1. Record Nr.   UNINA9910734889403321

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   Titolo   Bioaerosol Characterisation, Transportation and Transmission : Fundamental, Modelling and Application / / by Yihuan Yan, Jiyuan Tu

   Pubbl/distr/stampa   Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2023

   ISBN   9789819922567
   9819922569

   Edizione   [1st ed. 2023.]

   Descrizione fisica   1 online resource (336 pages)

   Altri autori (Persone)   TuJiyuan

   Disciplina   628.53

   Soggetti   Biomedical engineering
   Fluid mechanics
   Microbial ecology
   Mathematical statistics - Data processing
   Biomedical Engineering and Bioengineering
   Engineering Fluid Dynamics
   Environmental Microbiology
   Statistics and Computing

   Lingua di pubblicazione   Inglese

   Formato   Materiale a stampa

   Livello bibliografico   Monografia

   Nota di contenuto   Introduction .-Fundamentals of Bioaerosol Dynamics -- Fundamentals of Bioaerosol Infections -- Computational Fluid Dynamics (CFD) -- Mathematical Models -- Case Studies of Bioaerosol Transport and Dispersion -- Case Studies of Influential Factors on Bioaerosol Transport -- Case Studies of Bioaerosol Inhalation and Deposition -- Case Studies of Health Risk Assessment and Prevention Recommendations -- Advanced Modelling and Future Trend.

   Sommario/riassunto   This book aims to predict and model the transport of bioaerosols, identify their transmission characteristics, and assess occupants' infection risks. Although existing epidemiological books provide fundamental infection rate of existing diseases, the ability of predicting emerging disease transmission in the air and assessing occupants' infection risks to the bioaerosols is significantly lacking. This book is considered as a professional book that provides in-depth discussion of

the aforementioned issues and provides potential approaches to solve these issues would be highly demanded by readers in this emerging research field. This book offers essential and systematic analysis on the fate of bioaerosols from their release in the air to the final destination in human's respiratory systems through direct 3D visualizations techniques. It also provides quantifiable method to assess each occupant's infection risks to the infectious bioaerosols in indoor environments. The readers will gain essential fundamental characteristics of bioaerosols (active time, viability, etc.) and will gain the advanced skills on how to integrate these properties into numerical modeling and assess the occupants' exposure risks. .