CURRICULUM VITAE

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Editor-in-Chief, ACS Infectious Diseases

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Antimicrobial Research Laboratory

Our research focuses on developing next-generation anti-infective therapeutics to address antimicrobial resistance (AMR) through an integrated approach, spanning medicinal chemistry, chemical biology, and novel therapeutic platforms. Our group has been working towards the design and development of novel therapeutics to target AMR across pathogen classes, and chemical biology driven approaches towards molecular mechanistic investigations. Broadly, our focus is on the design of multifunctional small molecules, semisynthetic antibiotics, and macromolecular systems targeting bacterial cell envelopes, disrupting biofilms, and overcoming a variety of resistance mechanisms through design of antibiotic adjuvants (β-lactamase inhibitors and efflux inhibitors). In addition to our versatile and successful drug discovery platform, we also exploit host–pathogen interactions, including immunomodulatory effects and autophagy, to develop host-driven therapeutics, alongside developing biomaterial-based platforms for infection-targeted therapy and prevention.

Antimicrobial Research Laboratory @JNCASR

Innovative Chemical Strategies to Tackle Antimicrobial Resistance (AMR) and Infections

(Medicinal Chemistry, Chemical Biology, Drug Discovery, Biomaterials)

Bacteria: *S. aureus, E. faecium, L. monocytogenes, E. coli, A. baumannii, P. aeruginosa, K. pneumoniae, MTb, S. Typhimurium, Chlamydia*

Fungi: *C. albicans, C. auris, C. neoformans, A. fumigatus*

Viruses: Influenza, SARS-Cov2, Dengue

Parasite: Malaria

Infection models: Topical dermal infection, burn wound infection, diabetic wound infection, septic infection, pulmonary infection, vaginal infection, urinary tract infection, bone infections, ocular infection

Next-generation Semisynthetic antibiotics
Multitargeting multimodal derivatives
(Glycopeptide, β-lactams, Rifamycin, Fusidic acid)

Adjuvants and combination therapies
- Novel synthetic and semisynthetic β-lactamase inhibitors
- Broad-spectrum cell envelope targeting antibiotic adjuvants
- Efflux-targeted bacterial/fungal adjuvants

Novel antimicrobial agents
- Bacterial/fungal cell-envelope targeting synthetic small and macromolecules
- DNA-replication targeting small molecules (NBTIs, covalent inhibitors)
- Host-driven therapy for intracellular pathogens
- Small molecular inhibitors and envelope targeting antiviral therapeutics

Therapeutic platforms for complicated infections
- Antibiotic-loaded drug delivery systems for soft-tissue infections
- Antimicrobial hemostatic sponges and wound dressings
- Wound-healing antimicrobial hydrogels
- Antimicrobial coatings for devices and implants

CURRENT POSITION

2021-present Professor, New Chemistry Unit and School of Advanced Materials, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangalore, India

PREVIOUS POSITIONS

2015–2021 Associate Professor, New Chemistry Unit and School of Advanced Materials, JNCASR, Bangalore, India

2009–2015 Assistant Professor, New Chemistry Unit, JNCASR, Bangalore, India

2004-2009 Postdoctoral Associate, Massachusetts Institute of Technology (MIT), Cambridge, USA; (with *Prof. Alexander M. Klibanov at Chemistry and Prof. Jianzhu Chen at Koch Institute for Integrative Cancer Research*)

EDUCATION

2005 PhD (Bioorganic Chemistry), Indian Institute of Science, Bangalore, India (w*ith Prof. Santanu Bhattacharya)*

1999 M.S. (Chemistry, Int. PhD), Indian Institute of Science, Bangalore, India

1996 B.Sc. (Chemistry), Presidency College, University of Calcutta, India

FELLOWSHIPS AND AWARDS

2025 Fellow, Indian National Academy of Sciences (INSA), New Delhi

2024 Fellow, Indian Academy of Sciences (IASc), Bangalore

2023 The Materials Research Society of India (MRSI) Medal

2021 Fellow, Royal Society of Chemistry

2020 Indo-U.S. Science & Technology Forum (IUSSTF) Award for COVID-19 Virtual Networks

2018 8th National Award for Technology Innovation, Ministry of Chemicals & Fertilizers, Govt. of India

2018 Sheikh Saqr Career Award Fellowship

2018 Chemical Research Society of India (CRSI) Bronze Medal

2017 Central Drug Research Institute (CDRI) award for Excellence in Drug Research (In the Chemical Sciences category)

2016 BIRAC-SRISTI-Gandhian Young Technological Innovation (GYTI) award

2016 BIRAC-SRISTI appreciation award

2015 BIRAC-SRISTI-Gandhian Young Technological Innovation (GYTI) award

2015 BIRAC-SRISTI appreciation award

2010 Ramanujan Fellowship, Department of Science and Technology (DST), Government of India

PUBLICATIONS

Total Publications: 162

Research Articles 112 (90 as corresponding author) + Review articles 12 (11 as corresponding author) + Viewpoint 1 (as corresponding author) + Feature article 1 (as corresponding author) + Perspective 2 (2 as corresponding author) + Editorials 24 (20 as corresponding author) + Book Chapters 10 (9 as corresponding author)

Citations: 8565, **h-index:** 51, **i-10 index:** 111 (According to Google Scholar as on 30th April 2026)

Research articles:

Bacterial infections: 92; Fungal infections: 14; Viral infections: 13; Parasitic infection: 1; Host-modulation: 8; Bio-organic chemistry: 13

1. Saha, N.; Acharya, Y.; Dey, R.; Saxena, D.; Maitra, R.; Chopra, S.; **Haldar, J.*** Masking of hydrophobicity through macromolecular nanoaggregation ameliorates toxicity while retaining excellent antibacterial efficacy **2026,** *Manuscript under review.*

2. Patra, D.; **Haldar, J.*** Engineering 'Yin-Yang' Ag/AgCl-Polymer Nanotherapeutic for Tunable Silver Ion Release with Improved In-vivo Biocompatibility and Antimicrobial Potency **2026,** *Manuscript under review.*

3. Mukherjee, S.; Dey, R.; Singh, H.; Chakravarty, S.; Mandal, S.; Patra, D.; Vernekar, V.N.; Howlader, D.R.; **Haldar, J.*** Engineering Dual-functional Nanogel for Antibacterial and Immunomodulatory Therapy against Drug-resistant Gram-negative Bacterial Infections **2026,** *Manuscript under review.*

4. Maity, S.; Sarkar, A.; Patra, A.; Mitra, J.; **Haldar, J.*** Bioinspired Antimicrobial Glass Coatings for Clear and Infection-Resistant Surfaces **2026,** DOI: 10.1039/D6TB00465B

5. Patra, D.; Chakravarty, S.; Singh, H.; **Haldar, J.*** Quaternized Thiomers for Antibacterial Activity and Hyperinflammation Mitigation. *ACS Infect. Dis.,* **2026,** *12(3)*, 1192-1203.

6. Mukherjee, S.; Martínez, M. N.; Lopez, S. I.; Lopez, M. T. L.; Cuerva, J. M.; Bhatia, V.; Gavira, J. A.; Cienfuegos, L, A.; **Haldar, J.*** Short-peptide Based Supramolecular Nanocomposite Hydrogels for Disruption of Polymicrobial Biofilms and Accelerated Infected Wound Healing. *Biomater. Sci.* **2025,** *13,* 6818-6836

7. Mukherjee, S.; Chakravarty, S.; **Haldar J*.;** Revitalizing Antibiotics with Macromolecular Engineering: Tackling Gram-negative Superbugs and Mixed Species Bacterial Biofilm Infections In-vivo. *Biomacromolecules* **2025,** *26 (4),* 2211–2226

8. Dhanda, G.; Singh, H.; Gupta, A.; Mohid, Sk. A.; Biswas, K.; Mukherjee, R.; Mukherjee, S.; Bhunia, A.; Nair, N. N.; and **Haldar, J*.;** Dual-Functional Antibiotic Adjuvant Displays Potency against Complicated Gram-Negative Bacterial Infections and Exhibits Immunomodulatory Properties. *ACS Cent. Sci.* **2025,***11 (*2), 279–293.

9. Dey, R.; Mukherjee, R.; Mukherjee, S.; and **Haldar, J*.;** Bactericidal hemostatic sponge: A point of care solution to combat traumatic injury. *Adv. Healthcare Mater.* **2025,** *14*, 2404176

10. Sarkar, P.; Xu, W.; Vázquez-Hernández, M.; Dhanda, G.; Tripathi, S.; Basak, D.; Xie, H.; Schipp, L.; Dietze, P.; E. Bandow, J.; N. Nair, N.; and **Haldar, J*.;** Enhancing the Antibacterial Efficacy of Vancomycin Analogues: Targeting Metallo-ß-lactamases and Cell Wall Biosynthesis. *Chem. Sci.*, **2024**, *15,* 16307-16320.

11. Bhattacharjee, B.; Tabbasum, K.; Mukherjee, R.; Garg, P.; **Haldar, J*.**: Functionalized chitosan based antibacterial hydrogel sealant for simultaneous infection eradication and tissue closure in ocular injuries. *Int. J. Biol. Macromol.* **2024**, *273,* 132838.

12. Barman, S.; Dey, R.; Ghosh, S.; Mukherjee, R.; Mukherjee, S.; **Haldar, J. *;** Amino Acid-Conjugated Polymer-Silver Bromide Nanocomposites for Eradicating Polymicrobial Biofilms and Treating Burn Wound Infections. *ACS Infect. Dis*. **2024**, *10* (8), 2999-3012.

13. Dey, R.; Mukherjee, R.; Biswas, S.; **Haldar, J.*;** Stimuli-responsive Release-active Dressing: A promising Solution for Eradicating Biofilm-mediated Wound Infections. *ACS Appl Mater Interfaces.* **2024**, *16* (29), 37795-37805.

14. Patra, D.; Ghosh, S.; Mukherjee, S.; Acharya, Y.; Mukherjee, R.; **Haldar, J.*;** Antimicrobial Nanocomposite Coatings for Rapid Intervention of Catheter-Associated Urinary Tract Infections. *Nanoscale,* **2024**, *16*, 11109 – 11125.

15. Mukherjee, S.; Shinde, S.V.; Talukdar, P.; **Haldar, J.*;** Unveiling the potent activity of a synthetic ion transporter against multidrug-resistant Gram-positive bacteria and biofilms. *RSC Med. Chem.*, **2024**, *15*, 2127-2137.

16. De, K.; Dey, R.; Acharya, Y.; Aswal, V.K.; **Haldar, J.***; Cleavable Amphiphilic Biocides with Ester-Bearing Moieties: Aggregation Properties and Antibacterial Activity. *Langmuir*. **2024**, *40(7)*, 3414–3428.

17. Dutta, A.; Mukherjee, S.; **Haldar, J**.; Maitra, U*.; Augmenting Antimicrobial Resistance Surveillance: Rapid Detection of β-Lactamase-Expressing Drug-Resistant Bacteria through Sensitized Luminescence on a Paper-Supported Hydrogel. *ACS Sensors*. **2024** *9 (1)*, 351-360.

18. Ghosh, S.; Patra, D.; Mukherjee, R.; Biswas, S.; **Haldar, J**.*; Multifunctional Suture Coating for Combating Surgical Site Infections and Mitigating Associated Complications. *ACS Appl. Bio Mater.* **2024,** *7 (2)*, 1158-1168.

19. Dey, R.; Mukherjee, S.; Mukherjee, R.; **Haldar, J.***; Small Molecular Adjuvant Repurposes Antibiotics towards Gram-negative Bacterial Infections and Multispecies Bacterial Biofilm. *Chem. Sci.* **2024***, 15,* 259 – 270.

20. Bhattacharjee, B.; Ghosh, S.; **Haldar, J.***; Versatile and User-Friendly Anti-infective Hydrogel for Effective Wound Healing. *ACS App. Bio. Mat.* **2023**, *6(11)*, 4867-4876.

21. Ghosh, S.; Mukherjee, R.; Patra, D.; **Haldar, J**.*; Engineering Photo-Crosslinked Antimicrobial Coating to Tackle Catheter-Associated Infections In Vivo. *ACS Biomater. Sci. Eng.* **2023**, *9 (7)*, 4404–4414.

22. Barman, S.; Mukherjee, S.; Jolly, L.; Troiano, C.; Grottesi, A.; Basak, D.; Calligari, P.; Bhattacharjee, B.; Bocchinfuso, G.; Stella, L.; **Haldar, J.*,** Isoamphipathic Antibacterial Molecules Regulating Activity and Toxicity through Positional Isomerism. *Chem. Sci.* **2023**, *14 (18)*, 4845–4856.

23. Xu, W; Ma, Z; Dhanda, G; **Haldar, J.***; Xie, H; Selective inhibition of resistant bacterial pathogens using a β-lactamase-activatable antimicrobial peptide with significantly reduced cytotoxicity. *Chinese Chemical Letters*, **2023**, *34(5)*, 107847

24. Sarkar, P.; De, K.; Modi, M.; Dhanda, G.; Priyadarshani, R.; Bandow, J. E.; **Haldar, J.*.** Next-generation membrane-active glycopeptide antibiotics that also inhibit bacterial cell division. *Chem. Sci.* **2023**, *14*, 2386-2398.

25. Barman, S.; Mukherjee, S.; Bhattacharjee, B.; De, K.; Mukherjee, R.; **Haldar, J.*.** Biocide loaded shear-thinning hydrogel with anti-biofilm efficacy cures topical infection. *Biomater. Sci.* **2023**, *11*, 998-1012.

26. Bortolotti, A.; Troiano, C.; Bobone, S.; Konai, M. M.; Ghosh, C.; Bocchinfuso, G.; Acharya, Y.; Santucci, V.; Bonacorsi, S.; Di Stefano, C.; **Haldar, J*.**; Stella, L. Mechanism of lipid bilayer perturbation by bactericidal membrane-active small molecules. *Biochim. Biophys. Acta Biomembr*. **2023**, *1865*, 184079.

27. Dey, R.; Mukherjee, R.; **Haldar, J.*.** Photo-crosslinked Antimicrobial Hydrogel Exhibiting Wound Healing Ability and Curing Infections In-vivo. *Adv. Healthc. Mater.* **2022**, *11*, 2200536.

28. Ghosh S.; Mukherjee, R.; Mahajan, V. S.; Boucau, J.; Pillai, S.; **Haldar, J.***. Permanent, Antimicrobial Coating to Rapidly Kill and Prevent Transmission of Bacteria, Fungi, Influenza, and SARS-CoV-2. *ACS Appl Mater Interfaces*. **2022**, *14*, 42483-42493.

29. Bhattacharjee, B.; Mukherjee, R.; **Haldar, J.***. Biocompatible Hemostatic Sponge Exhibiting Broad-Spectrum Antibacterial Activity. *ACS Biomater. Sci. Eng.* **2022**, *8*, 3596–3607.

