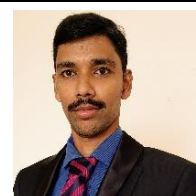


Personal information

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Research profile

Citations 2031
 h-index 21
 i10 index 24
 Publications 26

Website: <https://www.vylab.in/>

<https://scholar.google.co.in/citations?user=9LSk6A8AAAAJ&hl=en>
<https://orcid.org/0000-0001-7476-0078>

Research Experience

06/2022-Present	Assistant Professor Department of Chemistry, IIT Bombay
11/2020-04/2022	Scientist II, Medicinal Chemistry and Drug Discovery Dalriada drug discovery, Inc., Toronto, ON, Canada
01/2016-10/2020	Postdoctoral Research Fellow (Supervisor: Prof. Gerry Wright) Department of Biochemistry and Biomedical Sciences McMaster University, ON, Canada. Antimicrobial drug discovery, Natural product chemistry, Synthetic biology
01/2010-11/2015	Ph. D. Medicinal chemistry (Supervisor: Prof. Jayanta Halder) Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), INDIA. Thesis title: Semi-synthetic Glycopeptide Antibiotics: Strategies to Combat Acquired and Intrinsic Bacterial Resistance Research area: Medicinal chemistry, Pharmacology

Awards and Recognitions

2024	Topic Editor, <i>Journal of Medicinal Chemistry</i>
2024	Early Career Board Member, <i>ACS Infectious Diseases</i>
2023	Review editor, <i>Frontiers in Microbiology</i> (Section: Antimicrobials)
2022	Member of the British Society for Antimicrobial Chemotherapy (BSAC)
2022	Young faculty award, IIT Bombay
2016	Michael G. DeGroote Postdoctoral Research Award, McMaster University, Canada
2016	BIRAC-SRISTI-Gandhian Young Technological Innovation research grant
2015	Gandhian Young Technological Innovation Award
2014	International Travel Grant, SERB, DST, India
2013	Best Poster Presentation Award at CTDDR-2013 (CDRI, India)
2012	Senior Research Fellowship, CSIR, India
2012	Best Poster Presentation Award at CRSI meeting, India
2009	Junior Research Fellowship, CSIR, India

Publications

- Rajput, S. K., Kapoor, A., Yogi, A., [Yarlagadda, V.](#), Mothika. S. π -Conjugated Porous Polymer Nanosheets for Explosive Sensing: Investigation on the Role of H-Bonding. *Chem. Asian J.* **2024**, <https://doi.org/10.1002/asia.2024009397>.
- Dutta, A., Sharma, P., Dass, D., [Yarlagadda, V.](#) Exploring the Darobactin Class of Antibiotics: A Comprehensive Review from Discovery to Recent Advancements. *ACS Infectious Diseases* **2024**, *10*, 2584 – 2599.
- [Yarlagadda, V.](#), Rao, V. N., Kaur, M., Guiton, A. K., Wright, G. D. A screen of natural product extracts identifies moenomycin as a potent antigonococcal agent. *ACS Infectious Diseases* **2021**, *7*, 1569 – 1577.

