JOANNA POUSSET

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COMMUNICATION SKILLS FOR SCIENTISTS

Objectives

- Practice clear, simple, jargon-free communication to explain complex research simply and understandably.

- Develop effective speaking techniques (structure, voice and body language).

- Master pitching, storytelling, and persuasive communication.

- Build confidence, charisma, and presence when speaking in front of an audience.

- Learn to give and receive constructive feedback using a structured and respectful approach.

- Practice assertive communication, active listening, and conflict management in professional interactions.

- Gain strategies to manage nerves, anxiety, and difficult conversations with calm and control.

Clarity &
Simplicity

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

– Albert Einstein
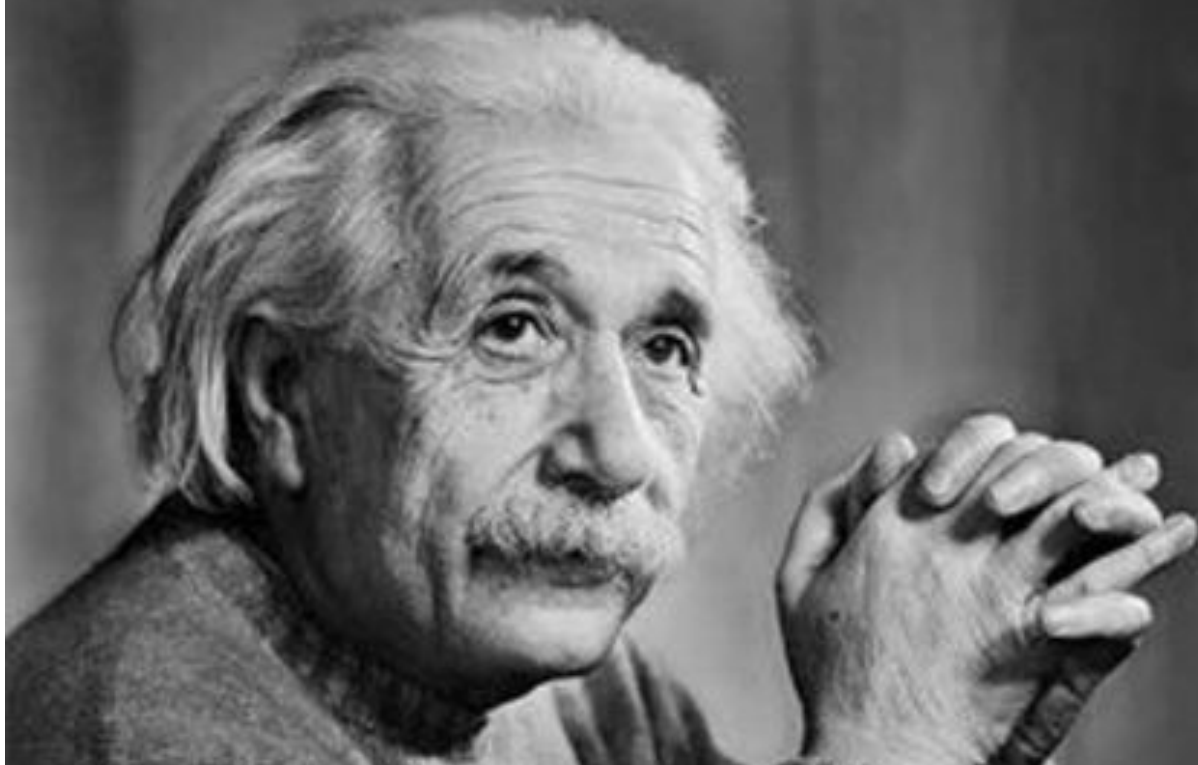
Example

- My professional role involves facilitating the enhancement of domain-specific knowledge dissemination by implementing transdisciplinary communicative frameworks that leverage narrative structures, audience segmentation analytics, and strategic rhetoric optimization to augment the epistemic clarity and persuasive efficacy of scientific discourse across heterogeneous stakeholder environments.

