

CURRICULUM VITAE

Prof. Jayanta Haldar, PhD, FRSC

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Antimicrobial Research Laboratory at JNCASR

My research integrates various interdisciplinary approaches for understanding and countering antimicrobial resistance (AMR). My group has developed various novel therapeutics and new synergistic strategies for tackling infections caused by pathogenic bacteria, fungi and viruses, and infection associated inflammation. We have also developed smart biomaterials which aid in preventing the spread of infectious diseases, as well as cure infections and enhance wound healing.

The specific aims are:

Novel Therapeutics

- Peptidomimetic small and macromolecular antimicrobial agents
- Semisynthetic glycopeptide and β -lactam antibiotics and β -lactamase inhibitors
- Antibiotic adjuvants
- Antibiofilm and anti-persister agents
- Dual-functional antimicrobial and immunomodulatory agents
- Antiviral therapeutics against Influenza, Ebola
- Antifungal therapeutics

Smart Biomaterials

- Antimicrobial paints and coatings
- Antimicrobial coatings for invasive biomaterials (catheters, ventilator tubing, etc.)
- Antiviral coatings and sheets
- Antimicrobial sealants
- Antimicrobial and haemostatic sponges
- Shear-thinning materials for wound dressing
- Injectable antimicrobial wound healing hydrogels

CURRENT POSITION

2021-present	Professor, New Chemistry Unit and School of Advanced Materials, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangalore, India
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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; <i>With Prof. Alexander M. Klibanov (Chemistry) and Prof. Jianzhu Chen (Koch Institute for Integrative Cancer Research at MIT)</i>

EDUCATION

2005	PhD (Bioorganic Chemistry), Indian Institute of Science, Bangalore, India <i>With Prof. Santanu Bhattacharya</i>
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

- 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
- 2004 Postdoctoral Fellowship, Dept of Chemistry, Massachusetts Institute of Technology, USA
- 1996 Integrated PhD Fellowship, Chemical Science Division, Indian Institute of Science, India

MEMBERSHIPS/FELLOWSHIPS OF SCIENTIFIC SOCIETIES

- 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:

- Editor-in-Chief of ACS Infectious Diseases (July 2023-Present)
- Guest editor for special issue on Antimicrobial Resistance for “RSC Medicinal Chemistry”
- Member of search committee for Editor-in-chief for two ACS journals
- Guest editor of the journal “Microbial Pathogenesis” of Elsevier
- Editorial board member of the journal “RSC Medicinal Chemistry” (upto June 2023)
- Editorial advisory board member of the journal “Biomacromolecules” of ACS
- Editorial advisory board member of the journal “ACS Infectious Diseases” (upto June 2023)
- Editorial board member of the journal “Microbial Pathogenesis” of ELSEVIER

Research Grant Reviewing Committee:

- Reviewer for National Natural Science Foundation of China-Israel Science Foundation research grants
- Reviewer for Science Foundation Ireland Frontiers for the Future Program projects
- Referee for Wellcome Trust Team Science Grants
- 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, Angewandte 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 Masters 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, Bangalore University.

ORGANISATION OF SCIENTIFIC MEETINGS

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

2010-Present	Bioorganic and Medicinal Chemistry (for Masters, Int. PhD and PhD students, JNCASR)
2010-Present	Organic Chemistry Practical (for Masters and Int. PhD students, JNCASR)
2010-Present	Molecules in Life (for Undergraduate POCE Students, JNCASR)

INSTITUTIONAL RESPONSIBILITIES

Scientific Responsibilities:

2022-Present	Member, Institutional Biosafety Committee (IBSC)
2021-Present	Member, Academic Council, JNCASR
2019-2020	Selection committee for Best Thesis in Biological Sciences, JNCASR
2018-Present	Masters Student selection committee, New Chemistry Unit, JNCASR
2014-Present	Masters Student selection committee, New Chemistry Unit, JNCASR
2010-Present	Summer research fellowship (SRFP) program selection committee, JNCASR
2009-Present	PhD Student selection committee, New Chemistry Unit, JNCASR
2009-Present	Internal comprehensive examiner of many PhD, Int. PhD, MS students

Administrative Responsibilities:

2021	Chairperson, Technical Sub-committee for procurement items for Hostel, JNCASR
2019-Present	Warden, JNCASR
2018-Present	M.Sc. 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

Indo-U.S. (IUSSTF for COVID-19), JNCASR-RAK-CAM, DST-SERB Fast Track, Indo-French (CEFIPRA), DBT, India-China-Russia-Brazil (BRICS), DAE-BRNS, Indo-Portugal (DST), Indo-German (DST-DAAD), DST-BIRC, BIRAC-SRISTI-PMU, TRC-JNCASR

Ongoing:

A. National Projects

1. DST-BIRAC COVID-19 SURAKSHA: Antibiotic-adjuvant therapy to target bacterial pulmonary infections and associated infection
2. DST-SERB CRG Project: Development of adjuvants for potentiating and repurposing obsolete antibiotics against multidrug resistant Gram-negative pathogens
3. DBT project: Small Molecular Mimics of Antimicrobial Peptide to Tackle Eye Infections

