**Suggestion**

At the University of Potsdam we are discussing how to reduce our carbon footprint in science-related work. One thought We had was that we could reduce our carbon footprint in psycholinguistics significantly (We bet nobody will believe We just used that word!) if we had the CUNY and AMLaP conference on alternate years as opposed to every year.

**Objections to alternating years for CUNY and AMLaP, and responses**

We posed this question to my community, and got some interesting responses:

**Response 1: *More* people would start traveling to each conference, neutralizing the gains**

“…it’s not clear whether this would actually reduce the net amount of travel. In particular, if there will now be just one language conference (well, a language conference with a focus on experimental and computational approaches to language), with an alternating location (US vs. Europe), more US-based researchers may come to AMLaP than before, and more Europe-based researchers may come to CUNY than before. It seems important to assess this in figuring out whether this would help.”  
**Response**: This is a reasonable point, but it presupposes that people will disregard the environmental cost of flying and only look out for their self-interest. I think this is unlikely; most people seem to be aware of how urgent this problem is. Most students at Potsdam seem to be very concerned and want to know how carbon emissions can be reduced (also by them); I assume this is the same in the US. If a regional conference (e.g., LSA, and plenty of European conferences each year) is substituted for an international one, the data don’t seem to support such a shift (see [this paper](https://ojs.ethnobiology.org/index.php/ebl/article/view/29/0)).

**Response 2: Cohesiveness of the community would be damaged, and inequality would increase**

“This was also my thought when I read this idea. Also, it would likely impact access and participation, especially for students. Only the best funded labs will be able to send people to conferences overseas, which means that many people will not participate every year, and the cohesiveness of our field will suffer.”  
Response: This is also a reasonable point. But it is already the case that the best funded labs are the only ones able to send people to conferences, and nobody does anything about it. But even if there is some additional cost of this nature, there is no free lunch. The idea that one can do something to contribute to reducing environmental damage without giving up a single thing is unrealistic. The question is whether the cost is worth it. Not having a world to travel in at all might be too high a cost compared to these other costs.

**Some back-of-the-envelope calculations**

[One paper](https://ojs.ethnobiology.org/index.php/ebl/article/view/29/0) states: “On a per capita basis, CO2 emissions for the ESA meetings ranged from 0.46-0.66 metric tons. The estimated per capita AAG carbon footprint, 0.58 metric tons of carbon dioxide, fell within this range of values.” p 67, Ponette‐Gonzàlez et al 2011.  
Using the previous years’ AMLaP attendance counts, we have the following numbers of attendees:

dat<-read.table("amlapdat.txt",header=TRUE)

dat

##   year total

## 1 2015   194  
## 2 2016   305  
## 3 2017   300  
## 4 2018   298  
Taking the above estimates of .46-.66 metric tons per person on average, the minimum and maximum emissions in metric tons per conference range from:

dat$mincost<-dat$total\*.46

summary(dat$mincost)

##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.

##    89.2   125.1   137.5   126.2   138.6   140.3

dat$maxcost<-dat$total\*.66

summary(dat$maxcost)

##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.

##     128     180     197     181     199     201  
The full range looks like this:

dat

##   year total mincost maxcost

## 1 2015   194   89.24  128.04  
## 2 2016   305  140.30  201.30  
## 3 2017   300  138.00  198.00  
## 4 2018   298  137.08  196.68  
So each AMLaP conference generates about 90 to 201 metric tonnes of carbon emissions. CUNY may be comparable, perhaps a bit larger, so at the upper end. Simply multiplying by two, our annual carbon emission would then be estimated to be:

## minimum (metric tons)

90\*2

## [1] 180

## maximum (metric tons)

201\*2

## [1] 402

The paper says: “Depending on the model, we estimated an average 18-59% reduction in carbon emissions for multiple regional compared with national meetings.” p 67.  
For the smallest conference that we have data on, an 18%-59% reduction would amount to a emissions ranging from:

180-.18\*180 ## down from 180

## [1] 147.6

180-.59\*180 ## down from 180

## [1] 73.8

For the largest conference we have data on, an 18%-59% reduction would amount to a emissions ranging from:

201-.18\*201 ## down from 201

## [1] 164.82

201-.59\*201 ## down from 201

## [1] 82.41

What does a maximum reduction of 119 metric tons (201-82) mean? As a baseline, consider that India produced 1.7 metric tons per capita in an entire year (2014; you can google this).

**Conclusion**

There could be a significant reduction in carbon emissions. There will be a cost of course, but it may not be environmental. (There could be unintended environmental costs such as people starting to producing more babies as a result of not going to conferences; publishing more papers; or have more time to produce more trained psycholinguists per year.)  
In particular, hoping that we can go on with business as usual is guaranteed to lead to a net loss.

**Future directions**

 The above analysis is probably very coarse-grained. One could do a more principled analysis of emission costs by using data from CUNY 2020 and AMLaP 2020. Since Brian Dillon and I are holding these two conferences, we could coordinate our analyses. Incidentally, in conferences in general, about 10% of the attendees account for 50% of the emissions (from same paper cited above IIRC, and other articles as well); one could take the individual-level cost into account in a more nuanced manner.

 One could simply implement the change from 2021 and track the change in carbon emissions over the years pre-2021 and post-2021 to see if the fear that carbon emissions will go up instead of down is realized. I offer myself to carry out that analysis. If it goes up, it would obviously be a bad idea and should be scrapped. Based on the papers I read, I would be pre-register my prediction that that will not happen.

Comments on this post are welcome, and suggestions for improvement, or corrections, are also most welcome!