

Manuscript SPE-202045
Response to Reviewers

Dear <insert Executive Editor name>,

Thank you for giving us the opportunity to submit a revised draft of the manuscript “**Complex Grids and Flow Dynamics Modelling Using Machine Learning**” for publication in the *SPE Journal*. We appreciate the time and effort that you and the reviewers dedicated to providing feedback on our manuscript and are grateful for the insightful comments on and valuable improvements to our paper. We have incorporated most of the suggestions made by the reviewers. Those changes are highlighted within the manuscript. Please see below, in blue, for a point-by-point response to the reviewers’ comments and concerns. All page numbers refer to the revised manuscript file with tracked changes.

Reviewers' Comments to the Authors:

Reviewer 1

There are numerous strengths to this study, including its diverse sample and well-informed hypotheses.

Author response: Thank you!

1. Comment from Reviewer 1 noting a mistake or oversight in the manuscript.

Author response: Thank you for pointing this out. The reviewer is correct, and we have [explain the change made].

The revised text reads as follows on [insert the exact location where the change can be found in the revised manuscript]:

“[updated text in the manuscript]”

2. Comment from Reviewer 1 suggesting a specific change to the manuscript.

Author response: As suggested by the reviewer, we have [explain the specific change made, including the exact location where the change can be found in the revised manuscript].

3. Comment from Reviewer 1 suggesting a widespread change to the manuscript that would need to be updated in multiple places.

Author response: We agree with the reviewer’s assessment. Accordingly, throughout the manuscript, we have revised [explain the widespread change made, for instance, switching the order in which the study variables are presented or replacing a term or acronym in the paper].

4. Comment from Reviewer 1 asking for discussion or analysis that is beyond the scope of the paper or the data available.

Author response: Thank you for this suggestion. It would have been interesting to explore this aspect. However, in our study, this would not be possible because [provide a clear explanation for why the suggestion was not implemented].

5. Comment from Reviewer 1 with a correction to a typographic, spelling, or grammatical mistake.

Author response: Thank you for pointing this out. The [describe the correction made] has been corrected on [insert the exact location where the change can be found in the revised manuscript].

6. Comment from Reviewer 2 with a suggestion to improve the manuscript.

Author response: We think this is an excellent suggestion. We have [explain the change made, including the exact location where the change can be found in the revised manuscript].

Reviewer 2

In general, I did not find this study to make a valuable contribution to the literature or to science.

Author response: While we appreciate the reviewer's feedback, we respectfully disagree. We think this study makes a valuable contribution to the field because [describe the knowledge gained, insights provided, questions answered, etc. by your study and/or its results or findings].

1. Comment from Reviewer 2 asking for discussion or analyses that are not possible given constraints on the data available.

Author response: Thank you for pointing this out. Although we agree that this is an important consideration, it is [beyond the scope / not appropriate for inclusion / cannot be analyzed] in this manuscript because [provide a justification for why the content cannot be added to the manuscript].

2. Comment from Reviewer 2 asking for additional content (e.g., more background on a topic in the introduction, expanded reflection on a finding in the Discussion)

Author response: We have added the suggested content to the manuscript on [insert the exact location where the change can be found in the revised manuscript].

3. Comment from Reviewer 2 asking for changes in a specific section of the manuscript

Author response: [Specific section] has been updated, such that [explain the change made].

4. Comment from Reviewer 2 pointing out an unaddressed limitation of the study.

Author response: We agree that this is a potential limitation of the study. We have added this as a limitation on [insert the exact location where the change can be found in the revised manuscript]: *"Another potential limitation is [briefly describe the limitation and any steps you took to address it in your study or how it could be addressed by future researchers]."*