

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

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“Network Analysis of the American Geophysical Union’s Fall Meetings” by Narock, Hain, and Stephan is a compelling article overall. The AGU Fall Meetings are an interesting phenomenon, and this analysis of co-authorship, multidisciplinary, and keyword usage is an intriguing look at the structures and functions of these giant scientific gatherings over a period of 17 years. Overall, the analyses, interpretations, and suggestions are on point for the continual evolution of the AGU Fall Meetings. Additionally, the article is readable, the methods are generally well explained with reasonable validity (limitations are well noted, as are caveats to interpretations based on those limitations), and the suggestions that are offered are forward-looking toward real possibilities for AGU’s Fall Meetings next steps.

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Some specific comments:

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 anticipated seeing maps based on the title.

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

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?

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; sin-

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gle 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.

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, which I believe have great merit for further increasing connectedness)

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.

Additional technical comments:

Sentence on line 44-45 is unclear; how would restricting the data to the fall meetings provide the most data? I’m assuming you mean it would be the largest single subset

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of data among all subsets of data available.

Line 127-128: says “only two of the nodes are actually connected”. All three nodes are connected; there are only two connections among them.

Line 318-319: word “already” is used twice.

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