

Presentation Skills

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Why be Good at This?

- Scientific Presentations
 - conference talks, external and internal seminars
 - crucially important for your **scientific reputation**
 - jobs, potential collaborators, influence
 - the ‘interview talk’
 - it’s not science until it’s communicated

Why be Good at This?

- Industrial Presentations
 - promotion, job security
 - influence, resources
 - communicating technical information to colleagues
 - just getting your job done

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Preparing for your Talk

- Know your stuff
 - have something to say!
- Identify your audience
 - **who** are you talking to?
 - and **why**?
- Structure your material
 - decide what your ‘take-home **message**’ is
 - find a **story** that conveys the message
- Prepare your visual aids
- Rehearse
- **PREPARE ... then relax!**

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Mechanics of the Talk

- Things to bring
 - laptop, backup of talk, handouts, whiteboard pens
 - clock, pointer (laser, physical)
- Arrive at the room early
 - test the technology
 - figure out where to stand
 - decide about lighting
- Mechanics: PowerPoint, OHPs.
- Getting started and finishing
 - switching on/off, title slide, final slide
- Using notes

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Structure – Preliminary Questions

- **Who** is your primary audience?
 - departmental lecturers/teachers?
 - scientific colleagues?
 - prospective employer? (always!)
- **Why** are you talking to them?
- What **one most important thing** do you want them to remember?

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Structure – The Beginning

- Choose a good title
 - informative (not too general)
 - supply some context
 - but don't give too much away!

- The opening



- establish context & importance of topic
- give perspective for your work

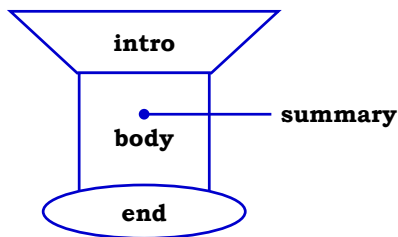
- Contents/outline slide?

- not at beginning of talk
- maybe summarise part-way through

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Structure – Overall Plan

- Overall shape of the talk:



- Tell a story

- try making a spider diagram
- view your slides as a 'storyboard'
- think about transitions

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Structure – Examples

- Use concrete examples
 - motivating examples
 - illustrating examples
 - examples in lieu of definitions
- Keep your examples **simple**

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Conclusion

- At the end of your talk:
 - reiterate the main, take-home message
 - (no need to title your slide ‘conclusion’)
 - be brief and decisive
 - end crisply, don’t ‘fade away’
 - then stop!
- Golden rule
 - never, ever, over-run your time!

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MSc Presentation

- You are told to:
 - state and explain the goals of your project
 - outline how you plan to achieve the goals
 - describe your progress to date
- You have 5 minutes.

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Making Good Slides

- Technology
 - PowerPoint
 - LaTeX/PDF/Unix
 - handwritten plastic, waterproof pens
- Layout
 - everything should be clean, simple, necessary
 - uncluttered background
 - use colour... to convey content
 - examples:

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Aside – Change of Plan

- Original
 - How to give a talk (MSc/PRS: 1 hour)
 - Coffee and cakes
 - Giving a research talk (PRS: 30 mins)
- New plan
 - How to give a (research) talk (MSc/PRS: 60-90 mins)
 - Coffee and cakes
- Why didn't I tell you this:
 - At the start? At the end?

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Making Good Slides - Fonts

- Make it BIG
 - 24 point font, reasonable
 - 20 point font, maybe still manageable
 - 18 point font, lower limit of visibility
 - 16 point font, too small
 - 14 point font, way too small
 - 12 point font, almost invisible
- Choose a legible font
 - Arial
 - Times New Roman
 - Bookman Old Style
 - *Edwardian Script ITC*

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Content

- Each slide should have one ‘topic’
 - one ‘frame’ of the story, like graphic novel
 - a short title enforces this
- Put only 4-5 ‘things’ per slide
 - all items fit the slide’s focus and are necessary
 - more, sparser slides, if you have to
 - use a series of almost-duplicate slides to add detail

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Effective Content - Text

• Discursive

Before giving our main result, we need the following definition, given here mainly to fix notation.

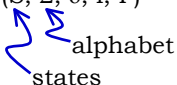
Definition: A finite-state machine (or ‘automation’) is given by a 5-tuple

$$M = (S, \Sigma, \delta, i, F)$$

where S is a finite set of *states*, Σ is the *alphabet*, blah, blah, blah...

• Outline

FSM definition:

$$M = (S, \Sigma, \delta, i, F)$$


states
alphabet

- Save the **words** for what you are going to **say** (put them in your notes).
- Say it, don’t write it.
- Use notes to remind.

