flyingless

Module 3
Backgrounds & Arguments
"What backgrounds should I know?"

Module 3.2
Travel reasons

Why do scientists fly and what are possible alternatives?

22 slides – version September 2023

Dr. Susann Görlinger, Project Manager FlyingLess, ifeu Institute

ifeu INSTITUT FÜR ENERGIE- UND UMWELTFORSCHUNG HEIDELBERG

TdLab GEOGRAPHIE

UNIVERSITÄT HEIDELBERG ZUKUNFT SEIT 1386

Gefördert durch:

Bundesministerium für Wirtschaft und Klimaschutz

NATIONALE KLIMASCHUTZ INITIATIVE

aufgrund eines Beschlusses des Deutschen Bundestages

Toolbox content

1 **Module 1** Introduction: "Why a Toolbox?"

2 **Module 2** Checklist: "Where do we stand?"

3 **Module 3** Backgrounds & Arguments: "What backgrounds should I know?"

- **3.1** Relevance
- **3.2** Travel reasons
- **3.3** Framework conditions
- **3.4** Success factors & stumbling blocks
- **3.5** Sufficiency

4 **Module 4** Methods & Tools: "What tools are available to me?

- **4.1** Project management
- **4.2** Stakeholder management
- **4.3** Strategy development

5 **Module 5** Measures: "What measures can I implement?"

6 **Module 6** Next steps: "Where do we go from here?"

flyingless

Flowchart Toolbox

Module 1
Introduction
"Why a Toolbox?"

Module 2
Checklist
"Where do we stand?"

We want to get started right away!

Module 5
Measures
"What measures can I implement?"

Module 6
Next steps
„Where do we go from here?"

We want to know more!

Module 3
Backgrounds & Arguments
"What background should I know?"

- 3.1 **Relevance**
- 3.2 **Travel reasons**
- 3.3 **Framework conditions**
- 3.4 **Success factors & Stumbling blocks**
- 3.5 **Sufficiency**

Module 4
Methods & Tools
"What tools are available to me?"

- 4.1 **Project management**
- 4.2 **Stakeholder management**
- 4.3 **Strategy development**

How to use the toolbox?

The **FlyingLess Toolbox** is a modular collection of content and methods on the topic of reducing air travel.

Depending on the occasion or need, suitable modules or individual modules or individual slides can be selected and used.
The order of the modules is only a recommendation.

Depending on your level of knowledge and interest, you can start with different modules.

The FlyingLess logo and the link to the website (www.flyingless.de) should remain on the slides.

On some slides, questions that can be discussed in the institution are listed in green.

Module 3.2: Travel Reasons

What do I find in this module?

- The module lists reasons for travel, shows the purpose, costs and benefits of travel, compares in-person vs. virtual conferences and provides food for thought on alternatives

What can I use the module for?

- The module helps to shed more light on the topic of reasons for travelling with information and questions

Dr. Susann Görlinger
www.flyingless.de | @FlyingLess_de

What are travel reasons?

- Conference / workshop
- Colloquia / seminar lecture
- Project meeting
- Fieldwork
- Examinations (e.g. PhD examinations)
- Commissions / advisory boards
- Student excursion
- Summer / winter school
- Other

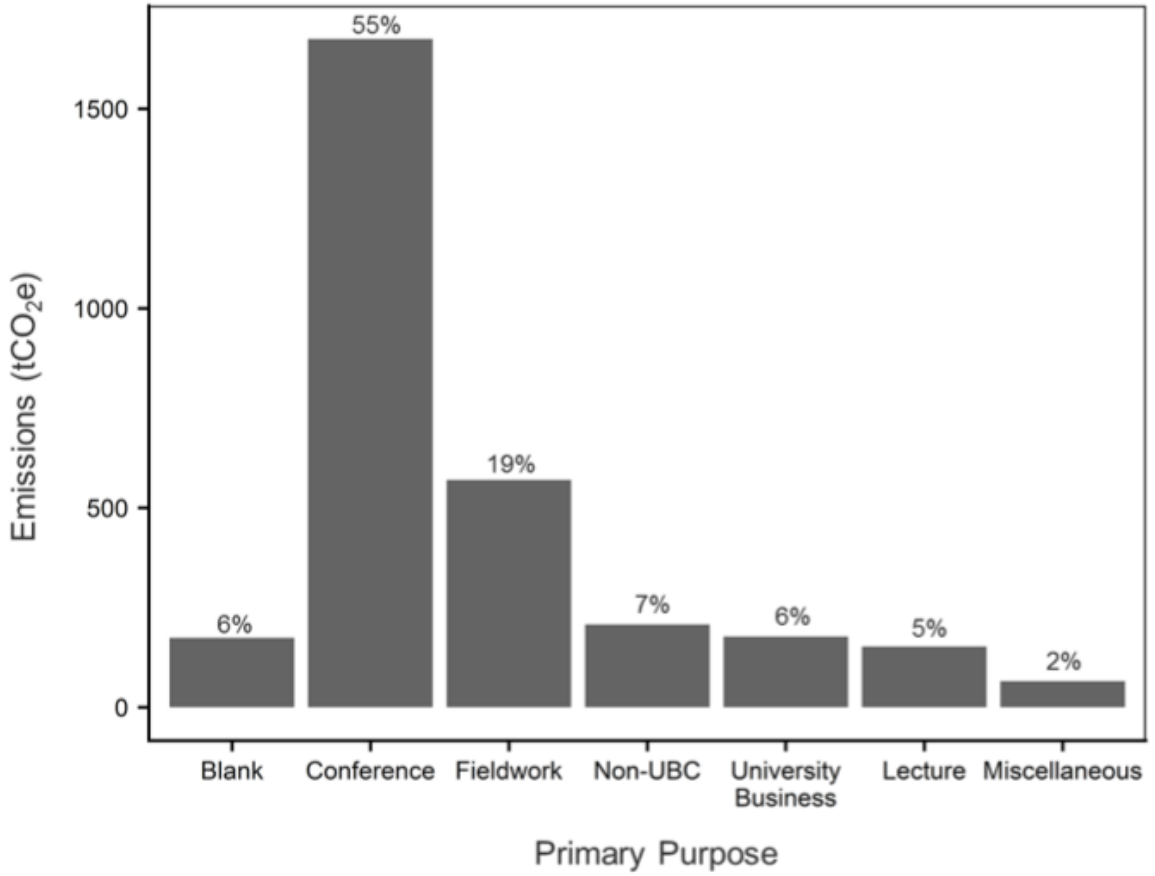
What are our most important travel reasons?