- My job is to train scientists to present their work with clarity and confidence - through storytelling, persuasive speaking, and effective communication strategies tailored to different audiences

- I help scientists build bridges between their research and the rest of the world - using storytelling, persuasive speaking, and tailored communication to make sure their ideas don't just stay in the lab, but reach and inspire the people who need to hear them.

Exercise

Explain in 20 seconds what your research is about
or what your job entails

- Keep it simple, easy to understand

- Avoid technical jargon

- Use metaphors or analogies if helpful
  (e.g., "It's like taking a CT scan of the galaxy").

- Use one core message

Effective Persuasive Pitching

VERSION A

"Our project investigates multi-phase startup ideation frameworks to determine optimal pathways for market entry strategies in early-stage ventures. We apply a mixed-methods approach combining qualitative founder interviews and longitudinal data analysis from incubator cohorts to evaluate MVP validation cycles and pivot frequency. The results indicate that pivot timing correlates with capital runway constraints and team dynamics rather than customer discovery metrics. Our findings contribute to the literature on lean startup methodologies and entrepreneurial decision-making under uncertainty."

VERSION B

"Starting a business is often portrayed like building a rocket — but in reality, it's more like building a paper airplane... while it's already in the air. My research explores how new entrepreneurs make fast, risky decisions when launching their startups. I followed 30 real founders across Europe to see how they decide when to pivot, when to stick to their idea, and how they validate their product with real customers. One founder scrapped her entire product after a café conversation with a stranger — and ended up doubling her user base. These stories show that success isn't about having the perfect idea — it's about listening, adapting fast, and staying curious. That's what I'm uncovering — and why it could change how we train future entrepreneurs."

Exercise

- Every group prepares a **1-minute pitch**:
  - Option A: Convince a journalist to write about your research.
  - Option B: Convince a grant panel to fund your next project.

- Use hook – why it matters – what's exciting – why now.

- Every group delivers their pitch.

- All participants provide feedback using a short checklist:

  - Did it hook you?
  - Did you understand it?
  - Did it feel urgent or exciting?

Charisma
Confidence
Presence

Exercise

- In **groups of 3–4**, each person picks one of the following:
  - A fun fact from their field
  - A personal reason they love astronomy/physics
  - A recent wow-moment in research

- They have **30 seconds** to deliver it as if speaking at a science festival.

- Others rate on:
  - Energy (1–5)
  - Facial expression (1–5)
  - Engagement/connection (1–5)

- What made it captivating?
- What did posture or tone add/subtract?
- What could be adjusted for an academic talk?

Constructive Feedback

Exercise

1. Explaining your research to a high school student (public outreach event)

2. Giving a short talk to a journalist writing a science article

3. Explaining a core concept (e.g. gravitational lensing) to undergraduate students

4. Presenting a 60-second summary of your project at a research conference

5. Pitching your research to a funding panel (grant scenario)

6. Explaining your work to a collaborator from a different scientific field (interdisciplinary project)

High school student

- **S**ituation: "When you explained your research to a group of high school students…"

- **B**ehavior: "…you used advanced terms like 'radial velocity dispersion' and 'Bayesian hierarchical modeling' without any explanation or analogy."

- **I**mpact: "…and that made it hard for someone without a science background to grasp what your research is actually about."

- **I**mprovement: "You could try using everyday comparisons or visual metaphors –for example, comparing your work to tracking the movement of cars in a city."

Science Journalist (Media Interview)

- **S**ituation: "When you were describing your work to a journalist..."

- **B**ehavior: "...you focused on technical terms and methods, but didn't highlight what's new, exciting, or relevant."

- **I**mpact: "...so it was hard to see why this would be interesting to a general audience or worth publishing."

- **I**mprovement: "You could start with a compelling fact or story and focus on the bigger picture –what this tells us about the universe and why people should care."

Undergraduate Students (Teaching)

- **S**ituation: "During your explanation of gravitational lensing to undergrads…"

- **B**ehavior: "…you jumped into definitions and formulas without building up the concept step by step."