B. International Collaborative Projects

1. Indo-Belgian Joint Networking Call: Repurposing Vancomycin Analogues as Anti-Mycobacterial Agents
2. Indo-French (CEFIPRA) Joint project: Development and Biophysical Investigations of Small Antimicrobial Peptide Mimetics

Completed:

A. National Projects

1. JNCASR and RAK-CAM: Antimicrobial hydrophobic coatings for tiles
2. DST-SERB Special Call Project on CoVID-19: Development of antiviral surface coatings to prevent the spread of infections caused by influenza virus
3. BRNS project: Development of Cationic Cleavable Amphiphiles and Study Aggregation and Antibacterial Properties
4. SERB-EMR (DST) project: Acyclic and Cyclic Lipopeptides to Combat Bacterial Resistance and Eradicate Biofilms
5. TRS-JNCASR Project: Injectable sealant: new technology to prevent surgical site infections

6. BIRAC-SRISTI-PMU Project: Development of a Powerful New Antibiotic that Kills All Drug Resistant Bacteria
7. BIRAC-SRISTI-PMU Project: Develop a novel compound restores obsolete antibiotics to NDM superbugs
8. DST-BIRAC CRS Project: Development of new class of glycopeptide antibiotics for tackling drug resistance bacterial infections
9. SERC Fast Track Proposals for Young Scientists: Development of Novel Biodegradable Surface Coatings for Biomedical Application

B. International Collaborative Projects

1. IUSSTF Award for COVID-19 Indo-U.S. Virtual Networks Project: Development of Antiviral Coatings to Prevent the Transmission of SARS-CoV-2 Viruses
2. BRICS Research project: MBLI development of new approaches to overcome MBL-related resistance in bacteria
3. Indo-German Joint (DST) Project: Investigating Mechanism of Action of Membrane Targeting Antibacterial Agents
4. 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

International Collaborations:

- Prof. Shiv Pillai, Medicine and Health Sciences & Technology (HST), Ragon Institute of MGH, MIT and Harvard, Cambridge, MA, USA – Development of Antiviral Coatings to Prevent the Transmission of SARS-CoV-2.
- Prof. L. W. Hamoen, University of Amsterdam, Netherlands - Cell division protein inhibition.
- Prof. Cristiano Marcelo Espinola Carvalho, Dom Bosco Catholic University, Brazil - Development of semisynthetic glycopeptide and betalactam derivatives.
- Prof. Tatiana V. Ovchinnikova, Institute of Bioorganic Chemistry Russian Academy Sciences (RAS), Russia - Development of semisynthetic glycopeptide and betalactam derivatives.
- Prof. Hixen Xie, East University Science Technology, China - Development of semisynthetic glycopeptide and betalactam derivatives.
- Prof. Julia Badow, Rhur-Univ. of Bochum, Germany - Development of semisynthetic glycopeptide and betalactam derivatives.
- Prof. Octa'vio L. Franco, Universidade Catolica Dom Bosco, Campo Grande, Brazil - In vivo infection study.
- Prof. Lorenzo Stella, University of Rome, Italy – Investigation of antibacterial mechanism of actions.
- Prof. Peter Monk, Department of Infection, University of Sheffield, UK - Ex-vivo infection study.
- Prof. M. N. Seleem, Department of Comparative Pathobiology, Purdue University, USA - Antifungal studies.
- Prof. Bechinger Burkhard, Chemistry Institute, University of Strasbourg, France - Biophysical investigations of small antimicrobial peptide mimetics.
- Dr. Mark Sutton, Public Health of England (PHE), UK - Anti-Ebola activity.
- Dr. Nandyala Sooraj Hussain, University of Porto, Portugal - Antimicrobial composites for bone infections.
- Prof. Naresh Kumar, The University of New South Wales, Australia - Antimicrobial surface coatings for eye lenses
- Prof. Mark Willcox, University of New South Wales, Australia – Development of peptidomimetic antibacterial small molecules
- Prof. Sonia Henriques, Queensland University of Technology, Australia – Biophysical investigations

into mechanism of action of antibacterial peptidomimetics

- Prof. Veronique Fontaine, Universite Libre de Bruxelles, Belgium – Investigation of antimycobacterial properties of glycopeptide antibiotics
- Prof. Rafał Ślusarz, University of Gdansk, Poland – Investigating the mechanisms of action and binding of novel vancomycin derivatives
- Prof. Luiz Alvarez de Cienfuegos, University of Granada, Spain – Development of antimicrobial hydrogels

National Collaborations:

- Prof. B. R. Shome & Dr. P. Krishanmoorthy, ICAR-NIVEDI, Bengaluru, India – In-vivo infection study.
- Dr. Prashant Garg, LV Prasad Eye Institute, Hyderabad, India - Ex-vivo eye infection study.
- Dr. V. K. Aswal, BARC, Mumbai, India - SANS studies for aggregation behavior of gemini surfactants.
- Dr. Utpal Tatu, Biochemistry, Indian Institute of Science, Bangalore, India - Antimalarial study.
- Dr. Shridhar Narayanan, FNDR, Bangalore, India - Activity against Mycobacterium tuberculosis.
- Dr. Suresh Kumar Jewrajka, CSIR-CSMCRI, India - Development of antibacterial filtration membrane.
- Dr. Colin Jamora, In-Stem Joint Laboratory, NCBS, India - In vivo study on wound healing by hydrogel.
- Prof. Satyavani Vemparala, Institute of Mathematical Sciences, Chennai, India - Theoretical study (MD Simulation) for Membrane
- Dr. Chandra, Vipragen Biosciences, India – Outlicenced our inventions
- Dr. Randhir Yedle, TheraIndx Lifesciences, India – In-vivo antibacterial activity and toxicity studies
- Prof. Siddharth Chopra, CSIR-CDRI, Lucknow, India - Antibacterial studies.
- Prof. Nisanth N Nair, IIT-Kanpur, India - Theoretical study (MD Simulation) for betalactamase.
- Dr. R Ravikumar, NIMHANS, Bangalore, India - Development of novel antimicrobial agents to overcome microbial resistance against clinical isolates.
- Prof. Somenath Roy, Vidyasagar University, Midnapore - Studies against clinical isolates of Vancomycin resistant bacteria.
- Dr. Ganesh, Anthem biosciences, Bangalore, India - Antibacterial activity against vancomycin resistant bacteria.
- Prof. C. Narayana, JNCASR, Bangalore, India - Mechanism of action through Raman spectroscopic studies.
- Dr. Meher K Prakash, JNCASR, Bangalore, India - Theoretical study (MD Simulation)- for Membrane
- Dr. Ravi Manjithaya, MBGU, JNCASR, Bangalore, India – Autophagy studies.
- Prof. Kaustav Sanyal, MBGU, JNCASR, Bangalore, India – Antifungal studies.
- Dr. Kushagra Bansal, MBGU, JNCASR, Bangalore, India – immunomodulatory studies
- Dr. Richa Priyadarshini, Shiv Nadar University, Delhi, India – Mechanisms of antibacterial action
- Dr. Anirban Bhunia, Bose Institute, Kolkata, India – Biophysical studies to elucidate mechanisms of antibacterial action of peptidomimetics
- Prof. Uday Maitra, IISc, Bangalore, India – Sensing of β -lactamase producing bacteria
- Prof. Pinaki Talukdar, IISER Pune, India – Development of bactericidal ion channel mimics

PUBLICATIONS

Total Publications: 108 Research Articles (84 as corresponding author) + 13 Review articles (12 as corresponding author) + 9 Book Chapters (8 as corresponding author)

Citations: 5971, **h-index:** 44, **i-10 index:** 87 (According to Google Scholar as on 24th August, 2023)

A. Publications on Antibacterial Therapeutics and Biomaterials

1. 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, 4404-4414.
2. **Haldar, J.**; Garneau-Tsodikova, S.; Fridman, M. Introduction to the themed collection on antimicrobial resistance, *RSC Med. Chem.* **2023**, DOI: 10.1039/D3MD90016A.
3. 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. *Chin. Chem. Lett.* **2023**, 34, 107847.
4. Acharya, Y.; Taneja, K.; **Haldar, J.***. Dual functional therapeutics: mitigating bacterial infection and associated inflammation. *RSC Med. Chem.* **2023** DOI: 10.1039/D3MD00166K.
5. Dhanda, G.; Acharya, Y.; **Haldar, J.***. Antibiotic adjuvants: A versatile approach to combat antibiotic resistance, *ACS Omega* **2023**, DOI: 10.1021/acsomega.3c00312.
6. 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.
7. De, K.; Aisenbrey, C.; **Haldar, J.**; Faure, S.; Forestier, C.; Charbonnel, N.; Bechinger, B. Biophysical investigations of antimicrobial peptide mimics for mechanistic studies. *Biophys. J.* **2023**, 122, 368a.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. Bhattacharjee, B.; Mukherjee, R.; **Haldar, J.***. Biocompatible Hemostatic Sponge Exhibiting Broad-Spectrum Antibacterial Activity. *ACS Biomater. Sci. Eng.* **2022**, 8, 3596-3607.
14. 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.
15. 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.