Dr. Susann Görlinger
www.flyingless.de | @FlyingLess_de

flyingless

What are travel reasons?

University of British Columbia*, reasons for travel and length of stay



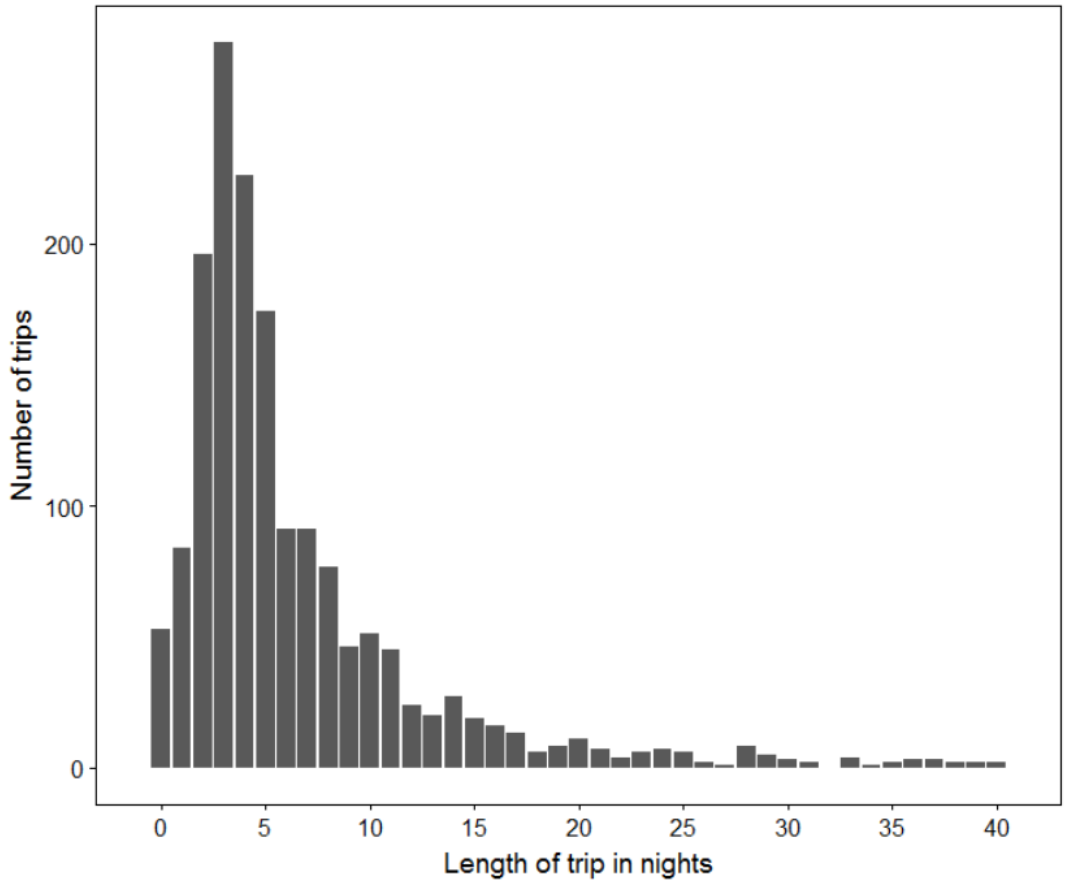
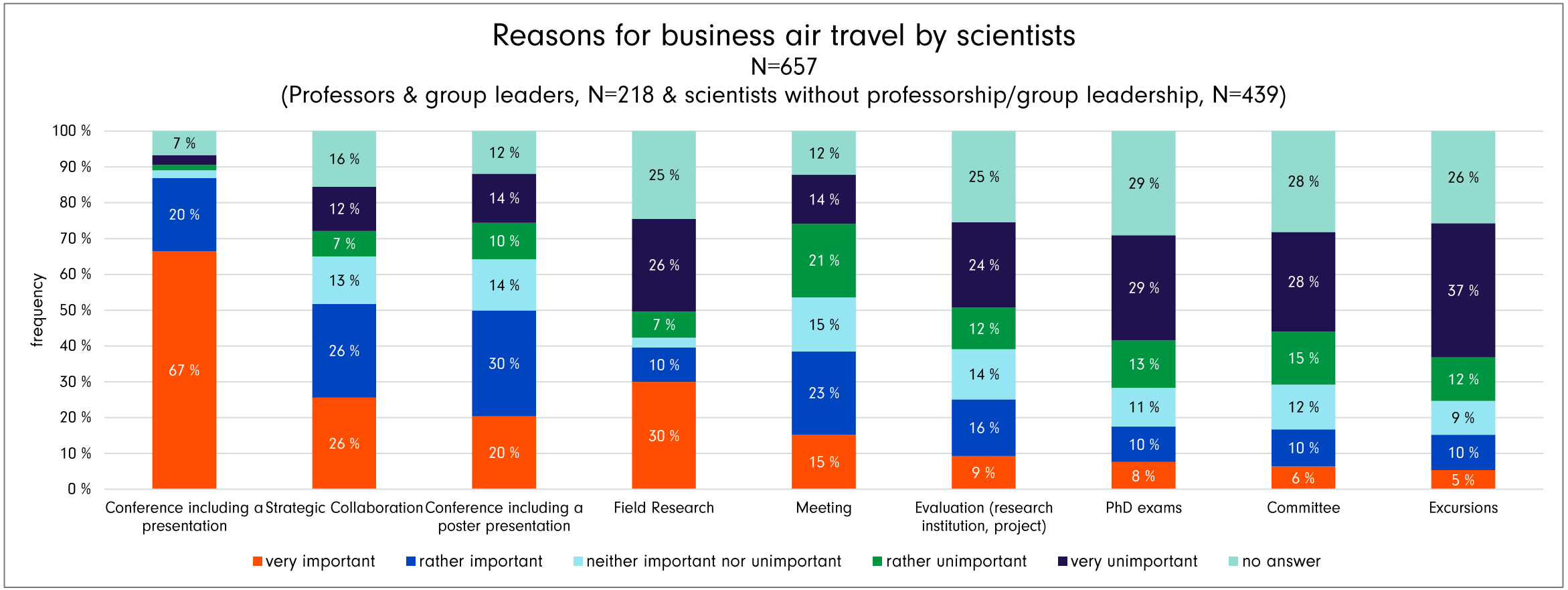