30. Bhattacharjee, B.; Mukherjee, S.; Mukherjee, R.; **Haldar, J.***. Easy Fabrication of a Polymeric Transparent Sheet to Combat Microbial Infection. *ACS Appl. Bio Mater.* **2022**, *5*, 3951–3959.

31. Dhanda, G.; Mukherjee, R.; Basak, D.; **Haldar, J.***. Small-Molecular Adjuvants with Weak Membrane Perturbation Potentiate Antibiotics against Gram-Negative Superbugs. *ACS Infect. Dis*. **2022**, *8*, 1086-1097.

32. Kumar, R.; Dey, R.; Kalita, T.; Pariyal, S.; Goswami, S.; **Haldar, J.**; Shunmugam R.* Engineering a unique multi-tasking polymer that specifically prevents rhodamine B and fluoride ion toxicity with Anti-bacterial responses against MRSA *European Polymer Journal,* **2022,** *176,* 111401.

33. Ghosh, S.; Mukherjee, R.; Mukherjee, S.; Barman, S.; **Haldar, J.*** Engineering Antimicrobial Polymer Nanocomposites: In Situ Synthesis, Disruption of Polymicrobial Biofilms, and in Vivo Activity. *ACS Appl. Mater. Interfaces* **2022**, *14*(30), 34527-34537

34. Bhattacharjee, B.; Jolly, L.; Mukherjee, R.; **Haldar, J.***. An easy-to-use antimicrobial hydrogel effectively kills bacteria, fungi, and influenza virus. *Biomater. Sci.* **2022**,*10*, 2014-2028

35. P. V. Panteleev, P. V.; Bolosov, I. A.; Khokhlova, V. A.; Dhanda, G.; Balandin, S. V.; **Haldar, J.;** Ovchinnikova, T. V. Analysis of Antibacterial Action of Mammalian Host-Defense Cathelicidins and Induction of Resistance to Them in MβL-Producing *Pseudomonas aeruginosa*. *Bull. Exp. Biol. Med.* **2022**, *172*, 447-452.

36. Barman, S.; Dhanda, G.; Naik, P.; Mukherjee, R.; Joseph, J.; **Haldar, J.***. Multi-Functional Small Molecules with Temporal Charge-Switchability Tackle Infection and Inflammation *Adv. Therap.* **2022**, *2100234*, 1-14.

37. Ghosh, S.; Jolly, L.; **Haldar, J.***. Polymeric paint coated common-touch surfaces that can kill bacteria, fungi and influenza virus. *MRS Comm.* **2021**, *11*, 610-618.

38. Sarkar, P.; Basak, D.; Mukherjee, R.; Bandow, J. E.; **Haldar, J.***. Alkyl-Aryl-Vancomycins: Multimodal Glycopeptides with Weak Dependence on the Bacterial Metabolic State. *J. Med. Chem.* **2021**, *64*, 10185-10202.

39. Bhattacharjee, B.; Ghosh, S.; Mukherjee, R.; **Haldar, J.***. Quaternary Lipophilic Chitosan and Gelatin Cross-Linked Antibacterial Hydrogel Effectively Kills Multidrug-Resistant Bacteria with Minimal Toxicity toward Mammalian Cells. *Biomacromolecules* **2021**, *22*, 557-571.

40. Ghosh, S.; Mukherjee, R.; Basak, D.; **Haldar, J.***. One-Step Curable, Covalently Immobilized Coating for Clinically Relevant Surfaces That Can Kill Bacteria, Fungi, and Influenza Virus. *ACS Appl Mater Interfaces*. **2020**, *12*, 27853-27865.

41. Ghosh, C.; Abdel Khalek, A.; Mohammad H, Seleem M. N.*; **Haldar, J.***. Aryl-alkyl-lysines: Novel agents for treatment of *C. difficile* infection. *Sci Rep*. **2020**, *10*, 5624-5631.

42. Mukherjee, S.; Barman, S.; Mukherjee, R.; **Haldar, J.***. Amphiphilic Cationic Macromolecules Highly Effective Against Multi-Drug Resistant Gram-Positive Bacteria and Fungi with No Detectable Resistance. *Front Bioeng Biotechnol*. **2020**, *8*, 55, 1-19.

43. Mukherjee, S.; Ghosh, S.; **Haldar, J*** Amphiphilic cationic macromolecule potentiates tetracyline against multi-drug resistant Gram-negative bacteria. *Bull. Mater. Sci.* **2020***, 43,* 311

44. Konai, M. M.; Barman, S.; Issa, R.; MacNeil, S.; Adhikary, U.; De, K.; Monk, P. N.; **Haldar, J.*** Hydrophobicity-Modulated Small Antibacterial Molecule Eradicates Biofilm with Potent Efficacy against Skin Infections. *ACS Infect. Dis.* **2020,** *6*(4)*,* 703-714.

45. 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 Chem Biol.* **2020**, *15*, 884-889.

46. Konai, M. M.; Pakrudheen, I.; Barman, S.; Sharma, N.; Tabbasum, K.; Garg, P.; **Haldar, J.***. Cyclam-based Antibacterial Molecule Eradicates Gram-negative Superbugs with Potent Efficacy against Human Corneal Infection. *Chem. Commun*. **2020**, *56*, 2147-2150.

47. Konai, M. M.; **Haldar, J.***. Lysine-Based Small Molecule Sensitizes Rifampicin and Tetracycline against Multidrug-Resistant *Acinetobacter baumannii* and *Pseudomonas aeruginosa*. *ACS Infect. Dis*. **2020**, *6*, 91-99.

48. Barman, S.; Konai, M. M.; Samaddara, S.; **Haldar, J.***. Amino-Acid Conjugated Polymers: Antibacterial Agents Effective against Drug-resistant *A. baumannii* with no Detectable Resistance. *ACS Appl. Mater. Interfaces* **2019**, *11*, 33559−33572.

49. Barman, S.; Mukherjee, S.; Ghosh, S.; **Haldar, J.***. Amino-Acid-Conjugated Polymer-Rifampicin Combination: Effective at Tackling Drug-Resistant Gram-Negative Clinical Isolates. *ACS Appl. Bio Mater*. **2019**, *2*, 5404-5414.

50. Hoque, J.; Ghosh, S.; Paramanandham, K.; **Haldar, J.***. Charge-Switchable Polymeric Coating Kills Bacteria and Prevents Biofilm Formation in Vivo. *ACS Appl. Mater. Interfaces,* **2019***, 11*, 39150-39162.

51. Dey, R.; De, K.; Mukherjee, R.; Ghosh, S.; **Haldar, J.***. Small Antibacterial Molecules Highly Active against Drug-Resistant *Staphylococcus aureus*. *Med. Chem. Commun.,* **2019***, 10,* 1907-1915.

52. Ghosh, C.; Harmouche, N.; Bechinger, B.; **Haldar, J.***. Aryl-Alkyl-Lysines Interact with Anionic Lipid Components of Bacterial Cell Envelope Eliciting Anti-Inflammatory and Antibiofilm Properties. *ACS Omega*, **2018**, *3,* 9182-9190.

53. Hoque, J.; Yadav, V.; Prakash, R. G.; Sanyal, K.; **Haldar, J.***. Dual-Function Polymer−Silver Nanocomposites for Rapid Killing of Microbes and Inhibiting Biofilms. *ACS Biomater. Sci. Eng.*, **2018**, *5*, 81-91.

54. Konai, M. M.; Samaddar, S.; Bocchinfuso, G.; Santucci, V.; Stella, L.; **Haldar, J.***. Selectively Targeting Bacteria by Tuning the Molecular Design of Membrane-active Peptidomimetic Amphiphiles. *Chem. Commun.*, **2018**, *54*, 4943-4946

55. 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 Infect. Dis.*, **2018**, *4*, 1093−1101

56. Hoque, J.; Bhattacharjee, B.; Prakash, R. G.; Paramanandham, K.; **Haldar, J.***. Dual Function Injectable Hydrogel for Controlled Release of Antibiotic and Local Antibacterial Therapy. *Biomacromolecules*, **2018**, *19*, 267-278.

57. Challa, C.; Ravindran, J.; Konai, M. M.; Varughese, S.; Jacob, J.; Kumar, B. S. D.; **Haldar, J.**; J. Lankalapalli, R. S. Expedient Synthesis of Indolo[2,3-b]quinolines, Chromeno[2,3-b]indoles, and 3-Alkenyl-oxindoles from 3,3'-Diindolylmethanes and Evaluation of Their Antibiotic Activity against Methicillin-Resistant *Staphylococcus aureus*. *ACS Omega*, **2017**, *2*, 5187-5195.

58. Uppu, D. S. S. M.; Konai, M. M; Sarkar, P.; Samaddar, S.; Fensterseifer, I. C. M.; Farias-Junior, C.; Paramanandam, K.; Shome, B. R.; Francob, O. L.; **Haldar, J.***. Membrane-Active Macromolecules Kill Antibiotic-Tolerant Bacteria and Potentiate Antibiotics Towards Gram-negative Bacteria. *PLoS One*, **2017**, *12*, e0183263.

59. Konai, M. M.; Adhikary, U.; **Haldar, J.***. Design and Solution Phase Synthesis of Membrane Targeting Lipopeptides with Selective Antibacterial Activity. *Chem. Eur. J.*, **2017**, *23*, 12853-12860.

60. Ghosh, C.; Sarkar, P.; Samaddar, S.; Uppu, D. S. S. M.; **Haldar, J.***. L-lysine based lipidated biphenyls as agents with anti-biofilm and anti-inflammatory properties that also inhibit intracellular bacteria. *Chem. Comm.*, **2017**, *53*, 8427-8430.

61. Hoque, J.; **Haldar, J.***. Direct Synthesis of Dextran-based Antibacterial Hydrogels for Extended Release of Biocides and Eradication of Topical Biofilms. *ACS Appl. Mater. Interfaces* **2017**, *9*, 15975-15985

62. Konai, M. M.; **Haldar, J.***. Fatty Acid Comprising Lysine Conjugates: Anti-MRSA Agents That Display In-vivo Efficacy by Disrupting Biofilms with No Resistance Development. *Bioconjugate Chem.* **2017**, *28*, 1194-1204.

63. Hoque, J.; Prakash, R. G.; Paramanandham, K.; Shome, B. R.; **Haldar, J.***. Biocompatible Injectable Hydrogel with Potent Wound Healing and Antibacterial Properties. *Mol. Pharmaceutics*, **2017**, *14*, 1218-1230.

64. Ghosh, C.; Chaubey, S.; Tatu, U.; **Haldar, J.***. Aryl-alkyl-lysines: Small Molecular Membrane-active Antiplasmodial Agents. *Med. Chem. Comm.* **2017**, *8*, 434-439.

65. Ghosh, C.; Yadav, V.; Younis, W.; Mohammad, H.; Hegazy, Y. A.; Seleem, M. N.; Sanyal, K.; **Haldar, J.***. Aryl-alkyl-lysines: Membrane-active Fungicides That Act against Biofilms of *Candida albicans*. *ACS Infect. Dis.* **2017**, *3*, 293-301.

66. Hoque, J.; Konai, M. M.; Sequeira, S. S.; Samaddar, S.; **Haldar, J.***. Antibacterial and Antibiofilm Activity of Cationic Small Molecules with Spatial Positioning of Hydrophobicity: An In Vitro and In Vivo Evaluation. *J. Med. Chem.* **2016**, *59*, 10750-10762.

67. Hoque, J.; Akkapeddi, P.; Uppu, D. S. S. M.; **Haldar, J.***. A Biodegradable Polycationic Paint that Kills Bacteria In Vitro and In Vivo. *ACS Appl. Mater. Interfaces* **2016**, *8*, 29298–29309

68. Ghosh, C.; Konai, M. M.; Sarkar, P.; Samaddar, S.; **Haldar, J.***. Designing Simple Lipidated Lysine: Bifurcation Imparts Selective Antibacterial Activity. *ChemMedChem*, **2016**, *11*, 2376-2371.

69. Hoque, J.; Adhikary, U.; Yadav, V.; Samaddar, S.; Konai, M. M.; Prakash, R. G.; Paramanandham, K.; Shome, B. R.; Sanyal, K.; **Haldar, J.***. Chitosan Derivatives Active against Multi-Drug-Resistant Bacteria and Pathogenic Fungi: In Vivo Evaluation as Topical Antimicrobials. *Mol. Pharmaceutics,* **2016,** *13*, 3578-3589

70. Uppu, D. S. S. M.; Samaddar, S.; Hoque, J.; Konai, M. M.; Paramanandham, K.; Shome, B. R.; **Haldar, J.***. Side Chain Degradable Cationic-amphiphilic Polymers with Tunable Hydrophobicity Show In-vivo Activity. *Biomacromolecules*, **2016,** *17*, 3094-3102.

71. Uppu, D. S. S. M.; Konai, M. M.; Baul, U.; Singh, P.; Siersma, T. K.; Samaddar, S.; Vemparala, S.; Hamoen, L. W.; Narayana, C.; **Haldar, J.***. Isosteric Substitution in Cationic-amphiphilic Polymers Reveals an Important Role for Hydrogen Bonding in Bacterial Membrane Interactions. *Chem. Sci.* **2016**, *7*, 4613-4623.

72. Yarlagadda, V.; Sarkar, P.; Samaddar, S.; **Haldar, J.***. A Vancomycin Derivative with a Pyrophosphate-Binding Group: A Strategy to Combat Vancomycin-Resistant Bacteria. *Angew. Chem. Int. Ed.* **2016**, *27*, 7836-7840.

73. Uppu, D. S. S. M.; Bhowmick, M.; Samaddar, S.; **Haldar, J.***. Cyclization and Unsaturation rather than Isomerisation of Side Chains govern the Selective Antibacterial Activity of Cationic-amphiphilic polymers. *Chem. Comm.* **2016**, *52*, 4644-4647.

74. Uppu, D. S. S. M.; **Haldar, J.***. Lipopolysaccharide Neutralization by Cationic-amphiphilic Polymers through Pseudo-aggregate Formation. *Biomacromolecules* **2016**, *17*, 862–873.

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16. Yarlagadda, V.; **Haldar, J.***. Glycopeptide Antibiotic Derivatives. Indian Patent 605/CHE/2015, Indian Patent 6565/CHE/2014.

17. **Haldar, J.**; De Cienfuegos, L. A.; Chen, J.*; Klibanov, A. M.*. Bi-functional Polymer-attached Inhibitors of Influenza Virus. WO2009032605A2, US20090081249A1, US20130280204A1 EP2192923A2, CA2698108A1, JP2010537997A.

18. **Haldar, J.**; An, D.; De Cienfuegos, L. A.; Chen, J.*; Klibanov, A. M.*.Polymeric Coatings that Inactivate Viruses and Bacteria. WO2008127416A2, MX2009004918A, JP2010509467A, MA30971B1, ZA200903951B, IN3678/DELNP/2009, VN22942A, EP2084234A2, US20100136072A1, CN101627092A, BRPI0718860A2.

