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Academic Background

- **Present position:** Assistant Professor, Department of Chemistry, Central University Haryana, Mahendergarh, Haryana 123 031 (since **February 2016**)
- Ramanujan Fellow, Indian Institute of Chemical Technology, Hyderabad (**January 2012- February 2016**)
- Research Associate, Organic Chemistry Section, NIIST (CSIR), Trivandrum (**April 2011-October 2011**)

- **Australian Research Council (ARC)** post-doctoral fellow at the Research School of Chemistry, The Australian National University, Canberra, Australia (**October 2007- December 2010**). Research Supervisor: **Professor Martin Banwell**
- **Alexander von Humboldt** post-doctoral fellow at the Institute for organic Chemistry, Technical University, Braunschweig, Germany. (**February 2006 - August 2007**)
Research Supervisor: **Professor Henning Hopf**

- **Ph.D.** in Organic Chemistry from Kerala University, India (**2001- 2005**)
- **Thesis supervisor: Dr. G. Vijay Nair**, Organic Chemistry Division, Regional Research Laboratory (CSIR), Trivandrum, 695019, India.
- **Thesis Title: “Novel Isocyanide Based Multicomponent Reactions for Heterocyclic and Carbocyclic Constructions”**

- **Master of Science (M. Sc)** in Chemistry (**1998-2000**) and **Bachelor of Science (B. Sc)** in Chemistry (**1995-1998**): Calicut University, India.

Awards and Recognitions

- Best Researcher Award 2018 for Sciences, Central University of Haryana (2018)
- Ramanujan Fellowship from DST-SERB, India(August 2011)
- Australian Research Council (ARC) post-doctoral fellowship (2008)
- Alexander von Humboldt post-doctoral fellowship (2005)

- CSIR Senior Research Fellowship (2002)
- CSIR Junior Research Fellowship (2000)
- College medal for the best graduate student (1998)

Research Metrics (as on 30-06-2020)

h-index: 24

i-10 index: 29

citations: 2518

Google scholar: <https://scholar.google.co.in/citations?user=oHjE3gIAAAAJ&hl=en>

Research Supervision

Number of PhD students supervised: **2 (completed, CSIR-IICT); 2 (ongoing, at Central University of Haryana)**

Number of Masters Students Supervised: 34 (completed)

List of publications

a. Book Chapters

1. Cu-catalyzed Multicomponent Reactions, Suja, T. D.; **Menon, R. S.** in *Copper Catalysis in Organic Synthesis*, G. Anilkumar and S. Saranya (Eds.), Wiley-VCH Verlag GmbH & Co. KGaA, **2020**, pp. 0000 (in press).
2. N-Heterocyclic Carbene (NHC)-Mediated Generation and Reactions of Homo-enolates, Nair, V.; **Menon, R. S.** Krishnan, J., in *N-Heterocyclic Carbenes in Organocatalysis*, Ed. A. T. Biju, Wiley-VCH Verlag GmbH & Co. KGaA, **2019**, pp. 95-132.
3. Intramolecular 1,3-dipolar cycloadditions of alkenes, alkynes and allenes in *Comprehensive Organic Synthesis*, 2nd edition, **Menon, R. S.**; Nair, V., in: Gary A. Molander and Paul Knochel (eds.), *Comprehensive Organic Synthesis, 2nd edition*, Vol 4, Oxford: Elsevier; **2014**. pp. 1281-1341.
4. Modifications of the Ugi Reaction, **Menon, R. S.**; Nair, V., in *Multicomponent Reactions I, Science of Synthesis*, Ed. T. J. J. Muller, Thieme Chemistry, **2014**, pp. 503-529.

b. As an Independent Investigator in Refereed International Journals

1. Recent developments in the chemistry of allenyl sulfones; Yadav, D.; **Menon, R. S.** *Org. Biomol. Chem.* **2020**, *18*, 365.
2. Facile synthesis of biarylmethanes and tetrasubstituted arenes *via* base-mediated [3+3] benzannulation reaction of Morita-Baylis-Hillman adducts and unsaturated sulfones; Yadav, D.; Sharma, S. K.; **Menon, R. S.** *Org. Biomol. Chem.* **2019**, *17*, 4073.

