

TALLINNA TEHNIKAKÜLKOOL  
TALLINN UNIVERSITY OF TECHNOLOGY

Recipes for cooking an appealing presentation (for wide public)  
[Short version for 3-min lectures]

Hints about using audio-visual aids  
to deliver your research message

Tarmo Soomere  
Estonian Academy of Sciences

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere

TALLINNA TEHNIKAKÜLKOOL  
TALLINN UNIVERSITY OF TECHNOLOGY

Instead of Introduction

Communication and science

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere

TALLINNA TEHNIKAKÜLKOOL  
TALLINN UNIVERSITY OF TECHNOLOGY

Science, publication, communication

- Science (*scientia* = knowledge) – a **systematic** enterprise that builds and **organizes** knowledge in the form of testable explanations and predictions (Wikipedia)
- Aristotle: the body of **reliable** knowledge, of the type that can be logically and rationally explained
- Modern use: a **way of pursuing** knowledge, not the knowledge itself.
- A scientific method seeks to explain the events of nature **in a reproducible way**
- Scientific journals **communicate and document** the results of research
- Presentations (both scientific and public): rapid way of **communication**

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere

TALLINNA TEHNIKAKÜLKOOL  
TALLINN UNIVERSITY OF TECHNOLOGY

Definition of science

[science has always been]

- obtaining new, essential knowledge
- AND communicating it to others
- by reliable, well-documented means
- research papers

What has added nowadays:

- communication to public, stakeholders, policymakers etc.
- in a form understandable to them

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere

TALLINNA TEHNIKAKÜLKOOL  
TALLINN UNIVERSITY OF TECHNOLOGY

What you will NOT learn here

- How to perform your research
  - I assume that there exist enough **rich-in-content and attractive** material for a presentation of your research to wider public
- What exactly is important/hot/promising in your field
  - I assume you are good experts in what you are doing
- How to express yourself in the target language
  - I assume that you have a good command of the language
- Though, there will be hints about the use of commonly accepted styles of presentation

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere

TALLINNA TEHNIKAKÜLKOOL  
TALLINN UNIVERSITY OF TECHNOLOGY

What you might learn

- Common standards for scientific presentations
- Guidelines for creating (more) professional presentations
- Techniques that help in catching the eyes of public
- Recommendations about the (mis)use of text and illustrations
- BUT this all is just "technology"

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere

A great motivation for this lecture - advice from Prof. Terry Healy:  
**Aim for the highest and don't accept anything less**

**Scientific Presentation with Visual Aids**  
**Conference Paper and Poster Presentations**

**Terry Healy (1944–2010)**

Coastal Marine Group, University of Waikato, NZ  
 Adjunct Professor, Nanjing University, China  
Visiting Professor in Coastal Engineering,  
 Tallinn University of Technology

coastal marine group  
 University of Waikato

The University of Waikato

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Introduction – Visual Aids:**  
**Some General Points**

- Oral & poster presentations are an important requirement for many professional careers
- Crucial for dissemination of your results to interested public & third persons
- **People remember more of what they see**
  - Hearing & seeing together is most effective
  - Presentations are interactive, and
  - They provide a way to market yourself

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**The most important points: shortly**

- Ignored amazingly often in conference presentations  
***"Before I speak, I have something important to say." - Groucho Marx***
- Ignored annoyingly often in presentations to public  
***What I speak has to reach the audience***
- Ignored almost totally  
***It is the responsibility of the speaker that what he/she speaks actually reaches the audience***

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**The most important points: shortly**

1. The content  
 (good science)
2. The content  
 (put into a wider context)
3. The content  
 (shown how it changes the world)

**NB! The world of the audience – not your world!**  
**Nobody in the audience cares about your world**

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Corollary 1**

- Good science is a necessary precondition of a good (science-conference) presentation
- But not sufficient for a good presentation to public
- You **MUST** have something more
  - a **message** changing the world
  - a **broad view** on things
  - ability **to deliver** the message

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Corollary 2 (frustrating statistics)**

- PhD students & post-docs
  - Have to extensively train for each conference presentation
  - normally no chance to deliver a good talk to the public
    - unless severely trained & the presentation polished by the seniors
    - and not every PhD student has such a senior around
- Senior scientists
  - Usually provide perfect conference presentations
  - Not trained for public presentations
  - Annoyingly often think they can speak to the public
  - But only ~1/4 of them have at least limited success

