



**Name:** Dr. Umashankara. M

**Designation:** Assistant Professor & Chairman

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**Date of Birth:** 29<sup>th</sup> January 1977

**Mobile:** 9482510061

**Office:** 0821-2519947

**Field of Research:** Organic total synthesis, Peptide and Protein chemistry, Bio-medicinal chemistry

**Teaching Experience:** 7 years

**Professional Recognition & Research Recognition:** See detailed CV.

**Academic/membership in Professional bodies:**

1. Indian science congress Association-Life member
2. National Magnetic Resonance Society-Life member

**Area of interest:** Organic reaction mechanism, Chemical Spectroscopy, conducting polymers

**Research interest:** Biophysical studies of peptides with unnatural aminoacids, total synthesis, anti-microbial and anti-cancer molecules

# Curriculum Vitae

## 1. Personal Information

**Name:** Dr. M. Umashankara. M.Sc, Ph.D.

**Position:** Assistant Professor, Department of Chemistry,  
Karnataka State Open University,  
Mysore, Karnataka, India. 570 006

**E-Mail:** umagowda@gmail.com

**Phone:** +91-9482510061

**Gender:** Male

**Marital status:** Married

**Date of Birth:** 29-01-1977

## 2. Objective

To work as a post doctoral fellow in reputed institute/lab that would further enrich my experience and creativity to contribute the inter-disciplinary research in organic chemistry and chemical biology.

## 3. Academic/Research experience

2012 - Current: Assistant Professor  
Department of Chemistry,  
Karnataka State Open University, Mysore-570006

2010-2012: Postdoctoral fellow (Biophysical chemistry),  
Molecular Biophysics Unit,  
Indian Institute of Science, India-560012.

Mentor: Prof. P. Balaram

Project work: Designing  $\beta$ -turn peptide using  $\gamma$  and  $\alpha$  aminoacids

2007-2010: Postdoctoral fellow (Medicinal chemistry),

Drexel University College of Medicine.

Department of Biochemistry and molecular biology, Philadelphia,  
Pennsylvania, USA.

Mentor: Prof. Irwin Chaiken

Project work: Design, synthesis and evaluation of metalocine peptidomimetic HIV-1 entry inhibitors.

#### **4. Education**

2002-2007: Ph. D. (Chemistry), University of Pune.

Research was carried out at National Chemical Laboratory (NCL) Pune, India.

Supervisor: Dr. K. N. Ganesh

Thesis title: Synthesis and Biophysical Studies of 4-substituted Proline Containing Collagen Peptides: Effect of Substituents on Triplex Stability.

2000-2002: Master of Science (Organic Chemistry): University of Mysore, Karnataka, India.

1999- 2000: Bachelor of Education: (Physics, Mathematics): University of Mysore, Karnataka, India.

1997-1999: Bachelor of Science (Physics, Mathematics, Chemistry): University of Mysore, Karnataka, India.

#### **5. Fellowships**

2010- 2012\*: Dr.Kothari post doctoral research fellowship

2004-2007<sup>†</sup>: Senior Research Fellowship (SRF)

2002-2004<sup>†</sup>: Junior Research Fellowship (JRF)

\* Awarded by UGC (University Grant Commission) Government of India.

<sup>†</sup>Awarded by CSIR (Council of Scientific and Industrial Research), through National Eligibility Test (NET) conducted jointly by CSIR-UGC, New Delhi, India.

