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GUEST EDITORIAL

Microbiological Research and Applied Sciences in the North Eastern Region of India

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The northeastern part of India (NE India) is an important biodiversity hotspots and is blessed with a huge diversity of flora and fauna along with other natural resources. Being quite distinct in natural features from rest of the country, NE India has its own unique challenges and opportunities. This part of India is geographically isolated from China by Eastern Himalayas, while tropical forests separate this region from Myanmar and Bangladesh. The armed forces deployed in the NE region have to operate in a wide variety of environments ranging from high altitudes, to tropical rain forests, which pose several operational challenges.

The Defence Research Laboratory (DRL), Tezpur, the only DRDO laboratory in the region, is focused towards developing inventive solutions on management of disease vectors, vector-borne diseases, bio-threats, personnel protection against biting & blood sucking animals, purification of contaminated water, development of eco-friendly sanitary solutions, protected agriculture for growing fresh fruits and vegetables in remote and high altitude locations.

In this special issue of Defence Life Science Journal, researchers from this laboratory have summarized the findings of their scientific pursuit through original articles and reviews. Papers selected for inclusion in this special issue cover a wide range of subjects, including detection of toxins and from water medicinal properties of endogenous mushrooms, technologies for removal fluoride from water, bacteriophage technology for reducing bacterial pathogen, formulation for treatment of frost bite, monitoring of air microflora in strategic high-altitude locations for biothreat management, and also reviews on important topics of economic significance such as agroterrorism. A number of these research areas are unique in a sense that they are not being pursued by scientists from mainstream research institutions, not even by institutions established in the NE India. Taken together, in this special issue we have tried to showcase the efforts made by scientists in the area of science and technology, that will help in improving the operational capabilities of the troops posted in some of the most difficult locations of NE India. In parallel, these science and technology interventions will equally be effective for the wellbeing of local populace.

It has been a privilege to serve as the Guest Editor of this special issue of Defence Life Science Journal, highlighting the important contributions by my fellow researchers in their efforts to ease the lives of armed forces deployed in difficult locations of NE India. It will be a great pleasure to see practical applications of these innovations in the near future.

Towards the end, I sincerely thank all the authors and the reviewers for patiently going through the lengthy review process. Special thanks to the reviewers, who despite their busy schedule, have gone through the papers with utmost care and have provided their constructive comments and suggestions to make the manuscripts more focused and clear. Finally, I thank the Editor-in-Chief, Editor and the editorial team of Defence Life Science Journal for their guidance and support, whenever sought.

Dr Sibnarayan Datta obtained PhD from ICMR-National Institute for Cholera & Enteric Diseases, Kolkata and subsequently joined Tulane University School of Medicine, New Orleans, USA as postdoctoral scientist. He is presently serving as scientist 'D' in the Entomology & Biothreat Management Division, Defence Research Laboratory, Tezpur Assam. His research interests are focused on virology, molecular biology, bioterrorism. He has published more than 50 journal articles, reviews and book chapters.

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