Halving the emissions of academic conferences

A multi-location, semi-virtual approach

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Flying and climate change

A long intercontinental return flight in economy class causes emissions equivalent to burning a **ton of carbon** (3.7 tCO2e)

—cf. an ordinary car driven an ordinary way for a year

“Equivalent”?

- Emissions include CO, nitrogen oxides, sulfur oxides, lead, black carbon
- Dependency on altitude
- Different half-lives in atmosphere

Aviation:

- 5% of anthropogenic global warming
- Rising 5% per year, no end in sight
- No sustainable alternative

Death toll from climate change

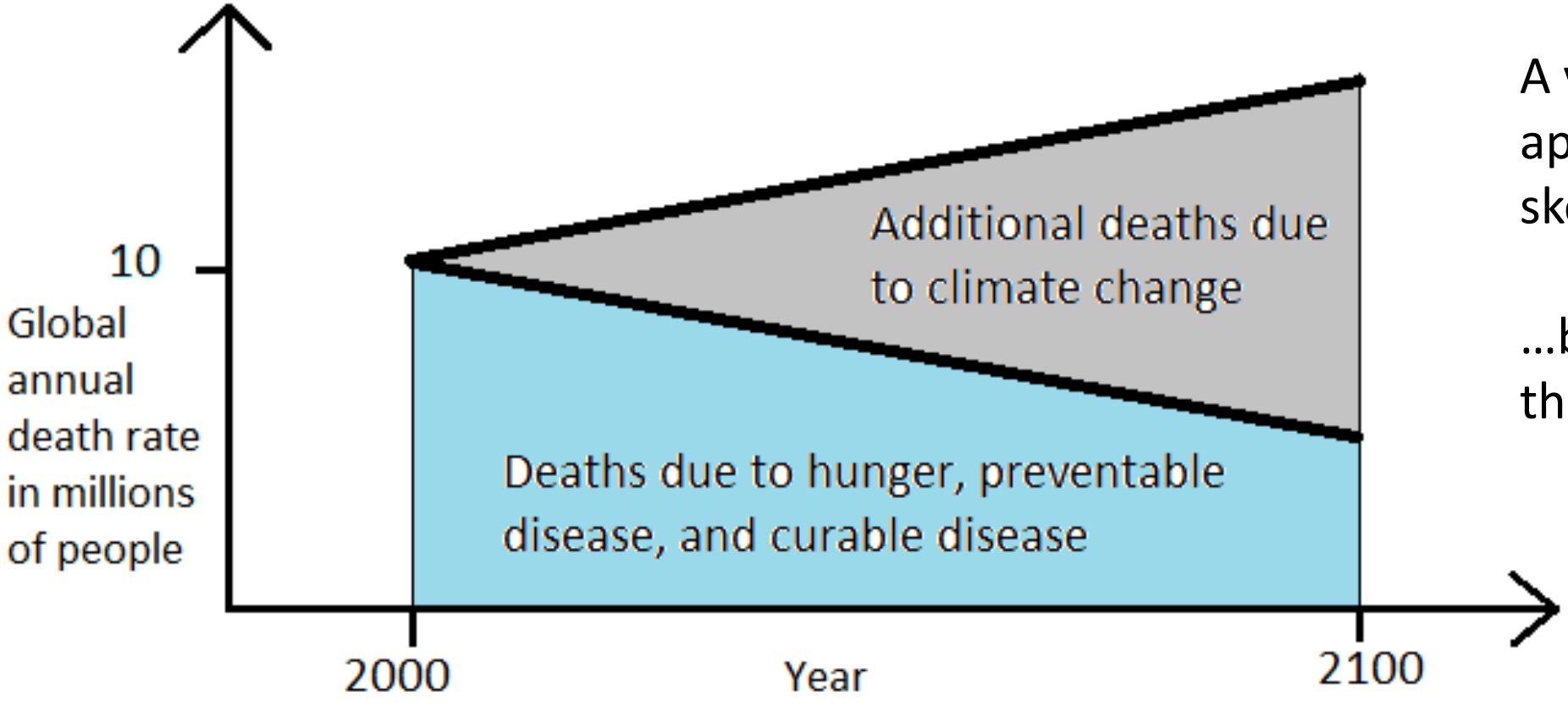
Hunger, thirst, disease

- Rising seas → agriculture
- Dry areas: even drier → agriculture
- Oceans: warmer, more acidic → fishing
- Accelerated species extinction (biodiversity loss)
- Unpredictable interactions and tipping points

Violence

- Extreme storms and heat waves
- International conflicts
- Migration

Death toll from climate change



A very approximate sketch

…but better than nothing

One premature death ≈ 40 lost life-years (high child mortality)

The 1000-ton rule

Order-of-magnitude estimate

10^{12} tons of carbon → 10^{9} future deaths

10^{3} tons of carbon → 1 future death

Estimated future death tolls

Australian coal, per year

- 400 million tons coal
- 300 million tons carbon
- 300,000 future deaths

One long international flight

- 200,000 liters of fuel
- 135 tons of carbon
- effective: x2
- 4 flights = 1 future death