16. Bhattacharjee, B.; Jolly, L.; Mukherjee, R.; **Haldar, J.***. An easy-to-use antimicrobial hydrogel effectively kills bacteria, fungi, and influenza virus. *Biomater. Sci.* **2022**, DOI: 10.1039/D2BM00134A.
17. Ghosh S.; Mukherjee, S.; Patra, D.; **Haldar, J.***. Polymeric Biomaterials for Prevention and Therapeutic Intervention of Microbial Infections, *Biomacromolecules* **2022**, 23, 592–608.
18. 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 M β L-Producing *Pseudomonas aeruginosa*. *Bull. Exp. Biol. Med.* **2022**, 172, 447-452.
19. 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.
20. Acharya, Y.; Dhanda, G.; Sarkar, P.; **Haldar, J.***. Pursuit of Next-generation Glycopeptides: A Journey with Vancomycin. *Chem. Commun.* **2022**, 58, 1881-1897.
21. Acharya, Y.; Bhattacharyya, S.; Dhanda, G.; **Haldar, J.***. Emerging roles of glycopeptide antibiotics: moving beyond Gram-positive bacteria. *ACS Infect. Dis.* **2022**, 8, 1-28.
22. 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.
23. 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.
24. Dey, R.; Mukherjee S.; Barman S.; **Haldar, J.***. Macromolecular Nanotherapeutics and Antibiotic Adjuvants to Tackle Bacterial and Fungal Infections. *Macromol Biosci.* **2021**, e2100182.
25. Bhattacharjee, B; Ghosh, S; Patra, D; **Haldar, J.***. Advancements in release-active antimicrobial biomaterials: A journey from release to relief. *Wiley Interdiscip Rev Nanomed Nanobiotechnol.* **2021**, e1745.
26. 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.
27. 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.
28. 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.
29. 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.

30. 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.
31. 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.
32. 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.
33. 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.
34. Ghosh, C.; Sarkar, P.; Issa, R.; **Haldar, J.***. Alternatives to Conventional Antibiotics in the Era of Antimicrobial Resistance. *Trends. Microbiol.* **2019**, *27*, 323-338.
35. 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.
36. 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.
37. 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.
38. 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.
39. 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.
40. 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.
41. 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
42. 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
43. Dhanda, G.; Sarkar, P.; Samaddar, S.; **Haldar, J.***. Battle against Vancomycin-Resistant Bacteria: Recent Developments in Chemical Strategies. *J. Med. Chem.* **2018**, *62*, 3184-3205.
44. Konai, M. M.; Bhattacharjee, B.; Ghosh, S.; **Haldar, J.***. Recent Progress in Polymer Research to Tackle Infections and Antimicrobial Resistance. *Biomacromolecules*, **2018**, *19*, 1888–1917

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11. Ghosh, C.; **Haldar, J.***. Membrane Active Small Molecules: Designs Inspired from Antimicrobial Peptides. *ChemMedChem* **2015**, 10, 1606-1624.
12. Uppu, D. S. S. M.; Ghosh, C.; **Haldar, J.***. Surviving Sepsis in The Era of Antibiotic Resistance: Are There Any Alternative Approaches to Antibiotic Therapy? *Microb. Pathog.* **2015**, 80, 7-13.

13. Bhattacharya, S.*; **Haldar, J.** "Molecular design of surfactants to tailor its aggregation properties", *Colloids Surf. A: Physiochem. Eng. Aspects*, **2002**, 205, 119-126.

BOOK CHAPTERS

1. Mukherjee, S.; Dey, R.; Acharya, Y.; **Haldar, J.***. Antimicrobial lipopeptides: Multifaceted designs to curb antimicrobial resistance. A Chapter in a book entitled "Antibiotics - Therapeutic Spectrum and Limitations", Elsevier, *In press*.
2. Acharya, Y.; **Haldar, J.***. Upgrading the antibiotic arsenal against Gram-positive bacteria: Chemical modifications of vancomycin. A Chapter in a book entitled "Alternatives to Antibiotics: Recent Trends and Future Prospects", Springer, 2022, pp 199-222.
3. Konai, M. M.; Barman, S.; Acharya, Y.; De, K.; **Haldar, J.***. Recent development of antibacterial agents to combat drug-resistant Gram-positive bacteria. A Chapter in a book entitled "Drug Discovery Targeting Drug-Resistant Bacteria", Elsevier, pp 71-104.
4. Ghosh, S.; **Haldar, J.***. Cationic Polymer Based Antimicrobial Smart Coatings. A Chapter in a book entitled "Advances in Smart Coatings and Thin Films for Future Industrial and Biomedical Engineering Applications", Elsevier, pp 557-582.
5. Sarkar, P.; **Haldar, J.***. Glycopeptide Antibiotics: Mechanism of Action and Recent Developments. A Chapter in a book entitled "Antibiotic Drug Resistance", John Wiley & Sons, Inc., 2019, pp 73-95.
6. Konai, M. M.; Dhanda, G.; **Haldar, J.***. Talking Through Chemical Languages: Quorum Sensing and Bacterial Communication. A Chapter in a book entitled "Quorum Sensing and its Biotechnological Applications", Springer, 2018, pp 17-42.
7. Uppu, D. S. S. M.; Ghosh, C.; **Haldar, J.***. Alternative Strategies to Target Quorum Sensing (QS): Combination of QS Inhibitors with Antibiotics and Nanotechnological Approaches. A Chapter in a book entitled "Quorum Sensing vs Quorum Quenching: A battle with no end in sight", Springer, 2015, pp 335-342.
8. Uppu, D. S. S. M.; Hoque, J.; **Haldar, J.***. Engineered Polymers and Organic-inorganic Hybrids as Antimicrobial Materials for Water Disinfection. A Chapter in a book entitled "Aquananotechnology: Global Prospects", CRC Press-Taylor and Francis Group, 2014, Chapter 12, pp 218-238.
9. **Haldar, J.** and Bhattacharya, S.*. "The molecular design of surfactant based Materials", a Chapter in a book entitled 'Materials research: current research future projections', Eds. R. Chidambaram and S. Banerjee, Allied publishers-New Delhi, **2003**, p. 78.