Image source: Wynes, S.; Donner, S., D. (2018): Addressing Greenhouse Gas Emissions from Business-Related Air Travel at Public Institutions: A Case Study of the University of British Columbia. Pacific Institute for Climate Solutions. https://pics.uvic.ca/sites/default/files/AirTravelWP_FINAL.pdf

Dr. Susann Görlinger
www.flyingless.de | @FlyingLess_de

What are travel reasons?

Surveys FlyingLess at eight different academic institutions

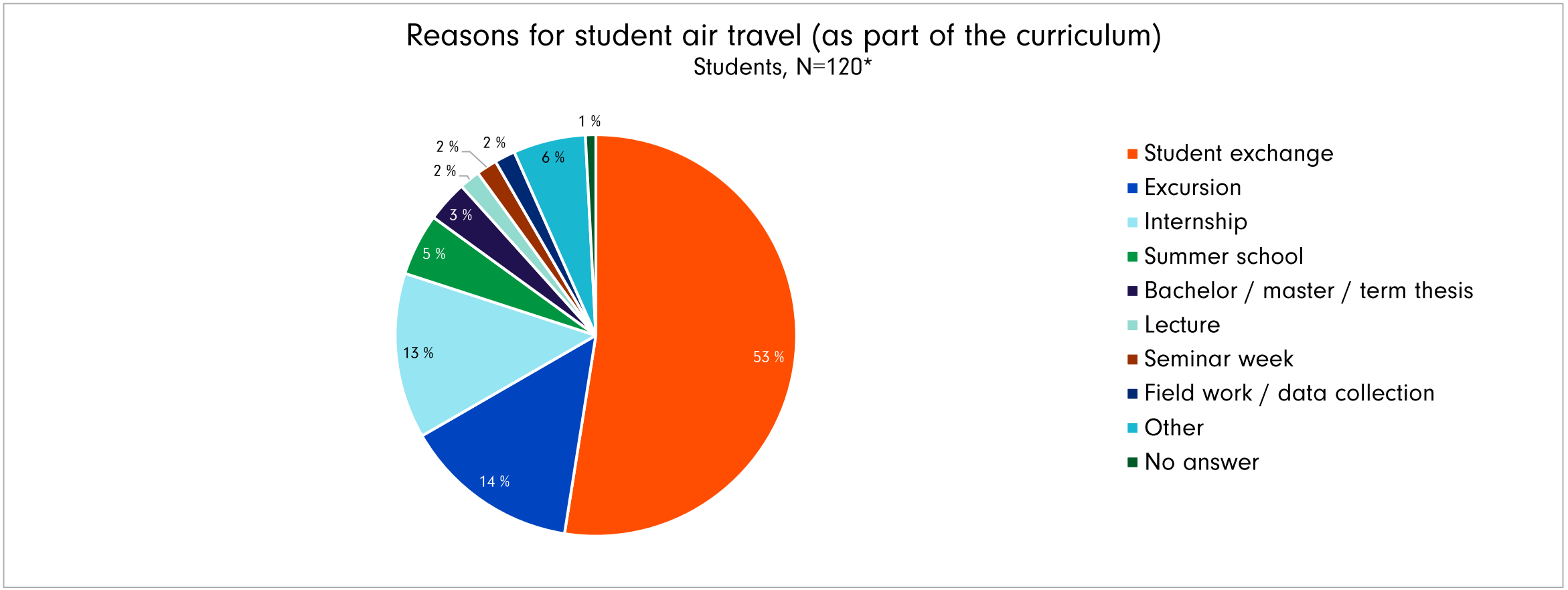


Graphic: Own illustration, FlyingLess survey 2022: C. Merrem, ifeu.

Dr. Susann Görlinger
www.flyingless.de | @FlyingLess_de

What are travel reasons?

Surveys FlyingLess at six different universities



*Students who stated they took a flight during their studies were asked about their most recent flight.

Graphic: Own illustration, FlyingLess survey 2022: C. Merrem, ifeu.

