

**WELCOME TO**

**PROF GOWD'S  
CHEMISTRY AND BIOLOGY OF PEPTIDES  
LABORATORY  
CENTRAL UNIVERSITY OF KARNATAKA**



**PHILOSOPHY:  
TO GROW TEACHERS AND  
RESEARCHERS IN CHEMICAL SCIENCE  
FOR BENEFIT OF SOCIETY**

**"I am here because of the guidance of the following mentors and the institutions that have enriched my knowledge."**

**Tata Institute of Fundamental Research**

**Prof. K.S.Krishnan**



**Indian Institute of Science**

**Prof. P.Balaram**



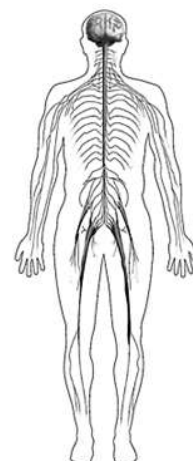
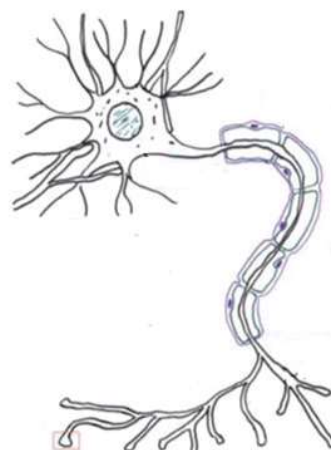
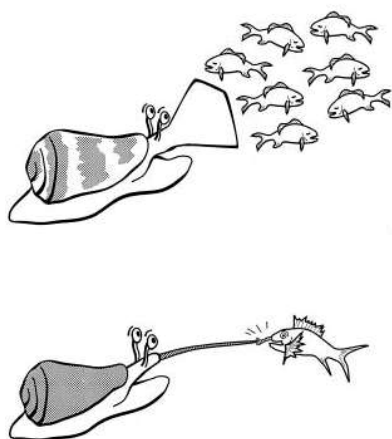
**University of Utah**

**Prof. BM Olivera**



**The field that fascinates me to continue in research**

## **Characterization of peptides of therapeutic values from marine cone snails**



## PRINCIPLE INVESTIGATOR:



Details	Name	Konkallu Hanumae Gowd
Personal	Designation	Professor
	Email	<a href="mailto:khgowd@cuk.ac.in">khgowd@cuk.ac.in</a> <a href="mailto:hanumae@gmail.com">hanumae@gmail.com</a>
	Mobile Number	9483824396
	Address	Department of Chemistry Central University of Karnataka Kadaganchi, Aland Road, Kalaburagi Dist. - 585 367.
Education	B.Sc (PCM)	Sree Siddaganga College of Arts, Science and Commerce, Tumkur

	<b>M.Sc. Chemistry</b>	<b>Central College, Bangalore University</b>
	<b>Ph.D</b>	<b>Tata Institute of Fundamental Research (TIFR)</b>
	<b>Post-Doctoral Fellow</b>	<ul style="list-style-type: none"> <li>• <b>University of Utah</b></li> <li>• <b>MBU-IISc</b></li> </ul>
<b>Investigator</b>	<b>DST-INSPIRE Faculty @UG-IISc</b>	<b>2012-2014</b>
	<b>Assistant Professor @CUK</b>	<b>2014-2020</b>
	<b>Professor @CUK</b>	<b>2020-PRESENT</b>
<b>Teaching</b>	<ul style="list-style-type: none"> <li>• <b>Stereochemistry</b></li> <li>• <b>Named organic reactions</b></li> <li>• <b>Bioorganic chemistry</b></li> <li>• <b>Photochemistry</b></li> <li>• <b>Organic spectroscopy</b></li> <li>• <b>Natural Product Chemistry</b></li> <li>• <b>Mass spectrometry</b></li> </ul>	
<b>Research</b>	<ul style="list-style-type: none"> <li>➤ <b>Disulfide-rich peptide natural products of Indian cone snails</b></li> <li>➤ <b>Dissection of oxidative folding machinery of conotoxins</b></li> <li>➤ <b>Developing new methods and novel approaches for peptides.</b></li> <li>➤ <b>Nerve cell modulating Conus peptides: Pain Killers</b></li> <li>➤ <b>Novel avobenzone based chemical UV-A filters for cosmetics</b></li> <li>➤ <b>Integration of conotoxins and UVA filters for skin disease</b></li> </ul>	
<b>Administration</b>	<ul style="list-style-type: none"> <li>✓ <b>Executive Council member (EC Member): 2020-2023</b></li> <li>✓ <b>Executive Finance Committee member (FC Member)-2022-2023</b></li> <li>✓ <b>Academic council member (AC Member)- 2020-Current</b></li> <li>✓ <b>Dean, School of Chemical Sciences: 2020-2023</b></li> <li>✓ <b>Head of The Department of chemistry: 2020-2023</b></li> <li>✓ <b>Chairman of Admission Committee: 2022-Current</b></li> <li>✓ <b>Dean, School of Life Sciences: 2022-2023</b></li> </ul>	

