Atmospheric
Chemistry
and Physics
Discussions

Interactive comment on "Characterization of atmospheric bioaerosols along the transport pathway of Asian dust during the Dust-Bioaerosol 2016 Campaign" *by* Kai Tang et al.

Anonymous Referee #2

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Bioaerosols are a class of atmospheric particles, which are more likely to participate in long-distance transport and be observed in other regions. This manuscript investigated the effects of dust events originating in the Gobi Desert of Asia on the amount and diversity of bioaerosols. In this study, sufficient and comprehensive experimental data was presented to reveal that the number of bacteria and the diversity of the bacterial communities showed remarkable increases during the dust events. Microscopic observations made with DAPI staining and MiSeq sequencing analysis were used to determine the results. In general, this manuscript was well-organized and the main conclusions will help improve the current understanding of bioaerosol dynamics along the transport pathway of Asian dust in China. This manuscript should be published

in ACP after a little more discussion and analysis to clarify the details behind the presented results. Specific comments: 1. Page 5 line 3. The result of Jinan samples should be compared with the result from another bioaerosol campaign (AAQR 18, 1-14, 2018). 2. Page 9, line 20 – page 10 line 4. The concentrations of PM2.5 increased significantly in Zhangbei during D2, D3 and D7. It seems that Zhangbei was seriously affected by the dust events in Erenhot. But the next part of the paper said that Zhangbei was slightly affected by the dust events based on D6. The authors need to explain it. 3. Page10 line 19. The name of the sample should be ER4_12D. Please be sure that all the samples' names are correct. 4. Page14 line6. The analyzed 22 samples were collected in Erenhot or Zhangbei? 5. In Fig. 4. Please clarify the meaning of different colors of the air masses. 6. In Fig.9 and in Fig. 10(a). How the authors get the fitting curves and fitting areas. Please clarify it.