

Curriculum Vitae
Dr. Konkallu Hanumae Gowd

Personal Details:

Gender : Male
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Dr. K. Hanumae Gowd,
Undergraduate programme,
Indian Institute of Science,
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Research Interests:

Chemical biology of sulfur compounds, Peptide natural products, Mass spectrometry, Structure elucidation, Oxidative peptide folding, Solid phase peptide synthesis, NMR spectroscopy, Functional miniature proteins, Biochemistry of Peptide toxin processing, Proteomics, Computational studies of peptide toxins.

Education and Training:

INSTITUTION	POSITION / DEGREE	YEAR	FIELD OF STUDY
Department of Chemistry, CUK, Gulbarga	Assistant Professor	2014-Present	Chemical Biology
Undergraduate Programme, IISc, Bangalore.	INSPIRE Faculty Fellow	2012-2014	Chemical Biology
Molecular Biophysics Unit, IISc, Bangalore.	Project Scientist	2010-2012	Biophysics
University of Utah, Salt Lake City, USA.	Post-Doctoral Fellow	2008-2010	Neuroscience
Department of Biological Sciences, TIFR, Mumbai.	Ph.D	2003-2008	Biology
Central College, Bangalore University, Bangalore.	M Sc	2001-2003	Organic Chemistry
SCSAC, Bangalore University, Tumkur.	B Sc	1998-2001	Phys. Chem. Math

Research Experience:

- 2010-2012** : Project Scientist at Molecular Biophysics Unit, Indian Institute of Science. Advisor: Prof. P. Balaram; Collaborator: Prof. K.S. Krishnan.
"Exploring Conus peptides towards construction of functional miniature protein"
- 2008-2010** : Post-Doctoral Fellow at Department of Biology, University of Utah. Advisor: Prof. Baldomero M Olivera; Collaborator: Prof. Grzegorz Bulaj.
"Characterization of NMDA receptor antagonists from cone snails and synthesis, Folding and functional characterization of ω -selnoconotoxins"
- 2003-2008** : Research Scholar at Department of Biological Sciences, Tata Institute of Fundamental Research. Advisor: Prof. K.S.Krishnan; Collaborator: Prof. P.Balaram. *"Structural characterization of conotoxins and Identification of their posttranslational modifying enzymes"*.

Publications:

1. **Gowd KH**, Sabareesh V, Sudarslal S, Iengar P, Franklin B, Fernando A, Dewan K, Ramaswami M, Sarma SP, Sikdar S, Balaram P, Krishnan KS (2005). *Novel peptides of therapeutic promise from Indian Conidae*. **Ann N Y Acad Sci.**, 1056: 462-473.
2. Sabareesh V, **Gowd KH**, Ramasamy P, Sudarslal S, Krishnan KS, Sikdar SK, Balaram P (2006). *Characterization of contryphans from *Conus loroisii* and *Conus amadis* that target calcium channels*. **Peptides** 27: 2647-2654.
3. Nair SS, Nilsson CL, Emmett MR, Schaub TM, **Gowd KH**, Thakur SS, Krishnan KS, Balaram P, Marshall AG (2006). *De novo sequencing and disulfide mapping of a bromotryptophan-containing conotoxin by Fourier transform ion cyclotron resonance mass spectrometry*. **Anal Chem.**78: 8082-8088.
4. **Gowd KH**, Krishnan KS, Balaram P (2007). *Identification of *Conus amadis* disulfide isomerase: minimum sequence length of peptide fragments necessary for protein annotation*. **Mol Biosyst.** 3: 554-566.
5. **Gowd KH**, Dewan KK, Iengar P, Krishnan KS, Balaram P. (2008) *Probing peptide libraries from *Conus achatinus* using mass spectrometry and cDNA sequencing: identification of delta and omega-conotoxins*. **J Mass Spectrom.** 43: 791-805.
6. **Gowd KH***, Twedea V*, Watkinse M, Krishnan KS, Teichert RW, Bulaje G, and Olivera BM (2008). *Conantokin-P, an Unusual Conantokin with a Long Disulfide Loop*. **Toxicon** 52: 203-213. [* equal contribution].
7. Holford M, Zhang MM, **Gowd KH**, Azam L, Green BR, Watkins M, Ownby JP, Yoshikami D, Bulaj G, and Olivera BM (2009). *Pruning Nature: Biodiversity-Derived Discovery of Novel Sodium Channel Blocking Conotoxins from *Conus bullatus**. **Toxicon** 53: 90-98.
8. **Gowd KH**, Yarotsky V, Elmslie KS, Skalicky JJ, Olivera BM, Bulaj G (2010). *Site-Specific effects of diselenide bridges on the oxidative folding of a Cyseine Knot Peptide, omega-selenoconotoxin GVIA*. **Biochemistry** 49: 2741-2752.
9. Han TS, Zhang MM, **Gowd KH**, Walewska A, Yoshikami D, Olivera BM, Bulaj G (2010). *Disulfide-Depleted Selenoconopeptides: a Minimalist Strategy to Oxidative Folding of Cysteine-Rich Peptides*. **ACS Med Chem Letter** 4: 140-144.