## PUBLICATIONS:

Summary of Research Articles published from Central University of Karnataka

Corresponding Author publications: 22

Co-Author publications: 03

American Chemical Society journals	04
The Royal Society of Chemistry journals	01
Wiley Journals	06
Elsevier Journal	09
Taylor and Francis journals	04
Springer journals	01
Indian Patent	01

SR No.	Details	Journal	Year
1.	<a href="#">Structure-aided function assignment to the transcriptomic conopeptide Am931</a> Shamasoddin Shekh, Shweta Dhannura, Pooja Dhurjad, Challa Ravali, MM Spoorti, Sreepriya Kakkat, Marimuthu Vijayasarathy, Rajesh Sonti, <b>Konkallu Hanumae Gowd</b> 108087	Toxicon 108087	2024
2.	<a href="#">Redox-Active Conopeptide Li520 Has Evolved to Catalyze Oxidative Folding of Conotoxins</a> Shweta Dhannura, Shamasoddin Shekh, Pooja Dhurjad, Ashwini Dolle, Sreepriya Kakkat, Vishwajyothi, Marimuthu Vijayasarathy, Rajesh Sonti, <b>Konkallu Hanumae Gowd</b>	ACS Omega	2024
3.	<a href="#">Conformers influence on UV-absorbance of avobenzonone</a> Deepak Kumar Sahoo, Pranay Mohanty, Himansu S Biswal, <b>Konkallu Hanumae Gowd</b> 453, 115671	Journal of Photochemistry and Photobiology A: Chemistry	2024
4.	<a href="#">Antimicrobial and antitumor properties of anuran peptide temporin-SHf induce apoptosis in A549 lung cancer cells</a> Anet Antony, Anupama Kizhakke Purayil, Shilpa Olakkar, Shweta Dhannura, Shamasoddin Shekh, <b>Konkallu Hanumae Gowd</b> , Hunasanahally Puttaswamygowda Gurushankara 56 (1), 12	Amino Acids	2024

