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Signed Statement from the Applicant (Prof. Jayanta Haldar)

I certify that the research titled "Next-generation Therapeutic and Biomaterial Strategies to Combat Antimicrobial Drug-Resistance" for which I am claiming this award, has not received any previous recognition. As the principal investigator and corresponding author, this work has yielded significant outcomes, including ten PhDs and seven MS theses, numerous high-impact publications, and the filing of thirteen national and international patents. Currently, nine PhD students are actively contributing to different aspects of this research. I have successfully managed projects funded by organizations such as IUSSTF, BRICS, SERB, and DBT, including an ongoing SERB-funded project on antimicrobial adjuvants. Additionally, we have an ongoing Indo-French collaborative grant project focusing on biophysical and peptide mimetics. Recently, in collaboration with the L. V. Prasad Eye Institute, Hyderabad, we concluded a project investigating antimicrobial peptide mimics for treating eye infections, funded by DBT. My primary contributions include designing and developing antimicrobial peptide mimicking drug candidates and adjuvants, data analysis, interpretation, and subsequent adjustments. I have also played a role in executing various experiments and assays, mostly carried out by my master's and PhD students. Collaborative efforts have been essential for projects related to malaria, Ebola, and SARS-CoV-2, as well as for understanding mechanistic aspects of our innovations. In our biomaterials research, I supervised the development of broad spectrum antimicrobial coating and paints, with a successful collaborative IUSSTF grant. My group has also developed multiple wound healing biomaterials which has attracted massive attention from the academia and industry partners. Furthermore, we have engaged in computational investigations to enhance our theoretical understanding of our therapeutic candidates. Our biomaterials have piqued the interest of industrial partners for potential translation. We are actively pursuing national and international partnerships to expand our research on these therapeutic and biomaterials, both experimentally and theoretically, with a focus on their translational and propagative potential.

Jayanta Haldar (Applicant)