

**Unfortunately, we referred to the wrong table in our initial response to one of the questions posed by reviewer 1.**

**This is a corrected version.**

*P10854, In 22: The low  $r^2$  values for the selected models needs to be discussed in more detail. This is really important part of the findings. Most pedotransfer functions predict  $K_{sat}$  with  $r^2$  values around 0.4-0.6. Your values are much lower, Why? I suspect its due to most lab based studies undersampling the presence of large macropores and clay swelling, microbial blockage of saturated soil cores during analysis, thus resulting in lower  $K_{sat}$  values but more importantly lower error terms between values due to the reduced importance of macropore flow. A table of your prediction factors and  $r^2$  compared to other pedotransfer functions would be really interesting. A good place to start is the back of (Cichota 2013).*

**Actually, we are not convinced that our models perform worse than existing pedotransfer functions for  $K_{sat}$ . This might be true if we compare with some local-scale PTF's, but we doubt that this is the case for global databases like ours. To take one well-known example, the European-scale HYPRES  $K_s$  function has an  $r^2$  value of 0.19, which is identical to our validation  $R^2$  value and slightly less than our calibration  $r^2$  value (see table 7). Actually, most studies report RMSE values rather than  $r^2$  (we gave both  $r^2$  and RMSE in our paper). As we wrote in the paper, our RMSE values compare very well with those reported for the ROSETTA functions in the comparative study by Vereecken et al. (2010) (we have RMSE of 0.54 vs. ca. 1.3 for ROSETTA see our Table 7 and their figs. 13 and 14).**