3. Gold-catalysed regioselective cascade cycloisomerisation reactions of aza-enediynes for the synthesis of substituted benzoisoquinoline derivatives; Undeela, S.; Chandra, R.; Nanubolu, J. B.; **Menon, R. S.** *Org. Biomol. Chem.* **2019**, *17*, 369.
4. Facile synthesis of 1-benzazepine derivatives via gold-catalyzed regioselective cycloisomerization reactions of *N*-(*o*-alkynylaryl)-*N*-vinyl sulfonamides; Undeela, S.; Ravikumar, G.; Nanubolu, J. B.; Singarapu, K. K.; **Menon, R. S.** *Chem. Commun.* **2016**, *52*, 4824.
5. Oxygenative and dehydrogenative [3+3] benzannulation reactions of α,β -unsaturated aldehydes and γ -phosphonyl crotonates mediated by air: A regioselective synthesis of 4-hydroxybiaryl-2-carboxylates. Joshi, P. R.; Nanubolu, J. B.; **Menon, R. S.** *Org. Lett.* **2016**, *18*, 752.
6. Facile synthesis of 4*H*-chromene derivatives via base-mediated annulation of *ortho*-hydroxy chalcones and 2-bromoallyl sulfones; Thadkapally, S.; Kunjachan, A. C. and **Menon, R.S.** *Beilstein J. Org. Chem.* **2016**, *12*, 16.
7. Base-mediated cyclocondensation of salicylaldehydes and 2-bromoallyl sulfones for the synthesis of 3-sulfonylchromene derivatives and their regioselective Friedel-Crafts heteroarylation reactions; Kumar, A.; Thadkapally, S and **Menon, R.S.** *J. Org. Chem.* **2015**, *80*, 11048.
8. Catalyst-controlled divergence in cycloisomerisation reactions of *N*-propargyl-*N*-vinylsulfonamides: gold-catalysed synthesis of 2-sulfonylmethyl pyrroles and dihydropyridines, Undeela, S.; Thadkapally, S.; Nanubolu, J. B.; Singarapu, K. K.; **Menon, R. S.** *Chem. Commun.* **2015**, *51*, 13748 (**Highlighted on the journal cover**).
9. Regioselective Synthesis of Substituted Arenes via Aerobic Oxidative [3+3] Benzannulation Reactions of α,β -Unsaturated Aldehydes and Ketones, Joshi, P. R.; Undeela, S.; Reddy, D. D.; Singarapu, K. K.; **Menon, R. S.** *Org. Lett.* **2015**, *17*, 1449.
10. A Convenient Synthesis of 2-Substituted Benzofurans from Salicylaldehydes, Reddy, S.; Thadkapally, S; Mamidyala, M.; Nanubolu, J. B.; **Menon, R. S.** *RSC Advances* **2015**, *5*, 8199.
11. A sequential synthesis of substituted furans from aryl alkynes and ketones involving a cerium(IV) ammonium nitrate (CAN)-mediated oxidative cyclisation. Undeela, S.; Ramchandra, J, P.; **Menon, R. S.** *Tetrahedron Lett.* **2014**, *55*, 5667.

c. As co-author

12. Nucleophile-initiated Catalytic and Multicomponent Reactions; Nair, V.; **Menon, R. S.** *Chem. Rec.* **2019**, *19*, 347.
13. An Uncommon Multicomponent Reaction Involving Nucleophilic Heterocyclic carbenes: Facile Synthesis of Fully Substituted Cyclopentanones, Krishnan, J.; Jose, A.; Sasidhar, B. S.; Suresh, E.; **Menon, R. S.**; Nair, V. *Org. Chem. Front.* **2018**, *5*, 1202.

