



How to survive your disputas – Presenting your research

Gerard Eric Dwyer

UNIVERSITY OF BERGEN





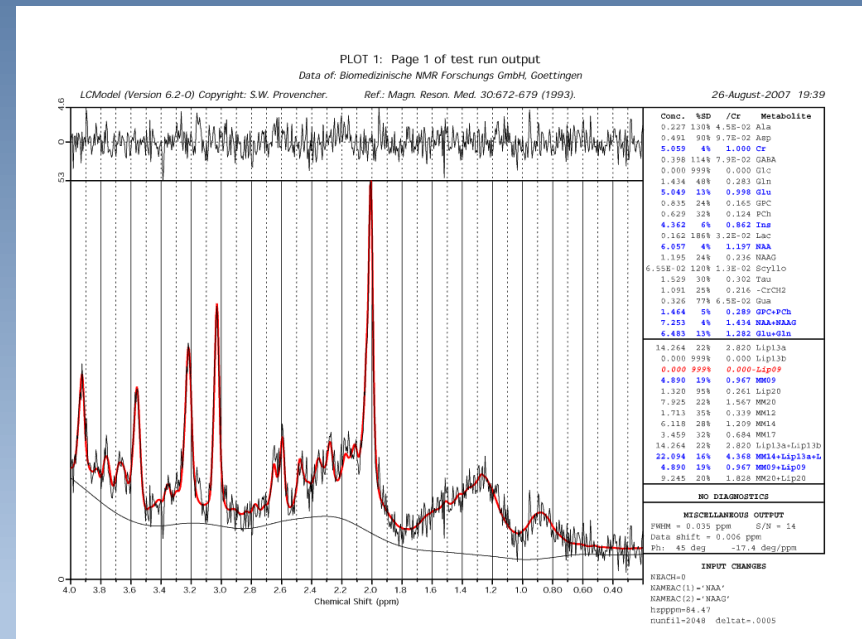
Presenting your research

- Your PhD defence (Disputas)
- Presenting your research
- Know your audience
- Keep it simple
- Kill your darlings
- Bonus!



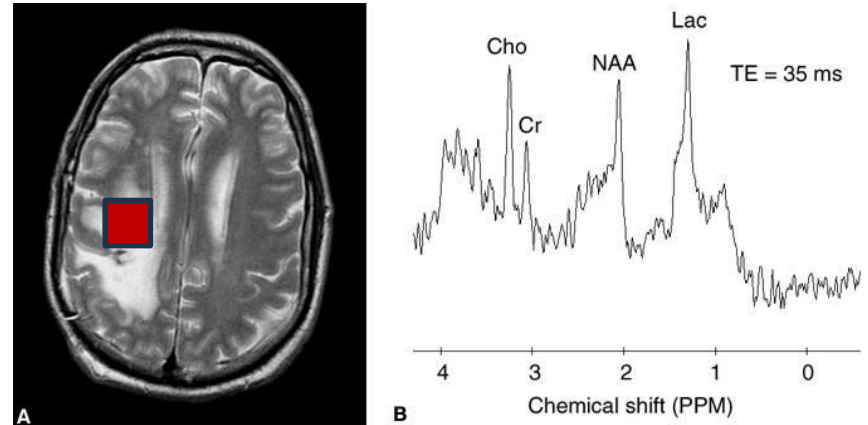
Research – Advanced magnetic resonance spectroscopy and the biological bases of schizophrenia

- Current theories regarding the biological bases of schizophrenia implicate an imbalance between the excitatory and inhibitory neurotransmitters in the central nervous system – commonly characterised as the Excitation/Inhibition Balance (EIB).
- Using advanced magnetic resonance spectroscopy (MRS) techniques it may be possible to perform quantitative measurements of the main excitatory and inhibitory neurotransmitters (Glutamate and GABA) *in vivo*.
- Currently, MRS is performed in a static manner, providing a «snapshot» of the concentration of neurotransmitters at a given time. → Developing them in a functional manner may permit researchers the ability to measure neurochemical changes in association with a particular task or stimulus and if you're still reading this then well done.



Hypothesis

- Altered glutamate and GABA levels implicated in schizophrenia
- Magnetic Resonance Spectroscopy (MRS) allows measurement of glutamate and GABA *in vivo*
- Aim: To develop *Functional* MRS to allow dynamic measurement of changes in glutamate and GABA while patients experience hallucinations



Your Phd Defence

It's your academic wedding!
Congratulations!

Defence



You, as a researcher have been tasked with a research question or hypothesis



Your thesis is the answer to that question.



Your disputas is a public defence of your answer to that question.

Defence



Does the candidate understand what they've done? How much of the work did you do?



Why did they do it the way they did it? –
Can you justify your methods?



Problem solving – Hypotheticals –
Can they think like a researcher?

Opponents

Good

Stimulates discussion

Allows the candidate to
demonstrate what they know

Encouraging,
Empowering



Opponents

Not so good



Critical and judgemental

Wants to demonstrate
what *they* know

Discouraging,
disempowering

Presenting your research

A necessary evil...

Research

- The most important thing for you to do as a researcher is to publish
- The second most important thing to do is network
- The best place to network is at conferences
- The best way to network is to present your research well

Know your audience

«What do you do?»

