

How to Give an Effective Presentation



**GEOG0170 Seminar
Week 9**

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15 March 2022**

Manage your time effectively



12 minutes

Budget a slide a minute at most.

Excludes title slide and slide with reference list.

Be selective of content to present.

The goal is not to cram in as much information as possible. It's to tell a story.

Suggested Slides Sequence

First Slide: Title (Handshake) Slide

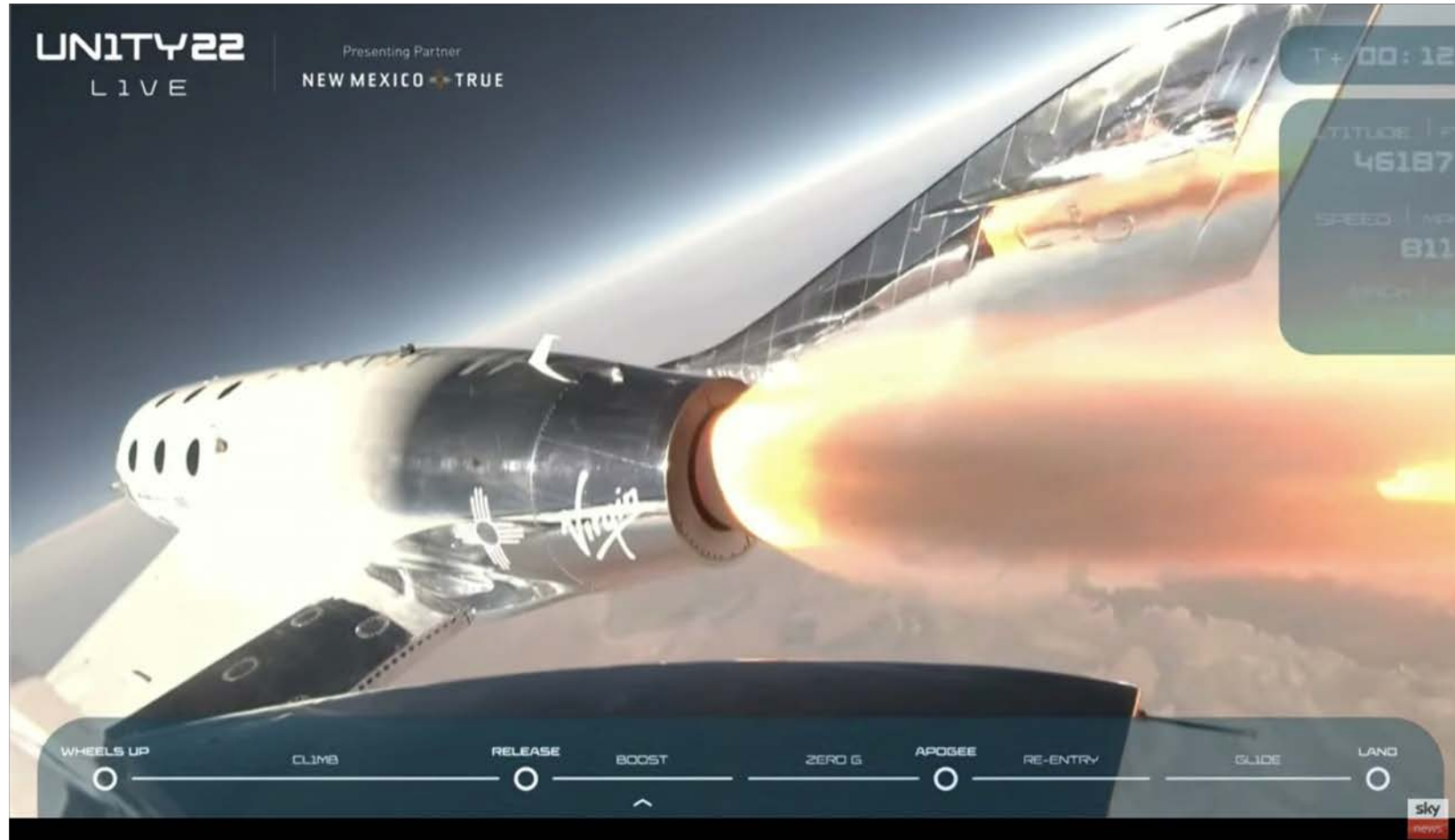
Next 8-12 Slides: Content

Final Slide: Conclusions

Additional Slide: Reference List (just show at end of presentation)