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**The eternal problem of egg & hen solved**

- A good & clear message exists before a good presentation
- The presentation == a story you tell
- with an important point about which the audience cares
  - Not a report of your work
  - Nobody cares about your thesis or paper
  - Nobody cares how hardly you worked
  - Nobody is interested in details
  - Everybody only wants to know how this story may change, enrich or destroy his/her life

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**The importance of planning or the difference between a human and monkey?**

- No field of research is superior to other fields
  - Forget the eternal fight between basic and applied research
- There is only good research and poor research
- A good research has a good plan
  - A premise (=an assumption that something is true)
  - Developing a theory
  - Designing of experiments (field/device/computer)
  - To prove or disprove the premise
    - in a reproducible way
- This completes a STORY: a printed paper is a good story you tell to your remote friends and colleagues
- A story has an essence or message or moral
- A good presentation: expresses a good & valuable message

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Time scale for preparation**

**"It takes three weeks to prepare a good ad-lib speech." - Mark Twain**

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Catching the audience == organising the material properly**

Inductive pattern	Deductive pattern
1. General sense/main topic	1. Bottom line (conclusion or solution) at the onset
2. Specific instances, examples, evidence	2. Background & information that led you this
3. leading to the conclusion (not easy to follow, used if you need to specifically convince the audience)	3. conclusion (helps the audience to follow the speaker)

**Both versions: big picture first**

If you cannot present this in attractive and understandable (for the audience!!!) way, the presentation is useless


Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**The role of motivation in Big Picture**

- Extends the "bottom line"
- Explains why you give this presentation
- What the audience may learn from it
- Which gap in knowledge it fills
- Which new aspect it introduces
- Which problem (of the audience) is solved

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**An example of motivation of a presentation about coastal processes**




Akmenrags (Stone Cape) lighthouse (Latvia) built in 1921 on the top of dunes

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

An example of motivation of a presentation about coastal processes II

Originally within the dunes, stripped by the end of 1990s




The dunes protecting it from the sea are gradually losing sand

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

An example of motivation of a presentation about coastal processes III

The loss of sand led to collapse of a part of the building in 2005




Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

Not much is left from the structure today



Akmenrags Cape, 16 November 2013

Nothing left from the white-brick building



Akmenrags Cape, 16 November 2013

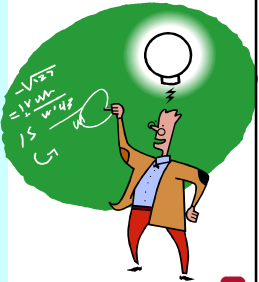
A good motivation

- Intriguing
  - A little bit shocking or provocative
- Personally relevant to many
- Scientifically correct
  - albeit severely oversimplified
  - or the used example over-generalised
- Visually attractive
  - **NO DETAILS; JUST THE CONCEPT/EXAMPLE ILLUSTRATED**
- Short
  - (max 90 seconds for 15-min presentation)
  - People do recognise a photo & 5-7 words in 10-15 seconds
- Concentrates the attention
- A suitable platform for the formulation of the main topic, question or message of the presentation

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

Presentation Content

- Define purpose, topic & appropriate depth/scope of information
- Keep narrow focus & avoid excessive detail
- "Equations" slow down a presentation
  - Require more definition & explanation
  - Well placed in local seminar presentations
  - **NEVER use for wider public**
- Hallmark of successful presentations is **clarity**



Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Scientific and public presentation**

- Classical style, careful choice of words
- Table of contents
- Motivation for research
- Presentation (short) of material, methods
- A few complicated graphs or images possible
- Several conclusions
- Future research
- Based on 1/2 research papers

- A bit of provocativeness
- Strong motivation for wider audience
- Only referring to very basic concepts (if at all)
- No details
- ONLY self-explaining graphs
- You explain their meaning
- Max 1-2 points: unexpected, counter-intuitive, provocative
- Based on many (5-10) research papers

**Imperative for both: scientific correctness**

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Visual aids**

Extensively used in both scientific / conference and public presentations

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Why use Visual Aids?**

They help you to deliver your MESSAGE

"Everything should be made as simple as possible, but not simpler" - Albert Einstein

The point of using presentation // visual aids

- Visual aids should enhance, support, exemplify and/or facilitate understanding of material covered
  - Will it add to your presentation?
  - Does it relate to material covered?
  - Is graphic quality acceptable?
- The Answer must be **YES** to all 3 questions!

