

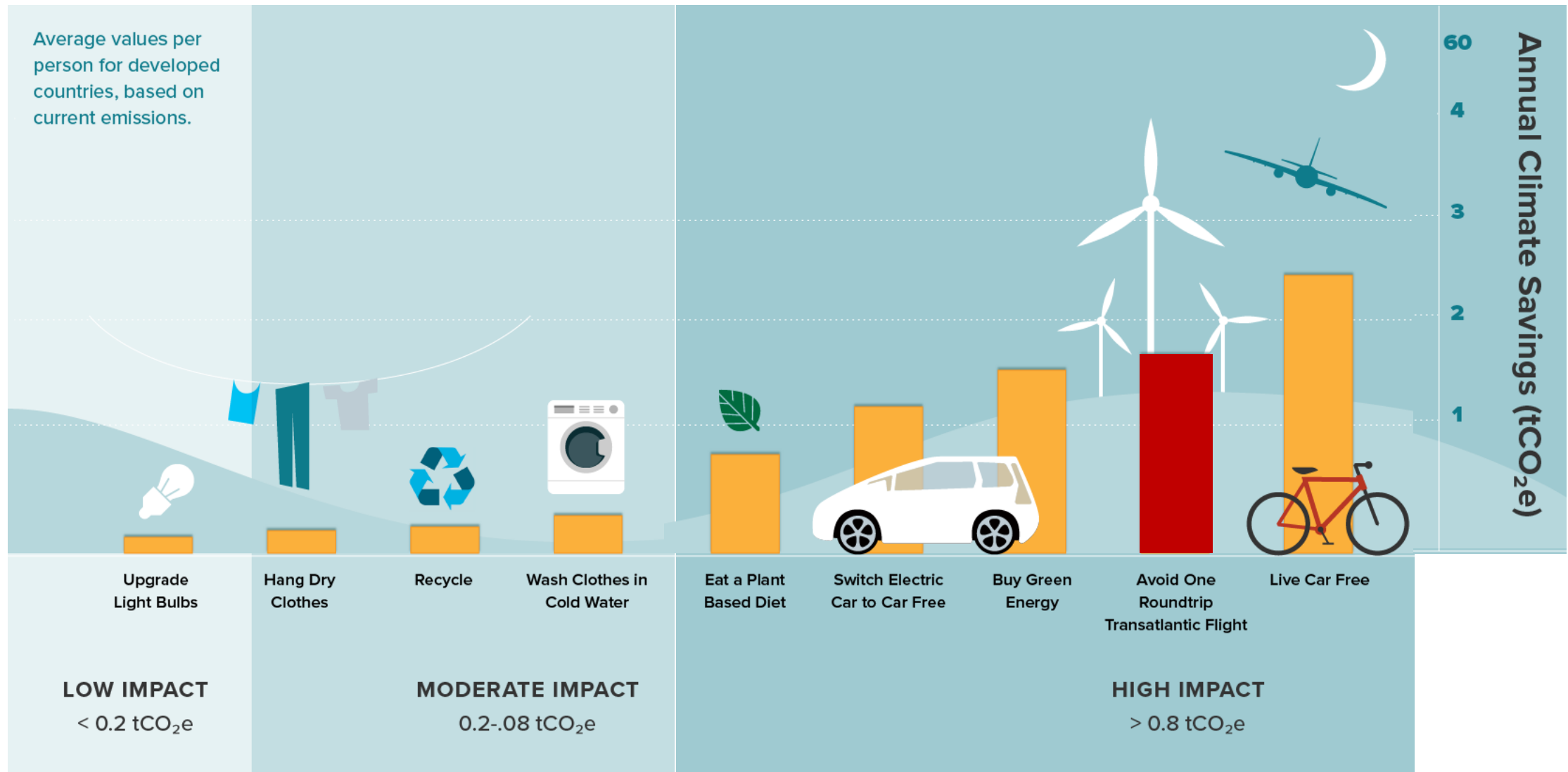
# **Decarbonizing science: *action in academic communities and institutions***