5.	<a href="#">Probing the photostability of avobenzone with N-acetylcysteine using UV spectroscopy, computational studies and integration into aloe vera gel</a> Deepak Kumar Sahoo, Subhrakant Jena, Pranay Mohanty, Himansu S Biswal, <b>Konkallu Hanumae Gowd</b> 447, 115196	Journal of Photochemistry and Photobiology A: Chemistry	2024
6.	<a href="#">Oxidative Folding Catalysts of Conotoxins Derived from the Venom Duct Transcriptome of <i>C. frigidus</i> and <i>C. amadis</i></a> Shamasoddin Shekh, Pooja Dhurjad, Marimuthu Vijayasarathy, Ashwini Dolle, Shweta Dhannura, Deepak Kumar Sahoo, Rajesh Sonti, <b>Konkallu Hanumae Gowd</b> 62 (21), 3061-3075	Biochemistry (ACS)	2023
7.	<a href="#">Peptide Cysteine Thiols Act as Photostabilizer of Avobenzone through Stabilizing the Transition State of Keto-Enol Tautomerization</a> Smriti Moi, Shamasoddin Shekh, K Kasi Amarnath Reddy, Pooja Dhurjad, Rajesh Sonti, <b>Konkallu Hanumae Gowd</b> 99 (3), 911-919	Photochemistry and Photobiology	2023
8.	<a href="#">Virtual screening of sulfur compounds of <i>Allium</i> against coronavirus proteases: E-Ajoene is a potential dual protease targeting covalent inhibitor</a> Shamasoddin Shekh, Smriti Moi, <b>Konkallu Hanumae Gowd</b> 44 (1), 74-89	Journal of Sulfur Chemistry	2023
9.	<a href="#">Conformations of disulfides are conserved in inhibitory cystine knot (ICK) motif polypeptides</a> Shamasoddin Shekh, Smriti Moi, Panchada Ch V Govindu, <b>Konkallu Hanumae Gowd</b> 219, 106926	Toxicon	2022
10.	<a href="#">Significance of D-tryptophan in Contryphan-Ar1131 Conus peptide: Oxidative folding, trypsin binding, and photostabilization activity</a> Smriti Moi, Shamasoddin Shekh, Ashwini Dolle, Marimuthu Vijayasarathy, <b>Konkallu Hanumae Gowd</b> 156, 170845	Peptides	2022
11.	<a href="#">Antitumor activity of Tigerinin-1: necroptosis mediates toxicity in A549 cells</a> Anet Antony, Shilpa Olakkaran, Anupama Kizhakke Purayil, Shamasoddin Shekh, <b>Konkallu Hanumae Gowd</b> , Hunasanahally Puttaswamygowda Gurushankara 1866 (9), 130182	Biochimica et Biophysica Acta (BBA)-General Subjects	2022

12.	<a href="#"><u>Conformational change due to replacement of disulfide with selenosulfide and diselenide in dipeptide vicinal cysteine loop</u></a> K Kasi Amarnath Reddy, Deepak Kumar Sahoo, Smriti Moi, <b>Konkallu Hanumae Gowd</b> 97, 107635	Computational Biology and Chemistry	2022
13.	<a href="#"><u>Photochemical studies of new synthetic derivatives of avobenzone under sunlight using UV-spectroscopy</u></a> Smriti Moi, Basavaprabhu Hosamani, Kiran Kumar, Shubha Gunaga, Srinivasarao Raghothama, <b>Konkallu Hanumae Gowd</b> 420, 113488	Journal of Photochemistry and Photobiology A: Chemistry	2021
14.	<a href="#"><u>Gram-scale synthesis of 1, 8-naphthyridines in water: The friedlander reaction revisited</u></a> Shubhranshu Shekhar Choudhury, Subhrakant Jena, Dipak Kumar Sahoo, Shamasoddin Shekh, Rajiv K Kar, Ambuj Dhakad, <b>Konkallu Hanumae Gowd</b> , Himansu S Biswal 6 (29), 19304-19313	ACS omega	2021
15.	<a href="#"><u>Ligand-induced transition in conformations of vicinal cysteine disulfides in proteins</u></a> K Kasi Amarnath Reddy, Muddagoni Jayashree, Panchada Ch V Govindu, <b>Konkallu Hanumae Gowd</b> 89 (6), 599-613	Proteins: Structure, Function, and Bioinformatics	2021
16.	<a href="#"><u>The Redox-Active Conopeptide Derived from the Venom Duct Transcriptome of <i>Conus lividus</i> Assists in the Oxidative Folding of Conotoxin</u></a> Ashwini Dolle, Marimuthu Vijayasathy, Shamasoddin Shekh, Yamanappa Hunashal, K Kasi Amarnath Reddy, Sunita Prakash, Abhijit Rana, Himansu S Biswal, Srinivasarao Raghothama, <b>Konkallu Hanumae Gowd</b> 60 (16), 1299-1311	Biochemistry (ACS)	2021
17.	<a href="#"><u><i>In silico</i> allicin induced S-thioallylation of SARS-CoV-2 main protease</u></a> Shamasoddin Shekh, K Kasi Amarnath Reddy, <b>Konkallu Hanumae Gowd</b> 42 (1), 109-120	Journal of Sulfur Chemistry	2021
18.	<a href="#"><u>Synthesis of Peptide Cysteine Dimedone Using Fmoc-Cys (Dmd)-OH: Glutathione Cysteine Dimedone as a Probe in Investigating the Sulfenic Acid Mediated Oxidation of Glutathione</u></a> K Kasi Amarnath Reddy, Smriti Moi, Ashwini Dolle, Basavaprabhu Hosamani, Kiran Krishnamurthy, Sunita Prakash, Srinivasarao Raghothama, <b>Konkallu Hanumae Gowd</b>	Helvetica Chimica Acta	2020