Climate-protection strategies

Individual (Wynes & Nicholas, 2017)

- One less child (avoid 58 tCO_2e in developed countries)
- No car (2.4 tCO_2e/yr)
- No flying (1.6 tCO_2e per roundtrip transatlantic flight)
- No meat (0.8 tCO_2e/yr)

Collective/political

- Reduce emissions of smaller and larger groups (meetings, countries)

Academic conference options

Virtual

- Zero emissions
- Poor conference experience

Semi-virtual*

- Halve emissions
- Good experience

Business as usual

- Regular emissions
- Good experience

** Less face-to-face communication BUT more choice: more people, papers, diversity*

Stakeholders

Beneficiaries from “pure research”
Academics, musicians, psychologists…
Interested professionals, politicians, public…

Academics with limited funding
Can’t afford registration + flight + accommodation

Children, especially in developing countries
Poverty & climate change are life-threatening

findingschools.files.wordpress.com

itsallaboutculture.com

European
Society for the
Cognitive Sciences
Of
Music

ICMPC
International Conference on Music Perception and Cognition
Every 2 years since 1989 in Europe, North America, or Asia-Pacific

ESCOM
European Society for the Cognitive Sciences of Music
General conference every 3 years since 1991

ICMPC/ESCOM
Every 6 years
Next: 23-28 July 2018

Topic ≈ "systematic musicology"
psychology, sociology, acoustics, neuroscience, information sciences, philosophy of music

4 hubs, 1 conference

ICMPC15
ESCOM10
2018

Morning: communicate in real time toward the East. Evening: toward the West.

Conference aims

Old and new

General

Promote high-quality research in our discipline(s)

Facilitate international collaboration

Avoid net harm to humans (research ethics)

Specific

Global outreach:	More equal global distribution of participants
Social inclusion:	Based more on quality & less on money or mobility
Cultural diversity:	…of both participants and academic content
Creativity:	Fun and personal contacts are good for productivity
Dissemination:	Abstracts, proceedings, live streams, videos
Emissions:	Halve them

Presentation technology

High-quality, one-way communication

- OBS: Mix talking head with Powerpoint
- Sound: Mix voice with sound files
- YouTube: stream to cloud

Timing

- Recording starts automatically on time
- Delay of <1 minute to remote hubs

Questions/discussion

Medium-quality, two-way communication

- Zoom
- Remote audiences see each other
- Three wireless microphones per hub

Also possible:

- stay in YouTube
- audience writes comments
- speaker reads them and answers

Programming

- All talks live-streamed → real time at another hub
- Some also ás videos at other hubs (e.g. symposia)
- Some additional videos (disability, caring commitments)

Confidentiality

Password-protected system

- Each presentation has a folder
- Registered participants have access
- Author uploads abstract, procs, sound examples…
- Links to stream/video appear automatically
- Participants agree not to share materials

Global 24-hour program

Morning: communicate toward East
Evening: commmunicate toward West

UTC (GMT)	Δ	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Montreal	-4	20													9	10	11	12					17	18	19
La Plata	-3														10	11	12	13				17	18	19	20
Graz	+2							8	9	10	11				15	16	17	18							
Sydney	10	10	11	12				16	17	18	19														9

Solo timeslots

Sydney 11am-1pm
La Plata 5-6pm

→ Non-streamed talks and demonstrations/workshops
→ Symposia based on videos
→ Local concerts

Symposia

- Based on accepted abstracts
- Similar topic, different locations
- First presentation is live by organiser
- Organiser chairs 2-3 videos
- Second half of conference

Workshops & demonstrations

- Demonstrations are streamed → high quality
- Workshops are either local or use meeting software

Breaks

- Coincide at different hubs
- Also before start and after end of every day
- Random and planned encounters

thebalance.com

amazon.com

Chat room

- no background noise
- computers with 2 headphones & 1 mike

Video-conferencing room

Available for booking

A previous similar conference

Coroama, V. C., Hilty, L. M., & Birtel, M. (2012). Effects of Internet-based multiple-site conferences on greenhouse gas emissions. *Telematics and Informatics*.

- “Field experiment”
- “advanced videoconferencing technology”
- 2 locations (CH and Canada/Japan)
- Emissions reduced by 37% to 50%
- Skyping in coffee breaks
- Positive attendees’ experience
- High acceptance of technology

Discontinued?

Acknowledgments

Co-organizer
Sabrina Sattmann
Technical assistants
Nils Meyer-Kahlen, Daniel Reisinger, Kathi Pollack
Other hub organisers
La Plata: Isabel Martinez
Montreal: Eldad Tsabary and Christine Beckett
Sydney: Emery Schubert
ICMPC committee
Steve Demorest, Bill Thompson, Emilios Cambouropoulos, Ed Large, Justin London, Kyong Myun
ESCOM committee
Jane Ginsborg, Renee Timmers, Jukka Louhivuouri, Jaan Ross, Reinhard Kopiez, Irène Deliège and others

Suggestions are welcome!

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