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Postdoctoral Research Associate,
Technion Israel Institute Of Technology,
Haifa, Israel.

Dr. Venkata Subba Rao Ganga

Ph.D., Organic Chemistry, CSIR-CSMCRI, INDIA

- My research interests and activities over the past ten years have mainly centered around three areas: multi-step synthesis of bioactive organic molecules, development of novel synthetic methods for heterocycles and Synthesis of Organocatalysts and Organometallic catalysts for enantioselective reactions.
- Development of novel methodologies for C-C and C-N bond forming reactions using transition metal catalysed reactions towards the synthesis of bioactive compounds.
- Synthesis of Chiral supramolecules for sensing and Catalysis.

PERSONAL DETAILS

Birth Date : 10th August, 1986
Nationality : Indian
Marital Status : Married
Languages known: English, Hindi, Telugu.

EDUCATION

05/2010 – 11/2016

Ph.D. Synthetic Organic Chemistry (Full time)
CSIR-Central salt and marine chemicals research institute, India
Research topic_ "**Development of Homogeneous and Heterogeneous catalysts for Carbon-Carbon bond forming reactions**"
Advisor: Prof. Dr. S.H.R Abdi& Prof. Dr..N.H.Khan

06/2007 – 07/2009

M.Sc., Organic Chemistry
S.R.T.M university, Nanded, India., grade first division, 67.30 %

05/2003 – 06/2006

B.Sc. (Micro-biology, Bio-chemistry and Chemistry)
AcharyaNagarjuna University, Guntur, India, grade first divsion, 77.33 %.

11/2021-Present

Postdoctoral Research Fellow
Technion Israel Institute of technology.

- Involved in Synthesis of Novel Chiral supramolecules for Catalysis and for other applications.

EMPLOYMENT

06/2021 – 11/2021

Senior Research Associate
Zydus Cadila Health Care, Vadodara-391002.

- Involved in the synthesis of API drug intermediates.

09/2020 – 05/2021

Research Associate
CSIR-IICT, Tarnaka, Hyderabad-500009.

- Involved in development of novel methodologies for Fluorinated Tecomanine, Kinabalurine and Ziprasidone molecules.

	• Involved in development of novel methodologies for Synthesis of Heterocyclic molecules.
07/2019 – 06/2020	Postdoctoral Research Fellow(PDF) Dr. Xiaojin Wu, Nanjing tech university, Nanjing, china. •Palladium-Catalyzed Intermolecular Dicarbofunctionalization of Unactivated Alkenes with Unactivated Alkyl Halides has done. •Involved in development of novel methodologies for C-C bond forming reactions by using alkenes and alcohols. • Involved in development of novel methodologies for Heck and reductive Heck reactions. • Development of natural products and energetic materials by using multistep synthesis. • Handled syn gas, Nitration, Chlorination, Bromination, Oxidation, Reduction, Amination and Pt, Pd, Rh, Ni high pressure reactions.
08/2017 – 06/2019	SEEB-NPDF fellow Dr. VenkateswaraRaoBatchu, CSIR-IICT, Hyderabad-500007 •Highly enantioselective Construction of spirooxindoles by Organocatalytic Michal – aldol Reaction catalyzed by desymmetrizedmesodiamine bearing rigid shield organocatalyst. •Involved in development of novel methodologies for C-C and C-N bond forming reactions using transition metal catalysed reactions towards the synthesis of bioactive compounds.
ACADEMIC EMPLOYMENT 05/2010 – 11/2016	PhD work done and completed (JRF&SRF)at CSIR-Central salt and marine chemical research institute, Gujarat, India. •Involved in development of new methods and novel catalysts for C-C bond forming reactions. •Rhodium complexes supported on nanoporous activated carbon for selective hydroformylation of olefins. •P-Toluene sulfonic acid (PTSA)-MCM-41 as a green, efficient and reusable heterogeneous catalyst for the synthesis of jasminaldehyde under solvent-free condition. •Bifunctionalorganocatalysts for the synthesis of jasminaldehyde and their derivatives. •Epoxides as a new feedstock for the synthesis of xanthene derivatives by using highly efficient, reusable tungstated zirconia as heterogeneous catalyst.
TECHNICAL & SYNTHETIC SKILLS	• **Advanced equipments / Instrument:** Automatic flash column, autoclave reactions, microwave synthesizer, NMR, HPLC, LCMS, GCMS, GC, TGA, XRD, SEM, TEM, UV-Vis, fluorescence, CD, N_2 adsorption/desorption techniques.