### List of Publications (Referred journals):

- 1) Two prolines with a difference: constraining stereoelectronic effects of 4R/S-aminoprolines on triplex stability in collagen peptides [Pro(X)-Pro(Y)-Gly]<sub>n</sub>.  
**M. Umashankara**, I. Ramesh Babu, Krishna N. Gasesh\*. *Chem. Commun.* **2003**, 2606-2607.
- 2) Structural Determinants for Affinity Enhancement of a Dual Antagonist Peptide Entry Inhibitor of Human Immunodeficiency Virus Type-1.  
Gopi, H. N.; **M. Umashankara**; Pirrone, V.; LaLonde, J.; Madani, N.; Tuzer, F.; Baxter, S.; Isaac, Z.; Simon, C.; Navneet, J.; Shendra R. M.; Schön, A.; Klein, J. C.; Ernesto.; Krebs, F. C.; Smith, A. B.; Sodroski, J.; Chaiken I. *J. Med. Chem.* **2008**, 51, 2638-2647.
- 3) Use of the quartz crystal microbalance to monitor ligand-induced conformational rearrangements in HIV-1 envelope protein gp120.  
Hyun-Su Lee.; Mark Contarino.; **M. Umashankara**.; Arne Schön.; Ernesto Freire.; Amos B. Smith III.; Irwin M. Chaiken.; Lynn Penn. *Anal Bioanal Chem.* **2010**, 396, 1143-1152.
- 4) The Active Core in a Triazole Peptide Dual Site Antagonist of HIV-1 gp120.  
**M. Umashankara**.; Karyn McFadden.; Isaac Zentner.; Srivats Rajagopal.; Ferit Tuzer.; Syna A Kuriakose.; Mark Contarino.; Judith LaLonde.; Irwin Chaiken. *Chem Med Chem.* **2010**, 5, 1871-1879.
- 5) Conformational and Structural Features of HIV-1 gp120 Underlying the Dual Receptor Antagonism by Cross-Reactive Neutralizing Antibody m18.  
Syna Kuriakose Gift, Isaac J. Zentner, Arne Schön, Karyn McFadden, **M. Umashankara**, Srivats Rajagopal, Mark Contarino, Caitlin Duffy, Joel R. Courter, Mei-Yun Zhang, Jonathan M. Gershoni, Simon Cocklin, Dimiter S. Dimitrov, Amos B. Smith, III, Ernesto Freire, and Irwin M. Chaiken. *Biochemistry.* **2011**, 50, 2756-2768.
- 6) One-pot approach for the synthesis of 2-aryl benzothiazoles via a two-component coupling of gem-dibromomethylarenes and o-aminothiophenols.  
Chandrappa Siddappa, Vinaya Kambappa, **M. Umashankara**, Kanchugarakoppal S. Rangappa. *Tetrahedron Letters* **2011**, 52, 5474–5477.
- 7) Antiviral Breadth and Combination Potential of Peptide Triazole HIV-1 Entry Inhibitors.  
Karyn Mc Fadden, Patricia Fletcher, Fiorella Rossi, Kantharaju, **M. Umashankara**, Vanessa Pirrone, Srivats Rajagopal, Hosahudya Gopi, Fred C. Krebs, Julio Martin-

- Garcia, Robin J. Shattock, and Irwin Chaiken. *Antimicrob. Agents Chemother.* **2012**, 56, 1073-1080.
- 8) One-pot synthesis of aryl oxime analogues from methyl arenes using NBS and hydroxylamine hydrochloride.  
S. Chandrappa, **M. Umashankara**, K. Vinaya, C. S. Ananda Kumar, K. S. Rangappa. *Tetrahedron Letters* **2012**, 53, 2632-2635.
- 9) 4(R/S)-Amino/Guanidino-substituted Proline Peptides: Design, Synthesis and DNA Transfection Properties.  
**M. Umashankara**, Manaswini Nanda, Mahesh Sonar, and Krishna N. Ganesh\*. *CHIMIA* **2012**, 66, 936 – 940.
- 10) A Model of Peptide Triazole Entry Inhibitor Binding to HIV-1 gp120 and the Mechanism of Bridging Sheet Disruption.  
Ali Emileh, Ferit Tuzer, Herman Yeh, **M. Umashankara**, Diogo R. M. Moreira, Judith M. LaLonde, Carole A. Bewley, Cameron F. Abrams, Irwin M. Chaiken. *Biochemistry* **2013**, 52, 2245–2261.
- 11) A Designed Three-Stranded  $\beta$ -Sheet in an  $\alpha/\beta$  Hybrid Peptide.  
Rajesh Sonti, Hosahudya N. Gopi, **M. Umashankara**, Srinivasarao Ragothama, Padmanabhan Balaram. *Chem. Eur. J.*, **2013**, 19, 5955 – 5965.
- 12) ZrO<sub>2</sub> supported Cu(II)-B cyclodextrin complex: Construction of 2,4,5-trisubstituted -1,2,3-triazoles via azide chalcone oxidative cycloaddition and post-triazole alkylation.  
Y. R. Girish.; K. S. Sharath kumar.; **M. Umashankara**.; N. K. Lokantah.; K. S. Rangappa.; S. Shashikanth\*. *RSC. Adv.* **2014**, 4, 55800-55806.
- 13) Orchestration of Structural, Stereoelectronic and Hydrogen-Bonding Effect in Stabilizing Triplexes from Engineered Chimeric Collagen Peptides (Pro-Pro-Gly)<sub>6</sub> Incorporating 4(R/S)-Aminoproline.  
**M. Umashankara**.; M.V. Sonar.; N. D. Bansode.; K. N. Ganesh\*. *J. Org. Chem.* **2015**, 80, 8552-8560.
- 14) Dimethyl ester of bilirubin exhibits anti-inflammatory activity through inhibition of secretory phospholipase A<sub>2</sub>, lipoxygenase and cyclooxygenase.  
V. Joshi.; **M. Umashankara**.; C. Ramakrishnan.; A. N. Nanjaraj Urs.; K. N. Suvilesh.; D. Velmurugan.; K. S. Rangappa.; B. S. Vishwanath\*. *Arch. Biochemistry and Biophysics.* **2016**, 598, 28-39.
- 15) Stereoselective synthesis of N-benzyl(2S,3,4S)-3-hydroxy-4-methylproline.