4) My research is focused on how advanced MRS methods may be used to better understand the biological bases of auditory verbal hallucinations.

3) I'm using advanced MRI to better understand the biological bases of hallucinations.

2) I'm using MRI to understand schizophrenia

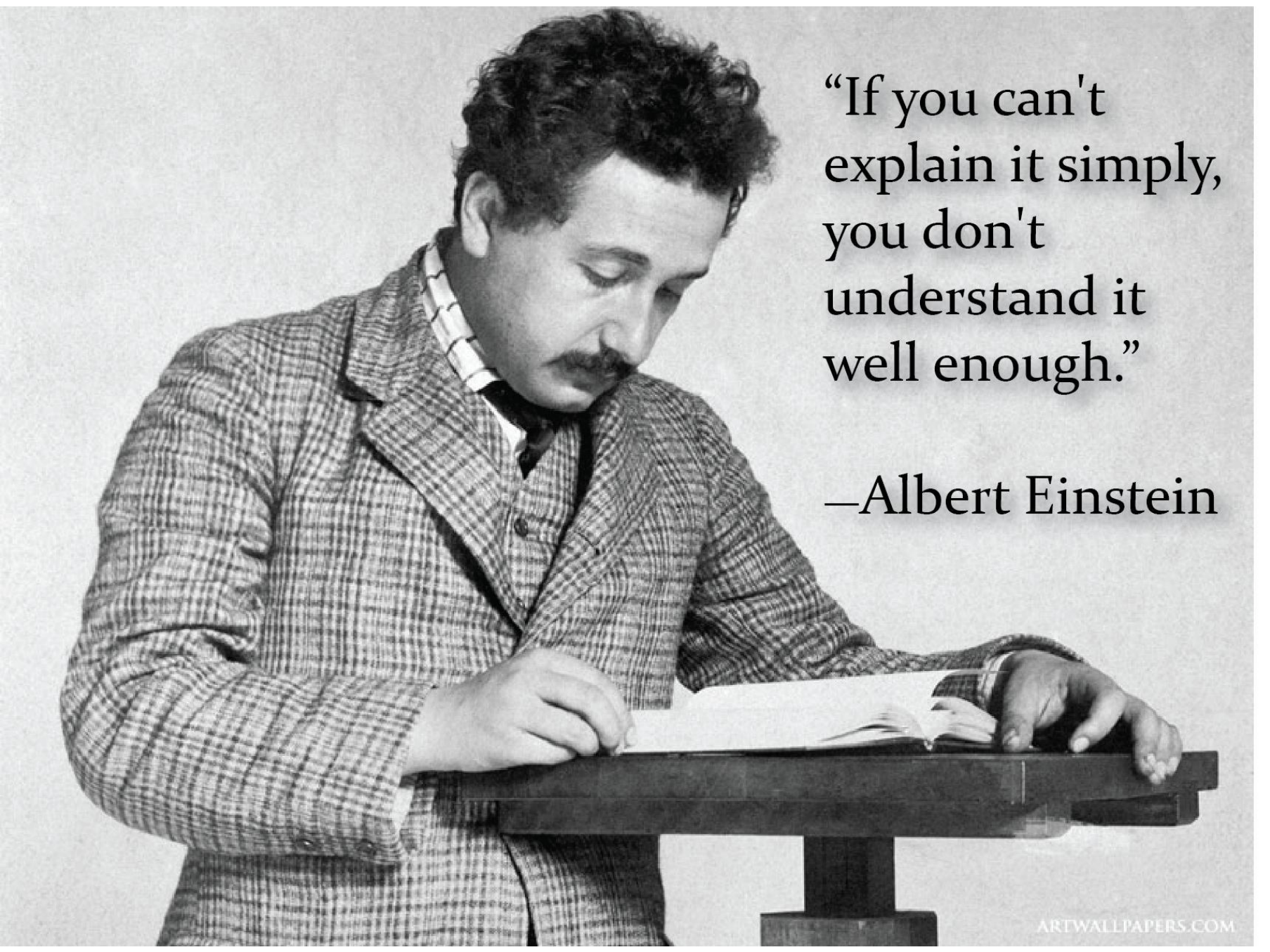
1.5) I'm a neuroscientist

1) I'm a scientist

0.5) I work at the hospital

0) Nevermind

Keep it simple

A black and white photograph of Albert Einstein. He is shown from the waist up, leaning over a dark wooden desk. He is wearing a checkered jacket over a collared shirt. His head is bowed, and he is looking down at an open book on the desk. His hands are resting on the pages of the book. The background is a plain, light-colored wall.

“If you can't
explain it simply,
you don't
understand it
well enough.”

—Albert Einstein

Kill your darlings...

Killing your darlings

- Sometimes there's a paragraph, figure, sentence, or something we're really fond of that just doesn't belong
- Don't be afraid to get rid of something you like if it serves no purpose
- You have limited time and your audience has limited attention
- «*Metabolic flux...*»

Best advice for preparation

Preparation

- Explain your research to other scientists who aren't completely in your field.
- Explain your research to non-scientists.
- You will get some questions in advance. Go through them.
- Who are the leading scientists in your field and what are they doing?
- If you want to continue in research, what would you do next?



THE BEST THESIS DEFENSE IS A GOOD THESIS OFFENSE.