OUTLICENCED INVENTIONS

Two of our small molecular inventions were out-licenced to Public Health of England (PHE), UK. Three inventions on glycopeptide derivatives and antimicrobial coatings were out-licensed to Vipragen Biosciences, India. We are working with BD–Medical Medication Solutions (Becton, Dickinson and Company, MDS), USA on our invention regarding antimicrobial surface coatings and exploring possibility of out-licensing our inventions and co-development.

MEMBERSHIPS/FELLOWSHIPS OF SCIENTIFIC SOCIETIES

2025 Fellow, Indian National Academy of Sciences (INSA), New Delhi

2025 Contributing expert for REVIVE, GARDP

2024 Member of British Society for Antimicrobial Chemotherapy (BSAC)

2024 Member of American Society of Microbiology (ASM)

2024 Fellow, Indian Academy of Sciences (IASc), Bangalore

2021 Fellow, Royal Society of Chemistry

2019 Member, The Society for Polymer Science, India

2018 Member, Chemical Research Society of India

2018 Member, American Chemical Society

COMMISSIONS OF TRUST/MEMBERSHIPS OF EVALUATION BOARD

Editorial Responsibilities:

- Member, American Chemical Society's Editorial Advancement Advisory Council (May 2026-)
- Editorial board member of the journal "Microbial Pathogenesis" of Elsevier (2024-)
- Editorial advisory board member for "Biochemistry" of ACS (2025-)
- Editorial advisory board member for "Bioconjugate Chemistry" of ACS (2025-)
- Advisory board member of the journal "RSC Medicinal Chemistry" (2024-)
- Editor-in-chief of "ACS Infectious Diseases" (June 2023-)
- Guest editor for special issue on Antimicrobial Resistance for "RSC Medicinal Chemistry" (up

to June 2023)

- Member of search committee for Editor-in-chief for two ACS journals
- Guest editor for the journal "Microbial Pathogenesis" of Elsevier
- Editorial board member of the journal "RSC Medicinal Chemistry" (up to June 2023)
- Editorial advisory board member of the journal "Biomacromolecules" of ACS
- Editorial advisory board member of the journal "ACS Infectious Diseases" (up to June 2023)
- Editorial board member of the journal "Microbial Pathogenesis" of Elsevier

Expert Committee:

- Member of selection committee for promotion at the Department of Chemistry, IIT Bombay, 2026
- Scientific Organizing Committee member ACS @150 JACS Symposium 2026
- Selection committee member for ACS Infectious Diseases Early career Award, 2026
- Expert member of the faculty selection committee of IISER Bhopal, 2026
- Member of Scientific Advisory Committee (SAC) for ICMR-NIRBI, Kolkata, 2025
- Committee member of Nomination to assess the Annual performance of Chief Scientist of CSIR-IICB, 2025
- Committee member and one of Chairpersons for ACS ID Young Investigator Award Winners, 2025
- Committee member and one of Chairpersons for ACS ID Young Investigator Award Winners, 2024
- Served as an expert for reviewing the progress and promotion of faculty member in IISER Thiruvananthapuram, August 2024
- Served as a reviewer for faculty promotion in IIT Kanpur, September, 2024

Research Grant Reviewing Committee:

- Reviewer for research projects funded by Israel Science Foundation (ISF), Israel
- Reviewer for research projects funded by ANRF, India
- Technical expert committee member for BIG TEP panel projects, BIRAC, India
- Referee for Wellcome Trust Team Science Grants
- Reviewer for project proposals for Science Foundation of Ireland SFI Frontiers for the Future Projects
- Referee for Medical Research Council, UK Grants
- Referee for DAE Grants
- Expert Panel Member for evaluation, monitoring and review of COVID-19 related international research Projects of DST-SERB
- Referee for Agence Nationale de la Recherche funded projects from France
- Referee for FONDECYT Program-Chile´s Research Council- ANID
- Reviewer for Core Research Grants from DST-SERB, India
- Reviewer for research projects funded by DBT India
- Referee for International Project evaluation NSF-USA and USA-Austria bilateral project

- Reviewer for Start-up Company Evaluation, Biotechnology Ignition Grant (BIG) Scheme, DBT India
- Reviewer for GYTI and BIRAC-SRISHTI projects from Govt. of India

Peer Review Contributions:

Contributed as reviewer for international journals such as PNAS USA, Nature Chemistry, Advanced Material, ACS Applied Materials & Interfaces, MedChemComm, Nanoscale, Journal of Medicinal Chemistry, Chemical Sciences, ACS Infectious Diseases, Journal of Polymers and Environment, Comments on Inorganic Chemistry, Polymer, ACS Bio and Med Chem Au, Frontiers in Medical Technology, RSC Advances, Food and function, Biomaterial Science, Materials Chemistry Frontiers, Journal of Biomaterial Sciences, ACS Applied Biomaterials, Chemical Engineering Journal, Organic and Biomolecular Chemistry, European Journal of Medicinal chemistry, ChemBioChem, Journal of Food Sciences, Advanced Functional Materials, ACS Med Chem Letters, ACS Biomaterial Science and Engineering, Emerging Microbes and Infections, British Journal of Pharmacology, Small, Bioorganic Chemistry, Journal of American Ceramic Society, Scientific Reports, Biochemistry, Biochimica et Biophysica Acta, Journal of American Chemical Society, Angewantde Chemie, Bioconjugate Chemistry, Biomacromolecules, ACS Omega, Nature Communications, Biomaterials, Chemical Communication, Journal of Chemical Sciences, Langmuir, RSC Medicinal Chemistry, Pharmaceutical Research, Molecular Pharmaceuticals, Journal of Biological Engineering, International Journal of Antimicrobial Agents, ACS Applied Materials and Interfaces, Journal of Cellular and Molecular Medicine, PLoS One, Frontiers in Microbiology, Letters in Applied Microbiology, Microbial pathogenesis, etc.

Research Thesis Review for Post-graduate and PhD Students:

Contributed as reviewer for PhD and master's Theses for students from various institutes such as IIT Roorkee, IISER Kolkata, IISER Pune, NCL Pune, CSIR-CSMCRI, IIT Bombay, IISER Bhopal, IICT Hyderabad, IIT Kanpur, IISc Bengaluru, BITS Pilani, IIT Madras, SASTRA University, NCBS Bengaluru, IIT Hyderabad, IACS Kolkata, IIT Delhi, INST Mohali, IISER Mohali, IMTECH Chandigarh, Bangalore University, Nanyang Technological University, Singapore.

ORGANISATION OF SCIENTIFIC MEETINGS

2025 Organizing and chairing a symposium at ACS Fall Meeting, "ACS Infectious Diseases Young Investigator Award Winners Symposium" Washington DC, January 8-10, 2025.

2025 National Advisory Committee member for First Nucleic Acid Therapeutics Regional Meeting - India 2025 @ JNCASR, Bengaluru from 18th to 21st February 2025.

2025 Key Resource Person for International Conference on "Advances in Chitin and Chitosan Research" & "11th Indian Chitin and Chitosan Society Symposium – 2025 (ICACCR-2025)" at University of Hyderabad, 31st January to 2nd February 2025.

2024 Organizing and chairing a symposium at ACS Fall Meeting, Denver, 2024 "Celebrating 10 Years of ACS Infectious Diseases & the Young Investigator Award Winners"

2024 Arranged India Road Show, ACS on Campus, JNCASR on 1st March 2024

Arranged a special lecture by Editor-in-Chief, ACS Materials Letters and Chemistry of Materials, Prof. Sara E. Skrabalak from Indiana University, USA, "*Nanoparticle Conversion Pathway to High Entropy Alloy Electrocatalysts"* at JNCASR on 29th February 2024

2024 Arranged a special lecture by Director, Centre for Engineered Therapeutics, Brigham and Women's Hospital, Prof. Shiladitya Sengupta from Harvard Medical School, USA, "*When small things matter*" at JNCASR on 12th February 2024

2024 Arranged a special lecture by Editor-in-Chief of Biomacromolecules, Prof. Sébastien Lecommandoux from Université de Bordeaux, France, "Harnessing Biomimicry with Self-Assembled Bioconjugates: from therapeutics to Protocells" at JNCASR on 31st January 2024

2024 ACS on Campus, Scripps Institute, California, USA

2018 Bangalore Healthcare Summit, Bangalore, India, Advisory board member

2017 Newton Bhabha Workshop in collaboration with Public Health of England, Bangalore

2010 Coordinator of In-house Symposium, JNCASR

TEACHING ACTIVITIES

Since 2010, I have been actively involved in teaching and mentoring across multiple academic programs at JNCASR. I teach both undergraduate and postgraduate courses, including "Molecules in Life" for the POCE program (undergraduate) and the core course "Bioorganic and Medicinal Chemistry" for MSc students (both for Chemical Sciences & Interdisciplinary Biosciences), Integrated PhD (both for Chemical Sciences & Biological Sciences), and PhD scholars. In addition, I have contributed to organic chemistry laboratory instruction for MSc and Integrated PhD (Chemical Sciences) students. I supervise research projects for undergraduate and master's students, including participants in competitive summer research fellowships such as those offered by the Indian Academy of Sciences, JNCASR's Summer Research Fellowship Program (SRFP), and the POCE program. I also mentor MS thesis for students enrolled in MSc (Chemical Sciences and Interdisciplinary Biological Sciences), Integrated PhD (Chemical Sciences) and PhD dissertation research. As the coordinator for the MSc Chemistry program for 8 years since its inception, I have personally mentored MSc students, including facilitating their orientation to the institute, interacting with them at regular intervals during the course, and encouraging and facilitating their application and transition to PhD and other higher learning programs upon graduation from JNCASR.

Undergraduate 2010-Present	Theory course: Molecules in Life (for POCE Students of JNCASR) Research Project: For POCE students and Indian Academy SRFP students
MSc (Chemistry) 2018-Present	Theory Course (JCL304): Bioorganic and Medicinal Chemistry (4 credit) Laboratory I- Organic and Inorganic Chemistry Lab (Organic lab)- JCP 203 (4 credit)

	Research Projects for Chemistry students (JCD 210: Research Project I and Term Paper; JCD 211: Research Project II, JCD 212: Research Project III)
MSc (Interdisciplinary Biosciences) 2023-Present	Theory Course (JCL304): Bioorganic and Medicinal Chemistry (4 credit) Research Project: Thesis
Integrated PhD (Chemical Science) 2010-Present	Theory Course (JCL304): Bioorganic and Medicinal Chemistry (4 credit) Laboratory I- Organic and Inorganic Chemistry Lab (Organic lab)- JCP 203 (4 credit) MS Thesis Research
PhD 2010-Present	Theory Course (JCL304): Bioorganic and Medicinal Chemistry (4 credit) PhD Thesis Research

INSTITUTIONAL RESPONSIBILITIES

Scientific Responsibilities:

2023-Present	Associate Chair, New Chemistry Unit, JNCASR
2022-Present	Member, Institutional Biosafety Committee (IBSC)
2021-2025	Member, Academic Council, JNCASR
2019-2026	Analytical instrumentation facility in-charge, NCU, JNCASR
2019-2020	Selection committee for Best Thesis in Biological Sciences, JNCASR
2018-Present	Master's Student selection committee, New Chemistry Unit, JNCASR
2014-Present	Master's Student selection committee, New Chemistry Unit, JNCASR
2010-Present	Summer research fellowship (SRFP) program selection committee, JNCASR
2009-Present	PhD, MSc (Chemistry) and MSc (Int. disciplinary Biological Sci.) student selection committee, JNCASR
2009-Present	Internal comprehensive examiner and Thesis Advisory Committee member for many PhD, Int. PhD, MS students

Administrative Responsibilities:

2025-Present	Member, Equitable Access to Higher Education Committee, JNCASR

2021	Chairperson, Technical Sub-committee for procurement items for Hostel, JNCASR
2019-2023	Warden, JNCASR
2018-2025	M.Sc. Program Coordinator, New Chemistry Unit, JNCASR
2017	Member of Electrical Committee, JNCASR
2015-2017	Chairman of the Dining Hall Committee, JNCASR
2014-2015	New Chemistry Unit Seminar Coordinator, JNCASR
2013-2015	Member of the Dining Hall Committee, JNCASR

PROJECTS UNDERTAKEN AS PRINCIPAL INVESTIGATOR

My lab has obtained significant funding support from my Institute (JNCASR) and from renowned national and international funding agencies, including DST, DBT, SERB, ANRF, BIRAC, DAE-BRNS, ICMR, IUSSTF, JNCASR-RAK-CAM, CEFIPRA, DST-DAAD and SSL-RAKCAM to advance innovations related to antimicrobial research (on Small and Macromoleular therapeutics, Glycopeptide antibiotics, Semisynthetic antibiotics and Enzyme inhibitors, Anti-virulence molecules, Antibiotic adjuvants, Antimicrobial catheter coatings, and Biomaterials). In addition, research was supported through Ramanujan Fellowship, Sheikh Saqr Career Award Fellowship and many bilaterial and multilateral grants such as Indo-US, Indo-French, Indo-German, Indo-Belgium, Indo-Austria, Indo-Portugal, BRICS. Apart from technology development, funding opportunities have also helped in building a solid research training, which in turn has contributed to fostering multiple postdocs, PhD scholars, R&D assistants and Master & undergraduate scholars, while having published a vast number of scientific articles (112), multiple national and internal patents (Total patent applications: 67; Granted patents: 19) on 18 inventions.