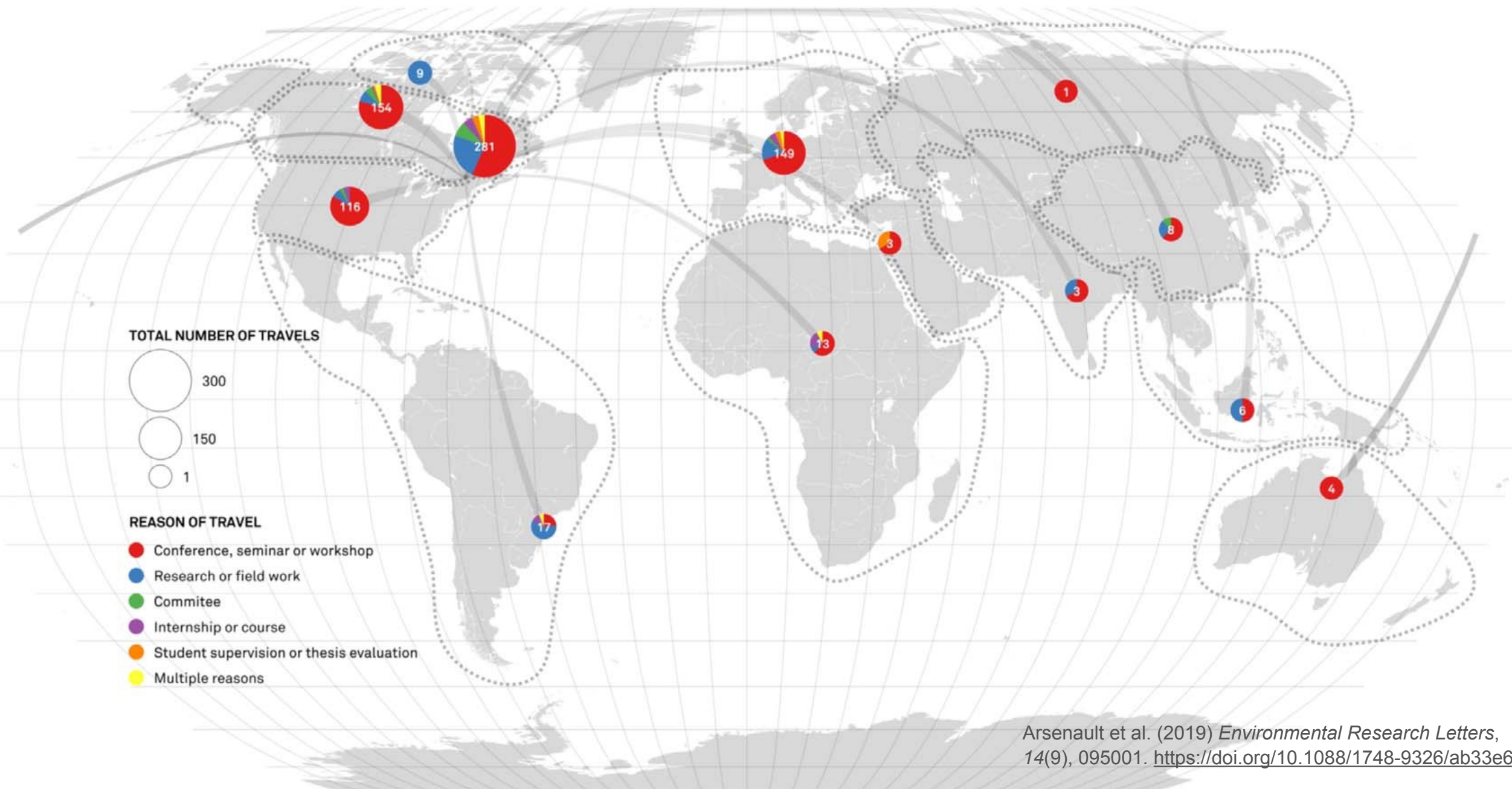
Anne Urai

Cognitive Psychology Unit  
Leiden University, The Netherlands

Slides: [anneurai.net/green-neuroscience](https://anneurai.net/green-neuroscience)

