November 2016.
20. “Effects of curcumin and capsaicin on expression of proinflammatory cytokine TNF- $\alpha$  in human peripheral blood mononuclear cells (PBMCs).” Thriveni Vasanthkumar Thriveni., Manjunatha H., Rangaswamy Laxminarayana. Poster presented at International conference on science and technology: future Challenges and solutions (STFCS-2016) held at University of mysure, Mnasagangothri, Mysure, Karnataka, India during 8th – 9th August 2016.
19. “Potential in vitro antioxidant and protective effects of dietary curcumin and capsaicin on induced oxidative damage.” Thriveni Vasanthkumar and Manjunatha Hanumanthappa. Poster at presented at International conference on Applications of Natural products and Opportunities ahead (ICAN-2016) held at school of Life Sciences, B. S. Abdur Rahman University, Vandalur, Chennai, India during 2nd – 3rd August 2016.
18. Binding Interaction of Curcumin and Capsaicin with TRAF6 Protein Isolated from Monocytes using Cyclic Voltammetric Technique. Thriveni V., Bharath B R., Kumaraswamy B E., Manjunatha H. Poster presented at International Conference on “Bioactive Chemicals for Reproduction and Human Health” held at Life Sciences Departments, Davangere University, Shivagangothri, Davangere, Karnataka, India during 26th – 28th February 2015.

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16. Studies on the in vivo antidiabetic potential and in silico docking analysis of Quercetin” Sudeep H.V., Rajesh K.P., Ramachandra Y.L., Manjunatha H., Padmalatha Rai S. Presented at International conference on Molecular Medicine “MOLMED -2012” held at Center for Bio-separation Technology, VIT University, Vellore Tamil Nadu during 19th to 22nd February 2012.
15. In vitro antioxidant arbitrated protective effect on oxidative damage in erythrocytes by Mesuaferrea Linn.” Rajesh K.P., Manjunatha H. Presented at International conference on Molecular Medicine “MOLMED -2012” held at Center for Bio-separation Technology, VIT University, Vellore Tamil Nadu during 19th to 22nd February 2012.
14. Wound healing phytoconstituents from the seed kernel of Entada pursaetha DC. and there molecular docking studies with GSK 3- $\beta$ ” K.P Rajesh., S.M Vidya., V. Krishna., B.K Manjunatha., B.R Bharath., H. Manjunatha., K.L Mankani. Presented at National conference on “Herbal Medicines in the era of Globalization” held at Department of Chemistry, Sahyadri Science College, Shivamogga during 10th and 11th of September 2011.
13. Phytochemical analysis and in vitro antioxidant property of Acalypha wilkesiana foliage extract” Pradeepa., K.P Rajesh., H. Manjunatha. Presented at National conference on “Herbal Medicines in the era of Globalization” held at Department of Chemistry, Sahyadri Science College, Shivamogga during 10th and 11th of September 2011.
12. Virtual screening of phytochemical constituent molecules for anti- Helicobacterpylori activity” Rajesh K.P., Bharath B.R. and Manjunatha H. Presented at State level conference on “Mesmerizing fields of Biotechnology -2011” held at Department of PG studies and research in Biotechnology, S.D.M. College, (Autonomous), Ujire- 574240, Karnataka during 8th and 9th of April 2011.
11. Antibacterial and Molecular docking studies of entagenic acid, a bioactive principle from seed kernel of Entadapursaetha DC.” K.P. Rajesh, S.M. Vidya, V. Krishna, B.K. Manjunatha, B.R. Bharath, H. Manjunatha. Presented at National Conference on “Social Relevance of Chemical Sciences (SRCS-2011)” held at Department of Chemistry, Kuvempu University, Jnanasahyadri, Shankaraghatta during 26 and 27, March 2011.
10. In vitro antibacterial activity and molecular docking of GluN-6-p synthase with phytoconstituents entagenic acid isolated from seed kernel of Entada pursaetha DC.” Rajesh, K. P., Vidya, S. M., Bharath, B. R., Krishna, V., Manjunatha, B. K., Manjunatha, H. Presented at workshop on “Molecular Modeling and Drug Design” at Centre for Modelling Simulation and Design (CMSD), University of Hyderabad, Hyderabad from 2nd to 7th August, 2010.
9. Comparative structure analysis of homologous proteins for specific drug design”. Bharath, B. R., Santoshkumar, H.S., Rajesh, K. P., Anil M.R., Vinaya N.J., SujataBarangi., Manjunatha, H. Presented at 4th international symposium on CURRENT TRENDS IN DRUG DISCOVERY RESEARCH at Central Drug research Institute, Lucknow from 17th to 21st February, 2010.
8. Dynamical properties and Conformational flexibility of Mycobacterium tuberculosis HSP 60.2: MD simulations and Normal mode analysis approach”. GollapalliPavan, Santosh Kumar HS, Harish BG, SandeepTelkar, Manjunatha H, Vinutha K. The Eighth Asia Pacific Bioinformatics Conference 18-21 Jan – 2010, Indian Institute of Science (IISc), Bangalore, India.

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7. Diosgenin: A Potent Anti-inflammatory molecule". Niveditha. B., Ayesha Siddiqa, Prakash, G., Manjunatha. H.,Prabhu, M.S.L., LeelaSrinivas., Dhananjaya, B.L., International Symposium on Environmental Pollution, Ecology, Health and Human Health July 25-27, 2009, Dept. of Zoology, S.V. University Tirupati, Andhra Pradesh, India.
6. Antioxidant and anti-inflammatory activity of capsaicin". Ayesha Siddiqa, Niveditha. B., Prakash, G., Manjunatha. H.,Prabhu, M.S.L., LeelaSrinivas., Dhananjaya, B.L. International Symposium on Environmental Pollution, Ecology, Health and Human Health July 25-27, 2009. Department of zoology, S.V. University Tirupati, India. Andhra Pradesh.
5. Hepatoprotective role of Eugenia jambolana Lam, Bark on ferrous sulphate induced hepatic damage in rats". Sudeep, H.V., Sujan Ganapathy, P.S., Ramachandra, Y.L., Manjunatha, H. International herbal conference on herbal medicine Bangalore - Feb, 26-28, 2009. Association of pharmaceutical teachers of India. International.
4. Hepatocurative profile of Sachytarpheta indica, a phytomedicine". Sujan Ganapathy, P.S., Sudeep, H.V., Manjunatha, H., Shruthi, S.D., Ramachandra, Y.L. International herbal conference on herbal medicine Bangalore - Feb, 26-28, 2009. Association of pharmaceutical teachers of India. International.
3. As Rapporteur, 24 th National Conference of the ISCAP on Biotechnological Strategies for Biodiversity Conservation (BSBC), Department of Applied Zoology and Microbiology, Kuvempu University, Shankaraghatta, Genetics and Biotechnology, National level.
2. Attended - Indo-Australian Conference on Human Variations and Pharmacogenomics, Manipal Life Sciences Centre, Manipal University (India) (2007) Manipal, Karnataka, International Level.
1. Protective effect of dietary capsaicin on induced oxidation of low density lipoprotein in rats". Manjunatha, H., Srinivasan, K., 72nd annual meeting of SBC (I) Pantnagar November 2004.
1. Bioavailability of spice principles". Suresh,D., Manjunatha, H.,Srinivasan, K.71st annual meeting of SBC (I) Ludhiana 14th December 2002.