4. Yarlagadda, V., Medina, R., Johnson, T., Cox, G., Koteva, K., Thaker, M. N., Wright, G. D. Resistance-guided discovery of elfamycin antibiotic producers with anticonococcal activity. *ACS Infectious Diseases* **2020**, 6, 3163 – 3173.
5. Yarlagadda, V., Medina, R., Wright, G. D. Venturicidin, a membrane-active natural product inhibitor of ATP synthase potentiates aminoglycosides antibiotics. *Scientific Reports* **2020**, 10, 8134.
6. Sarkar, P., Samaddar, S., Ammanathan, V., Yarlagadda, V., Ghosh, C., Shukla, M., Kaul, G., Manjithaya, R., Chopra, S., Haldar, J. Vancomycin derivative inactivates carbapenem-resistant *Acinetobacter baumannii* and induces autophagy. *ACS Chemical Biology* **2020**, 15, 884 – 889.
7. Yarlagadda, V., Wright, G. D. Membrane-active rhamnolipids overcome aminoglycoside resistance. *Cell Chemical Biology* **2019**, 26, 1333 – 1334.
8. Yarlagadda, V., Sarkar, P., Samaddar, S., Manjunath, G. B., Mitra, S. D., Paramanandham, K., Shome, B. R., Haldar, J. Vancomycin analogue restores meropenem activity against NDM-1 Gram-negative pathogens *ACS Infectious Diseases* **2018**, 4, 1093 – 1101.
9. Yarlagadda, V., Sarkar, P., Samaddar, S., Haldar, J. A vancomycin-derivative with a pyrophosphate binding group: A strategy to combat vancomycin-resistant bacteria. *Angewandte Chemie International Edition* **2016**, 27, 7836 – 7840. (Highlighted as a "Very important paper" in antibiotics).
10. Sarkar, P., Yarlagadda, V., Ghosh, C., Haldar, J. A review on cell wall synthesis inhibitors with an emphasis on glycopeptide antibiotics. *RSC Medicinal Chemistry* **2017**, 8, 516 – 533.
11. Yarlagadda, V., Manjunath, G. B., Sarkar, P., Akkapeddi, P., Paramanandham, K., Ranjan, S. B., Ravikumar, R., Haldar, J. Glycopeptide antibiotic to overcome the intrinsic resistance of Gram-negative bacteria. *ACS Infectious Diseases* **2016**, 2, 132 – 139.
12. Yarlagadda, V., Sarkar, P., Manjunath, G. B., Haldar, J. Lipophilic vancomycin aglycon dimer with high activity against vancomycin-resistant bacteria. *Bioorganic & Medicinal Chemistry Letters* **2015**, 25, 5477 – 5480.
13. Yarlagadda, V., Samaddar, S., Haldar, J. Intracellular activity of membrane active glycopeptide antibiotic (YV11455) against MRSA infection. *Journal of Global Antimicrobial Resistance* **2016**, 5, 71 – 74.
14. Yarlagadda, V., Samaddar, S., Paramanandham, K., Shome, B. R., Haldar, J. Membrane disruption and enhanced inhibition of cell-wall biosynthesis: A synergistic approach to tackle vancomycin-resistant bacteria. *Angewandte Chemie International Edition* **2015**, 54, 13644 – 13649. (Highlighted as a "Hot paper" in drug design).
15. Hoque, J., Konai, M. M., Gonuguntla, S., Manjunath, G. B., Samaddar, S., Yarlagadda, V., Haldar, J. Membrane active small molecules show selective broad-spectrum antibacterial activity with no detectable resistance and eradicate biofilms. *Journal of Medicinal Chemistry* **2015**, 58, 5486 – 5500.
16. Yarlagadda, V., Konai, M. M., Paramanandham, K., Nimita, V. C., Shome, B. R., Haldar, J. In-vivo efficacy and pharmacological properties of a novel glycopeptide (YV4465) against vancomycin-intermediate *Staphylococcus aureus*. *International Journal of Antimicrobial Agents* **2015**, 46, 446 – 450.
17. Hoque, J., Akkapeddi, P., Yadav, V., Manjunath, G. B., Uppu, D. S. S. M., Konai, M. M., Yarlagadda, V., Sanyal, K., Haldar, J. Broad spectrum antibacterial and antifungal polymeric paint materials: synthesis, structure-activity relationship, and membrane-active mode of action. *ACS Applied Materials Interfaces* **2015**, 7, 1804 – 1815.
18. Uppu, D. S. S. M., Manjunath, G. B., Yarlagadda, V., Kaviyil, J. E., Ravikumar, R., Paramanandham, K., Shome, B. R., Haldar, J. Membrane active macromolecules resensitize NDM-1 Gram-negative clinical isolates to tetracycline antibiotics. *PLoS ONE* **2015**, 10, e0119422.
19. Yarlagadda, V., Konai, M. M., Manjunath, G. B., Prakash, R. G., Mani, B., Paramanandham, K., Ranjan, S. B., Ravikumar, R., Chakraborty, S. P., Roy, S., Haldar, J. In-vivo antibacterial activity and pharmacological properties of the membrane-active glycopeptide antibiotic YV11455. *International Journal of Antimicrobial Agents* **2015**, 45, 627 – 634.