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Effective Content

- Use
 - pictures, diagrams
 - simple examples
 - simplified formulas
 - colour... to convey meaning
- Avoid tables of numbers
 - show a graph instead

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Example – STE

- Syntax of formulas

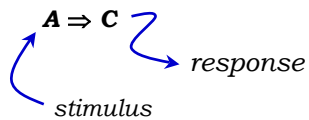
$f :=$

- $n \text{ is } 0$
- $| n \text{ is } 1$
- $| f_1 \wedge f_2$
- $| \mathbf{N}f$
- $| \mathbf{E} \rightarrow f$

- Abbreviation

$n \text{ is } \mathbf{E}$
 $=$
 $\mathbf{E} \rightarrow (n \text{ is } 1) \wedge \neg \mathbf{E} \rightarrow (n \text{ is } 0)$

- Assertions



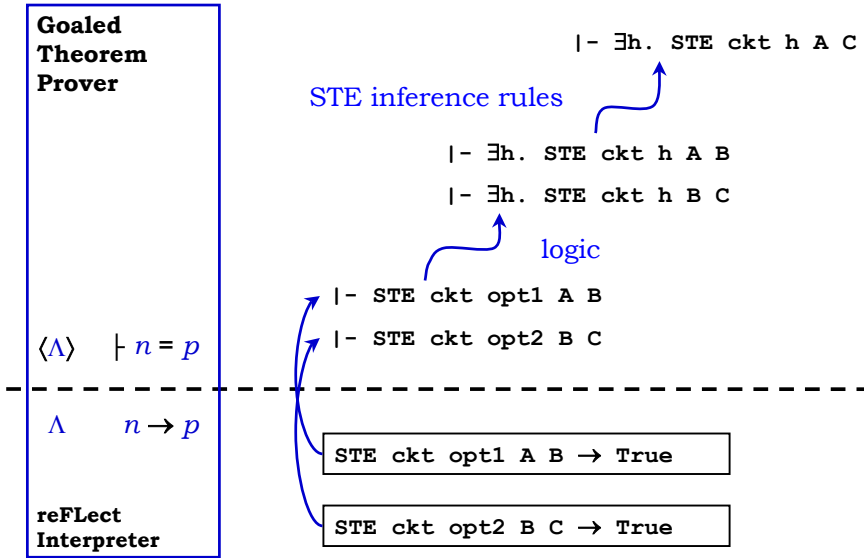
- STE model checking

$P := \mathbf{S T E M A C}$

$\phi \models P \text{ iff } \phi \models_M A \Rightarrow C$

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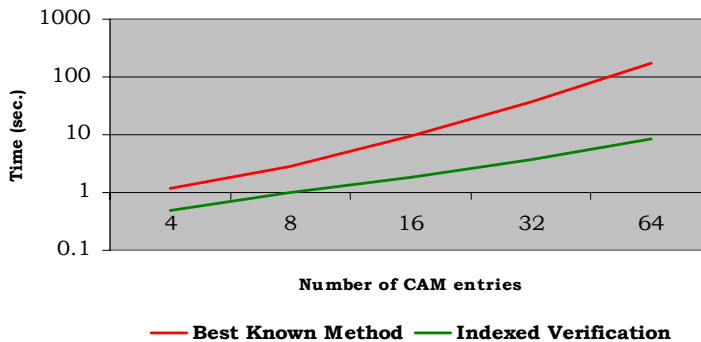
Example – A Complicated Process



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Example - Experimental Results

Verification of 'hit' for $64 \times n$ CAM
(index by hit position)



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Delivery

- Stand up straight
 - move around (a bit)
 - make eye contact
- Speak **slowly** and articulate clearly
 - nerves will make you go too fast
- Memorize your first sentence
 - or write it down in your notes
- Decide in advance how to stop
 - thank the audience and just stop talking

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Two Delivery Techniques

- The Pause
 - for emphasis
- Slide transitions
 - lead into the next slide **before** showing it

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Two Bad Ideas

- Reveals
 - revealing your points, ...
 - incrementally, ...
 - one point at a time, ...
 - is annoying and insulting.
- Complicated animations
 - are gimmicky and juvenile
 - as are sound effects

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Timing

- Approx 1 slide per 2-3 minutes
- Short talks much harder than long ones
- Rehearse

Never, **ever** over-run.

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Questions

- Find out the question protocol
 - You or chairperson invites questions
 - You or chairperson selects question to answer
- Repeat the question
- Answer briefly and to the point
 - *not* an excuse for another 20-minute talk
- Be honest
 - if you haven't thought of/done that, say so
- Do you say 'that's a good question'?

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Conference Questions

- Reasons people ask questions
 - to be polite
 - to compete with/undermine you
 - to advertise their own work
 - to find out the answer
- Some tough questions
 - Have you tried X? (You haven't.)
 - Isn't this just Y's old idea? (You've never heard of Y.)
 - Some technical flaw. (You're unprepared.)

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Giving a Good Talk

**Your path to
scientific fame
and
*worldly fortune***

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A Printed Slide

$$\mathbf{E = MC^3}$$

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