Example Title (Handshake) Slide

The Billionaire Space Tourism Race Could be One Giant Leap for Air Pollution



Formatting Best Practices for Content Slides

- Less is more. Keep slides simple and uncluttered.
- Use a plain background. Avoid templates (except a box for the Zoom window).
- Keep text to a minimum. Figures/images/illustrations should dominate.
- Use 18+ font size for text (sometimes smaller font sizes for figures).
- Use Arial-equivalent font types. Avoid decorative fonts, like Times New Roman.
- Animated slides are fine, but keep to a minimum. If overused, these can be distracting.
- Videos or GIFs can be effective, but make sure these work.
- Acknowledge data/literature sources in the same format as in-text citations.
- Steer clear of **acronyms**. These stand in the way of effective communication.
- All text (including figure labels) must be in your own words (no quotes)

Ban the Bullet Point

These are okay for lecture slides (serve as reference), but not for a talk

Audience reads the text, rather than listens to what you have to say

Find appropriate images with Google, primary literature, reported from reputable sources

Or create your own!

Transform your Slide from this:

Space Tourism Propellants

- Three different types of propellants used by space tourism companies:
 - Virgin Galactic: hybrid solid and liquid
 - Blue Origin: cryogenic
 - SpaceX: liquid
- The different types of propellants include a fuel and an oxidizer:
 - Hybrid: Solid synthetic rubber (HTPB) fuel and liquid nitrous oxide (N_2O) oxidizer
 - Cryogenic: Liquid hydrogen fuel and liquid oxygen oxidizer
 - Liquid: Liquid kerosene and liquid oxygen oxidizer
- Virgin Galactic and SpaceX fuels are carbon-based and so produce CO_2
- Blue Origin fuel has no carbon and so does not produce CO_2

To this:

Space Tourism

Each rocket uses a different propellant

Virgin Galactic



Hybrid:

solid fuel (HTPB) +
liquid oxidizer (N_2O)

Carbon-based fuel

Blue Origin



Cryogenic:

liquid fuel (H_2) +
liquid oxidizer (O_2)

No carbon in fuel

SpaceX



Liquid:

kerosene +
liquid oxidizer (O_2)

