Atmospheric
Chemistry
and Physics
Discussions

Interactive comment on "Characteristics of bacterial community in fog water at Mt. Tai: similarity and disparity under polluted and non-polluted fog episodes" *by* Min Wei et al.

Anonymous Referee #1

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The authors have performed taxonomic analysis of the metagenomes from polluted and non-polluted episodes of fog events at Mount Tai. The study has described the key differences in the bacterial composition and associated it with the environmental factors. The results are interesting, however, several key points need to be addresses:

1. The authors performed a 16S analysis of the microbial community which is an excellent and reliable approach to classify the composition. However, the functionality of microbes cannot be assumed on this base. It would be other approaches (e.g. metagenome-assembly based analysis). Therefore, the authors should modify the text accordingly i.e. by not assuming the functional diversity of fog microbes. Please refer to Jiang et. al, Nat Protoc, 2015 for general methodology.

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2. Quality of English needs to be revised. Grammatical mistakes and use of wrong terminologies is seen throughout the manuscript. For instance, grammatical mistake in introduction (Line 5), Page 9 line 33 ("... server infections") and Page 10 line 5 ("Previous studies has shown ..."). The author names also have discrepancy in main text and supplement.

3. Few major statements are not supported by references e.g. the authors mentioned that the recruitment of bacteria from various sources to air is harmful to humans upon deposition back to land via fog.

4. Figure captions need to a bit more descriptive/proof read.

Interactive comment on Atmos. Chem. Phys. Discuss., doi:10.5194/acp-2016-776, 2016.