10. **Gowd KH**[#], Watkins M, Twede V, Bulaj G, and Olivera BM (2010). *Characterization of ConantokinRI-A: Molecular Phylogeny as Structure/Function Study*. **J Pept Sci**. 16: 375-82.(# corresponding author).
11. **Gowd KH**, Blaise K, Elmslie KS, Steiner AM, Olivera BM, Bulaj G. *Dissecting a Role of Evolutionary-conserved but Non-critical Disulfide Bridges in Cysteine-Rich Peptides Using ω -Conotoxin GVIA and its Selenocysteine Analogs*. **Biopolymers** 98: 212-223.
12. **Gowd KH**, Han T, Twede V, Gajewiak J, Smith MD, Watkins M, White HS, Olivera BM, Bulaj G (2012). *ConRI-B, an Anticonvulsant Antagonist for NMDA Receptors that Exhibits an Unprecedented Selectivity for NR2B Subunits*. **Biochemistry** 15: 4685-4692.
13. Gupta K, Bhattacharyya M, **Gowd KH**, Balam P (2013). *DisConnect: A mass spectrometric methodology for rapid determination of disulfide connectivity in peptides and proteins*. **Mol Biosyst**. 9: 1340-50.
14. Sonti R, **Gowd KH**, Rao KN, Raghothama S, Rodriguez A, Perez JJ, Balam P (2013). *Conformational diversity in contryphans from Conus venom: cis-trans isomerisation and aromatic/proline interactions in the 23-membered ring of a 7-residue peptide disulfide loop*. **Chemistry**. 19: 15175-89.
15. Sonti R, Rao KN, Chidanand S, **Gowd KH**, Raghothama S, Balam P (2014). *Conformational analysis of a 20-membered cyclic peptide disulfide from Conus virgo with a WPW segment: evidence for an aromatic-proline sandwich*. **Chemistry**. 20: 5075-86.
16. Beedessee G, Ramanjooloo A, Tiscornia I, Cresteil T, Raghothama S, Arya D, Rao S, **Gowd KH**, Bollati-Fogolin M, Marie DE (2014). *Evaluation of hexane and ethyl acetate extracts of the sponge Jaspis diastra collected from Mauritius Waters on HeLa cells*. **J Pharm Pharmacol**. (in press)

Academic Records:

INSTITUTION	COURSE	PERCENTAGE (%)	RECONGISION
Department of Biological Sciences, TIFR, Mumbai.	Ph.D	-	'Honourable' mention for Best Thesis
Central College, Bangalore University, Bangalore.	M Sc	79.50	University Gold Medal for 1 st Rank
SCSAC, Bangalore University, Tumkur.	B Sc	80.44	---
Sarvodaya PU college, Tumkur.	PUC	77.52	---
Andhra Pradesh ZPPHC School, Gudibabnda.	SSLC	75.55	---

Academic Awards:

- ✓ **“INSPIRE Faculty Award”** from **Department of Science & Technology**.
- ✓ **“Honourable mention” (2009)** in the context of best thesis award from **Tata Institute of Fundamental Research, Mumbai**.
- ✓ **“The Journal of Experimental Biology” (2007)** Traveling fellowship from **Company of Biologist**.
- ✓ **“Sarojini Damodaran International Fellowship” (2007)** from TIFR endowment fund.
- ✓ Financial assistance from **Department of Science & Technology (2007)** to visit Prof. Baldomero M. Olivera lab at university of Utah.
- ✓ Traveling award from **“Joint Third AOHUPO and Fourth Structural Biology and Functional Genomics Conference” (2006)** held in National University of Singapore.
- ✓ **Kanwal Rekhi Scholarship (2004 & 2005)** from TIFR endowment fund.
- ✓ **University Gold Medal (2003)** - For securing the first position in Bangalore University.
- ✓ **Prof S.M. Mayanna Gold Medal/Cash prize (2003)** for securing highest marks in M.Sc.Chemistry.
- ✓ **Dr.B.D. Laroia Memorial Gold Medal/Cash prize (2003)** for securing highest marks in M.Sc.Chemistry.
- ✓ **Fakir Saheb Gold Medal/Cash prize (2003)** for securing highest marks in M.Sc.Chemistry.
- ✓ **Prof.S.Siddappa’s 60th Birthday Commemoration Gold Medal/Cash prize (2003)** for securing highest marks in M.Sc.Chemistry.
- ✓ **Prof K.M. Shivanandaiah Gold Medal/Cash prize (2003)** for securing highest marks in Organic Chemistry (M.Sc.Chemistry).
- ✓ **Prof Vrishabendrappa Endowment Gold Medal/Cash prize (2003)** for securing highest marks in Organic Chemistry (M.Sc.Chemistry).
- ✓ **Prof H. Sanke Gowda Gold Medal/Cash prize (2003)** for securing highest marks in Organic Chemistry (M.Sc.Chemistry).
- ✓ **Smt.Myna Bai & Narayana Rao Gold Medal/Cash prize (2003)** for securing highest marks in Organic Chemistry (M.Sc.Chemistry).

Research Guidance:

- **Mr. N. JAGADESH (IAS Fellow-2013)** Developing a mass spectrometric method to establish lanthionine connectivity in peptide lantibiotics.
- **Ms. PRIYANKA CHAKRABORTY (IAS Fellow-2014)** Structural diversity through cysteine pattern and disulfide folds in peptides
- **Mr. ANGSU DUTTA (IAS Fellow-2014)** Insights on limited exploration of disulfide structural space by animal toxins.