Carbon-based fuel

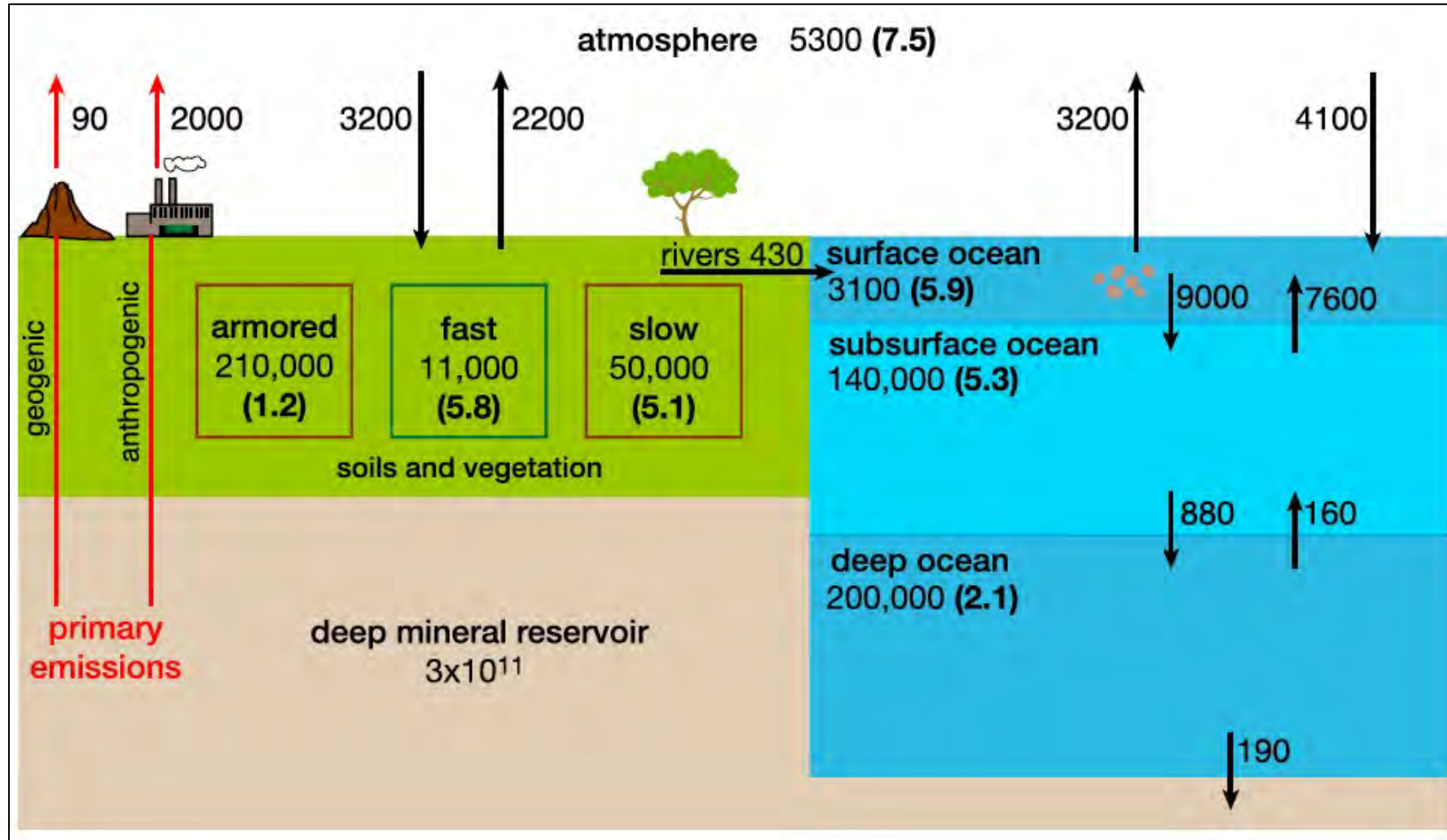
Avoid Tables

Almost always an unimaginative, unrelatable and hard to comprehend way to display data

Why show data in a table?

Table 1. Present-Day Hg Reservoirs and Flows ^a	
	Flows (Mg a ⁻¹)
Atmosphere: 5000 Mg	
Hg(II) deposition to ocean	3900
Hg(0) deposition to ocean	40
Hg(II) deposition to land ^b	1500
Hg(0) deposition to land ^c	1500
Surface ocean ^d : 2900 Mg	
Hg(0) evasion	3000
Particle settling to subsurface ocean	3300
Water transfer to subsurface ocean	5100
Subsurface ocean ^e : 130,000 Mg	
Particle settling to deep ocean	480
Water transfer to surface ocean	7100
Water transfer to deep ocean	340
Deep ocean: 220,000 Mg	
Burial to deep sediments	210
Water transfer to subsurface ocean	180
Fast terrestrial pool: 9600 Mg	
Evasion due to respiration of organic carbon	460
Photochemical re-emission of deposited Hg	850
Biomass burning ^f	290
Transfer to slow pool	330
Transfer to armored pool	10
River runoff to surface ocean ^g	365
Slow soil pool: 35,000 Mg	
Evasion due to respiration of organic carbon	250
Biomass burning	8
Transfer to fast pool	210
River runoff to surface ocean	10
Armored soil pool: 190,000 Mg	
Evasion due to respiration of organic carbon	25
Biomass burning	4
Transfer to fast pool	15
River runoff to surface ocean	5
Deep mineral reservoir: 3×10^{11} Mg	
Geogenic emission	90
Anthropogenic emissions ^h	2000

When it can be more clearly illustrated:



Content Slides Layout

Account for the
Zoom video

Specific slide title (not generic like “Results”)