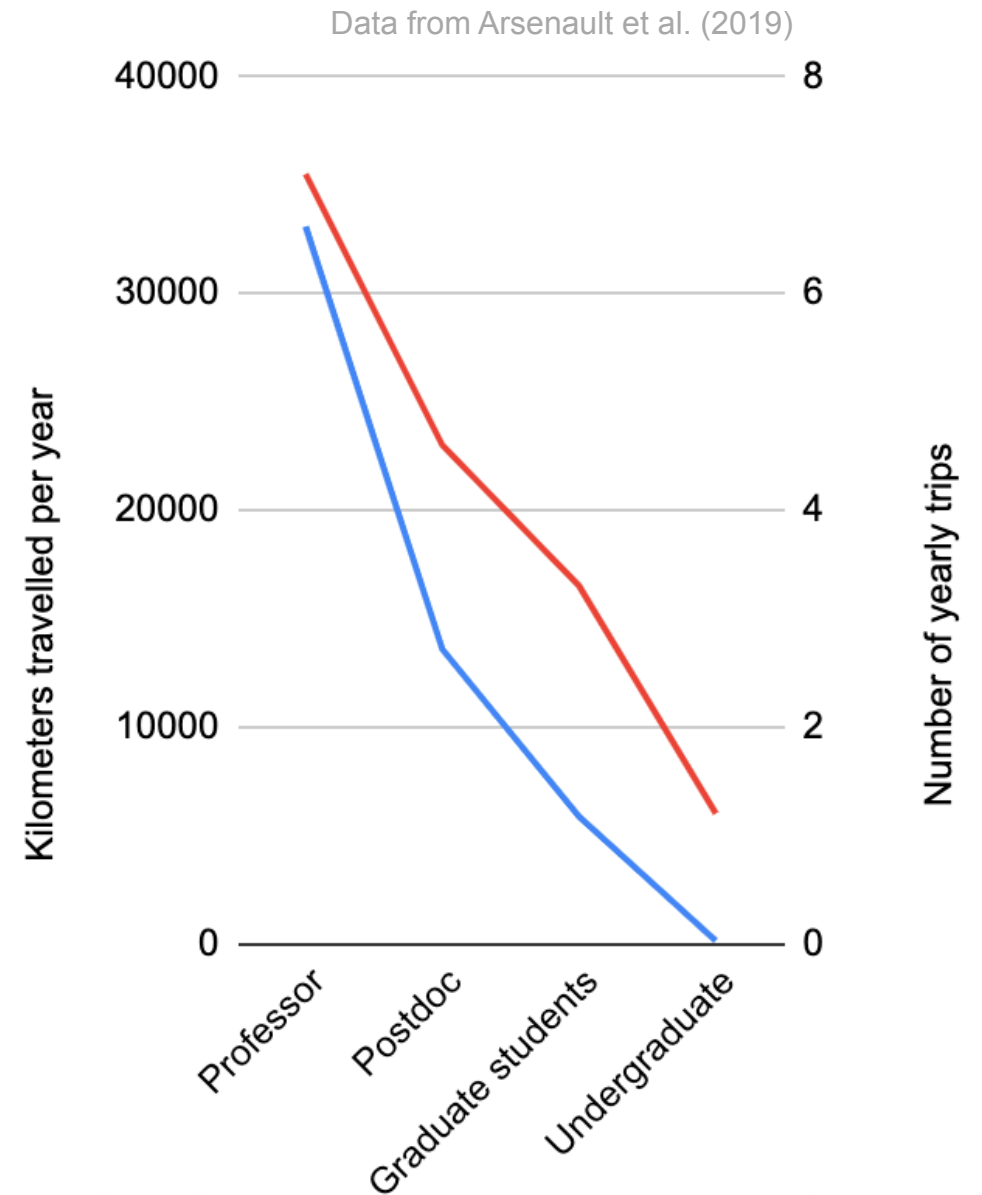