- **I**mpact: "…which made it difficult for students to follow, especially if they were new to the topic."

- **I**mprovement: "You could guide them through the concept more slowly, maybe using an example like how light bends around the edge of a glass of water."

Research Conference (Peer Talk)

- **S**ituation: "When you presented at the conference..."

- **B**ehavior: "...you listed technical steps and skipped over details without framing your story or explaining your results clearly."

- **I**mpact: "...which made it hard even for peers in related fields to follow your main point or understand why it matters."

- **I**mprovement: "Try opening with your key finding, then walk us through the logic behind it, highlighting why it's important in the context of the field."

Funding Panel (Pitch)

- **S**ituation: "When you pitched to the funding panel..."

- **B**ehavior: "...you focused on logistical details like data phases and budget, but didn't explain the scientific goal or impact."

- **I**mpact: "...so the panel might not see the value or urgency of supporting your work."

- **I**mprovement: "Lead with what your research could reveal and why it's important –for example, how it advances our understanding of the Milky Way or helps future missions."

Interdisciplinary Collaborator

- **S**ituation: "When you explained your methods to a collaborator from another field…"

- **B**ehavior: "…you used acronyms and assumed familiarity with techniques specific to your subfield."

- **I**mpact: "…which made it hard for someone outside your area to engage with or contribute to the discussion."