14. Recent advances in N-heterocyclic carbene (NHC)-catalysed benzoin reactions; Menon, R. S.; Biju, A. T.; Nair, V. *Beilstein J. Org. Chem.* **2016**, *12*, 444.
15. Recent advances in employing homoenolates generated by N-heterocyclic carbene (NHC) catalysis in carbon-carbon bond-forming reactions, Menon, R. S.; Biju, A. T.; Nair, V. *Chem. Soc. Rev.* **2015**, *44*, 5040.
16. Phosphine Mediated Reaction of Cyclic 1,2-Diones and 3-Alkyl Allenolates: An Efficient Protocol for Benzannulation Applicable to the Synthesis of Polycyclic Aromatic Hydrocarbons, Jose, A.; Jayakrishnan, A. J.; Vedhanarayana, B.; **Menon, R. S.**; Varughese, S.; Suresh, E.; Nair, V. *Chem. Commun.* **2014**, *50*, 4616.
17. 1,2-Benzoquinones in Diels-Alder reactions, dipolar cycloadditions, nucleophilic additions, multicomponent reactions and more. Nair, V.; **Menon, R. S.**; Biju, A. T.; Abhilash, K. G. *Chem. Soc. Rev.* **2012**, *41*, 1050.
18. Employing Homo-enolates Generated by NHC Catalysis in Carbon-Carbon Bond-Forming Reactions: State of the Art. Nair, V.; **Menon, R. S.** Biju A. T., Sinu, C. R.; Paul, R. R.; Jose, A. and Sreekumar, V. *Chem. Soc. Rev.* **2011**, *40*, 5336.
19. N-Heterocyclic carbene catalyzed annulation of enals and vinyl ketones: A novel synthesis of [2H]-pyranones. Nair, V.; Paul, R. R.; Seetha, L. K. C.; **Menon, R. S.**; Jose, A.; Sinu, C. R. *Tetrahedron Lett.* **2011**, *52*, 5992.
20. Perhydroazulenes-A New Class of Liquid Crystalline Materials. Hopf, H.; Hussain, Z.; **Menon, R. S.**; Raev, V.; Jones, P. G.; Pohl, L. M. *Synlett* **2011**, 1273.
21. New Methods for the Synthesis of Certain Alkaloids and Terpenoids. Banwell, M. G.; Lehmann, A. L.; **Menon, R. S.**; Willis, A. C. *Pure and Appl. Chem.* **2011**, *83*, 411.
22. Total syntheses of furanosesquiterpenes Crassifolone and Dihydrocrassifolone via a Au(I)-catalysed intramolecular Michael addition reaction. **Menon, R. S.** and Banwell, M. G. *Org. Biomol. Chem.* **2010**, *8*, 5483 (**Article advertised on front cover of the Journal**).
23. NHC-catalyzed transformation of aromatic aldehydes to acids by carbon dioxide: An unexpected reaction. Nair, V.; Varghese, V.; Paul, R. R.; Jose, A.; Sinu, C. R.; **Menon, R. S.** *Org. Lett.* **2010**, *12*, 2653.
24. The Au(I)-catalyzed intramolecular hydroarylation of terminal alkynes under mild conditions: Application to the synthesis of 2H-chromenes, coumarins, benzofurans, and dihydroquinolines. **Menon, R. S.**; Findlay, A. D.; Bissember, A. C.; Banwell, M. G. *J. Org. Chem.* **2009**, *74*, 8901.
25. Engaging Zwitterions in Carbon-carbon and Carbon-nitrogen Bond-forming Reactions: A Promising Synthetic Strategy. Nair, V.; **Menon, R. S.**; Sreekanth, A. R.; Abhilash, N.; Biju, A. T. *Acc. Chem. Res.* **2006**, *39*, 520.
26. Asymmetric Synthesis of Quinine: A Landmark in Organic Synthesis. Nair, V.; **Menon, R. S.**; Sreekumar, V. *Natural Product Communications* **2006**, *1*, 899.