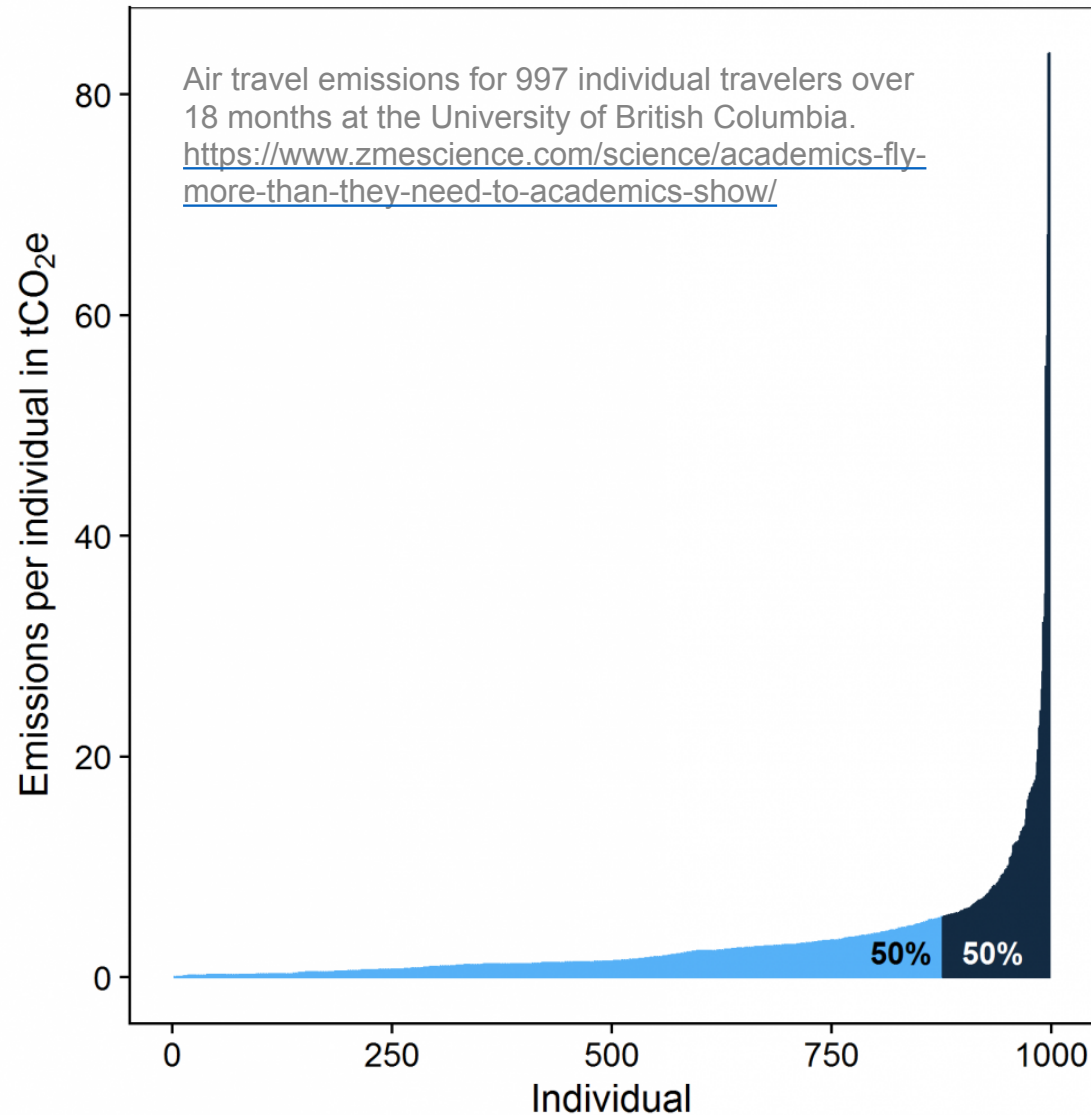
# Individual carbon emissions