Dr. Susann Görlinger
www.flyingless.de | @FlyingLess_de

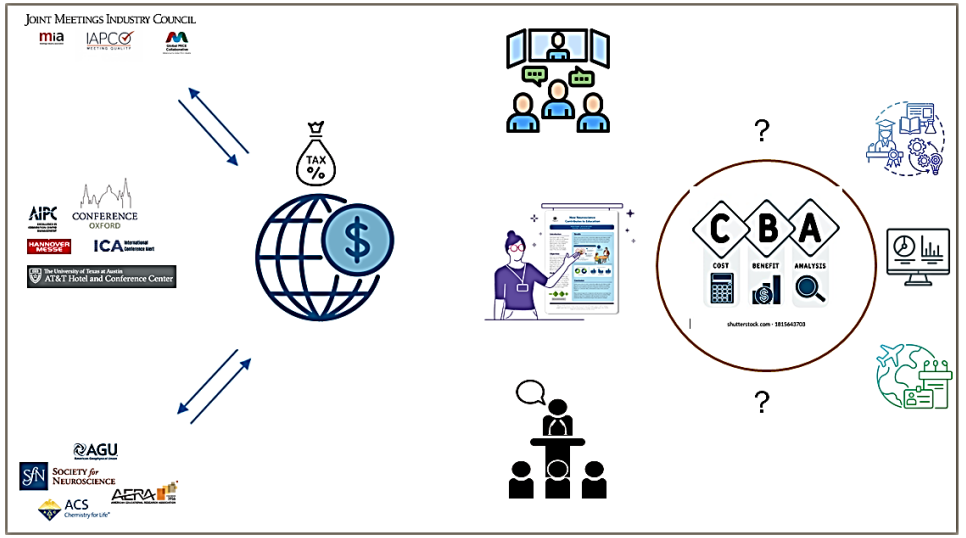
flyingless

Conferences as a global business

- As a global business, conferences attract enormous resources from conference organizers, scientific organizations and public and private institutions.
- Conferences are part of the overall meetings industry, which is one of the biggest taxpayers in the world

2017-2030

$805 billion	in 2017
$916 billion	in 2019
$1,439 billion	in 2025 (projected)
$1,780 billion	in 2030 (projected)



Academic, scientific and professional conference sector

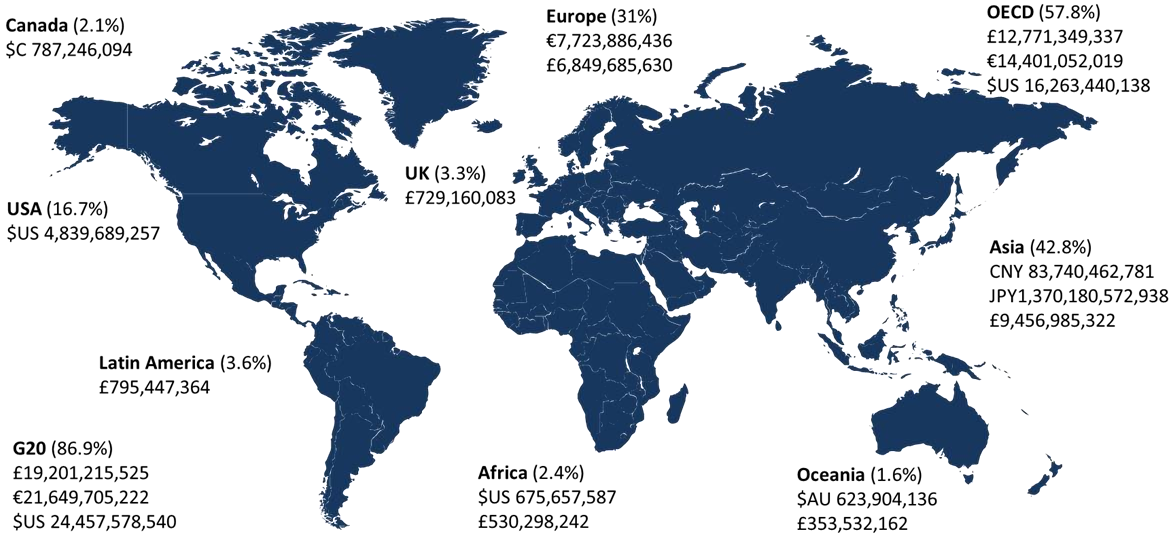
28,077 web-present Higher Education Institutions	37,500 scientific associations & learned societies (active)	• Local • Regional • National • International	7.8 million global multi-disciplinary researchers @ 1,300 disciplines	∞ immeasurable professions, organisers & funders

Graphic: Nicholas Rowe, Finnland poster.researcher@outlook.com
Rowe, N. (2017). Academic and Scientific Poster Presentation - A Modern Comprehensive Guide. Springer Nature.

Expenditure for conferences

- Using conservative estimates we spend over € 25 billion on conferences every year, and conference presentations exceed the most current estimates of that journal articles by 110 %.
- But the conversion rates of conference abstracts to full published papers is only 37 % and for posters less than 1 %.
- Interesting facts: The first conference proceedings was published in 1644, 21 years before the first journal appeared.
- "Lost" or unpublished conference research costs in the region of € 4.6 billion per year.

Extrapolated annual cost expenditures of conference delegates by global researcher share (UNESCO 2015)



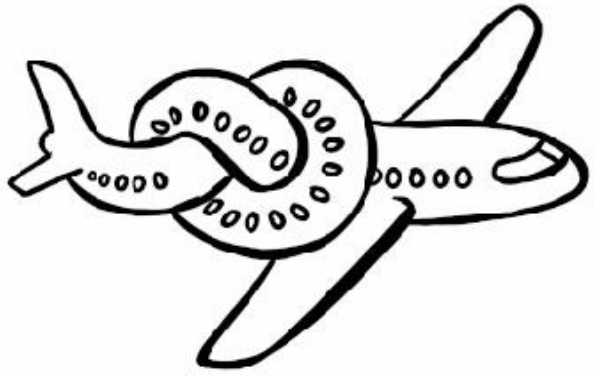
Global cost: £GB 22,095,760,098 ($US 28,981,516,689 / € 25,133,119,350)

Graphic: Nicholas Rowe, Finnland poster.researcher@outlook.com
Rowe, N. (2019) 'The Economic Cost of Attending Educational Conferences'. International Journal on Social and Education Sciences, 1(1), pp30-42. doi:10.6084/m9.figshare.8718569.

What we do not know about conferences

Despite the investments ...

1. Conferences are not really defined as a sector of scientific communication or learning.
2. Conferences are not monitored or clearly reported (events, participation, etc.).
3. Their funding is obscure and unaccounted (costs, sources).
4. Conferences are not clearly researched in terms of mechanisms, outcomes, etc., although their efficacy can be questioned.