PATENTS

1. Dey, R.; **Haldar, J.***. "Antimicrobial hemostatic sponges and uses thereof". Provisional Application No. 202241047460.
2. Ghosh, S.; Mukherjee, R.; **Haldar, J.***. "Antimicrobial compounds and uses thereof". PCT/IN2021/050329.

3. Dhanda, G.; **Haldar, J.***. "Small-molecular adjuvants to repurpose existing antibiotics against multidrug-resistant bacterial infections". PCT/IN2020/050358, WO202013008A1, US 2022-0323383 A1, Indian Patent No: 408041.
4. Hoque, J, Manjunath, G. B.; Akkapeddi, P.; **Haldar, J.***. Chitin Derivatives, Method for Production and Uses Thereof, - US20180201694A1, IN2013CH05893A.
5. Yarlagadda, V.; Akkapeddi, P.; **Haldar, J.***. Cationic Antibacterial Composition. WO2013072838 A1, US10081655 B2, KR101816228 B1, CA2855753 C, EP2780359 B1, US20140308347 A1, AU2012338461 C1.
6. Ghosh, C.; Manjunath, G. B.; Akkapeddi, P.; **Haldar, J.***. Antimicrobial Compounds, Their Synthesis and Applications Thereof. WO2014097178 A1, US9783490 B2, CA2894202 A1, JP6533466 B2, CN104981249 B, AU2013365769 B2, BR112015014391 A2, HK1210437 A1.
7. Yarlagadda, V.; **Haldar, J.***. Glycopeptide and Uses Thereof. WO2016103284A1 CA2972276 A1, EP3240574 A1, US20170342110 A1.
8. 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
9. Hoque, J.; **Haldar, J.***. A Polymer Network Method for Production, and Uses Thereof. US20200030368 A1, WO2018020516 A2, CA3032292A1.
10. Uppu, D. S. S. M.; Akkapeddi, P.; Manjunath, G. B.; **Haldar, J.***. Nanoparticle Compositions of Antimicrobial Polymers and Their Uses Thereof. WO2014006601A2, US9636356 B2, EP2870186 A2, (KR20150038026A).
11. Yarlagadda, V.; Konai, M. M.; Manjunath, G. B.; **Haldar, J.***. Vancomycin- Sugar Conjugates and Uses Thereof. IN2013CH04314A, CA2925005 A1, WO2015040467A1, US20160303184A1, AU2014322817A1, EP3049115A1.
12. Yarlagadda, V.; **Haldar, J.***. Glycopeptide Antibiotic Derivatives. Indian Patent 605/CHE/2015, Indian Patent 6565/CHE/2014.
13. **Haldar, J.**; De Cienfuegos, L. A.; Chen, J.*; Klivanov, A. M.*. Bi-functional Polymer-attached Inhibitors of Influenza Virus. WO2009032605A2, US20090081249A1, EP2192923A2, CA2698108A1, JP2010537997A.
14. **Haldar, J.**; An, D.; De Cienfuegos, L. A.; Chen, J.*; Klivanov, A. M.*. Polymeric Coatings that Inactivate Viruses and Bacteria. WO2008127416A2, MX2009004918A, JP2010509467A, MA30971B1, ZA200903951B, EP2084234A2, US20100136072A1, CN101627092A, BRPI0718860A2.

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

2009-present 10 Postdocs/16 PhD/10 Project Assistant/11 Master/1 PG-DMS/26 SRFP/8 POCE

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

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	2020	Antimicrobial Polymer Nano-composite Coating to Combat Catheter-Associated Urinary Tract Infections (CAUTIs)

INVITED TALKS, LECTURES AT CONFERENCES AND ELSEWHERE

I have delivered the following lectures at various venues:

National Conferences:

1. An invited talk in the departmental symposium at Department of Materials Engineering, IISc, Bangalore on 21st January 2010.
2. An invited talk in a symposium on Recent Trends in Chemistry, at The American College, Madhurai, Tamil Nadu on 16th February 2010.
3. An 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. An invited talk in a symposium at Raja Lakhamagouda Science Institute, Belgaum, 26-27th November 2010.