# Who's doing all that travel?



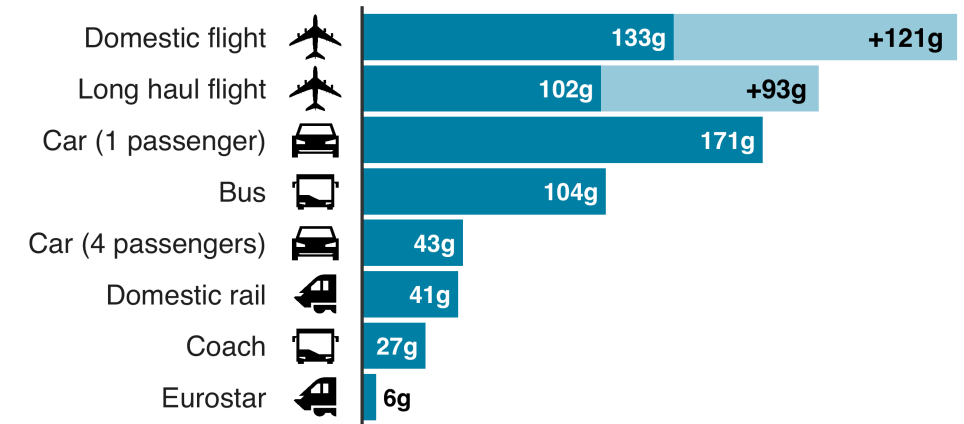
# How to fly less

- Travel overland: rail, car(share)
  - Enjoy and take time - slow travel
- Collaborate & conference locally
- When flying:
  - combine multiple trips into one
  - don't fly first class
- Spread the word!

## Emissions from different modes of transport

Emissions per passenger per km travelled

■ CO2 emissions ■ Secondary effects from high altitude, non-CO2 emissions



Note: Car refers to average diesel car

Source: BEIS/Defra Greenhouse Gas Conversion Factors 2019

BBC

<https://www.bbc.com/news/science-environment-49349566>



**Leslie Vosshall PhD** @leslievosshall · Sep 24, 2019

Drastically cutting back my science travel for the foreseeable future.

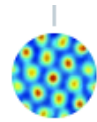
2015: 22 trips; 2016: 21 trips; 2017: 15 trips; 2018: 21 trips; 2019: 17 trips;  
2020: 5 trips

Most of these were unnecessary and brought little benefit to my lab or my family or me

#ClimateCrisis

21

99



**Kate Jeffery**  
@drkjjeffery

Replying to @Ruth\_C\_Dalton

Good for you! I've pledged no-fly for May 2020-May 2021 after current commitments have run through

3:23 PM · Jun 11, 2019 · Twitter for iPhone



HOME

RESEARCH

PEOPLE

TEACHING

PUBLICATIONS

CONTACT

CLIMATE CRISIS

## Climate Crisis

*"Every decade is consequential in its own way, but the twenty-twenties will be consequential in a more or less permanent way. Global CO2 emissions are now so high – in 2019, they hit a new record of 43 billion metric tons – that ten more years of the same will be nothing short of cataclysmic. Unless emissions are reduced, and radically, a rise of two degrees C (3.6 F) will be pretty much unavoidable by 2030. This will make the demise of the world's coral reefs, the inundation of most low-lying island nations, incessant heat waves and fires and misery for millions – perhaps billions – of people unavoidable" – Elizabeth Kolbert, 2020.*



INTRODUCTION

METHODS

RESULTS

DISCUSSION

russpoldrack.org

Thursday, June 27, 2019

### Why I will be flying less

Since reading David Wallace Wells' ["The Uninhabitable Earth: Life After Warming"](#) earlier this year, followed by some deep discussions on the issue of climate change with my friend and colleague [Adam Aron from UCSD](#), I no longer feel we can just sit back and hope someone else will fix the problem. And it's becoming increasingly clear that if we as individuals want to do something about climate change, changing our travel habits is probably the single most effective action we can take. Jack Miles made this case in his recent Washington Post article, ["For the love of Earth, stop traveling"](#):