	103 (7), e2000062		
19.	<p><u><a href="#">Characterization of (Boc-Cys/Sec-NHMe)<sub>2</sub> and (Boc-Cys/Sec-OMe)<sub>2</sub>: Evidence of local conformational difference between disulfide and diselenide</a></u>  Ashwini Dolle, K Kasi Amarnath Reddy, Shubha Shridhar Gunaga, Kiran Krishnamurthy, Dillip Kumar Senapati, Abhijit Rana, Kishorkumar Sindogi, Himansu S Biswal, Srinivasarao Raghothama, <b>Konkallu Hanumae Gowd</b>  26 (4-5), e3245</p>	Journal of Peptide Science	2020
20.	<p><u><a href="#">Disulfide engineering on temporin-SH f: Stabilizing the bioactive conformation of an ultra-short antimicrobial peptide</a></u>  Ashwini Dolle, Veera Babu Nagati, Yamanappa Hunashal, Kiran Krishnamurthy, Anil Kumar Pasupulati, Srinivasarao Raghothama, <b>Konkallu Hanumae Gowd</b>  94 (3), 1634-1646</p>	Chemical Biology & Drug Design	2019
21.	<p><u><a href="#">Conformations of cysteine disulfides of peptide toxins: Advantage of differentiating forward and reverse asymmetric disulfide conformers</a></u>  Panchada Ch V Govindu, Athul Mohanan, Ashwini Dolle, <b>Konkallu Hanumae Gowd</b>  37 (8), 2017-2029</p>	Journal of Biomolecular Structure and Dynamics	2019
22.	<p><u><a href="#">Glutathione as a photo-stabilizer of avobenzone: an evaluation under glass-filtered sunlight using UV-spectroscopy</a></u>  Panchada Ch V Govindu, Basavaprabhu Hosamani, Smriti Moi, Dhananjeyan Venkatachalam, Sabreddy Asha, Varun N John, V Sandeep, <b>Konkallu Hanumae Gowd</b>  18, 198-207</p>	RSC-Photochemical & Photobiological Sciences	2019
23.	<p><u><a href="#">Electron transfer dissociation of synthetic and natural peptides containing lanthionine/methyllanthionine bridges</a></u>  Ashwini B Dolle, Narasimhappagari Jagadeesh, Suman Bhaumik, Sunita Prakash, Himansu S Biswal, <b>Konkallu Hanumae Gowd</b>  32 (11), 831-843</p>	Rapid Communications in Mass Spectrometry	2018
24.	<p><u><a href="#">Synthesis of two closely spaced cysteine barbiturates containing peptides by copper-catalyzed oxidation of contryphan disulfide</a></u>  Panchada Ch V Govindu, Chidanad Sudarshan, <b>Konkallu Hanumae Gowd</b>  47 (17), 1559-1567</p>	Synthetic Communications	2017



25.	<a href="#">Structural space of intramolecular peptide disulfides: Analysis of peptide toxins retrieved from venomous peptide databases</a> Panchada Ch V Govindu, Priyanka Chakraborty, Angshu Dutta, <b>Konkallu Hanumae Gowd</b> 68, 194-203	Computational Biology and Chemistry	2017
26.	MOI, Smriti, HOSAMANI, Basavaprabhu, KUMAR, Kiran, GUNAGA, Shubha Shridhar, SAHOO, Deepak Kumar, PATIL, Pooja S, NAVANI, Poornima G, SANDEEP, Vuddanti, RAGHOTHAMA, Srinivasarao, ROW, T.N Guru, GOWD, Konkallu Hanumae.	Patent N0: 423245	2023