Ongoing:

A. National Projects

1. DST-BIRAC COVID-19 SURAKSHA: Antibiotic-adjuvant therapy to target bacterial pulmonary infections and associated infection
2. ICMR Project: Dual functional COX-2 inhibiting and antimicrobial NSAID-peptidomimetic conjugates as novel therapy to tackle septic infections
3. DBT project: In-aqueous fabrication of antimicrobial covalent coating on catheters to mitigate catheter-associated urinary tract infections (CAUTIs)

B. International Collaborative Projects

1. DBT Indo-Belgian Joint Networking Call: Repurposing Vancomycin Analogues as Anti-Mycobacterial Agents
2. DST Indo-Austria Joint Call: Next generation therapy-targeting bacterial virulence to attenuate pathogenesis

Completed:

A. National Projects

1. DST-SERB CRG Project: Development of adjuvants for potentiating and repurposing obsolete antibiotics against multidrug resistant Gram-negative pathogens
2. DBT project: Small Molecular Mimics of Antimicrobial Peptide to Tackle Eye Infections
3. JNCASR and RAK-CAM: Antimicrobial polymeric paint for pavers
4. DST-TRC Project: Antimicrobial and haemostatic sponge: Point of care Technology to tackle infection and haemorrhage for traumatic injuries
5. DST-TRC Project: Antimicrobial immunomodulatory injectable hydrogel to cure diabetic wound infections
6. JNCASR and RAK-CAM: Antimicrobial hydrophobic coatings for tiles
7. DST-SERB Special Call Project on CoVID-19: Development of antiviral surface coatings to prevent the spread of infections caused by influenza virus
8. BRNS project: Development of Cationic Cleavable Amphiphiles and Study Aggregation and Antibacterial Properties
9. SERB-EMR (DST) project: Acyclic and Cyclic Lipopeptides to Combat Bacterial Resistance and Eradicate Biofilms
10. DST-TRC-JNCASR Project: Injectable sealant: new technology to prevent surgical site infections
11. BIRAC-SRISTI-PMU Project: Development of a Powerful New Antibiotic that Kills All Drug Resistant Bacteria
12. BIRAC-SRISTI-PMU Project: Develop a novel compound restores obsolete antibiotics to NDM superbugs
13. DST-BIRAC CRS Project: Development of a new class of glycopeptide antibiotics for tackling drug resistance bacterial infections
14. SERC Fast Track Proposals for Young Scientists: Development of Novel Biodegradable Surface Coatings for Biomedical Application

B. International Collaborative Projects

1. Indo-French (CEFIPRA) Joint project: Development and Biophysical Investigations of Small Antimicrobial Peptide Mimetics
2. IUSSTF Award for COVID-19 Indo-U.S. Virtual Networks Project: Development of Antiviral Coatings to Prevent the Transmission of SARS-CoV-2 Viruses
3. BRICS Research project: MBLI development of new approaches to overcome MBL-related resistance in bacteria
4. Indo-German Joint (DST) Project: Investigating Mechanism of Action of Membrane Targeting Antibacterial Agents
5. Indo-Portugal (DST) Joint project: Development of novel organic-inorganic antimicrobial composites for bone infections: using Lanthanides doped novel glassy materials associated with hydroxyapatite and antimicrobial polymer

MAJOR COLLABORATIONS

We have successfully collaborated and continue collaborating with Indian and international scientists, working across disciplines such as biophysics, structural biology, theoretical & experimental physics, cell biology, immunology, microbiology, clinical pathology etc. Our collaborators are based in different countries such as USA, UK, Brazil, Netherlands, Russia, China,

Germany, Italy, France, Portugal, Australia, Belgium, Spain, and Austria from different institutes (MIT, Harvard, and Ragon Institute, Purdue University, University of Amsterdam, Ruhr-University Bochum, etc.) through different bilaterial multilateral collaborative projects. We have also collaboration with different leading institutes in India (IISc, IITs, IISERs, ICMR-NIRBI, ICAR-NIVEDI, BARC, CSIR-CDRI, Shiv Nadar University, RGCB, etc.). We actively collaborate with clinicians working on AMR (NIMHANS, LV Prasad Eye Institute, Kasturba Medical College etc.), Industries/CROs (Anthem Biosciences, Vipragen Biosciences; TheraIndx, Labcritters) and other organizations (Public Health of England, FNDR).

International Collaborations:

- **Prof. Shiv Pillai** (Immunologist) Medicine and Health Sciences & Technology (HST), Ragon Institute of MGH, MIT and Harvard, Cambridge, MA, USA.
  Project: Development of Antiviral Coatings to Prevent the Transmission of SARS-CoV-2 Viruses
  Funding agency and duration: IUSSTF (1.5 years)
  Description: Antiviral coating
  Publication (1): *Appl Mater Interfaces*. 2022, *14*, 42483-42493

- **Prof. L. W. Hamoen**, (Cell Biologist) University of Amsterdam, Netherlands
  Description: Cell division proteins inhibition
  Publication (1): *Chem. Sci.* 2016, *7*, 4613-4623

- **Prof. Cristiano Marcelo Espinola Carvalho**, (Pathologist and Immunologist) Dom Bosco Catholic University, Brazil
  Project: MBL-inhibitor development of new approaches to overcome MBL-related resistance in bacteria
  Funding agency and duration: DST-BRICS (3.5 years)
  Description: Development of semisynthetic glycopeptide and β-lactam derivatives.

- **Prof. Tatiana V. Ovchinnikova,** (Bioorganic Chemist) Institute of Bioorganic Chemistry Russian Academy Sciences (RAS), Russia
  Project: MBL inhibitor development of new approaches to overcome MBL-related resistance in bacteria
  Funding agency and duration: DST-BRICS (3.5 years)
  Description: Development of semisynthetic glycopeptide and β-lactam derivatives
  Publication (1): Bull. Exp. Biol. Med. 2022, *172*, 447-452

- **Prof. Hixen Xie,** (Chemical Biologist) East University Science Technology, China
  Project: MBL inhibitor development of new approaches to overcome MBL-related resistance in bacteria
  Funding agency and duration: DST-BRICS (3.5 years)
  Description: Development of semisynthetic glycopeptide and β-lactam derivatives
  Publication (2): *Chem. Sci.*, 2024, *15,* 16307-16320; *Chinese Chemical Letters*, 2023, *34(5)*, 107847

- **Prof. Julia Bandow,** (Microbiologist) Rhur-Univ. of Bochum, Germany
  Project: Investigating Mechanism of action of membrane targeting Antibacterial agents
  Funding agency and duration: DST Indo-German Project (2.5 years)
  Description: Development of semisynthetic glycopeptide and beta-lactam derivatives
  Publication (3): Chem. Sci., 2024, *15,* 16307-16320; *Chem. Sci.* 2023, *14*, 2386-2398; *J. Med. Chem*. 2021, *64*, 10185-10202.

- **Prof. Octa´vio L. Franco,** (Biochemist) Universidade Catolica Dom Bosco, Campo Grande, Brazil
  Description: In vivo infection study
  Publication(1): *PLoS One*, 2017

- **Prof. Lorenzo Stella,** (Biophysical chemist) University of Rome, Italy
  Description: Investigation of antibacterial mechanism of actions.
  Publication (3): *Chem. Sci.* 2023, *14 (18)*, 4845–4856; *Biochim. Biophys. Acta Biomembr*. 2023, *1865*, 184079; *Chem. Commun.*, 2018, *54*, 4943-4946.

- **Prof. Peter Monk,** (Immunologist) Department of Infection, University of Sheffield, UK
  Description: Ex-vivo infection study
  Publication (1): ACS Infect. Dis. 2020, *6*(4), 703-714

- **Prof. M. N. Seleem,** (Pathologist) Department of Comparative Pathobiology, Purdue University, USA
  Description: Antifungal studies
  Publication (2): *ACS Infect. Dis.* 2017, *3*, 293-301; *Sci Rep*. 2020, *10*, 5624-5631

- **Prof. Bechinger Burkhard,** (Physical Chemist) Chemistry Institute, University of Strasbourg, France
  Project: Development and Biophysical Investigations of Small Antimicrobial Peptide Mimetics
  Funding agency and duration: IFCPAR /CEFIPRA Indo-French Joint project
  Description: Biophysical investigations of small antimicrobial peptide mimetics through solid state NMR
  Publication (1): *ACS Omega*, 2018, *3,* 9182-9190, Manuscrits (3) manuscript under preparation

- **Dr. Miles Carroll**, (Virologist) Public Health of England (PHE), UK
  Description: Anti-Ebola studies
  Out-licensed technology (2): Two lab patents on Small molecular therapeutics were out-licensed to PHE anti-Evola.
  Patent filed together with PHE (1): Konai, M. M.; Carroll, M.; Haldar, J.*. Antimicrobial Conjugates, Method for Production and Uses Thereof. JP2017514887 A, WO2015136311 A1 EP3116597 A1, CA2941933 A1, US20170144969 A1
  Publication (1): Viruses 2016, 8, 277
  Funds obtained from PHE: for our research

- **Dr. Nandyala Sooraj Hussain**, (Chemist) University of Porto, Portugal
  Project: Development of novel organic-inorganic antimicrobial composites for bone infections: using Lanthanides doped novel glassy materials associated with hydroxyapatite and antimicrobial polymer
  Funding agency and duration: DST-Portugal joint project (3 years)
  Description: Antimicrobial composites for bone infections.

- **Prof. Naresh Kumar,** (Medicinal Chemist) The University of New South Wales, Australia
  Description: Antimicrobial surface coatings for eye lenses

- **Prof. Mark Willcox,** (Microbiologist) University of New South Wales, Australia
  Description: Development of peptidomimetic antibacterial small molecules coatings for eye lenses

- **Prof. Veronique Fontaine,** (Microbiologist) Universite Libre de Bruxelles, Belgium
  Project: Repurposing vancomycin analogs as antimycobacterial agents
  Funding agency and duration: DBT Indo-Belgium Joint Networking Call (3 years)
  Description: Investigation of antimycobacterial properties of glycopeptide antibiotics
  Publication: Work ongoing

- **Prof. Luiz Alvarez de Cienfuegos**, (Biological Chemist) University of Granada, Spain
  Description: Development of antimicrobial hydrogels
  Publication (1): *Biomater. Sci.* 2025, *13,* 6818-6836

- **Prof. Thomas Böttcher,** (Biological Chemist) University of Vienna, Austria
  Project: Next generation therapy-targeting bacterial virulence to attenuate pathogenesis
  Funding agency and duration: DST Indo-Austria Joint Call (2 years ongoing)
  Description: Investigation of bacterial virulence factors
  Publication: Work ongoing

- **Prof. Juan A. Hermoso,** (Structural Biologist) Instituto de Quimica-Fisica "Blas Cabrera", CSIC, Spain
  Description: Novel beta-lactam derivative and MBL inhibitor for Crystallographic studies
  Publication: Work ongoing

- **Prof. Johannes Kirchmair,** (AI-ML expert) University of Vienna, Austria
  Description: AI-ML study to develop small molecular bacterial envelop targeting agents
  Publication: Work ongoing

National Collaborations:

- **Prof. B. R. Shome,** (Veterinary Microbiologist) ICAR-NIVEDI, Bengaluru, India
  Description: In-vivo infection study
  Publication (12): *PLoS One* 2015, *10*, e0119422; *Int. J. Antimicrob. Agents* 2015, *46*, 446-450; *Angew. Chem., Int. Ed.,* 2015*, 54,* 13644-13649; *ACS Infect. Dis.*, 2015, *1*, 469–478; *ACS Infect.*

Dis. 2015*, 2*, 111–122; *PLoS One*, 2015, *10*:e0144094; *Biomaterials* 2016, *74*, 131-143; *Biomacromolecules*, 2016, *17*, 3094-3102; *Mol. Pharmaceutics,* 2016, *13*, 3578-3589; *Mol. Pharmaceutics*, 2017, *14*, 1218-1230; *PLoS One*, 2017, *12*, e0183263; *ACS Infect. Dis.*, 2018, *4*, 1093−1101

- **Dr. P. Krishanmoorthy,** (Clinical Pathologist) ICAR-NIVEDI, Bengaluru, India
  Description: In-vivo infection & pathological study.
  Publication (15): *PLoS One* 2015, *10*, e0119422; *Int. J. Antimicrob. Agents* 2015, *46*, 446-450; *Angew. Chem., Int. Ed.,* 2015*, 54,* 13644-13649; *Int. J. Antimicrob. Agents* 2015, *45*, 627-634; *ACS Infect. Dis.*, 2015, *1*, 469–478; *ACS Infect. Dis*. 2015*, 2*, 111–122; *PLoS One*, 2015, *10*:e0144094; *Biomaterials* 2016, *74*, 131-143; *Biomacromolecules*, 2016, *17*, 3094-3102; *Mol. Pharmaceutics,* 2016, *13*, 3578-3589; *Mol. Pharmaceutics*, 2017, *14*, 1218-1230; *PLoS One*, 2017, *12*, e0183263; *Biomacromolecules*, 2017, *19*, 267-278.*ACS Infect. Dis.*, 2018, *4*, 1093−1101; *ACS Appl. Mater. Interfaces,* 2019*, 11*, 39150-39162.

- **Dr. Prashant Garg,** (Consultant Ophthalmologist) LV Prasad Eye Institute, Hyderabad, India
  Project: Small Molecular Mimics of Antimicrobial Peptide to Tackle Eye Infections
  Funding agency and duration: DBT (4 years)
  Description: Ex-vivo eye infection study
  *Publication (*2): *Int. J. Biol. Macromol.* 2024, *273,* 132838; *Chem. Commun*. 2020, *56*, 2147-2150.

- **Dr. V. K. Aswal,** (Solid State Physicist) BARC, Mumbai, India
  Project: Development of cationic cleavable amphiphiles and study aggregation and antibacterial properties
  Funding agency and duration: DAE-BRNS Project (3 years)
  Description: SANS studies for aggregation behaviour of antimicrobial amphiphilic molecules
  Publication (3): *J. Phys. Chem. B* 2012, *116*, 9718-9726; *Phys. Chem. Chem. Phys*. 2014, *16*, 11279-11288; *Langmuir*. 2024, *40(7)*, 3414–3428.

- **Dr. Utpal Tatu,** (Biochemist) Department of Biochemistry, Indian Institute of Science, Bangalore, India
  Description: Antimalarial study
  Publication (1):*Med. Chem. Comm*. 2017, *8*, 434-439

- **Dr. Shridhar Narayanan,** (CEO) FNDR, Bangalore, India
  Description: Small molecular therapeutics against Mycobacterium tuberculosis

- **Prof. Satyavani Vemparala,** (Computational Soft Condense Matter Physicist) Institute of Mathematical Sciences, Chennai, India
  Description: Theoretical study (MD Simulation) for Membrane with macromolecular system
  Publication (1): *Chem. Sci.* 2016, *7*, 4613-4623

- **Prof. Siddharth Chopra,** (Molecular microbiologist and immunologist) CSIR-CDRI, Lucknow, India
  Description: Antibacterial studies.

Publication (1): *ACS Chem Biol.* 2020, *15*, 884-889 & manuscript under review

- **Prof. Nisanth N Nair,** (Computational Chemist) IIT-Kanpur, India
  Description: Theoretical study (MD Simulation) for β-lactamase and membrane active small molecular therapeutics
  Publication (2): *ACS Cent. Sci.* 2025,*11 (*2), 279–293; *Chem. Sci.*, 2024, *15,* 16307-16320.

- **Dr. R Ravikumar,** (Clinician) NIMHANS, Bangalore, India
  Description: Development of novel antimicrobial agents to overcome microbial resistance against clinical isolates.
  Publication (4): *PLoS One* 2015, *10*, e0119422; *Int. J. Antimicrob. Agents* 2015, *45*, 627-634; *ACS Infect. Dis.*, 2015, *1*, 469–478; *ACS Infect. Dis.*2015*, 2*, 111–122.

- **Prof. Somenath Roy,** (Microbiologist and Immunologist) Vidyasagar University, Midnapore
  Description: Studies against clinical isolates of Vancomycin resistant bacteria.
  Publication (1): *Int. J. Antimicrob. Agents* 2015, *45*, 627-634.

- **Dr. Ganesh,** (CSO & Co-Founder) Anthem Biosciences, Bangalore, India
  Project: Development of new class of glycopeptide antibiotics for tackling drug resistance bacterial infections
  Funding agency and duration: DBT-BIRAC-CRS (2 years)
  Description: Antibacterial activity against vancomycin resistant bacteria.