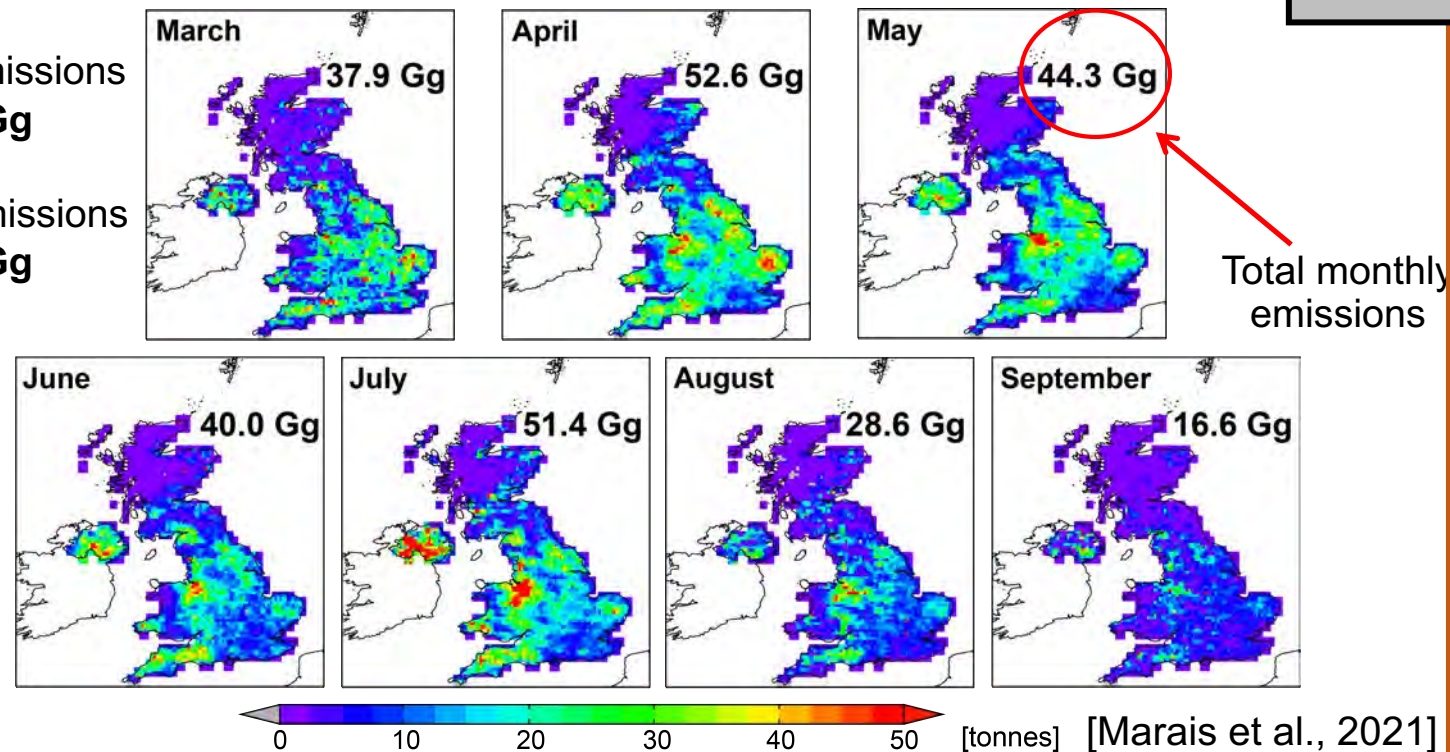
Satellite-derived ammonia emissions at fine scales (monthly, 10 km)

Top-down ammonia emissions derived with a mass-balance approach

IASI-derived emissions
total **272 Gg**

CrIS-derived emissions
total **389 Gg**

Prominent and
well labelled
image



Bottom-up emissions total **199 Gg** and so are 27-49% less than top-down values

Brief, punchy take-home message

Conclusions Slide

The only slide where it's okay to show bullet points and majority/only text

Opportunity to briefly wrap-up presentation

Draw out the most pertinent points (take-home message)