20. Yarlagadda, V., Konai, M. M., Manjunath, G. B., Ghosh, C., Haldar, J. Tackling vancomycin-resistant bacteria with 'lipophilic-vancomycin-carbohydrate conjugates'. *Journal of Antibiotics* **2015**, 68, 302 – 312.
21. Konai, M. M., Ghosh, C., Yarlagadda, V., Samaddar, S. Haldar, J. Membrane active phenylalanine conjugated lipophilic norspermidine derivatives with selective antibacterial activity. *Journal of Medicinal Chemistry* **2014**, 57, 9409 – 9423. Impact factor – 8.039
22. Hoque, J., Gonuguntla, S., Yarlagadda, V., Aswal, V. K., Haldar, J. Effect of amide bonds on the self-assembly of gemini surfactants. *Physical Chemistry Chemical Physics* 2014, 16, 11279 – 11288.
23. Ghosh, C., Manjunath, G. B., Akkapeddi, P., Yarlagadda, V., Hoque, J., Uppu, D. S. S. M., Konai, M. M., Haldar, J. Small molecular antibacterial peptoid mimics: The simpler the better!. *Journal of Medicinal Chemistry* **2014**, 57, 1428 – 1436.
24. Yarlagadda, V., Akkapeddi, P., Manjunath, G. B., Haldar, J. Membrane active vancomycin analogues: a strategy to combat bacterial resistance. *Journal of Medicinal Chemistry* **2014**, 57, 4558 – 4568.
25. Uppu, D. S. S. M., Akkapeddi, P., Manjunath, G. B., Yarlagadda, V., Hoque, J., Haldar, J. Polymers with tunable side-chain amphiphilicity as non-hemolytic antibacterial agents. *Chemical Communications* **2013**, 49, 9389 – 9391.
26. Hoque, J., Akkapeddi, P., Yarlagadda, V., Uppu, D. S. S. M., Kumar, P., Haldar, J. Cleavable cationic antibacterial amphiphiles: Synthesis, mechanism of action, and cytotoxicities. *Langmuir* **2012**, 28, 12225 – 12234.

Patents / Inventions – Granted / Applied

- I. J. Haldar, **V. Yarlagadda**, P. Akkapeddi, "Cationic antibacterial composition". **GRANTED**
(1) CA2855753C, granted (2) US10081655B2, granted (3) EP2780359B1, granted (4) AU2012338461B2, granted (5) KR101816228B1, granted (6) IP296510, granted.
- II. J. Haldar, **V. Yarlagadda**, M. M. Konai, G. B. Manjunath. "Vancomycin-sugar conjugates and uses thereof."
(1) CA2925005A1 (2) US20160303184A1
- III. J. Haldar, **V. Yarlagadda**. "Glycopeptide and uses thereof".
(1) CA2972276A1 (2) US20170342110A1
- IV. J. Haldar, **V. Yarlagadda**. "Glycopeptide conjugates and uses thereof". **GRANTED**
(1) CA2975975A1 (2) US10626148B2, Granted.

Presentations and Invited Lectures

1. Invited talk, Antimicrobial drug design and discovery strategies in the era of drug resistance – A workshop on AMR and alternative therapies, IIT Bombay, India – 10/2024
2. Invited talk, Antimicrobial drug design and discovery strategies in the era of drug resistance, NTU, Singapore – IIT Bombay workshop, IIT Bombay, India – 10/2023
3. Invited talk, Antimicrobial drug design and discovery strategies in the era of drug resistance, In House symposium, IIT Bombay, India – 03/2023
4. Invited webinar, Antimicrobial drug design and discovery strategies targeting drug-resistant bacteria, NIT Andhra Pradesh, India - 10/2022
5. Invited talk, Antibiotic discovery strategies in the era of drug resistance, IIT Kanpur, India 02/2022
6. Invited webinar, Antibiotic discovery strategies in the era of drug resistance, PB Siddhartha College, Vijayawada, India 10/2021
7. Invited talk, Antibiotic discovery strategies in the era of drug resistance, IISER Mohali, India 05/2021.
8. Poster Presentation, Venturicidin A, A natural product inhibitor of ATP synthase potentiates aminoglycosides and complements gentamicin in eradicating MRSA biofilms, conducted by IIDR, McMaster University, Canada 11/2018.