5. An invited talk in a symposium for celebrating the International Year of Chemistry-2011, at JNCASR on 10th January 2011.
6. An invited talk in a symposium on "Nanotechnology for Enhancing Food Security", on 7-8th April 2011
7. A talk in an In-house symposium, at JNCASR on 14-15th November 2011.
8. An invited talk at the International Conference on "Water" at IIT Madras, on 14-16th September 2012.
9. An invited talk at Eighth JNC Research Conference on "Chemistry of Materials", on 30th September- 2nd October 2012.
10. An invited talk at Research Conference in Christ University, Bangalore, on 13th February 2013.
11. Talk at DST-Fast Track project review meeting, at Delhi University, on 29th June 2013.
12. A talk in an In-house symposium, at JNCASR on 18-20th November 2013.
13. Invited lecture in Indo-UK Conference, at The Institute of Mathematical Sciences, Chennai, on 24th-26th February 2014.
14. An invited talk at FAO-ICAR/NIVEDI meeting on Laboratory based surveillance of AMR in health and veterinary sectors, 18-19th January, 2017.
15. An invited talk at JNC-Amrita Institute Meeting, JNCASR 25th March, 2017.
16. An invited talk at the conference on Chemical Frontiers, Goa, 17-20th August 2017.
17. A project talk at TRC-JNC meeting on 22 August, 2017.
18. An award talk at CSIR 75th Foundation Day Celebrations & CDRI Award Orations, 22nd September 2017.
19. An invited lecture at Biotech Innovation Ignition School (BIIS), BIRAC-SRISTI, Ahmedabad, 28th December 2017.
20. An CRSI Bronze Award talk at 23rd CRSI National Symposium in Chemistry, IISER Bhopal, 13-15th July 2018.
21. An invited talk at the Bangalore Healthcare Summit, 25-26th September 2018.
22. An invited talk at the conference on Frontiers in Chemical Sciences, Department of Chemistry, Indian Institute of Technology Guwahati, 6-8th December, 2018.
23. An invited talk at the conference, 15th International Conference on Polymer Science and Technology, SPSI-MACRO, IISER Pune, 19-22nd December 2018.
24. An invited talk at the conference on Application of Supramolecular Chemistry in Water Treatment, Tata Steel Limited, Dimna, Jamshedpur, Feb 4-5, 2019.
25. An invited talk at the 22nd ADNAT Convention: International Symposium on Antibiotic Resistance–One Health Perspective March 5–8, 2019, IIT Roorkee.
26. A talk at PESCP 6th International Conference on "Strategies to Tackle Antimicrobial Resistance" PES University, Bangalore, 18th-19th October-2019.
27. A talk at INYAS-2nd National Frontiers of Science Meeting, Jaipur, 6-8 November, 2019.
28. A talk at JNCASR-Shiv Nadar University Symposium, JNCASR, Bangalore, India, 8-9th November 2019.
29. A talk at Annual Faculty Meeting & Inhouse Symposium, JNCASR, 13-14th November 2019.
30. A talk at Second SAMat Annual Retreat- 17th to 19th November, 2019.
31. A talk at International Winter School on Frontiers in Materials Science –JNCASR, 2nd-6th December, 2019.
32. A talk at Winter School on Advanced Techniques in Nano Science and Technology, INST, Mohali,

2nd-7th December, 2019.

33. A 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.
34. An invited talk at World Antimicrobial Awareness Week, NSS, IIT Roorkee, 21st November 2020.
35. A talk at SERB Webinar Series on COVID-19 Emerging Research (SERB-COVER), 17th December 2020.
36. An invited talk at BIRAC SITARE BIIS Webinar, 8th February 2021.
37. An invited talk at AMRITA BIOCREST 2021-Indian Innovation Pavilion, International Symposium on "Man vs Microbe: AMR—The Race of the Century" 25th February 2021.
38. 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.
39. 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.
40. 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.
41. Invited Lecture: "Functional Biomaterials for Tackling Antimicrobial Resistance and Infection" at Biomaterial Conclave, University of Madras, 7-14th March 2022.
42. 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.
43. Invited talk: "Outwitting antibiotic resistance: A perpetual battle"; at Chemistry Meet: Kindling in Kaziranga, India, 16-18th March 2023.

International Conferences:

1. Invited participant at Gordon Research Conference on "New Antibacterial Discovery and Development" in Ventura, California, on 16th -21st March 2014.
2. An invited talk at City College of New York, Department of Chemistry, 24th March 2014.
3. An invited talk at Medical School at University of Rutgers, New Jersey, 27th March 2014.
4. Talk at the conference on Chemical Frontiers, Goa, 16th-19th August 2014.
5. An invited talk at International Symposium on Recent Advances in Medicinal Chemistry (ISRAM-2014), NIPER, Chandigarh, on 8-10th September, 2014.
6. An invited talk at the meeting on UK-India Partnerships in mitigating antimicrobial resistance and controlling Infectious Diseases, Bangalore, on 11-12th September, 2014.
7. A Project Proposal Talk at UGC-DAE, BARC, Mumbai on 14th October 2014.
8. An 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. Talk at New Chemistry Unit Day, JNCASR, on 6th March 2015.
10. Delivered a talk at Ramanujan Fellowship Meeting, IIT-Bombay, 16th March 2015.
11. An Invited talk at University of Granada-Spain on 20th April 2015.
12. An Invited talk at University of Porto, Portugal on 23rd April 2015.
13. A talk at Project meeting at BIRAC on 22nd June 2015.
14. An Invited talk at CRSI Meeting- NIT Trichy, 23-25th July 2015.
15. An invited talk at the conference of 'World Congress and Exhibition on Antibiotics', Las Vegas,