### RESEARCH GRANTS:

Funding agency	Project title	Grants received	Duration	Investigator name and PI or Co-PI
<b>DST- INSPIRE</b>	Disulphide rich conus peptide based scaffolds for functional miniature	<b>35 Lakhs</b>	05 Years	Dr. Konkallu Hanumae Gowd (PI)
<b>DST- SERB- ECR</b>	Evaluation of genetically coded redox conopeptides as the folding catalysts of biologically active conotoxins: Development of regenerative immobilized reagents for simplified oxidative folding of disulfide rich peptides and proteins	<b>45 Lakhs</b>	03 Yrs	Dr. Konkallu Hanumae Gowd (PI) Dr. N. S. Venkata Narayanan (Co-PI)
<b>DST-NPDF</b>	Design, synthesis and application of Cysteine and Selenocysteine in Native Chemical Ligation and biological studies and developing fluorescent probes for their detection.	<b>6 Lakhs</b>	02 Yrs	Dr. Konkallu Hanumae Gowd (Mentor) Dr. Basavaprabhu (NPDF)
<b>VGST</b>	Unraveling the biochemical reactions of cysteine sulfenic acid: Structural and functional characterization of peptide barbiturates	<b>5 Lakhs</b>	01 Yr	Dr. Konkallu Hanumae Gowd (PI)
<b>DBT</b>	Therapeutic leads for pain from Conus peptides of Indian marine coast	<b>89.58 Lakhs</b>	03 Yrs	Dr. Rajesh Sonti (PI) Dr. Konkallu Hanumae Gowd (PI)
<b>VGST K-FIST-L1</b>	Intrinsically photostable avobenzene derivatives as chemical UVA filters for cosmetics	<b>20 Lakhs</b>	02 Yrs	Dr. Konkallu Hanumae Gowd (PI) Dr. Venkata Ramana Doddi (CO-PI)

## RESEARCH GUIDENCE:



Name	<b>Dr. Shashikanth B</b>
Designation	<b>Post-Doctoral Fellow</b>
Current Status	<b>Assistant Professor and HOD, Department of Chemistry, S. G. College, Koppal, Karnataka.</b>



Name	<b>Dr. Basavaprabhu H</b>
Designation	<b>Post-Doctoral Fellow</b>
Current Status	<b>Assistant Director, Regional Forensic Science Laboratory, Belagavi, Karnataka Police Department, Karnataka.</b>



Name	<b>Dr. P.Ch.V. Govindu</b>
Designation	<b>Ph.D (2014-2018)</b>
Current Status	<b>Scientist, Ramagundam Fertilizers and Chemicals Limited (RFCL), Telangana-505210</b>



Name	<b>Dr. Ashwini B Dolle</b>
Designation	<b>Ph.D (2015-2019)</b>
Current Status	<b>Post-Doctoral Fellow IISER Pune, Maharashtra 411008</b>



Name	<b>Dr. K K. Amarnath Reddy</b>
Designation	<b>Ph.D (2016-2020)</b>
Current Status	<b>IOE Post-Doctoral Fellow University of Hyderabad, Telangana-500046</b>



Name	<b>Dr. Smriti Moi,</b>
Designation	<b>Ph.D (2017-2021)</b>
Current Status	<b>Senior Research Associate CSIR-CDRI, Lucknow 226031</b>



Name	<b>Dr. Shamasoddin Shekh</b>
Designation	<b>Ph.D (2018-2022)</b>
Current Status	<b>Post-Doctoral Fellow TIFR -Mumbai, Maharashtra- 400005</b>



Name	<b>Mr. Deepak H Sahoo</b>
Designation	<b>Ph.D (2020-Present)</b>
Current Status	<b>Pursuing PhD Department of Chemistry, CUK 585367</b>



Name	<b>Ms. Shweta Dhannura</b>
Designation	<b>Ph.D (2022-Present)</b>
Current Status	<b>Pursuing PhD Department of Chemistry, CUK 585367</b>



*Radhakrishna K*

Name	<b>Mr. Radhakrishna K</b>
Designation	<b>Ph.D (2024-Present)</b>
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## 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).