M. Hiremath.; Y. C. Sunilkumar.; **M. Umashankara.**; N. C. Sandhya.; S. Candrappa.; C. S. Pavankumar.; K. Mantelingu.; K. S. Rangappa\*. *Tet. Assymetry* **2016**, 27, 261-267.

- 14) Accumulation of transcripts of defense enzymes involved during rhizobacteria mediated induced resistance against pearl millet downy mildew disease.  
S. Niranjana Raj\*.; S. N. Lavanya.; **M. Umashankara.** *Int. J. Res. BioSciences*, **2017**, 6, 59-70.
- 15) Anticancer activity of metal nanoparticles and their peptide conjugates against human colon adenorectal carcinoma cells.  
J. B. Aswathanarayan.; Ravishankar Ri Vittal\*.; **M. Umashankara.**, *Nanomedicines and Biotechnology* **2017**, 8, 1-8.
- 16) Mild and Efficient Enantioselective Synthesis of all Stereoisomers of Cordiarimide B and their Antioxidant Study.  
Jeevan, B. V.; **Umashankara, M.**; Sunilkumar, Y. C.; Kumar, M. N\*.; Rangappa, K. S. *Asian Journal of Chemistry*, **2018**, 30, 927-932.
- 17) Physical and Biological Evaluation of Cordiarimide B Isomers as A Multidrug Compounds.  
Jeevan, B. V.; **Umashankara, M.**; Shankar. J; Kumara, M. N\*.; Niranjana Raj, S. *IOSR Journal Of Pharmacy* **2018**, 8, 60-67.
- 18) Effect of peptide-conjugated nanoparticles on cell lines. Kangkana Banerjee, V. Ravishankar Rai, M. Umashankar, *Progress in Biomaterials*, **2019**, 8, 11-21 <https://doi.org/10.1007/s40204-019-0106-9>
- 19) Synthesis and Antibacterial Evaluation of New N-acyl Derivatives of ( $\pm$ ) norleucine. Mahanthaswamy Hiremath, Shamanth S, Gejjalagere P.Suresh, **Umashankara M**, Mantelingu K\*. *Journal of Emerging Technologies and Innovative Research*, **2018**, 5, 577-589.
- 20) Comparative evaluation of commercial formulations Nutri-Neem and Rifol on downy mildew disease of pearl millet. Chandrashekhara, Lavanya, S. N, Umashankara, M. and Niranjana-RajS \* *Int. J. of Life Sciences*, **2018**; 6 (4):957-967.
- 21) Active-site directed peptide L-Phe-D-His-L-Leu inhibits angiotensin converting enzyme activity and dexamethasone-induced hypertension in rats. Mysuru Natarajan Savithaa,1, Jalahalli Mariswamy Siddeshaa,1, Kanve Nagaraj Suvilesha, Manjunath Yariswamy, Hamse Kameshwar Vivekc, Cletus J.M. D'Souzaa, Muddegowda Umashankard, Bannikuppe Sannanaik Vishwanatha,\* *Peptides*, **2019**, 112, 34-42.

**List of Publications (Non referred journals):**

1) Kinetic and mechanistic investigation of allura red ac by chloramine-t in hcl Medium: a spectrophotometric approach.

Harsha, M.; **Umashankar, M.**; Mahadevan, K. M.; Ananda, S.; Kumara. M. N.  
*International Journal of Current Research* **2016**, 8, 36931-36938.

2) Millets for Mitigating Malnutrition: Value Addition for rural health Development programs.

S. Niranjan Raj\*.; C. S. Manjunatha.; M. S. Hemalatha.; **M. Umashankara.**; S. N.  
Lavanya.

*International Journal of Multidisciplinary Educational Research* **2017**, 6, 70-76.