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Presenting visual aids**

- Don't read visual aids
- Rehearse with your visual aids
- Use visual aids that are appropriate for technology available & speaking environment
- Today most common is Powerpoint

"The human brain starts working the moment you are born and never stops until you stand up to speak in public" - George Jessel

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Oral delivery**

- Studies have shown that for interpersonal communication
  - 55% due to facial expressions & body language
  - 38% due to vocal quality or tone of voice
  - 7% due to actual meaning of words
- So it's mostly **how** you say it, not what you say
- Avoid distracting mannerisms

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Brevity**

- Information presented should be brief & concise.
- Use comprehensible format & mould phrases to minimum number of words
  - No more than 36 words per slide (6 lines of 6 words)
  - Pie charts for percentages
  - Histograms for comparisons and rankings
  - Line graphs for changes over time
  - Scatter plots for correlation

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING



**Legibility**

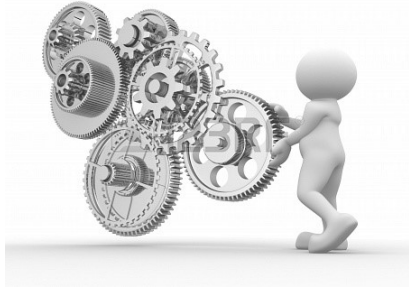
If a visual aid isn't visible and legible, it isn't an aid!

- Visual aids must be legible & clearly visible
  - Left justify text (makes it easier to distinguish lines)
  - Use a uniform, bold typeface
  - A combination of upper and lowercase is easier to read (Don't use all UPPERCASE)

31

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**The machinery**



32

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Creating a Powerpoint Presentation**

THAT CONCLUDES MY TWO-HOUR PRESENTATION. ANY QUESTIONS?

www.dilhert.com

33

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

DID YOU INTEND THE PRESENTATION TO BE INCOMPREHENSIBLE, OR DO YOU HAVE SOME SORT OF RARE "POWER-POINT" DISABILITY?

34

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Remember:**

- Make every word count
- Use simple, direct, active words
- Keep language as straightforward as possible
- Simplify phrases, use summary form
- If you can delete a word without changing meaning, do it
- Use "equations" carefully
- No 'autosave' function on Power Point – so save your work regularly

35

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Keep to time**

- Conference time usually 15-20 minutes for presentation
- It is **EXTREMELY RUDE** to exceed your allotted time
  - This is even worse if you speak to wider public
- Speaking fast does not compensate for including too much material
- Plan to talk for less than allotted time
  - Never finish with "OK, I think I'll stop here."

"Be sincere; be brief; be seated." - Franklin D. Roosevelt

36

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Common Errors in PPT slides**

- Too much information in space available
- Diagrams overly documented
- Lettering too small
- Too much details to absorb
- Spelling mistakes
- Reading each line "verbatim"

➤ Whatever it says  
➤ in whatever language  
➤ it is not readable

Appealing Public Presentation (adjusted to 3-min lectures) 08.06.2016 Tarmo Soomere

**Laineenergia potentsiaal**  
**Laineenergia teoreetiline koguvõimsus**  
**Läänemere idaosas ~1500 MW**

- Eesti (läänerannik) 400 MW
- Soome laht 200 MW
- Varieerub tugevasti piki rannikut:
  - Suurimad keskmised väärtused Saaremaa & Hiiumaa lähistel: ~2,5 kW/m

**Parim laineenergia ressurss & konverteerite valik**

- Suurema osa aastastest koguenergiast transpordivad randa lähed:
  - kõrgusega ~2-4 m, periood 6-8 s

**Keskmine võimsus: varieerub kuni 5x**

**Suur hulk aastastest laineenergiast saabub mõne tormiga:**

- 30% aastastest energiast 3-4 päevaga
- 60% aastastest energiast ~20 päevaga
- Seetõttu praktiline kasutamise raskendatud

Appealing Public Presentation (adjusted to 3-min lectures) 08.06.2016 Tarmo Soomere

**Common Errors in PPT slides**

- Too much information in space available
- Diagrams overly documented
- Lettering too small to read