	• **Purification techniques:** Chiral resolution, preparative HPLC, flash column chromatography, fractional distillation. • **Name reactions:** Michal – aldol Reaction, Epoxidation, Halex, Balz-Schiemann, Michael addition, Henry's condensation, Aldol condensation, Mitsunobu reactions, Heck reaction. • **Hazardous Chemicals:** Air sensitive and hazardous chemicals in small as well as large scale. • **Technology Transfer:** Pilot plant trials with technology transfer group.
AWARDS & FELLOWSHIPS 2017 2017 2013 2010 2010	**SERB–National Postdoctoral fellowship**, CSIR-IICT Hyderabad **DSK-PDF Fellowship** (UGC),India **Senior Research Fellowship**, (CSIR), India **Junior Research Fellowship**, (DST), India **GATE,** All India Rank: 736**.**
RESEARCH INTEREST	• **Multistep synthesis** of biologically active API drug intermediates and molecules. • Metal catalysed**Heck and Reductive Heck reactions** of unactivated alkenes with unactivated alkyl halides. • **Enantioselective synthesis** of biologically active drug intermediates. • Development of **Organo and organometallic catalysts**. • Synthesis of fine chemicals (**High-pressures reactions**) by using CO,H_2 and CO_2. • New molecule Process development, Synthesis of bioactive peptides, natural product, Asymmetric catalysis and synthetic methodologies • Synthesis of Chiral Supramolecules and its applications.
PUBLICATIONS	1. **V. S. Rao Ganga,** M. K. Choudhary, P. Kumari, Raj k. Tak, S. H. R. Abdi, R. I. Kureshy, N. H. Khan. Epoxides as a new feedstock for the synthesis of xanthene derivatives by using highly efficient, reusable tungstated zirconia as heterogeneous catalyst. *Catalysis communications*, 94 (2017) 5-8.[**IF: 3.5**] 2. **V. S. Rao Ganga**, S. H. R. Abdi, R. I. Kureshy, N. H. Khan, H. C. Bajaj. *p*-Toluene sulfonic acid (PTSA)-MCM-41 as a green, efficient and reusable heterogeneous catalyst for the synthesis of jasminaldehyde under solvent-free condition. *Journal of Molecular Catalysis A: Chemical*, 420 (2016) 264-271. **[I.F: 3.9]** 3. **V. S. Rao Ganga**, A. A. Dabbawala, K. Munusamy, S. H. R. Abdi, R. I. Kureshy, N. H. Khan, Hari C. Bajaj. Rhodium complexes supported on nanoporous activated carbon for selective hydroformylation of olefins. *Catalysis Communications*, 84 (2016) 21-24. **[I.F: 3.5]** 4. **V. S. Rao Ganga**, S. H. R. Abdi, R. I. Kureshy, N. H. Khan, H. C. Bajaj. Bifunctionalorganocatalysts for the synthesis of jasminaldehyde and their derivatives. *Indian Journal of Chemistry -Section A*, 55A (2016) 950-955. **[I.F: 0.7]**