But we continue to invest in conferences without measuring our commitments and the return on our investment

... and we continue to travel at significant cost to the environment.

Attending an physical international conference raises the individual carbon footprint by more than 6.7 times the normal EU daily level of production.

Graphic: © Lucia Fabiani.

Rowe, N. (2019). 'Poster, poster, on the wall; were you even there?' - a mixed-methods research on the effectiveness and perception of conference poster presentations [Doctoral dissertation]. Acta Electronica Universitatis Lapponiensis # 254, University of Lapland, Finland. doi:10.13140/RG.2.2.36568.96003

Dr. Susann Görlinger
www.flyingless.de | @FlyingLess_de

What do you want to achieve with the trip?

- Conference/ workshop: networking, presentation of own research results, external input/ feedback, getting to know new colleagues, career planning, scientific exchange, shows public character of research, one represents one's own research personally, comparison with others, where do I stand?
- Colloquia/ seminar lecture: presentation of own research results, reputation
- Project meetings: cooperation, joint development of ideas
- Fieldwork: data collection
- Examinations (e.g. PhD examinations): quality assurance, reputation
- Commissions / advisory boards: advice, control, quality assurance, reputation
- Student excursion: education
- Summer / winter school: training, network

Dr. Susann Görlinger
www.flyingless.de | @FlyingLess_de

What are the benefits and costs of flying? (tangible & intangible)

Benefit

- Presentation of results
- Exchange/ discussion
- Data from distant regions
- Enhancement of reputation (own person, institution, scientific field)
- Networking
- New projects, cooperations
- Job enrichment
- Cultural exchange
- Increased career opportunities
- Fulfilment of expectations (own, institution, science system)
- Costs compared to the train

Costs

- Financial costs
- Time
- Absence for teaching/ research
- Personal costs (family, health, overtime)
- GHG emissions
- Great inequality in who can travel (finances, time, etc.)

What's at stake if you don't fly?

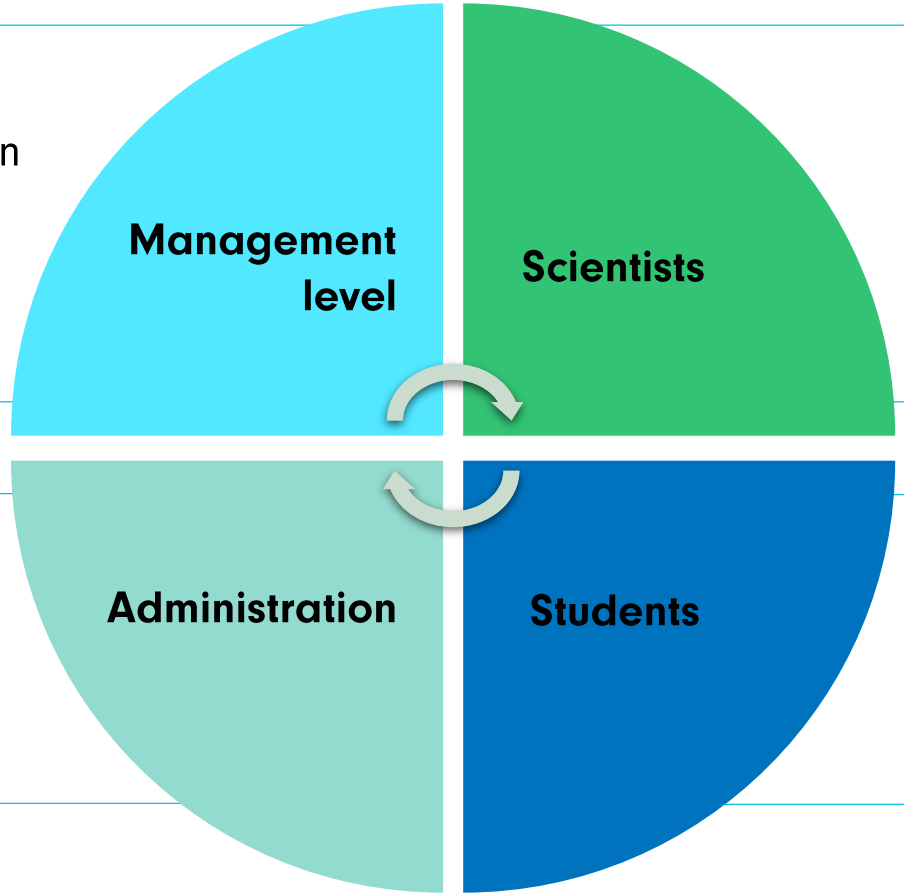
Dr. Susann Görlinger
www.flyingless.de | @FlyingLess_de

flyingless

Different groups travel for different reasons

→ Differentiated consideration necessary to identify alternatives

- Representation of the institution
- Committees
- Strategic cooperation



- Conferences, committees, meetings
- Field research - excursions
- Strategic cooperation
- PhD exams
- Reviews (Research unit, project)

- Administrative support of international projects
- Committees
- Strategic cooperation

- Excursions
- Field research
- Internships

Graphic: Own illustration, ifeu.