➤ Whatever it says  
➤ in whatever language  
➤ it is not readable

Appealing Public Presentation (adjusted to 3-min lectures) 08.06.2016 Tarmo Soomere

**Common Errors in PPT slides**

- Too much information in space available
- Diagrams overly documented
- Lettering too small to read
- Too much details to absorb
- Spelling mistakes
- Reading each line "verbatim"

➤ Whatever it says  
➤ in whatever language  
➤ it is not readable

Appealing Public Presentation (adjusted to 3-min lectures) 08.06.2016 Tarmo Soomere

**Too much detail to absorb!**

Appealing Public Presentation (adjusted to 3-min lectures) 08.06.2016 Tarmo Soomere

**Common errors in PPT slides**

- Too much information in space available
- Diagrams overly documented
- Lettering too small to read
- Too much details to absorb
- Spelling mistakes
- Reading each line "verbatim"

The substance was coal  
The substance was cool  
To asses [---].

Appealing Public Presentation (adjusted to 3-min lectures) 08.06.2016 Tarmo Soomere

**Common Errors in PPT slides**

- Too much information in space available
- Diagrams overly documented
- Lettering too small to read
- Too much details to absorb
- Spelling mistakes
- Reading each line "verbatim"

Prepare, if necessary, a different text for each slide and read this!!

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Common Sense Tips for Slide Preparation - 1**

- Keep the slide simple
- Only ~ 6 lines per slide
- Test your slides and presentation beforehand – e.g. in front of a mirror
- Check slides are in correct sequence
- Do not apologise for incomplete material (i.e. - ensure it is complete!)
- Talk to the slides - Do not read your slides "verbatim"

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

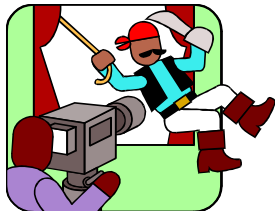
**Common Sense Tips for Slide Presentation - 2**

- Speak slowly and clearly - Avoid nervous "fast-speak"
  - Avoid too many slides
  - Stick to the time allowed
- Cast your voice to the back of the room
- Maintain eye contact with the audience
- Avoid distracting mannerisms ("ums" and "ahs", scratching, random movement of laser pointer)
- End the talk with carefully prepared conclusions

Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Special requirements**


- Check features of presentation room
  - Are there problems you need to rectify?
  - Do you require special equipment or assistance?
  - Try to practice your presentation in final room
  - Check visual aids ...



Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING

**Comprehensibility**


- 2 or 3 facts per image is best
  - 6 is absolute maximum
- Don't use too much visual material
  - 5-8 images every 10 minutes is optimal



Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING


**Colour issues**

- Use colour for emphasis, distinction & clarity
  - Yellow & bright blue are good background colours
  - Combine complementary colours
    - Blue with orange
    - Blue-violet with yellow-orange
    - Violet with yellow
  - Note: About 10% of males are colour-blind







Appealing Public Presentation [adjusted to 3-min lectures] 08.06.2016 Tarmo Soomere WAVE ENGINEERING



 **Most Important Final Points:**

- **Be well prepared** with your presentation
- **Practise** your presentation
- Speak slowly and clearly
- Keep to your allotted time
- Do not include too much detailed material – summarise major points
- Do not read the slide “verbatim”
- Avoid distractions
- End with carefully prepared conclusions

  Appealing Public Presentation (adjusted to 3-min lectures) 08.06.2016 Tarmo Soomere  49




 **Finish!? – Actually not yet**


- Finish your slides with thanks’
- optionally with a nice (but relevant!) image
- **NEVER** say: “If there are some questions, I shall be happy to answer”


*This will be said by the chairperson*

**Why? – A couple of examples**




*You are expected to take questions*

  Appealing Public Presentation (adjusted to 3-min lectures) 08.06.2016 Tarmo Soomere  50

 **ARE THERE ANY QUESTIONS ABOUT THE CONTENT?**



**THERE WAS CONTENT?**

  Appealing Public Presentation (adjusted to 3-min lectures) 08.06.2016 Tarmo Soomere  51

 **A question that is often relevant**



**"Did you skip over the interesting parts of your talk on purpose?"**

© 2002 Reprinted with permission.

  Appealing Public Presentation (adjusted to 3-min lectures) 08.06.2016 Tarmo Soomere  52