**Commit: <https://noflyclimatesci.org/>**

# Push for greener conferences

*Use your time and effort as a multiplier!*

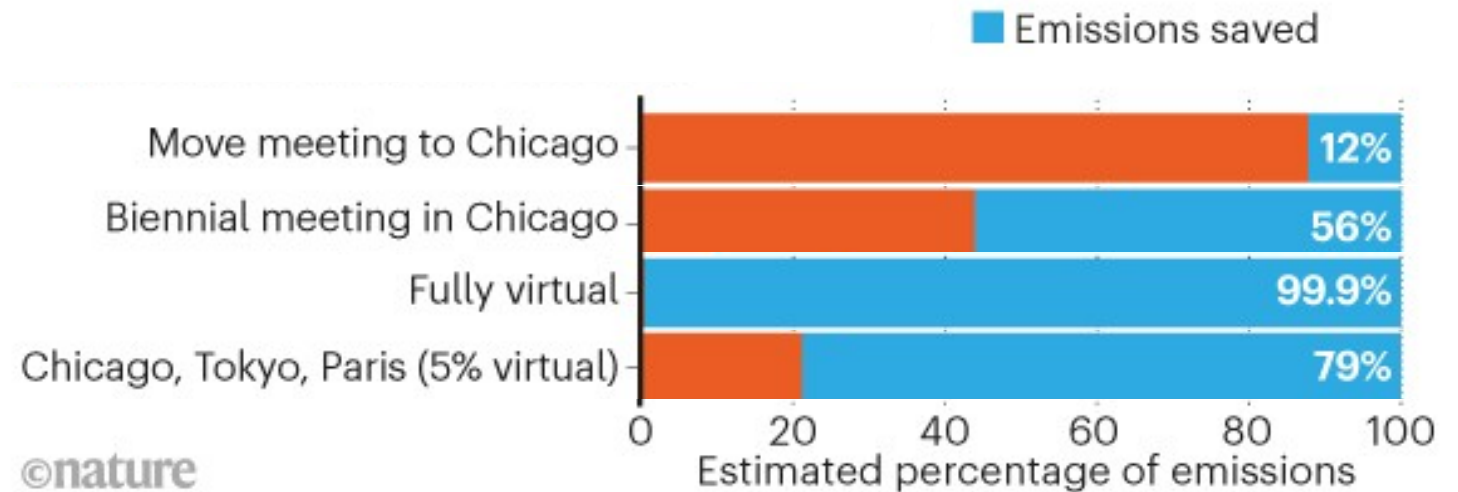


Petition to Society for Neuroscience to  
Act on the Climate Crisis

<https://forms.gle/i5QWpwg1Z9giYzfJ9>

# Push for greener conferences

- Pick location wisely
  - <https://travel-footprint-calculator.irap.omp.eu/>
- Reduce frequency
- Change to virtual
- Hybrid: virtual  
+ local hubs