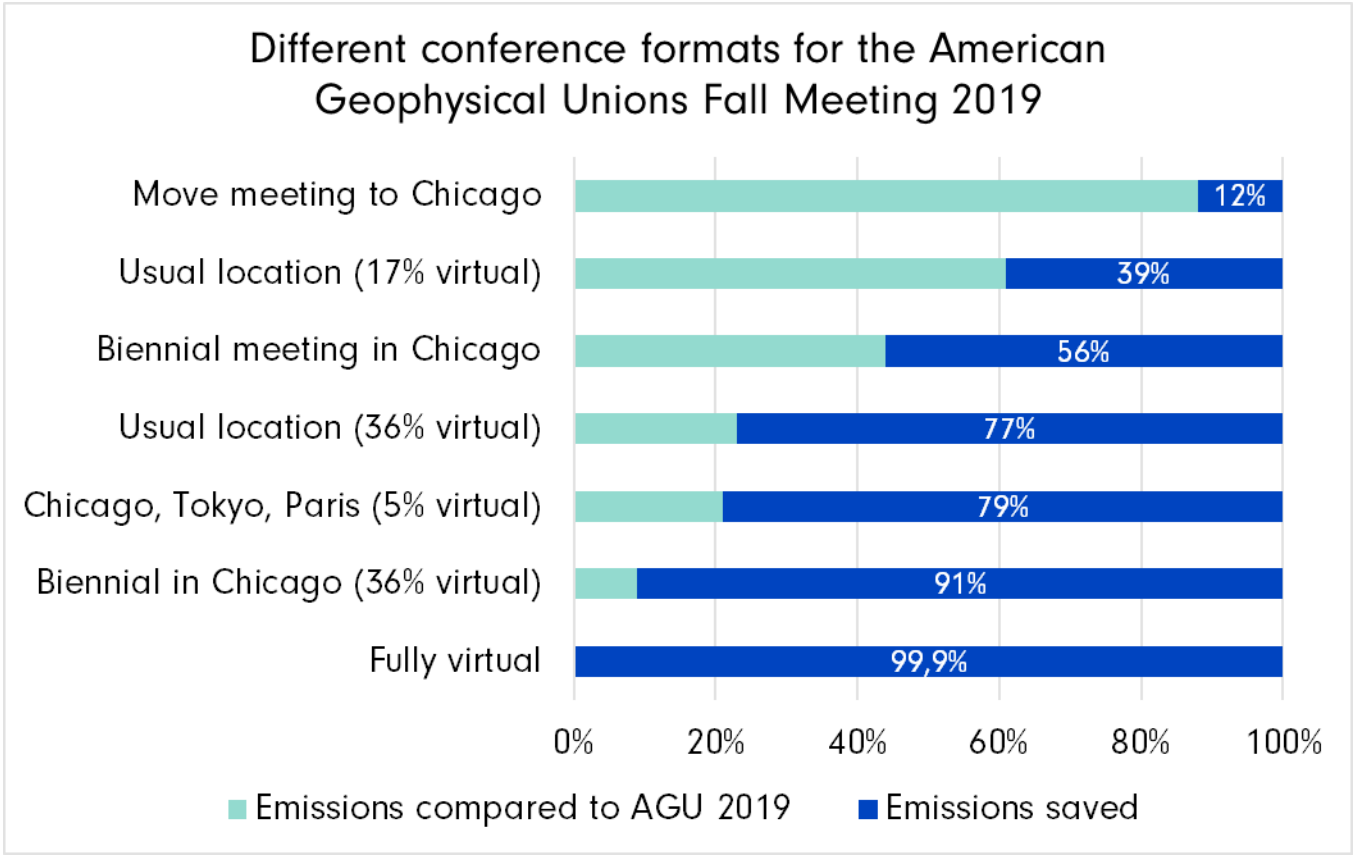
Dr. Susann Görlinger
www.flyingless.de | @FlyingLess_de

flyingless

Conferences are one of the most common reasons for travel and cause high emissions

What are possible alternatives?

- 28,000 participants, 80,000 t CO2 equivalent
- 75 % from flights over 8,000 km
- 20 % (> 2 months) of the annual emissions of the city of Constance

