

Interactive comment on “Network Analysis of the American Geophysical Union’s Fall Meetings” by Tom Narock et al.

Tom Narock et al.

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Laura,

Thank you for your insightful review of our paper. We appreciate the time and effort you put into the review and our paper will be much improved from your feedback. Below, we address each of your points individually.

- Title: The title could perhaps include “scientometrics” in addition to network analysis, especially since the major network map is not included in the paper itself, but referenced to an author’s website, presumably because of its size (1+ gigabyte once the file is extracted – it’s cool, and clearly not appropriate for inclusion here). Granted, the scientometrics are largely focused on analyzing the network connections, but still. I

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anticipated seeing maps based on the title.

Another reviewer also recommended revising the title. Although, that reviewer suggested that "network analysis" and "scientometrics" sounded bland and vague. We are happy to revise the title and are exploring alternatives.

- Line 175-179: Which numbers in Table 2 "seem too large"? It seems you are referring to the numbers of connected components being too large. Your commentary here indicates a limitation of this study, i.e., you can capture co-authorship but not "useful discussions" that may be inherent to a live setting like this meeting, nor presentation attendance, later references to members of other connected components in research articles, etc. Here at least, the data does not necessarily indicate a lack of organic growth of connection between components, particularly given the increasing attendance outpacing new edges, mentioned with Fig. 2

We were referring to the number of single author presentations as being "too large". We agree that our study can not capture discussions and acknowledgements. Yet, we would have thought that those discussions would have led to future co-authorship and additional edges in the graph. The rate of new nodes appears to far outpace the rate of new edges. This was surprising to us. We will update the text to make this clearer.

- Section 3.3 Multi-Disciplinary Authors This is interesting data and an obvious point of interest in this study of connectedness, but the data is not well justified in this one paragraph (in comparison, e.g., to the keyword usage examples and discussion in the next section). Was there any specific reason you looked solely at pairs rather than any/all sized clusters? In 17 years, surely there were many cases of authors presenting in more than two sections; were they too (relatively) sporadic to create meaningful data? Also, is there anything of interest found in this data re: the number of occurrences in some pairs versus others, or regarding some disciplines being more frequently paired with any other versus other disciplines being infrequently paired with any other?

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There was no specific reason for only looking at pairs. This is an oversight on our part. We had not even thought to consider larger combinations. Thank you for the suggestion. We will expand this section and include more details in the text.

- Line 283-289: Your argument is unclear re: network density. Lower density and loosely connected clusters may be beneficial; dense networks can create echo chambers; single nodes are “worrying”. I don’t take issue with any one of these arguments (except for how worrying a single author presentation is, though the point re: science teams being the trend is valid), however the presentation of these juxtaposing truths/assumptions doesn’t seem to provide a meaningful direction to this paragraph, as a lead-up to the arguments of the following paragraphs. The point of this paragraph is just unclear to me.

Thank you for the feedback. We had meant this as a further explanation of the point above, i.e. single nodes seem to persist and new edges are being formed at a rate less than expected. We completely agree there is nothing wrong with a single author presentation. The point we were trying to make is that, given AGU’s efforts to facilitate collaboration and multi-disciplinary efforts (e.g. ice breakers, Town Halls, the new “neighborhoods” introduced this year, science nexus, etc.) we had anticipated that single authors (nodes with no edges) would develop edges at a rate much higher than what we see. We think quantifying this - as best we can given the uncertainties in the data - is a step towards beginning a bigger discussion on the effectiveness of these techniques and strategies for future meetings. We will revise the text to make this clearer.

- Lines 290-293: The existence of these nodes in a fall meeting where people are attending other presentations and having conversations should at least somewhat reduce the concern about the connectedness of the single nodes to the rest of the network. They have come to a place to share their ideas and hear others; co-authorship does not capture that, but their presence at the Fall Meetings indicates at least the possibility of connection between components (This does not discount the suggestions following,

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which I believe have great merit for further increasing connectedness)

Agreed. co-authorship is not the only metric of success. Although, we are surprised that other interactions at Fall Meetings do not translate into more co-authorship.

- 4.2 Steps Toward Gender Equality: This is an interesting discussion and one worth having. However, in 350-354, you note that conveners have bias against women presenters, and then in 359-360, you recommend women opt to make their gender and career stage public. While this would certainly allow us to track the “progress toward equality” it could also expose some presenters to an increased experience of bias (e.g., if attendees hold the same bias as conveners, they may be less likely to attend a talk due to presenter gender). Social sciences have a fair history of research indicating that such biases are often subtle (the holder of the bias may not even realize) but nonetheless can cause real career and economic harm to the recipient of the bias. The same suggestions and concerns could likely also be applied toward race/ethnicity of presenters.

Thank you for highlighting these issues. This is an excellent point, something we had not considered, and highlights additional biases that may occur if all the data were simply open by default as we suggested. We have limited experience with the social science research in this area and it is best that we don't propose any specific implementations. We agree it is an interesting discussion and one worth having. We will highlight it as such, but not propose strategies for addressing it.

- Additional technical comments:

Thank you for catching our typos and grammatical errors. All of these will be fixed.

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