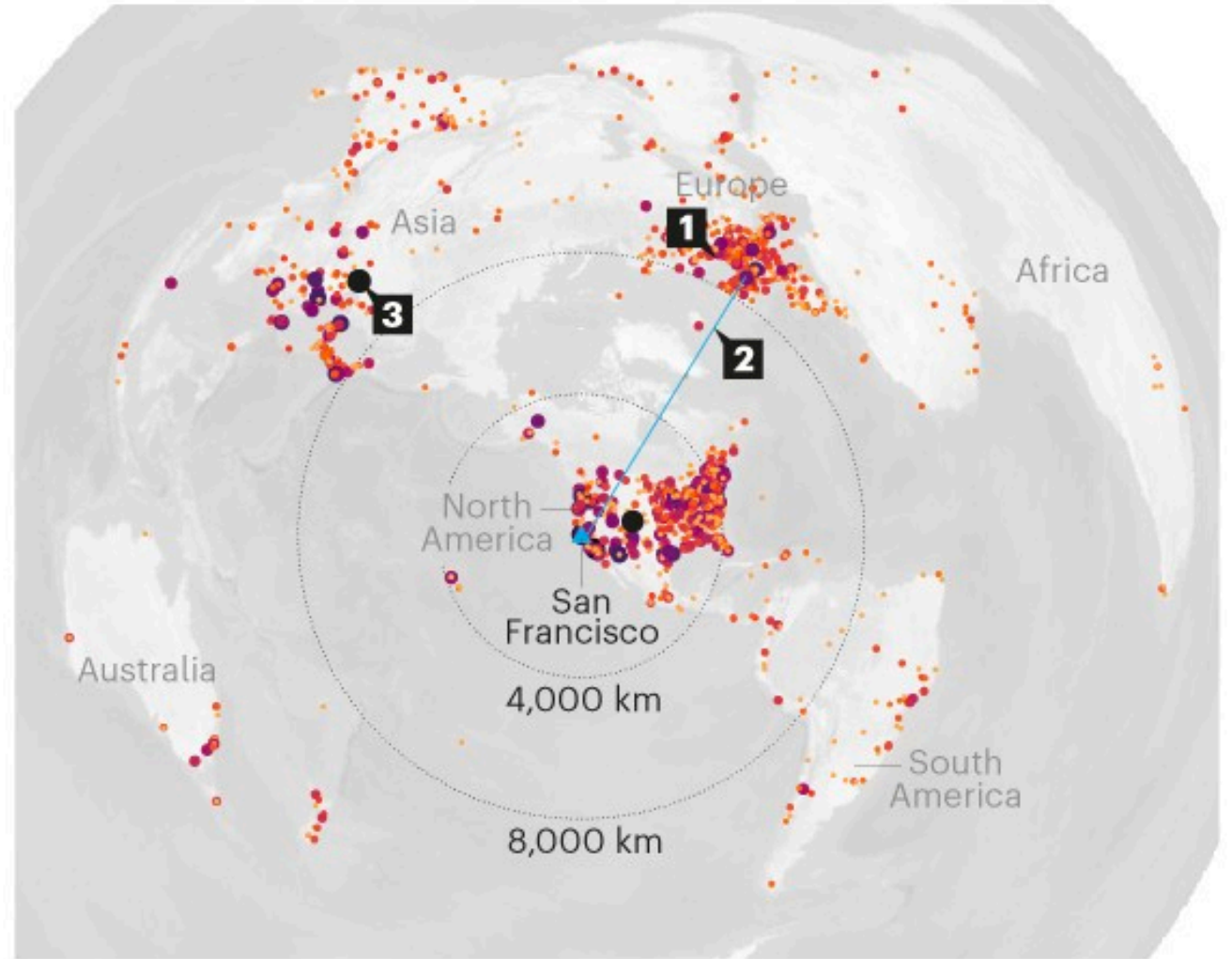


Source: M. Klöwer <https://doi.org/10.5281/zenodo.3553784> (2019)



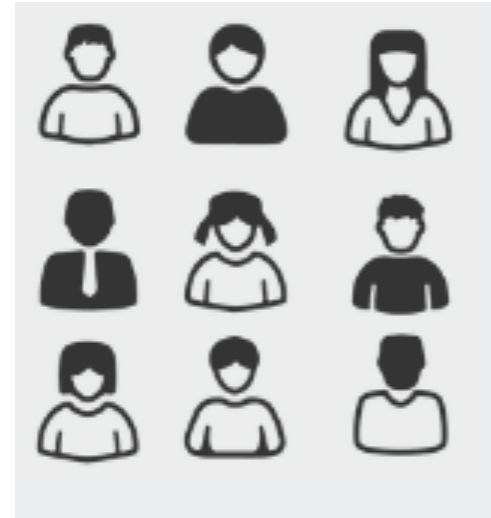
# Conferences: the hub-and-spokes model

- Several video-connected locations
  - Talks streamed
  - Socials local
- Compromise:
  - Human contact
  - Shorter trips
- + virtual option