27. Reaction of diaryl-1,2-diones with triphenylphosphine and diethyl azodicarboxylate leading to N,N-dicarboethoxy monohydrazones via a novel rearrangement. Nair, V.; Biju, A. T.; Abhilash, K. G.; **Menon, R. S.**; Suresh, E. *Org. Lett.* **2005**, 7, 2121.
28. A Pyridine-catalyzed Addition of Diaryl-1,2-diones to Dimethyl Butynedioate Leading to the Formation of 1,2-Diaroyl Dimethyl Maleates *via* an Unprecedented Rearrangement. Nair, V.; Pillai, A. N.; **Menon, R. S.**; Suresh, E. *Org. Lett.* **2005**, 7, 1189.
29. Multicomponent Reactions Based on Nucleophilic Carbenes and their Applications in Organic Synthesis. Nair, V.; **Menon, R. S.**; Sreekumar, V. *Pure and Appl. Chem.* **2005**, 77, 1191.
30. One-pot Four-component Reaction of Isocyanides, Dimethyl Acetylenedicarboxylate and Cyclobutene-1,2-diones: Synthesis of Novel Spiroheterocycles. Nair, V.; **Menon, R. S.**; Deepthi, A.; Devi, B. R.; Biju, A. T. *Tetrahedron Letters* **2005**, 46, 1337.
31. The Multicomponent Reaction of Dimethoxycarbene, Dimethyl Butynedioate and Electrophilic Styrenes: An Unprecedented Synthesis of Highly Substituted Cyclopentenone Acetals. Nair, V.; Beneesh, P. B.; Sreekumar, V.; Bindu, S.; **Menon, R. S.** *Tetrahedron Lett.* **2005**, 46, 201.
32. A Novel Multicomponent Reaction Involving Isocyanide, Dimethyl Acetylenedicarboxylate (DMAD), and Electrophilic Styrenes: Facile Synthesis of Highly Substituted Cyclopentadienes. Nair, V.; **Menon, R. S.**; Beneesh, P. B.; Sreekumar, V.; Bindu, S. *Org. Lett.* **2004**, 6, 767.
33. Novel Pyridine Catalyzed Reaction of Dimethyl Acetylenedicarboxylate (DMAD) and Arylidenemalononitriles: A Stereoselective Synthesis of Highly Substituted Buta-1,3-dienes. Nair, V.; Remadevi, B.; Vidya, N.; **Menon, R. S.**; Abhilash, N.; Rath, N. P. *Tetrahedron Lett.* **2004**, 45, 3203.
34. Multicomponent Reactions Involving Zwitterionic Intermediates for the Construction of Heterocyclic Systems: One-pot Synthesis of Aminofurans and Iminolactones. Nair, V.; Vinod, A.U.; N. Abhilash.; **Menon, R. S.**; Santhi, V.; Varma, L. R.; Viji, S.; Mathew, S.; Srinivas, R. *Tetrahedron*, **2003**, 59, 10279.
35. Novel Pyridine Catalyzed Reaction of Dimethyl Acetylenedicarboxylate with Aldehydes and *N*-tosylimines: Efficient Synthesis of 2-Benzoyl fumarates and 1-Azadienes. Nair, V.; Sreekanth, A. R.; Abhilash, N.; Biju, A. T.; Remadevi, B.; **Menon, R. S.**; Rath, N. P.; Srinivas, R. *Synthesis* **2003**, 1895.
36. [4+1] Cycloaddition Reactions of *o*-Thioquinones with Isocyanides: Novel Synthesis of 2-Imino-1, 3-Oxathioles. Nair, V.; Mathew, B.; Vinod, A. U.; Mathen, J. S.; Ros, S.; **Menon, R. S.**; Varma, L. R.; Srinivas, R.; *Synthesis* **2003**, 662.
37. Oxidative Intramolecular Cyclization Reactions of Cinnamyl Ethers Mediated by Cerium (IV) Ammonium Nitrate (CAN): A Stereoselective Synthesis of 3,4-*trans*-Disubstituted Tetrahydrofuran Derivatives. Nair, V.; Balagopal, L.; **Menon, R.S.**; Ros, S.; Srinivas, R. *Arkivoc*, **2003**, viii, 199.

38. [4+2] Cycloaddition Reactions of *o*-Thioquinones with Pentafulvenes: Efficient Synthesis of Benzathiins. Nair, V.; Mathew, B.; **Menon, R. S.**; Mathew, S.; Vairamani, M. *Tetrahedron* **2002**, 58, 3235.
39. An Efficient Multicomponent Reaction Involving the Interception of the Zwitterionic Intermediate between DMAD and Isocyanides with Some Active Methylene Compounds. Nair, V.; Vinod, A. U.; Ramesh, R.; **Menon, R. S.**; Varma, R. L.; Mathew, S.; Chiaroni, A. *Heterocycles* **2002**, 58, 147.
40. A Facile Three-component Reaction Involving [4+1] Cycloadditions Leading to Furan Annulated Heterocycles. Nair, V.; **Menon, R. S.**; Vinod, A. U.; Viji, S. *Tetrahedron Lett.* **2002**, 43, 2293.

Sponsored Research Projects

- 1) **Early Career Research Grant** titled “*Exploiting the synthetic potential of unsaturated sulfones in heterocyclic construction and alkaloid synthesis*” granted by **SERB- DST, India** worth **43.12 Lakhs (3 years, 2017-2020)**.
- 2) **Ramanujan Fellowship Research Grant** titled “*Gold-Catalysed Organic Transformations: Novel pathways for Carbon- Carbon Bond Formations and Rearrangements*” awarded by **SERB- DST, India**, January 2012 worth **32 Lakhs. (5 years, completed)**
- 3) **Fast track project** titled “*Development of Novel Gold-catalysed Carbon-carbon Bond Forming Reactions and Rearrangements*” awarded by **SERB- DST, India** in 2012 worth **Rs. 16.36 Lakhs (3 years, completed)**.