

## **About The Book**

Since before the time of our last common ancestor, microbes have been shaping our evolution and our environment, just as we have shaped theirs. This fact has recently gained renewed prominence with wider acknowledgement of the microbiome (part of one health) and its role in maintenance of human homeostasis. This two-part book titled "Pathogens and Environmental Impact on Life Forms" highlights the fluid dynamics we share with the microbes within us, including both, arguably helpful species, and undoubtedly pathogenic ones (pathogen containment, clearance, and optimization, and dwelt on). It also underscores the effects of anthropogenic changes on microbes external to us, and the consequences of the resultant environmental dysbiosis for our continuous health and well-being. Prominent examples include indiscriminate industrialization and urbanization. Both of these forces, empowered by a culture of consumerism, have led to excessive pollution and several detrimental lifestyle changes, which have culminated in our present obesity crisis and diabetes pandemic. Finally, this book concludes by emphasizing that the way forward for healthcare is not only to be cognizant of the eubiotic microbiome in its diagnoses and treatments, but also to use this tremendous resource to contend with the quickly transforming landscape of infectious diseases.

## **Content**

- 1) World of Microbes
- 2) Viruses
- 3) Bacteria
- 4) Role of Fungi, Protozoa and Worms in Human Health
- 5) Local and Global Transmission
- 6) Animal and Human Interaction through the culture Prism
- 7) Chronic Infections and Coinfections
- 8) Immunocompromised or Inter-individual Variabilities?
- 9) Comorbidity, Age and Gender
- 10) Inability to Clear Pathogens Leads to Pathogen Genome Optimization
- 11) Antibiotic Resistance and Vaccination Breakthroughs
- 1 2) Deactivating the Pathogen
- 13) Role of Co-infections in Pathogen Clearance
- 14) Our Ancient History with Microbes
- 15) Understanding the Microbiome
- 16) Microbiome in Defence Against Pathogens

## 17) Microbiome in Defence Against Cancer