- **Prof. C. Narayana,** (*Experimental* Physicist), JNCASR, Bangalore, India
  Description: Membrane active mechanism of action of macromolecular antibacterial system through Raman spectroscopic studies
  Publication (1): *Chem. Sci.* 2016, *7*, 4613-4623

- **Dr. Ravi Manjithaya,** (Molecular Biologist) MBGU, JNCASR, Bangalore, India
  Description: Autophagy studies
  Publication (1): *ACS Chem Biol.* 2020, *15*, 884-889 & manuscript under preparation

- **Prof. Kaustav Sanyal,** (Molecular Biologist and Mycologist) MBGU, JNCASR, Bangalore, India
  Description: Antifungal studies
  Publication (4): *ACS Appl. Mater. Interfaces* 2015, 7, 1804-1815; *Mol. Pharmaceutics,* 2016, *13*, 3578-3589; *ACS Infect. Dis.* 2017, *3*, 293-301; *ACS Biomater. Sci. Eng.*, 2018, *5*, 81-91.
  Patent (1): Priyanka; Singh, H.; Narayanan, A.; Shaji, A. A.; Sanyal, K.; Haldar, J.* "Compounds for antimicrobial and anti-inflammatory compositions, a method, a process and use thereof" Patent Application no. 202641026226

- **Dr. Kushagra Bansal,** (Molecular Biologist) MBGU, JNCASR, Bangalore, India
  Description: Immunomodulatory studies
  Publication: Work ongoing

- **Dr. Richa Priyadarshini,** (Bacterial Cell Biologist) Shiv Nadar University, Delhi, India
  Description: Inhibition of bacterial cell division study with novel glycopeptide derivative
  Publication (1): *Chem. Sci.* 2023, *14*, 2386-2398.

- **Dr. Anirban Bhunia**, (Biophysical Chemist) Bose Institute, Kolkata, India
  Description: Biophysical studies to elucidate mechanisms of antibacterial action of peptidomimetics
  Publication (1): *ACS Cent. Sci.* 2025,*11 (*2), 279–293

- **Prof. Uday Maitra,** (Organic Chemist) IISc, Bangalore, India
  Description: Sensing of β-lactamase producing bacteria
  Publication (1): *ACS Sensors*. 2024 *9 (1)*, 351-360

- **Prof. Pinaki Talukdar,** (Chemist) IISER Pune, India
  Description: Development of bactericidal ion channel mimics
  Publication (1): *RSC Med. Chem.*, 2024, *15*, 2127-2137

- **Prof. Ramesh Ramapanicker,** (Synthetic Chemist) IIT Kanpur, India
  Description: Peptide Synthesis
  Publication: Work ongoing

- **Prof. Tapas Kumar Kundu,** (Molecular Biologist) JNCASR, Bengaluru, India-
  Description: Nanomedicine for obesity
  Publication: Work ongoing

- **Dr. Debaki Ranjan Howlader** (Microbiologist) ICMR-NIRBI, Kolkata, India
  Description: in-vivo antibacterial efficacy
  Publication: Work ongoing

- **Dr. Vandana K E,** (Clinical microbiologist) Kasturba Medical College, Manipal, India
  Description: Studies with anaerobic bacteria
  Publication: Work ongoing

- **Dr. Padmaja Shenoy,** (Clinical microbiologist) Kasturba Medical College, Manipal, India-
  Description: Studies with anaerobic bacteria
  Publication: Work ongoing

- **Dr. Karthika Rajeeve,** (Microbiologist) RGCB, Thiruvananthapuram, India
  Description: Drug-delivery system for treating Chlamydia vaginal infection
  Publication: Work ongoing

- **Prof. Joy Mitra** (Experimental Physicists) IISER Thiruvananthapuram, India
  Description: Surface coating studies
  Publication (1): *J. Mater. Chem. B,* 2026

- **Prof. Sandhya Ganesan** (Microbiologist) IISER Thiruvananthapuram, India
  Description: Intracellular infection
  Publication: Work ongoing

- **Prof. Umesh V Waghmare** (Theoretical Physicists) JNCASR, Bengaluru, India
  Description: Theoretical studies for superhydrophobic surface coatings
  Publication: Work ongoing

- **Prof. Siddharth Jhunjhunwala,** (Immunologist), Department of Bioengineering, IISc Bengaluru India
  Collaboration: Study of wound healing properties in diabetic wounds
  Publication: Work ongoing

- **Dr. Rachit Agarwal,** (Microbiologist and Biomaterial Chemist), Department of Bioengineering IISc Bengaluru India
  Collaboration: Mycobacterial studies
  Publication: Work ongoing

- **Dr. Reshmi C R,** (Biomaterial Chemist), Amrita Vishwa Vidyapeetham, Kerala, India
  Collaboration: in-vivo studies of catheters
  Publication: Work ongoing

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

My lab has trained a large number of young scientists across multiple levels, including PhD students (12), Postdoctoral Fellow (11), R&D assistants (7), MSc/MS (15), and undergraduate project and summer interns (56). Currently, my group consists of 10 PhD students, 3 postdoctoral fellows, 4 research assistants, 1 Int PhD student, coming from different geographies of India. Our lab alumni have secured coveted academic and research positions such as Assistant Professor in IIT Bombay, NCBS-TIFR, IISER-Bhopal and Tezpur University, while others have taken up postdoc positions in institutes like MIT, Harvard Medical School, Johns Hopkins University, Broad Institute, Duke University, Helmholtz Institute, Max Planck etc. Some of our alumni are also working in industry, in India and abroad, like Cytiva (USA), Denali Therapeutics (USA), Godrej Ltd (India), Aurigene Oncology Ltd (India), Aurobac Therapeutics (Germany), Dalriada Drug Discovery Inc. (Canada). Many lab trainees have gone on to pursue their PhDs abroad (e.g., University of Texas, McGill University, University of Houston, Purdue University, Helmholtz Institute, University of Warwick, etc.) or taken up positions in industries and research institutes across the globe, including India, Europe, UK, Japan, and USA. The lab's training environment has fostered the nurture of researchers who are making impactful contribution significantly to academia, industry, and translational science.

PhD Theses:

Student	Year	Title of thesis

Yarlagadda Venkateswaralu	2015	Semi-synthetic Glycopeptide Antibiotics: Strategies to Combat Acquired and Intrinsic Bacterial Resistance
Divakara SS Murthy Uppu	2016	Bacterial Membrane-targeting Cationic-amphiphilic Polymers that Combat Antibiotic Resistance and Neutralize Endotoxins
Chandradhish Ghosh	2017	Development of L-Lysine-based Small Molecules as Broad-spectrum Antimicrobial Agents
Jiaul Hoque	2017	Charged Polymers and Hydrogels as Antimicrobial Materials for Prevention of Infections
Mohini Mohan Konai	2019	Amino Acid-Based Molecules to Combat Bacterial Infections and Resistance
Swagatam Barman	2021	Amino Acid Conjugated Small Molecular and Polymeric Antimicrobial Agents to Combat Infection and Inflammation
Paramita Sarkar	2021	Next-generation Glycopeptide Antibiotics: Designs to Overcome Inherited and Non-inherited Resistance and Insights into their Mechanisms of Action
Brinta Bhattacharjee	2022	Engineering Polymeric Biomaterials to Combat Microbial Infections
Sreyan Ghosh	2023	Development of Antimicrobial Biomaterials to Tackle Healthcare-Associated Infections
Rajib Dey	2023	Engineering Small Molecular Therapeutics and Multifunctional Biomaterials to Mitigate Topical Infections
Geetika Dhanda	2024	Multifaceted Antibiotic Adjuvants: Overcoming Bacterial Resistance and Investigation of Host-modulating Properties
Sudip Mukherjee	2024	Polymeric Biomaterials Alleviate Complicated Infections and associated hyper-inflammation
Dipanjana Patra	2026 (colloquium given)	Designing Multifunctional Polymer-Nanoparticle Hybrid Biomaterials for Urogenital, Skin and Bone Infections
Yash Sanjay Acharya	2026 (colloquium given)	Bacterial Cell Envelope Targeting Versatile Small Molecules - Tackling Metabolic Dormancy, Hyperinflammation and Complicated Intracellular Pathogens

Master Theses:

Student	Year	Title of thesis
Mohini Mohan Konai	2014	Development of Nonspermidine-based Lipopeptide Mimics to Tackle Bacterial Infection
Paramita Sarkar	2016	Development of Cationic Lipophilic Vancomycin Analogues against Bacterial Biofilms and Intracellular Pathogens
Sreyan Ghosh	2018	Development of Antibacterial Biomaterials to Tackle Surface-Associated Infections
Geetika Dhanda	2019	Small Molecular Adjuvants to Repurpose and Rehabilitate Obsolete Antibiotics against Multidrug-Resistant Bacteria
Sudip Mukherjee	2020	Development of Cationic Macromolecules to tackle Drug-resistant Bacteria and Fungi
Dipanjana Patra	2022	Antimicrobial Polymer Nano-composite Coating to Combat Catheter-Associated Urinary Tract Infections (CAUTIs)
Sayan Chakravarty	2023	Development of Synthetic Small Molecules and Polymeric Delivery Platforms to Tackle Drug Resistant Infections
Priyanshi Bahuguna	2025	Chitosan/HTCC coated alginate nanoparticles for targeted drug delivery of small molecular antimicrobial
Bhavya Gupta	2025	Development of Bacterial-membrane Perturbing Small Molecules
Bastab Panja	2026 (Thesis submitted)	Structure Activity Relationship Guided Identification of Phenylalanine-Conjugated Benzene-trisimidazolium Antimicrobials for Eradication of Bacteria, Fungi and Polymicrobial Biofilms
Sneha	2026 (Submitted)	Synthesis and antibacterial studies of small molecules with bifurcated hydrophobicity

INVITED TALKS, LECTURES AT CONFERENCES AND ELSEWHERE

I have delivered multiple invited lectures (218) at various National conferences (52), International conferences (67), National Institutes/Universities (35), International Institutes/Universities (34), Industry/company (12) and science promotional lectures (18).

National Conferences:

1. Invited talk: “Application of Polymeric Materials in Infectious Diseases” at departmental symposium at Department of Materials Engineering, IISc, Bangalore on 21st January 2010.
2. Invited talk: “The Weapons of Chemistry to Battle Infectious Diseases” At a symposium on Recent Trends in Chemistry, at The American College, Madhurai, Tamil Nadu on 16th February 2010.
3. Invited talk: at One day National workshop on “Advances in Chemical and Biochemical Sciences” at Sheshadripuram College, Yelahanka New town, Bangalore, 13th March 2010.
4. Invited talk: “Engineering Novel Polymeric Biomaterials to Tackle Infectious Diseases” at Department of Mechanical Engineering, M S Ramaiah Institute of Technology, 18th March 2010.
5. Invited talk: “Nano-engineering of Polymeric Biomaterials to Tackle Infectious Diseases” in a symposium at Raja Lakhamagouda Science Institute, Belgaum, 26-27th November 2010.
6. Invited talk: “Engineering Novel Polymeric Biomaterials to Tackle Infections” in a symposium for celebrating the International Year of Chemistry-2011, at JNCASR on 10th January 2011.
7. Invited talk: “Nano-engineering of Polymeric Biomaterials to Tackle Infectious Diseases” at a symposium on “Nanotechnology for Enhancing Food Security”, Tamil Nadu Agricultural University (TNAU), on 7-8th April 2011.
8. Invited Talk: “Engineering Novel Polymeric Biomaterials to Tackle Infectious Diseases” at IIT Madras, 7th October 2011.
9. Invited talk: “Infectious Diseases: the ways to tackle” at In-house symposium, at JNCASR on 14-15th November 2011.
10. Invited talk: “Engineering Novel Polymeric Biomaterials to Tackle Infectious Diseases” at the International Conference on “Water” at IIT Madras, on 14-16th September 2012.
11. Invited talk: “War against Microbes”: Are Antibiotics the only Weapons?” at Eighth JNC Research Conference on “Chemistry of Materials”, Kerala on 30th September- 2nd October 2012.
12. Invited talk: “War against Microbes”: Are Antibiotics the only Weapons?” at Research Conference in Christ University, Bangalore, on 13th February 2013.
13. Project Talk: “Development of Novel Biodegradable Antimicrobial Surface Coatings for Biomedical Application” at DST-Fast Track project review meeting, at Delhi University, on 29th June 2013.
14. Invited talk: “Bacterial Infection: the ways to tackle” at In-house symposium, at JNCASR on 18-20th November 2013.
15. Invited lecture: in Indo-UK Conference, at The Institute of Mathematical Sciences, Chennai, on 24th-26th February 2014.
16. Invited talk: “Prevention is better than Cure: Strategies for Preventing Infections” at NCU Day Celebration, March 6th, 2015
17. Invited Talk: “The Future Antibiotics: From the ‘Magic Bullet’ to the ‘Smart Bullet’” at Annual

Faculty meeting, JNCASR, November 13, 2015

18. Invited talk: "Strategies to Combat Antimicrobial Resistance (AMR) and Infections" at FAO-ICAR/NIVEDI meeting on Laboratory based surveillance of AMR in health and veterinary sectors, 18-19th January, 2017.
19. Invited talk: "Combating Infections on Abiotic and Biotic Surfaces" at JNCASR-Amrita Institute Meeting, JNCASR 25th March, 2017.
20. Invited talk: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" at the conference on Chemical Frontiers, Goa, 17-20th August 2017.
21. Project talk: "Injectable Sealant: New Technology to Prevent Surgical Site Infection" at TRC-JNC meeting on 22 August, 2017.
22. Award lecture: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" at CSIR 75th Foundation Day Celebrations & CDRI Award Orations, 22nd September 2017.
23. Invited lecture: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" at Biotech Innovation Ignition School (BIIS), BIRAC-SRISTI, Ahmedabad, 28th December 2017.
24. Award Lecture: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" An CRSI Bronze Award talk at 23rd CRSI National Symposium in Chemistry, IISER Bhopal, 13-15th July 2018.
25. Invited talk: "New Generation of Antibiotics to Combat Antimicrobial Resistance" at the Bangalore Healthcare Summit, 25-26th September 2018.
26. Invited talk: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" at the conference on Frontiers in Chemical Sciences, Department of Chemistry, Indian Institute of Technology Guwahati, 6-8th December, 2018.
27. Invited talk: "Cationic Antimicrobial Polymers for the Prevention and Treatment of Bacterial Infections" at the conference, 15th International Conference on Polymer Science and Technology, SPSI-MACRO, IISER Pune, 19-22nd December 2018.
28. Invited talk: "Engineering Biomaterials and Antibacterials in the era of Drug Resistance" at the 22nd ADNAT Convention: International Symposium on Antibiotic Resistance–One Health Perspective March 5–8, 2019, IIT Roorkee.
29. Invited talk: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" at PESCP 6th International Conference on "Strategies to Tackle Antimicrobial Resistance" PES University, Bangalore, 18th-19th October-2019.
30. Invited talk: "Engineering Biomaterials in the Era of Antimicrobial Resistance" at INYAS-2nd National Frontiers of Science Meeting, Jaipur, 6-8 November, 2019.
31. Talk: "Engineering Biomaterials in the Era of Antimicrobial Resistance" at JNCASR-Shiv Nadar University Symposium, JNCASR, Bangalore, India, 8-9th November 2019.
32. Invited talk: "Escape the clutches of Eskape!" at Annual Faculty Meeting & Inhouse Symposium, JNCASR, 13-14th November 2019.
33. Invited talk: "Biomaterials for tackling infection– Objectives, obstacles and opportunities!" at Second SAMat Annual Retreat- 17th to 19th November, 2019.