	5. M. K. Choudhary, **V. S. Rao Ganga**, T. k. menapara, R. I. Kureshy, N. H. Khan, S. H. R. Abdi, S. Eringathodi. Cascade reaction for the construction of CF_3 containing tetra substituted furan ring. *RSC Advances*, 6 (2016) 104148-104153. **[I.F: 4.0]** 6. N. Ch. Maity, **V. S. Rao Ganga**, K. J. Prathap, S. H. R. Abdi, R. I. Kureshy, N. H. Khan, H. C. Bajaj. Organic carbonates as solvents in macrocyclicMn(III) salen catalyzed asymmetric epoxidation of non-functionalized olefins. *Journal of Molecular Catalysis A: Chemical*, 366 (2013) 380-389. **[I.F: 3.9]** 7. A. Dabbawala, H. C. Bajaj, **V. S. Rao Ganga**, S. H. R. Abdi. Regioselectivehydroformylation of vinyl acetate catalyzed by rhodium complex of naphthyl-based monodentate bulky phosphine and phosphite ligands. *Applied Catalysis A: General*, 419– 420 (2012) 185– 193. **[I.F: 5.72]** 8. A. Das, R. I. Kureshy, K. J. Prathap, M. K. Choudhary, **V. S. Rao Ganga**, N. H. Khan, S. H. R. Abdi, H. C. Bajaj. Chiral recyclable Cu(II)-catalysts in nitroaldol reaction of aldehydes with various nitroalkanes and its application in the synthesis of a valuable drug (R)- isoproterenol. *Applied Catalysis A: General*, 459 (2013) 97-105. **[I.F: 5.72]** 9. B. Sridhar, C. R. Reddy,S. Z. Mohammed, P. Kumaraswamy, R. C. Kajare, A. D. Patil, **V. S. Rao Ganga**, A. Ramaraju. A Strategy for the Synthesis of Bicyclic Fused Cyclopentenones from MBH-Carbonates of Propiolaldehydes. *Synthesis* 54 (16), (2022) 3623-3630. **[I.F: 3.0]** 10. V.S. Sharma, A.S. Sharma, **V. S. Rao Ganga**, P.S. Shrivastav, P.A. Shah, N. Agarwal, Room-temperature blue-light-emitting liquid crystalline materials based on phenanthroimidazole-substituted carbazole derivatives. *New Journal of Chemistry* 45 (47), (2021) 22193-22201. **[I.F: 3.92]** 11. V.S. Sharma, P.A Shah, A.S Sharma, **V. S. Rao Ganga**, P.S Shrivastav, V. Prajapat, Upper/lower rim functionalized calixarene based AIE-active liquid crystals with self-assembly behavior: Photophysical and electrochemical studies. *Journal of Molecular Liquids* 348, (2022) 118047. **[I.F: 6.63]** 12. M Chaudhari, VS Sharma, **V. S. Rao Ganga**, AS Sharma, H Mali, P.S Shrivastav Room temperature imidazolium linked chalcone based ionic LCs: Role of terminal position on mesomorphism *Journal of Molecular Structure* 1270, (2022)133834. **[I.F: 3.84]** 13. VS Sharma, SL Rathod, D Suthar, AS Sharma, **V. S. Rao Ganga**, V Desai, M. S Dhaka, P.S Shrivastav Resorcinarene-appended octa-substituted alkyl arms: a new strategy to fabricate supramolecular materials for application in liquid crystals and solar cells. *New Journal of Chemistry* 47 (1), (2023)179-191. **[I.F: 3.92]**
CONFERENCE & POSTERS 27/01/2008-29/01/2008 11/02/2013-13/02/2013	1. Participated in International Conference on "Drug Discovery and Nanotechnology" organized by the Department of Chemistry, TeshwantMahavidhyalaya, Nanded, Maharasta. 2. Regioselectivehydroformylation of vinyl acetate catalyzed by rhodium complex of naphthyl-based monodentate bulky phosphine and phosphite ligands. 21st National symposium on catalysis "Catalysis for sustainable development" held at IICT, Hyderabad.

07/01/2015-09/01/2015 11/01/2015-15/01/2015 05/08/2018-08/08/2018 12/09/2022-13/09/2022	**3.** Participating and local committee member in 22nd national symposium on catalysis "Catalysis for Better Tomorrow" held at CSIR-CSMCRI, Bhavnagar. **4.** Bio-based catalysts for solvent-free synthesis of Fine chemicals. International Symposium on Bioorganic Chemistry (ISBOC-10) held at IISER-PUNE. **5.** Epoxides as a new feedstock for the synthesis of xanthene derivatives by using highly efficient, reusable tungstated zirconia as heterogeneous catalyst. International conference SuChem-2018 held at CSIR-IICT. **6.** Upper/lower rim functionalized calixarene based AIE-active liquid crystals with self-assembly behavior: Photophysical and electrochemical studies. 86th annual meeting of the Israel Chemical Society Telaviv.
REFERENCES 1.Prof. Dr. S.H.R. Abdi 2. Prof. Dr. B. VenkateswaraRao	Rtd.Chief scientist,(Ph.D. Supervisor). Inorganic Materials and Catalysis Division,CSIR-CSMCRI, Bhavnagar- 364021, Gujarat, INDIA.Tel.: +91-278- 2477760, E-mail: raziabdi56@gmail.com Emeritus scientist, OS&PC Division, CSIR-IICT,Hyderabad- 500007, Telangana, INDIA Tel.: +91-40- 27193003, E-mail: venky@iict.res.in
DECLARATION:	I hereby declare that the above-mentioned information is true to the best of my knowledge. **VenkatasubbaRao Ganga**