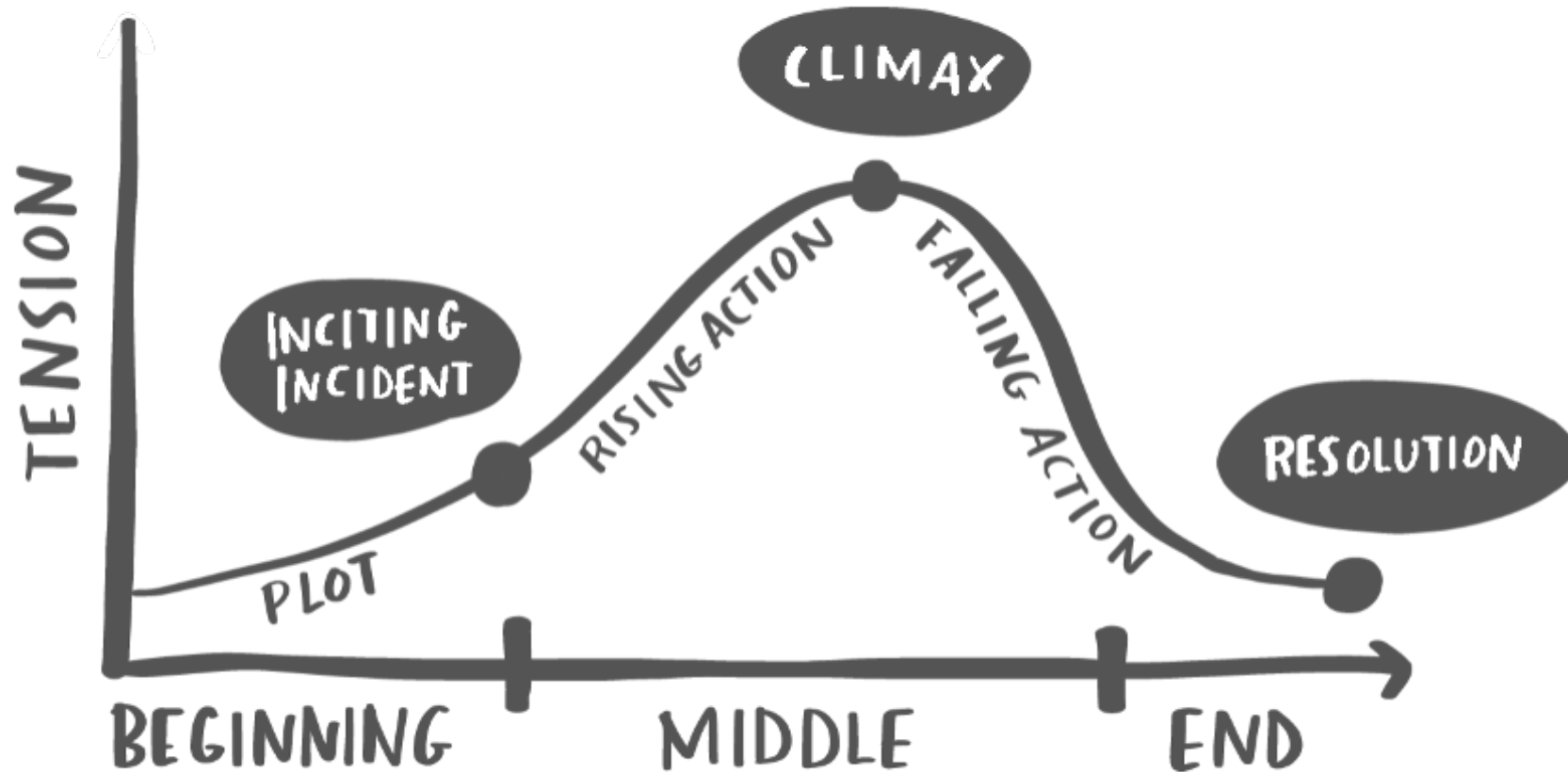
This could include a call to action or a personal reflection on the environmental issue based on your research.

Additional Advice

- Know Your Audience
- Convey enthusiasm
- Practice
- Avoid presenting from a script (practice and familiarity with content address this)
- Test the technology beforehand
- Aim for text to occupy ~10% of the slide at most
- Each slide must convey a clear message
- Ensure content is relatable
- Figures in papers aren't always directly suitable for presentations
- Zoom specific: look at the camera while presenting
- Use Web of Science database to search for primary literature. UCL library link: <https://library-guides.ucl.ac.uk/wos>

Additional Advice

Tell a Story: Setup (intro), Climax (results), Resolution (conclusions)



Reference List

References Used in this Talk:

Amos, H.M., D.J. Jacob, D.G. Streets, E.M. Sunderland, Legacy of all-time anthropogenic emissions on the global mercury cycle, Global Biogeochemical Cycles, 27, GBC20040, doi:10.1002/gbc.20040, **2013**.

Marais, E. A., A. K. Pandey, M. Van Damme, L. Clarisse, P.-F. Coheur, M. W. Shephard, K. E. Cady-Pereira, T. Misselbrook, L. Zhu, G. Luo, F. Yu, UK ammonia emissions estimated with satellite observations and GEOS-Chem, J. Geophys. Res. Atmos., 126, doi:10.1029/2021JD035237, **2021**.

Additional Resources

Geography Assessment Criteria: <https://www.geog.ucl.ac.uk/study/undergraduate/current-students/files/UG%20Criteria%20October%202017.pdf>

If I understood you, would I have this look on my face? Book on communicating science by Alan Alda

Examples of well crafted slides: <https://maraisresearchgroup.co.uk/presentations.html>
(& 2 1-hour lectures by Research Fellows in my group!!!)

Presentation advice Dr Marais gives to PhD students:
<https://maraisresearchgroup.co.uk/Presentations/EffectivePresentation-UCL-Feb2022.pdf>

Nature blog: <http://blogs.nature.com/naturejobs/2017/01/11/scientific-presentations-a-cheat-sheet/>

How to tell a compelling story in scientific presentations: <https://www.nature.com/articles/d41586-021-03603-2>

Hidden Brain podcast episode: <https://www.npr.org/2020/01/09/794683840/tell-me-a-story-what-narratives-reveal-about-the-mind>