34. Invited talk: “The battle with Hospital Acquired Infections–bypassing the highway to hell!” at International Winter School on Frontiers in Materials Science –JNCASR, 2nd-6th December, 2019.
35. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at Winter School on Advanced Techniques in Nano Science and Technology, INST, Mohali, 2nd-7th December, 2019.
36. Invited talk: at a conference on Water Challenges during and post Covid-19, International Centre for Clean Water (ICCW) webinar series, IIT-Madras, 7th May, 2020.
37. Invited talk: at World Antimicrobial Awareness Week, NSS, IIT Roorkee, 21st November 2020.
38. Invited talk: at SERB Webinar Series on COVID-19 Emerging Research (SERB-COVER), 17th December 2020.
39. Invited talk: at BIRAC SITARE BIIS Webinar, 8th February 2021.
40. Invited talk: at AMRITA BIOCREST 2021-Indian Innovation Pavilion, International Symposium on “Man vs Microbe: AMR—The Race of the Century” 25th February 2021.
41. Invited talk: “Polymeric biomaterials for tackling bacterial, fungal and viral infections–Objectives, obstacles and opportunities!”; at The Society of Polymer Science India-Mumbai Chapter, April 10, 2021.
42. Invited Talk: “Outwitting antibiotic resistance: A perpetual battle”; at MedChem-2021 on Emerging Infectious Diseases & therapeutic Strategies, Department of Chemistry, IIT Madras 1-3 December 2021.
43. Invited talk: “Outwitting antibiotic resistance: A perpetual battle”; at 58th Annual Convention of Chemists and International Conference on Recent Trends in Chemical Sciences, Indian Chemical Society (Physical Chemistry Section, University of Calcutta) 22 December 2021.
44. Invited Lecture: “Functional Biomaterials for Tackling Antimicrobial Resistance and Infection” at Biomaterial Conclave, University of Madras, 7-14th March 2022.
45. Invited talk: “Pursuit of next-generation glycopeptides – Our journey with vancomycin” at National Organic Symposium Trust (NOST), XXII Organic Chemistry Conference, Aurangabad, 17-20th February 2023.
46. Invited talk: “Outwitting antibiotic resistance: A perpetual battle”; at Chemistry Meet: Kindling in Kaziranga, India, 16-18th March 2023.
47. Invited talk: “Outwitting antibiotic resistance: A perpetual battle”; at Kaleidoscope: A Discussion Meeting in Chemistry, Udaipur, India, 6-9th July 2023.
48. Award Lecture: “Functional Biomaterials for Tackling Antimicrobial Resistance and Infection” at 34th Annual General Meeting of MRSI and 5th Indian Materials Conclave at IIT BHU, Varanasi, India, 12-15th December 2023.
49. Invited talk: “Outwitting antibiotic resistance: A perpetual battle” at 4th Frontiers Symposium in Chemistry, School of Chemistry, IISER Thiruvananthapuram, Kerala, 19-21st January 2024.
50. Invited talk: “Outwitting antibiotic resistance: A perpetual battle” at 90th Anniversary General Meeting INSA, at SRM Institute of Science and Technology, Kattankulathur, Chennai, December 9-10, 2024.
51. Invited talk: “Targeting the cell envelope: A versatile antibacterial strategy” 6th World Congress on Infectious Diseases and Antibiotics 2025, IISc, Bangalore, October 12, 2025.
52. Invited talk: “Targeting the cell envelope: A versatile antibacterial strategy” at National

Conference, 2nd Anusandhan-2026, IISER Tirupati, January 3-5, 2026.

International Conferences:

1. Invited participant: at Gordon Research Conference on "New Antibacterial Discovery and Development" in Ventura, California, on 16th -21st March 2014.
2. Invited talk: "War against Microbes: Are Antibiotics the only Weapons?" at City College of New York, Department of Chemistry, 24th March 2014.
3. Invited talk: "War against Microbes: Are Antibiotics the only Weapons?" at Medical School at University of Rutgers, New Jersey, 27th March 2014.
4. Invited Talk: "Bacterial Cell Membrane: Targeting the Achilles' heel to Combat Drug-Resistance and Infections" at the conference on Chemical Frontiers, Goa, 16th-19th August 2014.
5. Invited talk: "Bacterial Cell Membrane- Targeting the Achilles' heel to Combat Drug-resistance and Infections" at International Symposium on Recent Advances in Medicinal Chemistry (ISRAM-2014), NIPER, Chandigarh, on 8-10th September, 2014.
6. Invited talk: "Strategies to tackle Drug Resistance and Infection" at the meeting on UK-India Partnerships in mitigating antimicrobial resistance and controlling Infectious Diseases, Bangalore, on 11-12th September, 2014.
7. Project Proposal Talk: "Development of Cleavable Gemini Surfactants and Study Their Micellar Aggregation Properties in Aqueous Solution" at UGC-DAE, BARC, Mumbai on 14th October 2014.
8. Invited participant: at "Review on Antimicrobial Resistance: India's Role in tackling the global Crisis" by Public Health Foundation of India (PHFI), New Delhi, 5th March 2015.
9. Invited talk: "Strategies to Tackle Drug Resistance and Infections" at Ramanujan Fellowship Meeting, IIT-Bombay, 16th March 2015.
10. Invited talk: "Bacterial Cell Membrane: Targeting the Achilles' heel to Combat Drug-Resistance and Infections" at University of Granada-Spain on 20th April 2015.
11. Invited talk: "Bacterial Cell Membrane: Targeting the Achilles' heel to Combat Drug-Resistance and Infections" at University of Porto, Portugal on 23rd April 2015.
12. Talk: "Development of New Class of Glycopeptide Antibiotics for Tackling Drug Resistant Bacterial Infections"at Project meeting at BIRAC on 22nd June 2015.
13. Invited talk: "Strategies to Combat Bacterial Resistance: Towards Development of Future Antibacterial Drugs" at CRSI Meeting- NIT Trichy, 23-25th July 2015.
14. Invited talk: "Strategies to Combat Bacterial Resistance: Towards Development of Future Antibacterial Drugs" at the conference of 'World Congress and Exhibition on Antibiotics', Las Vegas, USA during 14th-16th September 2015
15. Invited talk: "Bacterial Cell Membrane: Targeting the Achilles' heel to Combat Drug-Resistance and Infections" at Department of Chemistry & Chemical Biology, Rutgers University, September 18, 2015.

16. Invited talk: “Bacterial Cell Membrane: Targeting the Achilles' heel to Combat Drug-Resistance and Infections” at New York Medical College, Valhalla, USA on 21st September 2015.
17. Invited lecture: “Strategies to Combat Antimicrobial Resistance (AMR)” at AMR & Longitude Prize Meeting, Bangalore, October 14, 2015
18. Invited lecture: “The Future Antibiotics: From the ‘Magic Bullet’ to the ‘Smart Bullet’” at Annual Faculty Meeting-JNCASR, November 13, 2015.
19. Invited talk: “Strategies to Combat Bacterial Resistance: Towards Development of Future Antibacterial Drug” at the conference MICROCON-JIPMER, November 27-29, 2015.
20. Invited talk: “Prevention Is Better Than Cure: Strategies for Combating Antimicrobial Resistance and Preventing Infections” at International Conference on Biomolecular Engineering, Singapore during 5-7th January 2016.
21. Invited talk: “Bacterial Cell Membrane: Targeting the Achilles' heel to Combat Drug-Resistance and Infections” at Singapore-MIT Alliance for Research and Technology (SMART), Singapore 6th January 2016.
22. Invited talk: “Bacterial Cell Membrane: Targeting the Achilles' heel to Combat Drug-Resistance and Infections” at School of Chemical & Biomedical Engineering, NTU, Singapore, on 8th January 2016.
23. Invited talk: “Strategies for Combating Antimicrobial Resistance and Preventing Infections” at JNCASR and Mechanobiology Institute-NUS Joint Discussion Meeting, February 5, 2016.
24. Invited talk: “Bacterial Cell Membrane: Targeting the Achilles' heel to Combat Drug-Resistance and Infections” at University of Padova, Italy on 21st March 2016.
25. Invited talk: “Bacterial Cell Membrane: Targeting the Achilles' heel to Combat Drug-Resistance and Infections” at University of Parma, Italy on 23rd March 2016.
26. Invited talk: “Bacterial Cell Membrane: Targeting the Achilles' heel to Combat Drug-Resistance and Infections” at University of Rome, Tor Vergata, Italy 25th March 2016.
27. Invited talk: “Tackling Antimicrobial Resistance” at XI Joint Annual Conference of Indian Society of Malaria and Other Communicable Diseases and Indian Association of Epidemiologists’, Bangalore, June 10-12, 2016.
28. Invited talk: “Antimicrobial Polymers for the Prevention and Treatment of Bacterial Infections” at Institute for Drug Delivery and Biomedical Research (IDBR), Bangalore, July 16, 2016.
29. Invited talk: “New Class of Glycopeptide Antibiotics: Strategies to Combat Acquired and Intrinsic Bacterial Resistance” at the conference on Drug Discovery India (DDI), Bangalore, 29-30th September, 2016.
30. Invited talk: “Bacterial Cell Membrane: Targeting the Achilles' heel to Combat Drug-Resistance and Infections” at the Indo-German Meeting on Supramolecular & Bioactive Compounds: Theory, Design and Regulation, Khajuraho, November 10-13, 2016.
31. Invited talk: at the International Conference on Polymer Science and Technology, Macro-2017, 8-11th January, Thiruvananthapuram, Kerala.

32. Invited talk: “New Chemical Approaches for the Development of Novel Antibiotics” at The UK-India Newton-Bhabha Fund Researcher Links Workshop (RGICD) on Antimicrobial Resistance, Bangalore, 14-18th December 2017.
33. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at an invited meeting on AMR at University of Sheffield, UK during 19-20 March 2018.
34. Invited talk: “Synthetic Mimics of Antimicrobial Peptides to Tackle Antimicrobial Resistance” at 16th Naples Workshop on Bioactive Peptides, Naples, Italy during 7-9th June 2018.
35. Invited talk: “Engineering polymeric biomaterials in the era of antimicrobial resistance” at ACS Spring National Meeting in Orlando, FL, March 31-April 4, 2019.
36. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at UK-India Meet on Emerging Innovations in AMR, 7th June 2019.
37. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at L V Prasad Eye Institute-Hyderabad & University of Sheffield-UK, 18th January, 2020.
38. Invited lecture: “Engineering Antimicrobial Biomaterials—The Fight against Bacteria, Fungi and Viruses”; at the Virtual MRS Spring Meeting of the Materials Research Society, USA, 19th April, 2021.
39. Invited talk: “Polymeric Biomaterials for Tackling Antimicrobial Resistance and Infection”; at the International e-Conference on Biopolymers, APA Bioforum, 14th -16th July, 2022.
40. Virtual talk on “Innovative Chemical Strategies for Tackling Antimicrobial Resistance and Infection” at the Indo-Belgian Networking Meeting, 9th November 2022.
41. Invited talk: “Functional Biomaterials for Tackling Antimicrobial Resistance and Infection”; International Conference on Biomaterials, Regenerative Medicine and Devices, Bio-Remedi-2022, IIT Guwahati, India. 15th–18th December, 2022.
42. Invited talk: “Outwitting antibiotic resistance: A perpetual battle”; at Amrita Pharmacon-2023, International Conference on Innovation in Antimicrobial Therapeutics, India, 23rd March 2023.
43. Invited Talk: “Development of new approaches to overcome MBL-related resistance in bacteria” at BRICS STI-FP Conference on Biomedical Sciences and Technologies, 25th-26th May 2023.
44. Invited Talk: “Chemical Strategies to Tackle Antimicrobial Resistance and Infection” at The 5th Antimicrobial Science and Technology Forum (ASTF 2023), Shenyang, China, 11th August 2023.
45. Invited Talk: “Chitin and Chitosan: Unleashing the Potential of Glucosamines against Drug-Resistant Microbes” at EUCHIS 2023 Conference in Siglufjörður, Iceland, September 11-14th 2023.
46. Invited Talk: “Outwitting antibiotic resistance: A perpetual battle”; at An Interactive International Conference on Convergence of Scientific Disciplines to Advance Biotechnology, IISER Berhampur, India, 23-24th November 2023.
47. Invited Talk: “Outwitting antibiotic resistance: A perpetual battle”; at Asia Pacific Conclave on Engineering, Healthcare-Bridging Innovation and Wellness, ACS International Student Chapter-IISc Bangalore, Mysuru, India, 29-31st January 2024.
48. Invited Talk: “Outwitting Antibiotic Resistance : A perpetual” at International Symposium on

Nature Inspired Initiatives in Chemical Trends, CSIR-IICT, Hyderabad, March 7-9, 2024

49. Invited Talk: “Outwitting Antibiotic Resistance : A perpetual” at International Symposium on Understanding the Breathing of Biomolecules: Recent Advances in Cryo-EM and Chemical Biology, IIT Bombay, March 7-9, 2024.
50. Attending Gordon Research Conference on Microbial Toxins and Pathogenicity, in, New Hampshire, USA on July 14th -19th, 2024
51. Invited Talk: “Targeting the cell envelope: A versatile antibacterial strategy” Celebrating 10 Years of ACS Infectious Diseases & the Young Investigator Award Winners, ACS Fall Meeting, Denver. August 18, 2024.
52. Invited Talk: “Outwitting Antibiotic Resistance : A perpetual battle” Gordon Hammes Award Symposium, ACS Fall Meeting, Denver. August 21, 2024
53. Invited talk: ”Vancomycin analogues in the pipeline of antimicrobial drug development” at the Conference on Antimycobacterial drug development, Indo-Belgian collaboration, Université libre de Bruxelles (ULB), Brussels, Belgium, 16th September 2024
54. Invited talk: “Smart Biomaterials for Tackling Antimicrobial Resistance and Infection”, at International Conference on Smart Materials for Sustainable Technology (SMST-2024), INST, Mohali October 24-27,2024.
55. Invited Talk: “Chitin and Chitosan: Unleashing the Potential of Glucosamines against Drug-Resistant Microbes” at International Conference on “Advances in Chitin and Chitosan Research (ICACCR 2025)” and 11th Indian Chitin and Chitosan Society Symposium 2025 (11th ICCS-2025), University of Hyderabad, Jan 31-Feb 2, 2025.
56. Invited Talk: “Small Molecular Therapeutics to Target the Bacterial Cell Envelope” at 9th International Symposium on “CURRENT TRENDS IN DRUG DISCOVERY RESEARCH”-(CTDDR-2025), CSIR-Central Drug Research Institute, Lucknow, February 19-22, 2025.
57. Invited Talk: “Outwitting antimicrobial resistance : A perpetual battle” International Conference on "Innovations in Sustainable Drug Discovery & Development to Combat the crisis of Antimicrobial Resistance", Eminent College of Pharmaceutical Technology, Barasat, Kolkata, February 27-28, 2025
58. Attending Gordon Research Conference on Multi-drug efflux systems, Lucca, Italy on April 27 - May 2, 2025
59. Invited Talk: “Smart Biomaterials for tackling Antimicrobial Resistance and Infection” at International Conference on Materials in Translational Research (MiTR) 2025, @ IIT Ropar, May 22-24, 2025.
60. Invited Talk: “Tackling the challenge of bacterial infections – changing paradigms of Medicinal Chemistry” RSC Webinar on Medicinal Chemistry and Pharmacy, 14 July 2025.
61. Participation in 8th Great Wall Symposium, Catania, Sicily, Italy, 15-17 September 2025.
62. Invited Talk: “Small Molecular Therapeutics to Target the Bacterial Cell Envelope” Global Scientific Conference, IIT B, October 8-11, 2025.
63. Invited Talk: “Targeting the cell envelope: A versatile antibacterial strategy” Future Oriented Research Conferences and Exhibitions (FORCE) - Interdisciplinary Initiative in Chemical

Sciences (IICS), Singapore, October 23-26, 2025.

