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Front Cover Story (see: Jinbiao Ma, Manman Du, Can Wang, Xinwu Xie, Hao Wang, Qian Zhang, 2021, 15(3): 47)

According to the legend, the Monkey King was forged in the gossip furnace of the very high lord for forty-nine days, and he developed a pair of golden eyes, which can penetrate the truth of things and distinguish many monsters. Nowadays, human beings are facing the threat of various infectious diseases caused by bioaerosol. The biosensor can detect bioaerosol sensitively and quickly, just like contemporary golden eyes, which protects people's safety. As an interdisciplinary field, biosensors have successfully introduced a variety of technologies for bio-detection. Given their fast analysis speed, high sensitivity, good portability, strong specificity, and low cost, biosensors have been widely used in environmental monitoring, medical research, food and agricultural safety, military medicine and other fields. In recent years, the performance of biosensors has greatly improved, becoming a promising technology for bioaerosol detection. This review introduces the detection principle of biosensors from the three aspects of component identification, energy conversion principle, and signal amplification. It also summarizes its research and application in bioaerosol detection. The new progress and future development trend of the biosensor detection of bioaerosol are analyzed.

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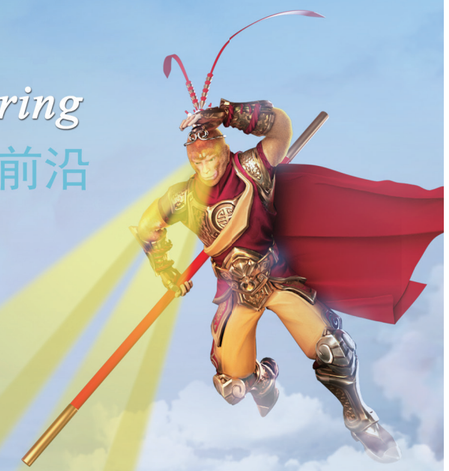
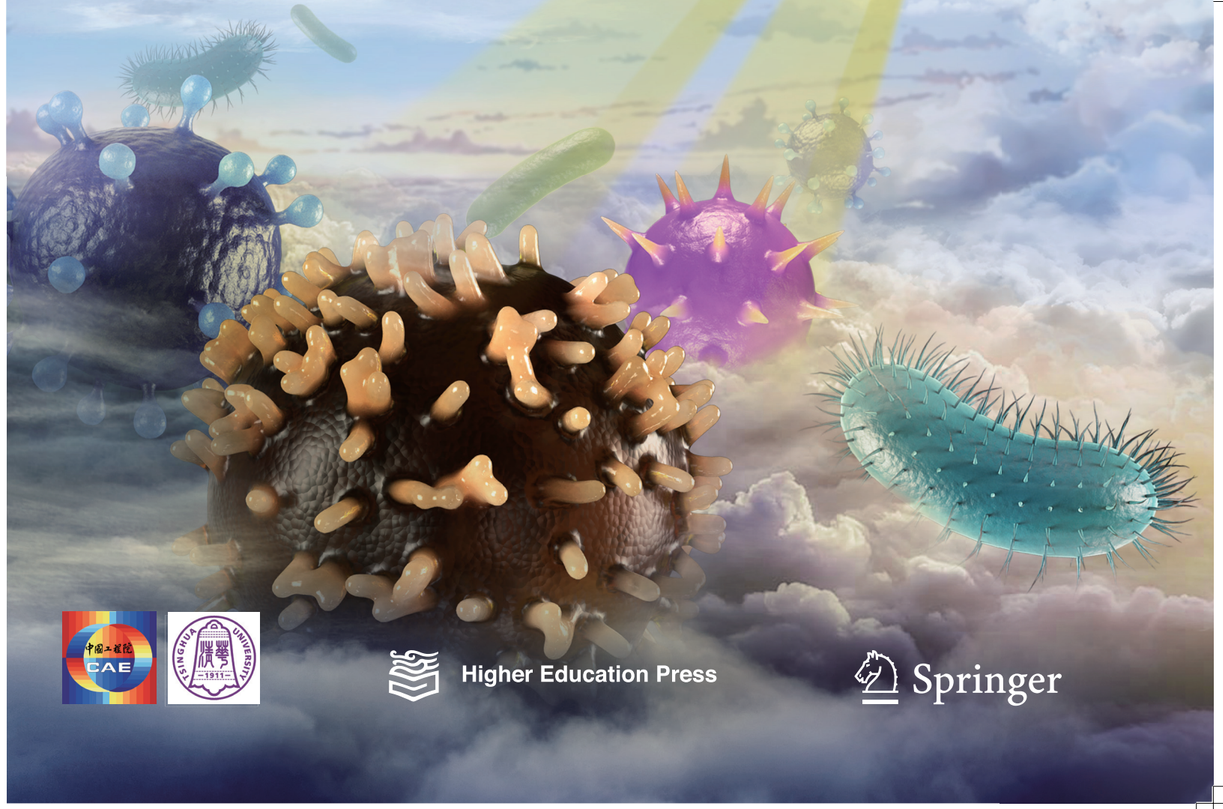
Biosensor: Monkey King's golden eyes which identify airborne microorganisms





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