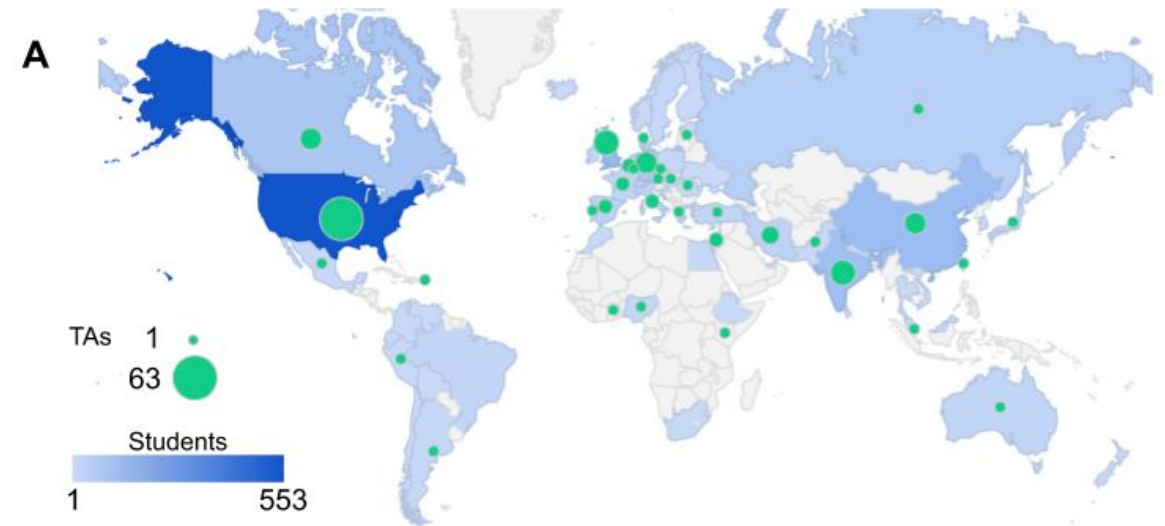
# Greener conferences

- Low cost
- Accessibility
  - Visa restrictions
  - Family responsibilities
  - Travel difficulties
- More diversity



# Greener conferences

- Virtual summer school
  - NeuroMatchAcademy
- Virtual conferences
  - FENS, BNA, SfN...
- Virtual seminar series
  - <https://greenseminars.ch>
  - <https://www.world-wide.org/Neuro/>



van Viegen et al. (2020). Neuromatch Academy: Teaching Computational Neuroscience with global accessibility. ArXiv: 2012.08973 [q-Bio]. <http://arxiv.org/abs/2012.08973>

Wednesday, Oct 23, 2019, 21:01



> To: Anne Urai

Cc: [redacted]

Dear Anne,

Unfortunately, this conference does not accept any remote talk. All speakers should be at the place.

Monday, Mar 18, 2019, 11:01



> To: Anne Urai

Cc: [redacted]

Dear Anne,

Thanks for letting us know in advance. We think it's better to have people in the flesh for the interactions, so we will ask [redacted] if she's interested in taking your spot. No doubt there will be more opportunities later on.

Monday, Mar 9, 2020, 11:31



To: Anne Urai

Cc: [redacted]

Hi Anne,

We're going ahead with those who are able to attend the conference. It's a pity to be missing you, but I am sure we will have another opportunity in the future.



# Beyond conferences: institutional change

- Aviation at Dutch Universities: 12-27% of total emissions ([KNAW](#))
- Advocate for institutional travel policies
  - [Ghent Uni](#), Belgium: train to cities if < 6 hours
  - [#unter1000](#) in Germany: take the train for trips < 1000 km
- Investment in video conferencing facilities and equipment
  - Examples: [Green seminars, Geneva Uni](#)

# Beyond conferences: institutional change

- Campus energy needs (buildings, transport, food)
- Teach about the climate crisis (<http://teachgreenpsych.com/>)
- Divestment from fossil fuels (endowments, pension plans)



# Thanks!

- Find all of this at: [anneur.ai.net/green-neuroscience](https://anneur.ai.net/green-neuroscience)
  - Aron AR, Ivry R, Jeffrey K, Poldrack R, Schmidt R, Summerfield C, & Urai AE. (2020). *How can neuroscientists respond to the climate emergency?* Neuron, 106:17–20.
  - <https://anneur.ai.net/2019/09/24/climate-action-for-neuroscientists-a-concrete-guide/>
- Join us on Slack: <https://t.co/mb5g64XH0P?amp=1>