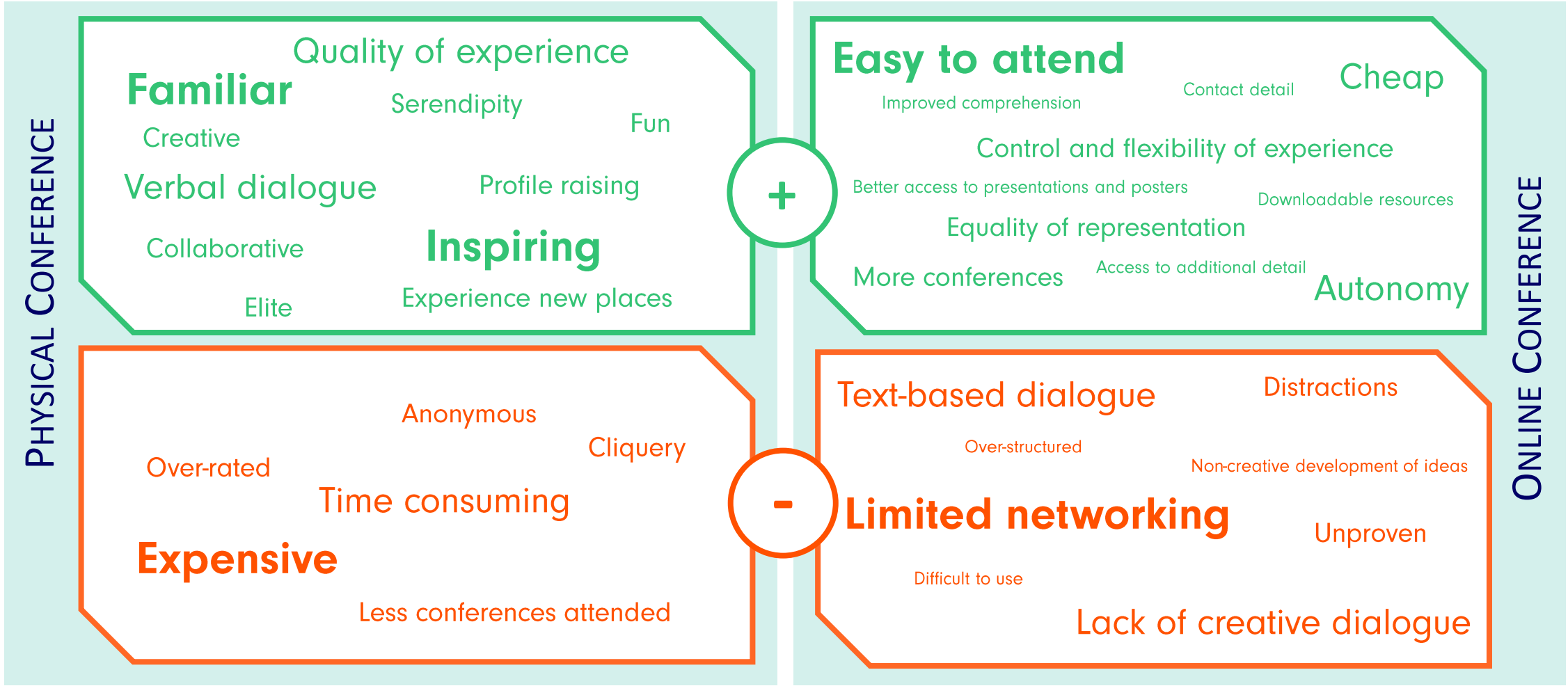


Graphic: Own illustration based on data from Klöwer 2020, https://doi.org/10.1038/d41586-020-02057-2

Dr. Susann Görlinger
www.flyingless.de | @FlyingLess_de

flyingless

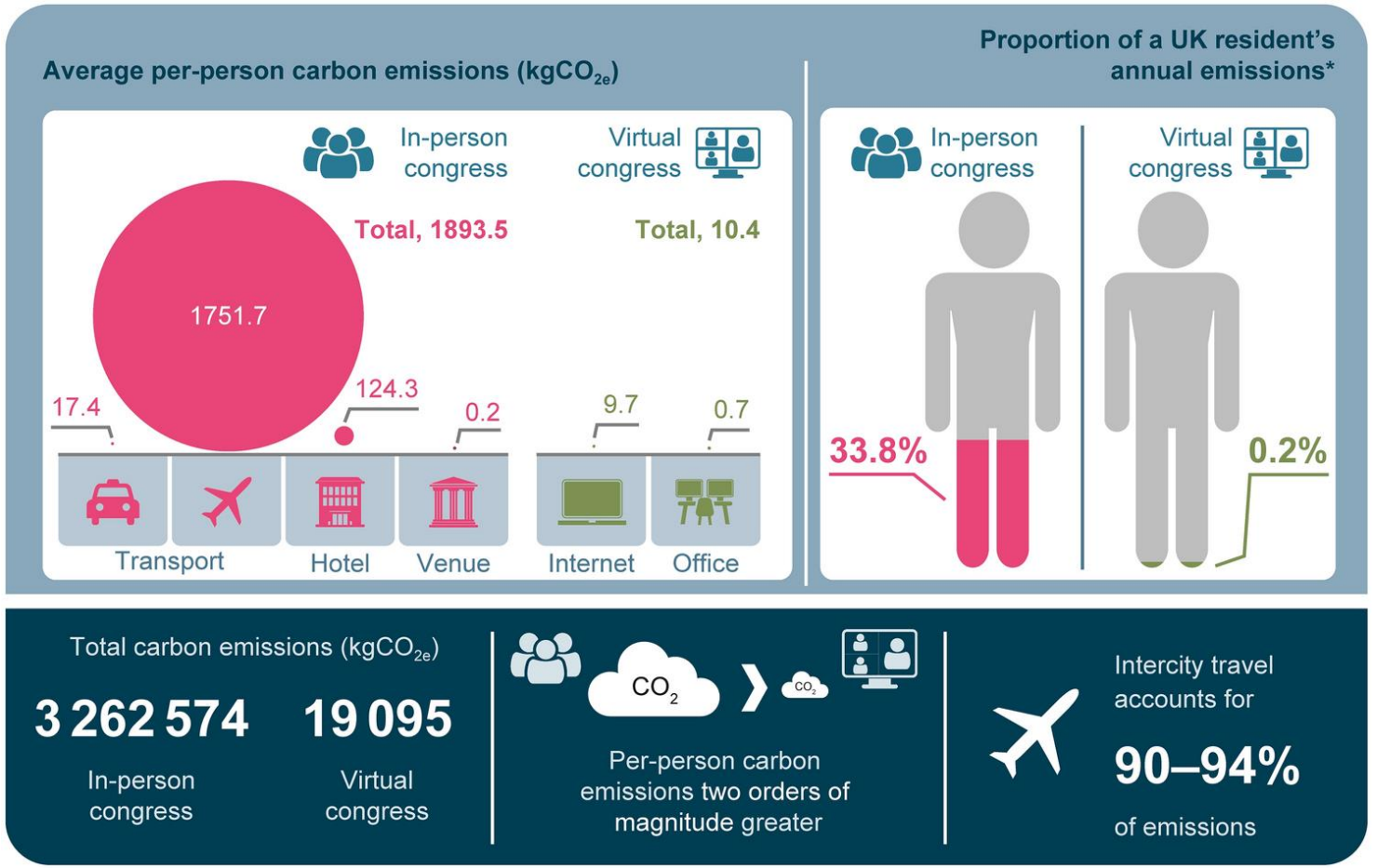
Conferences: virtual or in person?



Font size indicates frequency of mentioning.
Figure: Own illustration on basis of Elsevier 2020. https://www.elsevier.com/connect/evolving-the-academic-conference-during-covid-and-beyond

Dr. Susann Görlinger
www.flyingless.de | @FlyingLess_de

Virtual conferences (see also Module 3.1)



Comparison of in-person and virtual congresses (average of four congresses).