64. Keynote Speaker: “Engineering Chitin and Chitosan-based Biomaterials to combat Drug-Resistant Infections” at International Conference on Chitin and Chitosan & 12th Indian Chitin and Chitosan Society Symposium-2026 (12th ICCS-2026), Amrita Institute of Medical Sciences, Kochi, Kerala, Jan 30-31,2026.
65. Invited Talk: “Targeting the cell envelope: A versatile antibacterial strategy” at International Conference on “Chemical Biology as a Platform for Rational Drug Design”, Department of Biotechnology, Guru Ghasidas Vishwavidyalaya & Chemical Biology Society (CBS) India, February 09-11, 2026.
66. Invited Talk: “Small- & Macro-Molecular Mimics of Antimicrobial Peptides for Combating Multidrug-Resistant Fungal Infections” at International Meeting on Antimicrobial Peptides Against Fungal Infections: Linking Structure, Function and Therapeutic Potential”, Bose Institute, Kolkata, February 26-27, 2026.
67. Invited Talk: “Targeting the cell envelope: A versatile antibacterial strategy” at Digital Meeting, on “Tools for Developing Modern Therapeutics”, ACS Spring-2026, in Atlanta, March 23, 2026.

National Institutes/Universities:

1. Invited talk: “Engineering Novel Polymeric Biomaterials to Tackle Infectious Diseases”at Department of Mechanical Engineering, M S Ramaiah Institute of Technology, Bangalore, on 18th March 2010.
2. Invited talk: “Engineering Novel Polymeric Biomaterials to Tackle Infectious Diseases” at the Department of Chemistry, IIT Madras, on 7th October 2011.
3. Invited talk: “Bacterial Cell Membrane- Targeting the Achilles’ heel to Combat Drug-resistance and Infections” at IIT Ropar on 9th September, 2014.
4. Invited talk: “Development of New Generation of Glycopeptide Antibiotics to Overcome Acquired and Inherent Drug Resistance” at Bugworks Research Inc, Centre for Cellular and Molecular Platforms, NCBS, Bangalore, on 17th September 2014.
5. Invited talk: “Bacterial Cell Membrane- Targeting the Achilles’ heel to Combat Drug-resistance and Infections” at Jawaharlal Institute of Postgraduate and Medical Education and Research (JIPMER), Pondicherry, on 28th November 2014.
6. Invited talk: “Bacterial Cell Membrane: Targeting the Achilles' heel to Combat Drug-Resistance and Infections” at CDRI, Lucknow, 8th November, 2016.
7. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at IICT-Hyderabad, 26th May, 2017.
8. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at Department of Chemistry, IIT-Bombay, 27th July, 2017.
9. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at TIFR Bombay 28th July, 2017.
10. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at CSIR-CSMCRI, Bhavnagar, 26th December 2017.
11. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at

IACS, Kolkata, 18th April 2018.

12. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at IISER Kolkata,19th April 2018.
13. Invited talk: “New Generation of Antibiotics to Combat Antimicrobial Resistance” at IIT (ISM) Dhanbad, 6th Feb 2019.
14. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at Garden City University, Bangalore 26th March 2019.
15. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at NCL, Pune, 16th July 2019.
16. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at IISER, Pune, 17th July 2019.
17. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at IIT-Madras, Chennai, 4th September 2019.
18. Invited talk: “Outwitting antibiotic resistance: A perpetual battle”; at 1st Annual Meeting of Chemical Biology, Institute of Nano Science and Technology, 24-25th September 2021.
19. Invited talk: “Polymeric biomaterials for tackling bacterial, fungal and viral infections– Objectives, obstacles and opportunities!”; Department of Chemistry, BITS Pilani, Hyderabad, November 27, 2021.
20. Invited talk: “Functional Biomaterials for Tackling Antimicrobial Resistance and Infection” at DBEB Departmental Seminar Series at IIT Delhi, 29th September 2022.
21. Invited talk: “Pursuit of next-generation glycopeptides – Our journey with vancomycin” on New Chemistry Day at New Chemistry Unit, JNCASR on 18th October 2022.
22. Invited talk: “Biomaterial interventions to tackle bleeding and infection” at in-house SAMAT Meet, 1st February 2023.
23. Invited talk: “Outwitting antibiotic resistance: A perpetual battle” at NCBS, Bangalore, 1st March 2023.
24. Invited Talk: “Smart biomaterials for tackling antimicrobial resistance and infection” at Collins Aerospace-JNCASR meet, 28th April 2023.
25. Invited Talk: “Conquering Antibiotic Resistance: An Endless Struggle”, at Frontiers in Chemical Biology and Organic Materials and Felicitation of Professors Santanu Bhattacharya and Uday Maitra, Organic Chemistry, IISc, 21st July 2023.
26. Invited Talk: “Outwitting Antibiotic Resistance : A perpetual battle” Department of Biochemistry, School of Life Sciences, University of Hyderabad, March 6, 2024
27. Invited Talk: “Small Molecular Therapeutics to Target the Bacterial Cell Envelope” Chemical Biology Workshop 2024, Explore the forefront of host pathogen biology, IIT Bombay, 25th-26th June, 2024.
28. Invited Talk: “Outwitting Antibiotic Resistance : A perpetual battle” at 2nd RGCB Research Conference -2024, Rajiv Gandhi Centre for Biotechnology (RGCB), Thiruvananthapuram, Kerala, India, September 25-28, 2024.

29. Invited Talk: "Outwitting Antibiotic Resistance : A perpetual battle" at CSIR-Institute of Microbial Technology (IMTECH) Chandigarh, October 24,2024.
30. Invited Talk: "Innovative Biomaterials and Therapeutic Interventions for Tackling Antimicrobial Resistance and Infection" JNCASR-MAHE Discussion Meeting on "Advanced Materials for Healthcare and Diagnosis", Fortune Inn Valley View, January 3,2025.
31. Invited Talk: "Targeting the cell envelope: A versatile antibacterial strategy" at CSIR-Centre for Cellular & Molecular Biology, Hyderabad, January 30, 2025.
32. Invited Talk: "Small Molecular Therapeutics to Target the Bacterial Cell Envelope" at Annual Faculty Meeting and In-House Symposium, JNCASR, November 13-14, 2025.
33. Invited Talk: "Targeting the cell envelope: A versatile antibacterial strategy" at Molecular Biophysics Unit, IISc, December 29, 2025.
34. Institute Colloquium: "Targeting the cell envelope: A versatile antibacterial strategy" at IISER-Bhopal, February 20, 2026.
35. Invited talk: "Fighting Superbugs: From Global AMR Crisis to Next-Generation Therapeutic Strategies" at Department of Chemistry, IIT-B, April 17, 2026.

International Institutes/Universities:

1. Talk: "Development of New Generation of Glycopeptide Antibiotics to Overcome Acquired and Inherent Drug Resistance" at NIH, 8th August 2014.
2. Invited talk: "Bacterial Cell Membrane: Targeting the Achiles' heel to Combat Drug-Resistance and Infections" at University of Granada, Spain 20th April 2015.
3. Invited talk: "Bacterial Cell Membrane: Targeting the Achiles' heel to Combat Drug-Resistance and Infections" at University of Porto, Portugal, 23rd April 2015.
4. Invited talk: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" at East China University of Science and Technology (ECUST), Shanghai, China on 3rd July 2017.
5. Invited talk: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" at Donghua University, Shanghai, China 4th July 2017.
6. Invited talk: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" at Tongji University, Shanghai, China 5th July 2017.
7. Invited talk: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" at Public Health of England, Porton Down, UK on 26th March 2018.
8. Invited talk: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" at King's College London, UK on 22nd March 2018.
9. Invited talk: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" at University of Granada, Spain 13th June 2018.
10. Invited talk: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" at University of South Florida, 3rd April 2019.
11. Invited talk: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" at The City College of New York, 9th April 2019.

12. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at Rutgers University, New Jersey, 10th April 2019.
13. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at Ruhr University, Bochum, 18th June 2019.
14. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at Technische Universität, Dortmund, 19th June 2019.
15. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at Max Planck Institute of Colloids and Interfaces, Potsdam, 20th June 2019.
16. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at Université de Strasbourg, France, 25th June 2019.
17. RSC Medicinal Chemistry lecture: “Tackling emergent (bacterial) infections: A chemical perspective to drug design and development”; November 2, 2020.
18. Invited talk: “Outwitting antibiotic resistance: A perpetual battle” at University of Strasbourg, France, 18th September 2023.
19. Invited talk: “Outwitting antibiotic resistance: A perpetual battle” at Chemical Biology/Chemistry Seminar at Stanford University, USA, 5th January 2024.
20. Invited talk: “Outwitting antibiotic resistance: A perpetual battle” at Seminar Series, Skaggs School of Pharmacy and Pharmaceutical Science, University of California, San Diego, USA, 8th January 2024.
21. Invited Talk: “Outwitting antibiotic resistance: A perpetual battle” International Lecture Series, Pharmazeutisches Institut, UNIVERSITÄT BONN, Germany, May 27, 2024.
22. Invited Talk: “Outwitting antibiotic resistance: A perpetual battle” Fraunhofer Institute for Translational Medicine and Pharmacology ITMP, Hamburg, Germany, May 30, 2024.
23. Invited Talk: “Outwitting Antibiotic Resistance : A perpetual battle” Department of Chemistry, MIT, Cambridge, USA, July 23, 2024
24. Invited Talk: “Outwitting Antibiotic Resistance : A perpetual battle” at Levy CIMAR, Tufts University, July 24, 2024
25. Invited Talk: “Outwitting Antibiotic Resistance : A perpetual battle” Brigham and Women’s Hospital, July 25, 2024.
26. Invited Talk: “Molecular Therapeutics to Target the Bacterial Cell Envelope” at Koch Institute for Integrative Cancer Research, MIT, USA July 26, 2024.
27. Invited talk: “Targeting the cell envelope: A versatile antibacterial strategy” at New Jersey Medical School-Rutgers, USA, January 13, 2025.
28. Talk: “Outwitting antimicrobial resistance : A perpetual battle” Indo-Belgium Networking Meeting on Mycobacterial Research and Advanced Biomaterials, JNCASR, March17, 2025.
29. Invited Talk: “Targeting the cell envelope: A versatile antibacterial strategy” Department of Chemistry, New York University, August 21, 2025.
30. Invited Talk: “Targeting the cell envelope: A versatile antibacterial strategy” at School of Chemistry, Chemical Engineering and Biotechnology (CCEB),Nanyang Technological

University (NTU), Singapore, October 27, 2025.

31. Invited Talk: “Targeting the cell envelope: A versatile antibacterial strategy” at Department of Chemistry, Faculty of Science, National University of Singapore (NUS), Singapore, October 28, 2025.
32. Invited Talk: “Targeting the cell envelope: A versatile antibacterial strategy” at A*STAR Infectious Diseases Labs (IDL), Singapore, October 29, 2025.
33. Invited Talk: “Targeting the cell envelope: A versatile antibacterial strategy” at Department of Pharmaceutical Sciences, Universität Wien, Vienna, (Austria) April 21, 2026.
34. Invited Talk: “Targeting the cell envelope: A versatile antibacterial strategy” at Faculty of Chemistry, Universität Wien, Vienna, (Austria) April 23, 2026.

Industry/Company:

1. Invited talk: “Engineering Biomaterials to Tackle Infectious Diseases” at Unilever, Bangalore on 19th June 2013.
2. Invited talk: ““War against Microbes”: Are Antibiotics the only Weapons?” at MitraBiotech, Bangalore on 22nd October 2013.
3. Invited talk: “Strategies to tackle Infectious Diseases” at Scyton Diagnostic Pvt. Ltd., Bangalore, on 27th June 2014.
4. Invited talk: “Bacterial Cell Membrane: Targeting the Achilles' heel to Combat Drug-Resistance and Infections” at Anthem Biosciences, Bangalore, on 17th November 2014.
5. Invited talk: “Towards a Healthy World: Innovative Strategies for Combating Antimicrobial Resistance and Preventing Infections” at JNCASR-Industry Meet, JNCASR, March 8, 2016.
6. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at the conference on Application of Supramolecular Chemistry in Water Treatment, Tata Steel Limited, Dimna, Jamshedpur, Feb 4-5, 2019.
7. Invited talk: “Engineering Biomaterials and Antibacterials in the Era of Drug Resistance” at Colgate New Jersey, 10th April 2019.
8. Invited talk: “Innovative biomaterials and therapeutic interventions for tackling antimicrobial resistance and infection” at TATA Steel-JNCASR meet, 15th February 2023.
9. Invited Talk: “Innovative functional biomaterials for tackling antimicrobial resistance and infection” at Becton-Dickinson Biosciences, Bengaluru, 19th April 2023.
10. Invited Talk: “Discovery of Semi-synthetic Antibiotics and Adjuvants”; at GARD-P and BSAC Antimicrobial Chemotherapy Conference (ACC) 2024, 6-7th February 2024.
11. Invited Talk: “Innovative Biomaterials and Therapeutic Interventions for Tackling Antimicrobial Resistance and Infection” RAKNOR, at JNCASR, 2nd April, 2024.
12. Discussion meeting: “Innovative Biomaterials and Therapeutic Interventions for Tackling Antimicrobial Resistance and Infection” Syngene International Ltd, July 25,2025.