USA during 14th-16th September 2015

16. An invited talk at Department of Chemistry & Chemical Biology, Rutgers University, September 18, 2015.
17. An invited talk at New York Medical College, Valhalla, USA on 21st September 2015.
18. An invited lecture at AMR & Longitude Prize Meeting, Bangalore, October 14, 2015
19. A lecture at Annual Faculty Meeting-JNCASR, November 13, 2015.
20. An invited talk at the conference MICROCON-JIPMER, November 27-29, 2015.
21. An invited talk at International Conference on Biomolecular Engineering, Singapore during 5-7th January 2016.
22. An invited talk at Singapore-MIT Alliance for Research and Technology (SMART), Singapore 6th January 2016.
23. An invited talk at School of Chemical & Biomedical Engineering, NTU, Singapore, on 8th January 2016.
24. An invited talk at JNCASR and Mechanobiology Institute-NUS Joint Discussion Meeting, February 5, 2016.
25. An invited talk at JNC-Industry Meet, JNCASR, March 8, 2016.
26. An invited talk at University of Padova, Italy on 21st March 2016.
27. An invited talk at University of Parma, Italy on 23rd March 2016.
28. An invited talk at University of Rome, Tor Vergata, Italy 25th March 2016.
29. An invited talk at XI Joint Annual Conference of Indian Society of Malaria and Other Communicable Diseases and Indian Association of Epidemiologists', Bangalore, June 10-12, 2016.
30. An invited talk at Institute for Drug Delivery and Biomedical Research (IDBR), Bangalore, July 16, 2016.
31. An invited talk at the conference on Drug Discovery India (DDI), Bangalore, 29-30th September, 2016.
32. An invited talk at the Indo-German Meeting on Supramolecular & Bioactive Compounds: Theory, Design and Regulation, Khajuraho, November 10-13, 2016.
33. An invited talk at the International Conference on Polymer Science and Technology, Macro-2017, 8-11th January, Thiruvananthapuram, Kerala.
34. An invited talk at The UK-India Newton-Bhabha Fund Researcher Links Workshop (RGICD) on Antimicrobial Resistance, Bangalore, 14-18th December 2017.
35. An invited talk at an invited meeting on AMR at University of Sheffield, UK during 19-20 March 2018.
36. Invited talk at 16th Naples Workshop on Bioactive Peptides, Naples, Italy during 7-9th June 2018.
37. A talk at ACS Spring National Meeting in Orlando, FL, March 31-April 4, 2019.
38. A talk at UK-India Meet on Emerging Innovations in AMR, 7th June 2019.
39. A talk at L V Prasad Eye Institute-Hyderabad & University of Sheffield-UK, 18th January, 2020.
40. 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.
41. Invited talk: "Polymeric Biomaterials for Tackling Antimicrobial Resistance and Infection"; at the International e-Conference on Biopolymers, APA Bioforum, 14th -16th July, 2022.
42. Virtual talk on "Innovative Chemical Strategies for Tackling Antimicrobial Resistance and

- Infection” at the Indo-Belgian Networking Meeting, 9th November 2022.
43. 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.
 44. Invited talk: “Outwitting antibiotic resistance: A perpetual battle”; at Amrita Pharmacon-2023, International Conference on Innovation in Antimicrobial Therapeutics, India, 23rd March 2023.

National Institutes/Universities:

1. An invited talk at Department of Mechanical Engineering, M S Ramaiah Institute of Technology, Bangalore, on 18th March 2010.
2. An invited talk at the Department of Chemistry, IIT Madras, on 7th October 2011.
3. An invited talk at Unilever, Bangalore on 19th June 2013.
4. An invited talk at MitraBiotech, Bangalore on 22nd October 2013.
5. An invited talk at Scyton Diagnostic Pvt. Ltd., Bangalore, on 26th June 2014.
6. An invited talk at IIT Ropar on 9th September, 2014.
7. An invited talk at Bugworks Research Inc, Centre for Cellular and Molecular Platforms, NCBS, Bangalore, on 17th September 2014.
8. An Invited talk at Anthem Biosciences, Bangalore, on 17th November 2014.
9. An invited talk at Jawaharlal Institute of Postgraduate and Medical Education and Research (JIPMER), Pondicherry, on 28th November 2014.
10. An invited talk at CMR College, Bangalore, March 5, 2016.
11. An invited talk at CDRI, Lucknow, 8th November, 2016.
12. An invited talk at IICT-Hyderabad, 26th May, 2017.
13. An invited talk at Department of Chemistry, IIT-Bombay, 27th July, 2017.
14. An invited talk at TIFR Bombay 28th July, 2017.
15. An invited talk at CSIR-CSMCRI, Bhavnagar, 26th December 2017.
16. An invited talk at IACS, Kolkata, 18th April 2018.
17. An invited talk at IISER Kolkata, 19th April 2018.
18. An invited talk at IIT (ISM) Dhanbad, 6th Feb 2019.
19. An invited talk at Garden City University, Bangalore 26th March 2019.
20. A talk at NCL, Pune, 16th July 2019.
21. A talk at IISER, Pune, 17th July 2019.
22. A talk at IIT-M, Chennai, 4th September 2019.
23. A talk at Ramaiah College of Arts, Science & Commerce, 19th September 2019
24. A talk at Adamas University, Kolkata, 14th January, 2020.
25. A talk at Indian Academy Degree College, Bangalore, 10th February 2020.
26. 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.
27. Invited Talk: “Polymeric biomaterials for tackling bacterial, fungal and viral infections– Objectives, obstacles and opportunities!”; Department of Chemistry, BITS Pilani, Hyderabad, November 27, 2021.
28. Guest Lecture on “Innovative Functional Biomaterials for Tackling Antimicrobial Resistance and Infection” at the R. N. Tagore University, Bhopal 23rd July 2022.
29. Invited talk: “Functional Biomaterials for Tackling Antimicrobial Resistance and Infection” at

DBEB Departmental Seminar Series at IIT Delhi, 29th September 2022.

30. Invited talk: "Pursuit of next-generation glycopeptides – Our journey with vancomycin" on New Chemistry Day at New Chemistry Unit, JNCASR on 18th October 2022.
31. Invited talk: "Biomaterial interventions to tackle bleeding and infection" at in-house SAMAT Meet, 1st February 2023.
32. Invited talk: "Innovative biomaterials and therapeutic interventions for tackling antimicrobial resistance and infection" at TATA Steel-JNCASR meet, 15th February 2023.
33. Invited talk: "Outwitting antibiotic resistance: A perpetual battle" at NCBS, Bangalore, 1st March 2023.
34. Invited Talk: "Smart biomaterials for tackling infection" at M V J College of Engineering, Bangalore, 3rd March 2023.

International Institutes/Universities:

1. An invited talk at East China University of Science and Technology (ECUST), Shanghai, China on 3rd July 2017.
2. An invited talk at Donghua University, Shanghai, China 4th July 2017.
3. An invited talk at Tongji University, Shanghai, China 5th July 2017.
4. An invited talk at Public Health of England, Porton Down, UK on 26th March 2018.
5. An invited talk at King's College London, UK on 22nd March 2018.
6. An invited talk at University of Granada, Spain 12th June 2018.
7. A talk at University of South Florida, 3rd April 2019.
8. A talk at The City College of New York, 9th April 2019.
9. A talk at Colgate New Jersey, 10th April 2019.
10. A talk at Rutgers University, New Jersey, 10th April 2019.
11. A talk at Ruhr University, Bochum, 18th June 2019.
12. A talk at Technische Universität, Dortmund, 19th June 2019.
13. A talk at Max Planck Institute of Colloids and Interfaces, Potsdam, 20th June 2019.
14. A talk at Université de Strasbourg, France, 25th June 2019.
15. RSC Medicinal Chemistry lecture: "Tackling emergent (bacterial) infections: A chemical perspective to drug design and development"; November 2, 2020.

Science Promotion:

1. A talk on the occasion of National Science Day, at JNCASR, 25th February 2010.
2. An invited talk at Science Voyage, at JNCASR, on 25th May 2010.
3. An invited talk at JNCASR-Foundation for Capacity Building in Science (FCBS) Workshop for College Chemistry Students and Teachers 15-17th November 2013.
4. An invited talk at JNCASR-Foundation for Capacity Building in science (FCBS) workshop for College Chemistry students and Teachers, Trivandrum, Kerala on 31st Oct-2nd Nov, 2014.
5. An invited talk for School Children at Prof. CNR Rao Hall of Science, JNCASR, Bangalore on 12th November 2014.
6. A popular lecture at INSPIRE Science Camp, Indian Academy Degree College, Bangalore, 10th January 2019.
7. An invited talk at JNCASR-FCBS workshop for college chemistry students and teachers, IISER & CSIR-NIIST, Thiruvananthapuram, 15th December 2020.
8. An invited talk at BIRAC SITARE BIIS Webinar, 8th February 2021.

OUTLICENCED INVENTIONS

Our inventions on glycopeptide derivatives and antimicrobial coatings have been outlicensed to Vipragen Biosciences, India. Two of our small molecular inventions were outlicensed to Public Health of England (PHE), UK.

MEDIA COVERAGE OF RESESRCH WORK

A. Antimicrobial Research

The contribution of Dr. Haldar 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>
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