9. Poster Presentation, Venturicidin A, an antibiotic adjuvant, overcomes aminoglycoside resistance in MDR bacteria and combats antibiotic tolerance in MRSA, McMaster Innovation Showcase, McMaster University, Canada 11/2018.
10. Invited Talk, Orientation lecture on PhD. AG & SG Siddhartha College, Vuyyuru 01/2018.
11. Invited Talk, Glycopeptide Functionalized Carbon Nanospheres: Towards an Effective Nanomedicine to Combat Multidrug-resistant Bacterial Infections, SFNS National Conference, PB Siddhartha College, Vijayawada 09/2015.
12. Poster Presentation, Resensitizing Vancomycin-resistant Bacteria to Vancomycin through Enhanced Binding Affinity and Improved Pharmacological Properties, Gordon Research Conference, California, USA 04/2014.
13. Poster presentation, Membrane active vancomycin analogues: A novel strategy to combat acquired and intrinsic bacterial resistance, International Conference on Chemical Biology on Disease Mechanisms and Therapeutics Organized by Chemical Biology Society of India (CBSI) at CSIR-IICT Hyderabad, 02/2014.
14. Poster Presentation, Tackling Multidrug-resistant Bacteria with Lipophilic-vancomycin-carbohydrate conjugates through Enhanced Binding Affinity and Improved Pharmacological Properties. International Symposium on Recent Advances in Medicinal Chemistry (ISRAM), NIPER - Mohali India, 09/2014.
15. Poster Presentation, Lipophilic Cationic Vancomycin Analogues Possessing Multimodal Antibacterial Action to Combat Bacterial Resistance. International conference on Current Trends on Drug Discovery Research, CSIR-CDRI Lucknow India, 03/2013.
16. Poster Presentation, A novel approach of resuscitating vancomycin to overcome bacterial drug resistance. Chemical Research Society of India Meeting held at CDRI-Lucknow, 07/2012.
17. Oral Presentation, Development of Cationic Lipophilic Glycopeptide Antibiotics: A Novel Strategy to Overcome Bacterial Resistance. Annual Conference, JNCASR, Bangalore, India 10/2011.
18. Oral Presentation, Development of Cationic Lipophilic Glycopeptide Antibiotics: A Novel Strategy to Overcome Bacterial Resistance. In-house Conference, New Chemistry Unit, JNCASR, Bangalore, India 08/2011.

PROJECTS AS PRINCIPAL INVESTIGATOR

- Seed grant (RD/0522-IRCCSH0-015), IRCC-IIT Bombay (20 Lakhs, 3 years, Ongoing, 06/2022 – 06/2025)
- Wadhvani Research Foundation (DO/2022-WRCB002-089), IIT Bombay (15 Lakhs, 2 years, Ongoing, 12/2022 – 12/2024)
- Wadhvani Research Foundation (DO/2023-WRCB002-096), IIT Bombay (15 Lakhs, 2 years, Ongoing, 10/2023 – 10/2025)
- SERB-SRG (SRG/2023/000441), DST, India (32.5 Lakhs, 2 years, Ongoing 12/2023 – 12/2025)
- IRCC-Internship Grant (RI/0323-10002017-001), IIT Bombay (0.75 Lakhs, 0.5 year, Ongoing)
- IRCC-Internship Grant (RI/0322-10002017-001), IIT Bombay (0.75 Lakhs, 0.5 year, completed)

TEACHING RESPONSIBILITIES

2022 Autumn – CH 117L (Undergraduate laboratory course, IIT Bombay)

2023 Spring – CH540 (Drugs and biologically active compounds; for Masters, BS-MS and PhD students, IIT Bombay)

2023 and 2024 Autumn – CH209 (Basic organic chemistry, IIT Bombay)

2023 Autumn – CH231L (Organic chemistry practical, IIT Bombay)

2024 Spring - CH540 (Drugs and biologically active compounds; for Masters, BS-MS and PhD students, IIT Bombay)

2024 Spring – CH228L (Organic chemistry practical, IIT Bombay)

2024 Autumn – CH305 (Chemistry of Functional Groups, IIT Bombay)

AS A RESEARCH MENTOR

Current students: Ph. D. students – 5 (Ongoing); Postdoctoral fellows – 2 (Ongoing) M. Sc project student – 1 (Ongoing)

Completed: M. Sc Project – 1; IRCC Internship – 2; Summer internship – 2

PEER-REVIEWING

Contributed as a reviewer for international journals such as Nature Communications Biology; Journal of Medicinal Chemistry; ACS Infectious Diseases; ACS Omega; Frontiers in Chemistry; Frontiers in Microbiology; Frontiers in Chemistry; Nature Microbiology; Proteins: Structure, Function, and Bioinformatics; Microbial Pathogenesis; Journal of Chemical Sciences, JACS Au, Chemical Science, Communications Biology, Biochemistry

Research Proposal REVIEWING

Contributed as a reviewer for DBT research proposal