Science Promotion:

1. Invited talk: “The Weapons of Chemistry to Battle Infectious Diseases” on the occasion of

National Science Day, at JNCASR, 25th February 2010.

2. Invited talk: "The Weapons of Chemistry to Battle Infectious Diseases" at Sheshadripuram College, 13th March 2010.
3. Invited talk: "Prevention of Infectious Diseases" at Science Voyage, at JNCASR, on 25th May 2010.
4. Invited talk: "The Weapons of Chemistry to Battle Infectious Diseases" at POCE, JNCASR, 25th February 2010.
5. Invited talk: "Glycopeptide antibiotic- Drug of last resort" at JNCASR-Foundation for Capacity Building in Science (FCBS) Workshop for College Chemistry Students and Teachers 15-17th November 2013.
6. Invited talk: "Antimicrobial Peptides: Evolution into Future Antibiotics" at JNCASR-Foundation for Capacity Building in science (FCBS) workshop for College Chemistry students and Teachers, Trivandrum, Kerala on 31st Oct-2nd Nov, 2014.
7. Invited talk: "The Folklore of Infection- Origin to History to Decline and Advent" for School Children at Prof. CNR Rao Hall of Science, JNCASR, Bangalore on 12th November 2014.
8. Invited talk: "Bacterial Cell Membrane: Targeting the Achilles' heel to Combat Drug-Resistance and Infections" at CMR College, Bangalore, March 5, 2016.
9. Popular lecture: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" at INSPIRE Science Camp, Indian Academy Degree College, Bangalore, 10th January 2019.
10. Invited talk: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" at Ramaiah College of Arts, Science & Commerce, 19th September 2019.
11. Invited talk: "Engineering Biomaterials and Antibacterials in the Era of Drug Resistance" at Adamas University, Kolkata, 14th January, 2020.
12. Invited talk: "The battle with Hospital Acquired Infections-bypassing the highway to hell" at Indian Academy Degree College, Bangalore, 10th February 2020.
13. Invited talk: "Mitigating surface-assisted spread of infections in the times of a pandemic" at JNCASR-FCBS workshop for college chemistry students and teachers, IISER & CSIR-NIIST, Thiruvananthapuram, 15th December 2020.
14. Invited talk: "Mitigating surface-assisted spread of infections in the times of a pandemic" at BIRAC SITARE BIIS Webinar, 8th February 2021.
15. Guest Lecture on "Innovative Functional Biomaterials for Tackling Antimicrobial Resistance and Infection" at the R. N. Tagore University, Bhopal 23rd July 2022.
16. Invited talk: "Smart biomaterials for tackling infection" at M V J College of Engineering, Bangalore, 3rd March 2023.
17. Invited talk: "Pursuit of next-generation glycopeptides- A journey with vancomycin" at the celebration of National Chemistry Week, ACS Webinar, American Chemical Society, 18th October 2023.
18. Invited talk: "Pursuit of Next-Generation of Glycopeptides: A Journey with Vancomycin" XXXVII Winter Youth Scientific School on "Current trends in Physicochemical Biology and Biotechnology" at the M.M. Shemyakin & Yu.A. Ovchinnikov Institute of Bioorganic Chemistry,

Russia, Feb 10-13, 2025

MEDIA COVERAGE OF RESESRCH WORK

A. Antimicrobial Research

The contribution of our Lab on antimicrobial research been recognized and displayed at the National Science Museums, touring in various cities in India as part of an exhibition "Superbugs – The end of Antibiotics?" The exhibition was organised in collaboration with National Council of Science Museums-NCSM & Science Museum London (https://www.superbugs.in/index.php).

B. Small molecular antimicrobial peptide mimicking drug-candidates

1. ACS Chemistry for Life, American Chemical Society, "Fighting MRSA with new membrane-busting compound", (15th March, 2017) https://www.acs.org/content/acs/en/pressroom/presspacs/2017/acs-presspac-march-15-2017/fighting-mrsa-with-new-membrane-busting-compound.html
2. EurekAlert! The Global Source for Science News, "Fighting MRSA with new membrane-busting compounds" (15th March, 2017) https://www.eurekalert.org/pub_releases/2017-03/acs-fmw031517.php
3. NEWS MEDICAL LIFE SCIENCES, "New class of membrane-busting compounds can combat MRSA skin infections in mice", (15th March, 2017) http://www.news-medical.net/news/20170315/New-class-of-membrane-busting-compoundsc2a0can-combat-MRSA-skin-infections-in-mice.aspx
4. PHY.ORG, "Fighting MRSA with new membrane-busting compounds" (15th March, 2017) https://phys.org/news/2017-03-mrsa-membrane-busting-compounds.html
5. DOLPHNSIX, "Fighting MRSA with new membrane-busting compounds", (15th March, 2017) http://www.dolphnsix.com/news/3144095/fighting-mrsa-with-membrane-busting-compounds
6. UPI, "New membrane-busting compounds effective at fighting MRSA", (15th March, 2017) http://www.upi.com/Health_News/2017/03/15/New-membrane-busting-compounds-effective-at-fighting-MRSA/1931489603050/
7. Medicalnewser.com, "New elegance of membrane-busting compounds can fight MRSA pores and skin infections in mice", (15th March, 2017) https://www.medicalnewser.com/2017/03/15/new-class-of-membrane-busting-compounds-can-combat-mrsa-skin-infections-in-mice.html
8. MNT, "Fighting MRSA with new membrane-busting compound", (15th March, 2017) http://www.medicalnewstoday.com/releases/316435.php?nfid=96103
9. Outbreak News Today "Fighting MRSA with new membrane-busting compounds", (15th March, 2017) http://outbreaknewstoday.com/fighting-mrsa-new-membrane-busting-compounds-19658/
10. Wn.COM, "Fighting MRSA with new membrane-busting compounds", (15th March, 2017) https://article.wn.com/view/2017/03/15/Fighting_MRSA_with_new_membranebusting_compounds/
11. GLOBAL NEWS BLOG, "NEW MEMBRANE-BUSTING COMPOUNDS EFFECTIVE DURING FIGHTING MRSA" (16th March, 2017) http://orangeryknoxville.pw/blog/2017/03/16/new-membrane-busting-compounds-effective-at-fighting-mrsa/

12. Science Newsline Medicine, "Fighting MRSA with New Membrane-busting Compounds" (16th March, 2017) http://www.sciencenewsline.com/news/2017031613060004.html
13. LABline, "Fighting MRSA with new membrane-busting compounds", (16th March, 2017) https://www.mlo-online.com/Labline/201703/16/toc.htm#Two2
14. JAB NEWS, "New membrane-busting compounds efficient at preventing MRSA" (16th March, 2017) http://jabnews.com/new-membrane-busting-compounds-efficient-at-preventing-mrsa/
15. ALN, "Fighting MRSA with New Membrane-Busting Compounds", (17th March, 2017) https://www.alnmag.com/news/2017/03/fighting-mrsa-new-membrane-busting-compounds?et_cid=%%jobid%%&et_rid=%%subscriberid%%&location=top
16. MedicalNewsToday, "Fighting MRSA with new membrane-busting compound", (17th March, 2017) http://www.medicalnewstoday.com/releases/316435.php
17. INVERSE SCIENCE, "New Drug Could Treat Superbugs Without Fostering Resistance" (18th March, 2017) https://www.inverse.com/article/29238-mrsa-mice-hospital-superbug-resistance
18. azcentral, "Fighting MRSA with new membrane-busting compound" (18th March, 2017) http://www.azcentral.com/story/news/2017/03/19/discoveries-making-vanilla-flavoring-less-pollution/99302050/
19. FirstWord PHARMA, "Fighting MRSA with new membrane-busting compounds", (19th March, 2017) https://www.firstwordpharma.com/node/1457267
20. Standard-Times, "Fighting MRSA with new membrane-busting compound", (19th March, 2017) http://www.gosanangelo.com/story/news/2017/03/19/discoveries-making-vanilla-flavoring-less-pollution/99302050/
21. HiTechDays.com, "FIGHTING MRSA WITH NEW MEMBRANE-BUSTING COMPOUNDS" (19th March, 2017) http://www.hitechdays.com/news/191658/fighting-mrsa-with-new-membrane-busting-compounds/
22. NORTH SHORE NOW, "Fighting MRSA with new membrane-busting compound" (19th March, 2017) http://www.mynorthshorenow.com/story/news/2017/03/19/discoveries-making-vanilla-flavoring-less-pollution/99302050/
23. MDLinx, Top News in Dermatology, "Fighting MRSA with new membrane-busting compound" (22nd March, 2017) https://www.mdlinx.com/dermatology/top-medical-news/article/2017/03/22/7096416
24. India Science Wire "New weapon to fight drug resistant superbugs found", (23rd March, 2017) http://www.vigyanprasar.gov.in/whats_new/isn/New-weapon-to-fight-drug-resistant-superbugs-found.pdf
25. Canada Free Press, " Fighting MRSA with new membrane-busting compound", (25th March, 2017) http://canadafreepress.com/article/fighting-mrsa-with-new-membrane-busting-compound
26. The Hindu (3th September, 2017), "Novel compounds destroy biofilm-forming bacteria" http://www.thehindu.com/sci-tech/science/novel-compounds-destroy-biofilm-forming-bacteria/article19610343.ece

C. Antibiotic adjuvants

1. The Hindu (3rd September, 2017) - https://www.thehindu.com/sci-tech/science/novel-compounds-destroy-biofilm-forming-bacteria/article19610343.ece
2. Atlas of Science (6th February, 2020) "The difference of an amide to ester in polymers does the magic" - https://atlasofscience.org/the-difference-of-an-amide-to-ester-in-polymers-does-the-magic/
3. Chemistry World- https://www.chemistryworld.com/news/antibiotic-adjuvant-designed-to-subvert-bacterial-defence-mechanisms/4018589.article (4th December, 2023)

D. Anti-Ebola small-molecular peptidomimetic agents

1. The Telegraph, "Ebola drug hope in Bengali Chemist lab" (Dec 21, 2014) http://www.telegraphindia.com/1141222/jsp/nation/story_4699.jsp#.VJglgl4ABl
2. The Times of India, "Drugs for Ebola likely to have an Indian connection" (Dec 20, 2014) http://timesofindia.indiatimes.com/india/Drugs-for-Ebola-likely-to-have-an-Indian-connection/articleshow/45580346.cms
3. The Hindu, "City-based scientists develop compounds that may make Ebola curable" (Dec 20, 2014) http://www.thehindu.com/todays-paper/tp-national/tp-karnataka/citybased-scientists-develop-compounds-that-may-make-ebola-curable/article6710106.ece
4. The New Indian Express, "UK Ebola Project Picks up Two Drugs Developed in City" (Dec 20, 2014) http://www.newindianexpress.com/states/karnataka/UK-Ebola-Project-Picks-up-Two-Drugs-Developed-in-City/2014/12/20/article2580329.ece
5. The Asian Age, Potential Ebola drugs under test (Dec 20, 2014) http://www.asianage.com/india/potential-ebola-drugs-under-test-594
6. The Economic Times, "Drugs for Ebola likely to have an Indian connection" (Dec 20, 2014) http://health.economictimes.indiatimes.com/news/pharma/drugs-for-ebola-likely-to-have-an-indian-connection/45585995

E. Novel class of Glycopeptide antibiotics

1. The Economic Times News (4th April, 2015), "Three weapons to slow down bacteria spread in hospitals" http://economictimes.indiatimes.com/news/science/three-weapons-to-slow-down-bacteria-spread-in-hospitals/articleshow/46801855.cms
2. The Times of India News (10th July, 2014), "Bangalore scientists break bacteria's resistance to antibiotics" http://timesofindia.indiatimes.com/home/science/Bangalore-scientists-break-bacterias-resistance-to-antibiotics/articleshow/38102494.cms
3. World of Chemicals (10th July, 2014), "New method to kill antibiotic resistant bacteria" http://www.worldofchemicals.com/media/academy/new-method-to-kill-antibiotic-resistant-bacteria/7343.html
4. Pakistan Defence (12th July, 2014), "Bangalore scientists break bacteria's resistance to antibiotics" http://defence.pk/threads/bangalore-scientists-break-bacterias-resistance-to-antibiotics.323631/
5. The New Indian Express (13th July 2014), "City Scientists Develop Drug to Kill Resistant Bacteria" http://www.newindianexpress.com/cities/bangalore/City-Scientists-Develop-Drug-to-Kill-Resistant-Bacteria/2014/07/13/article2328104.ece

6. Health City (13th July 2014), "City Scientists Develop Drug to Kill Resistant Bacteria" http://health-city.com/city-scientists-develop-drug-to-kill-resistant-bacteria/
7. Scroll.in (18th July 2014), "How a discovery by a team of Bangalore scientists could solve India's antibiotics crisis" http://scroll.in/article/670608/How-a-discovery-by-a-team-of-Bangalore-scientists-could-solve-India's-antibiotics-crisis
8. Rajya Sabha TV, Science monitor and Gyan Vigyan programme (2nd August 2014)
9. DD India TV, Science this week programme (3rd August 2014)
10. Nature India, (November 17, 2015), http://www.natureasia.com/en/nindia/article/10.1038/nindia.2015.151

E. Anti-A. baumanni macromolecular agents

1. Featured in The Hindu (14th December, 2019), https://www.thehindu.com/sci-tech/science/tackling-drug-resistant-a baumannii/article30306773.ece

F. Antibacterial, antifungal, antiviral coating

1. Ministry of science and technology website, 2020 "Coating developed by JNCASR may prevent transmission of infection" https://dst.gov.in/coating-developed-jncasr-may-prevent-transmission-infection
2. Vigyanprasar website, 06th April, 2020 "JNCASR develops versatile coating to stop spread of viruses like influenza and COVID 19" https://vigyanprasar.gov.in/wp-content/uploads/Coating-developed-by-JNCASR-may-prevent-transmission-of-infection-apr2020.pdf
3. Democratic accent, 01st April, 2020, "COVID-19: JNCASR develops coating to prevent transmission of infection" https://www.democraticaccent.com/covid-19-jncasr-develops-coating-to-prevent-transmission-of-infection/
4. Press information bureau, 01st April, 2020, "Coating developed by JNCASR may prevent transmission of infection" https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1609970
5. The Tribune, 25th August, 2020, "Indian researchers develop coating that kills Covid" https://www.tribuneindia.com/news/nation/indian-researchers-develop-coating-that-kills-covid-64274
6. The Daily Star, 02nd April, 2020, "India claims to have developed anti-microbial coating that could kill Covid-19" https://www.thedailystar.net/india-claims-have-developed-anti-microbial-coating-could-kill-covid-19-1888786
7. Egov website, 01st April, 2020, "JNCASR develops antimicrobial coat against COVID-19 to prevent transmission" https://egov.eletsonline.com/2020/04/jncasr-develops-antimicrobial-coat-against-covid-19-to-prevent-transmission/
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