Image source: William T. Gattrell, Aurélie Barraux, Sam Comley, Michael Whaley, Nicholas Lander «The Carbon Costs of In-Person Versus Virtual Medical Conferences for the Pharmaceutical Industry: Lessons from the Coronavirus Pandemic» (2022). License: CC BY-NC 4.0. https://doi.org/10.1007/s40290-022-00421-3

Dr. Susann Görlinger
www.flyingless.de | @FlyingLess_de

Virtual conferences (see also Module 3.1)

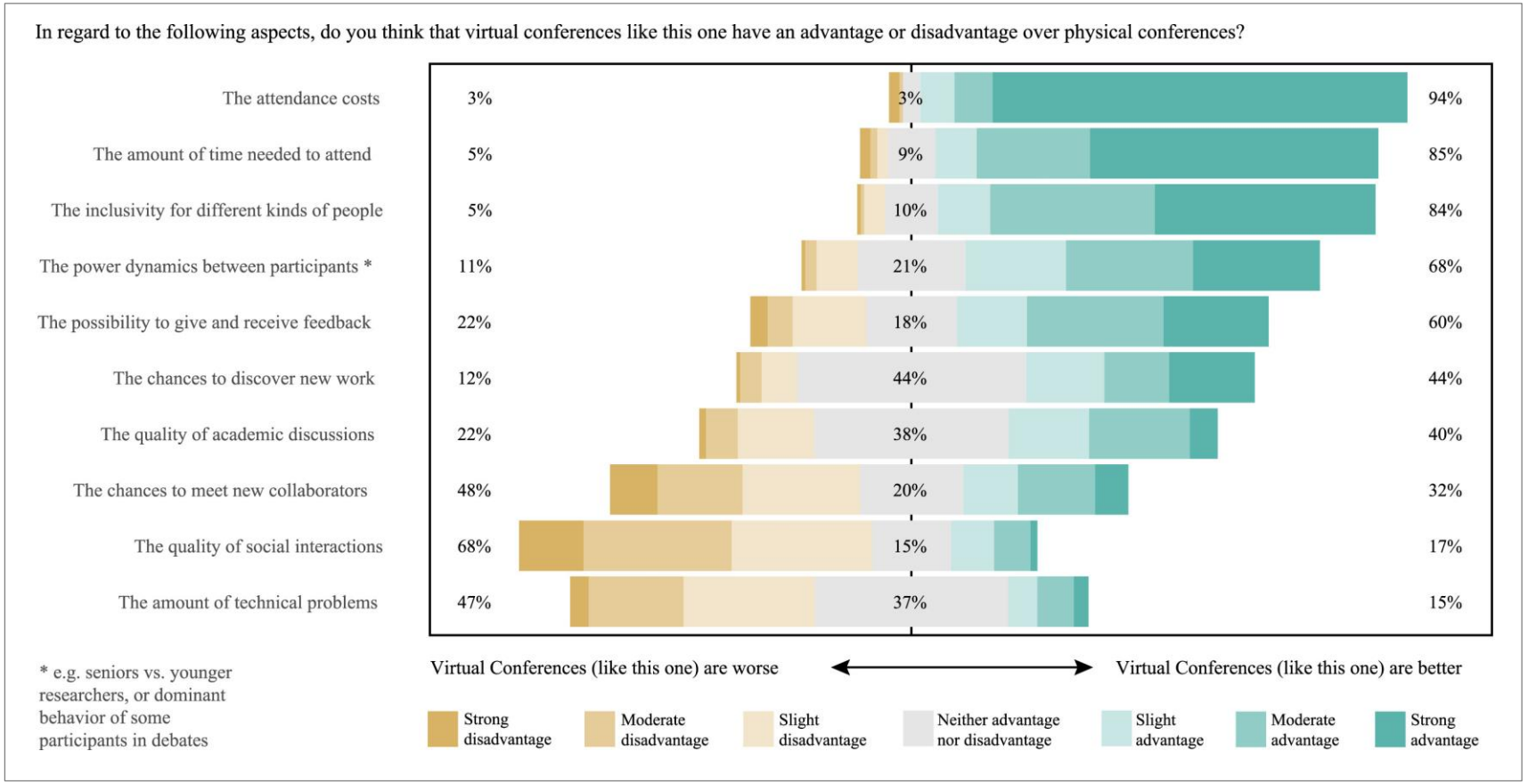
	In-person conferences		Virtual conferences	
	M	SD	M	SD
Best attended conferences	8.13	1.71	6.46	2.15
Average attended conferences	6.88	1.39	5.42	1.85
Worst attended conferences	4.35	2.02	3.10	1.94

Variables were measured on a scale from 1 (extremely useless) to 10 (extremely useful).

Usefulness of best, worst and average in-person and virtual conferences participants had attended. Results from a survey among early career researchers in environmental psychology.

Virtual conferences (see also Module 3.1)

Benefits and challenges of virtual conferences



flyingless

Food for thought
Find alternatives

- Consideration of why face-to-face meetings are needed (this might vary depending on the purpose)
- Prepare face-to-face meetings in advance via various other channels (mail, virtual meetings, etc.) so well that only a few face-to-face meetings are needed, but they are then very efficient.
- Try out new formats for virtual conferences (e.g. not on consecutive days, but spread out over several weeks, taking into account different time zones).
- Further development and expansion of good virtual tools to cover different purposes (meetings, conferences, etc.).

Dr. Susann Görlinger
www.flyingless.de | @FlyingLess_de

About FlyingLess

The aim of the FlyingLess project is to support universities and research organisations in reducing air travel, which causes a significant part of their total greenhouse gas emissions.

FlyingLess develops approaches to reduce air travel in the academic sector, which are implemented at different levels (research, teaching and administration).

The project is being carried out in close cooperation with four pilot institutions - EMBL (European Molecular Biology Laboratory) and MPI Astronomy in Heidelberg as non-university research institutions and the Universities of Konstanz and Potsdam as universities.

Further information can be found on the website www.flyingless.de.

The project is being led by ifeu Heidelberg in close cooperation with the TdLab Geography at the Institute of Geography at Heidelberg University.

The project is funded over 3 years as part of the National Climate Initiative (NKI) of the Federal Ministry for Economic Affairs and Climate Protection.

Contact

Project management
Dr. Susann Görlinger

ifeu - Institute for Energy and Environmental Research Heidelberg gGmbH

E-mail
susann.goerlinger@ifeu.de

Website
www.flyingless.de/en/

Twitter
@FlyingLess_de