- **I**mprovement: "Consider translating technical terms into plain language and briefly stating what each method helps you uncover – for instance, 'We're analyzing the chemical fingerprints of stars to trace their origins.'"
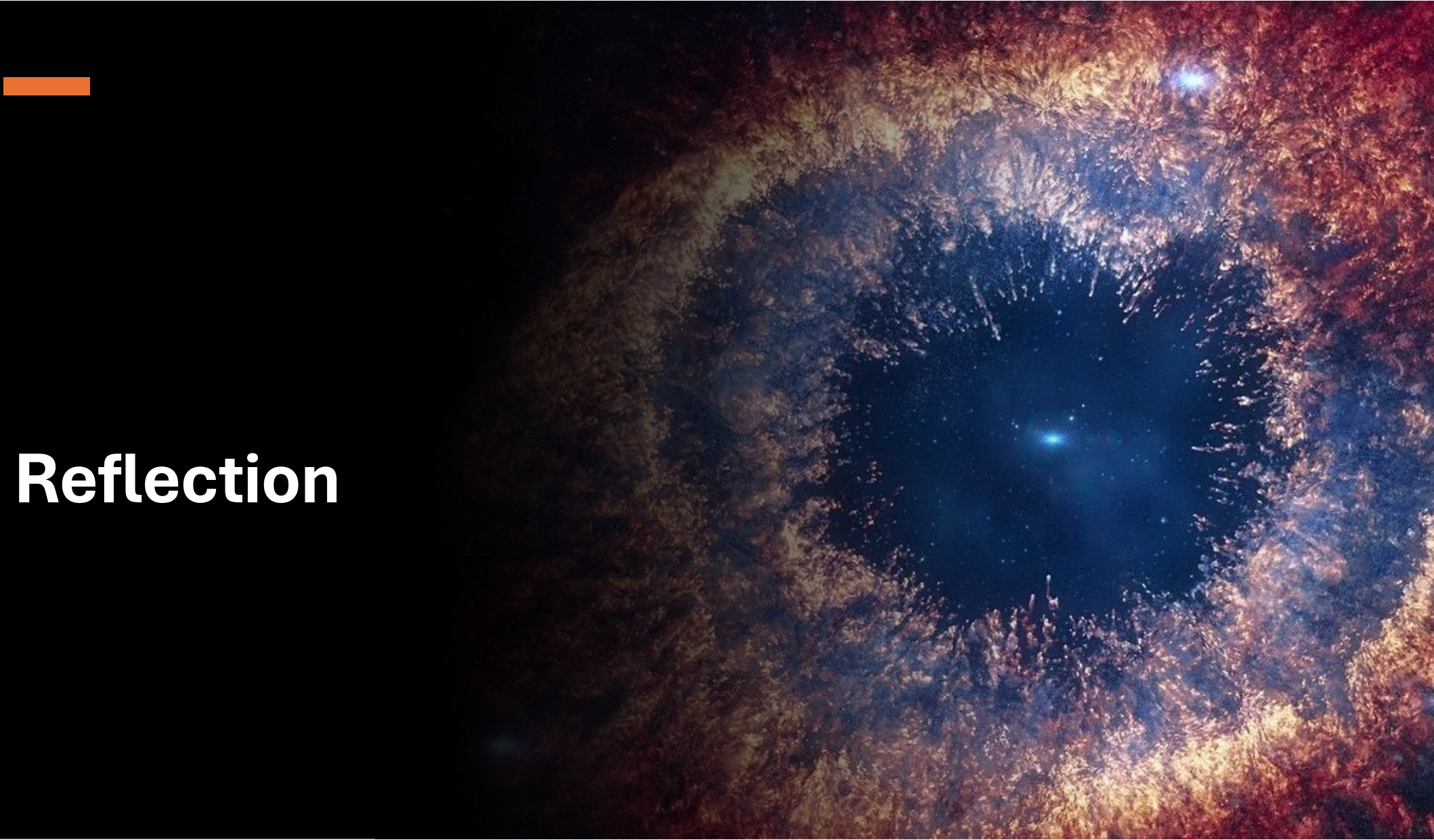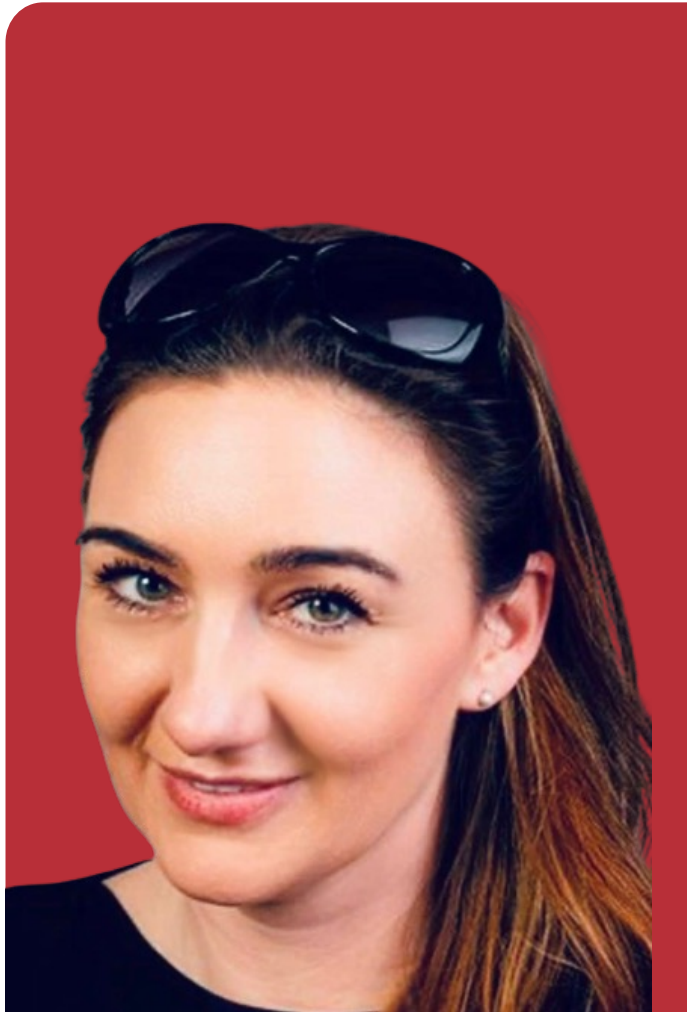
Assertiveness
Conflict management

Handling nerves, anxiety & difficult conversations

Reflection

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