

# Workshop: Writing a Proposal

Trevor Kalkus

# This is a workshop!

*You will participate.*

# THE **PROPOSAL**



*90 seconds*

Describe your main project to each other

# My Background

- NASA Ames Research Center 2016-2018
  - Visiting Scientist – Synthetic Biology and Biological Sensors
- Adolphe Merkle Institute, University of Fribourg, Switzerland
  - PhD - Soft Materials and Salinity Gradient Power
- Heidelberg University - IMSEAM
  - Swiss National Science Foundation – Postdoc.Mobility Fellowship



# Goals for the Workshop

Be Memorable

*Tell a Story*

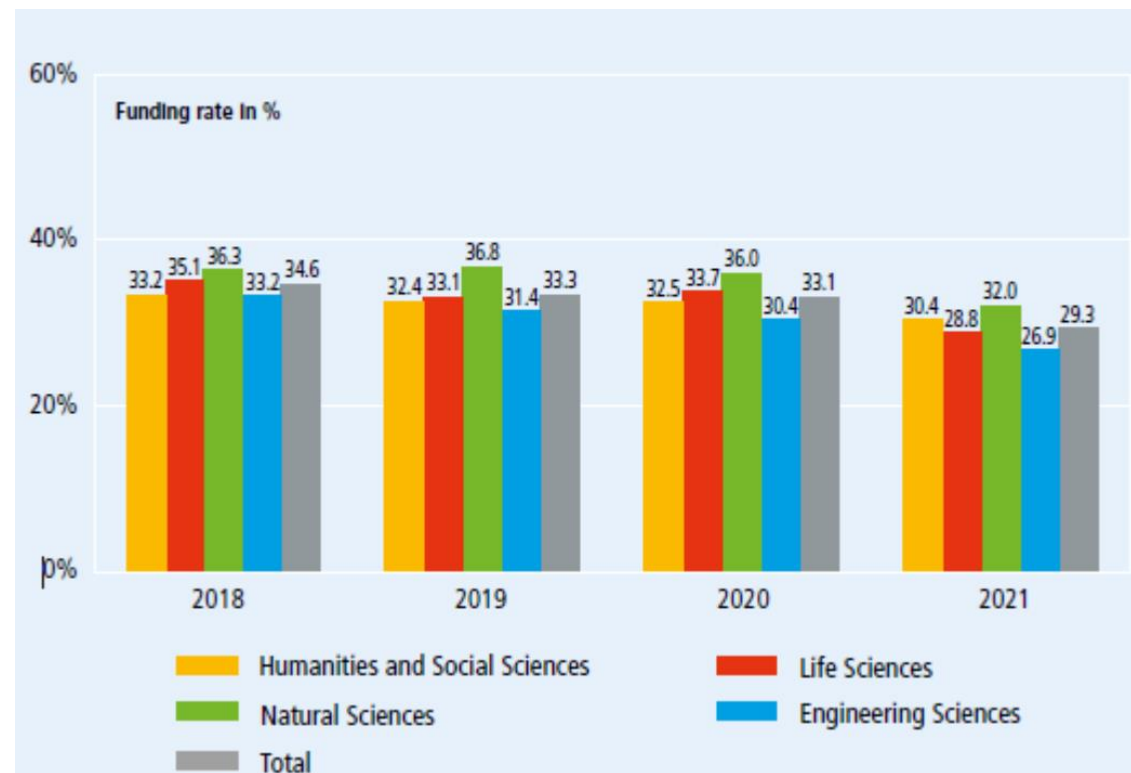
**Build Confidence**

# Put yourself in their shoes...



In 2021, the DFG funded more than **31,600** new and ongoing projects with a funding volume of € 3.6 billion.

Success  
Rate



# Put yourself in their shoes...

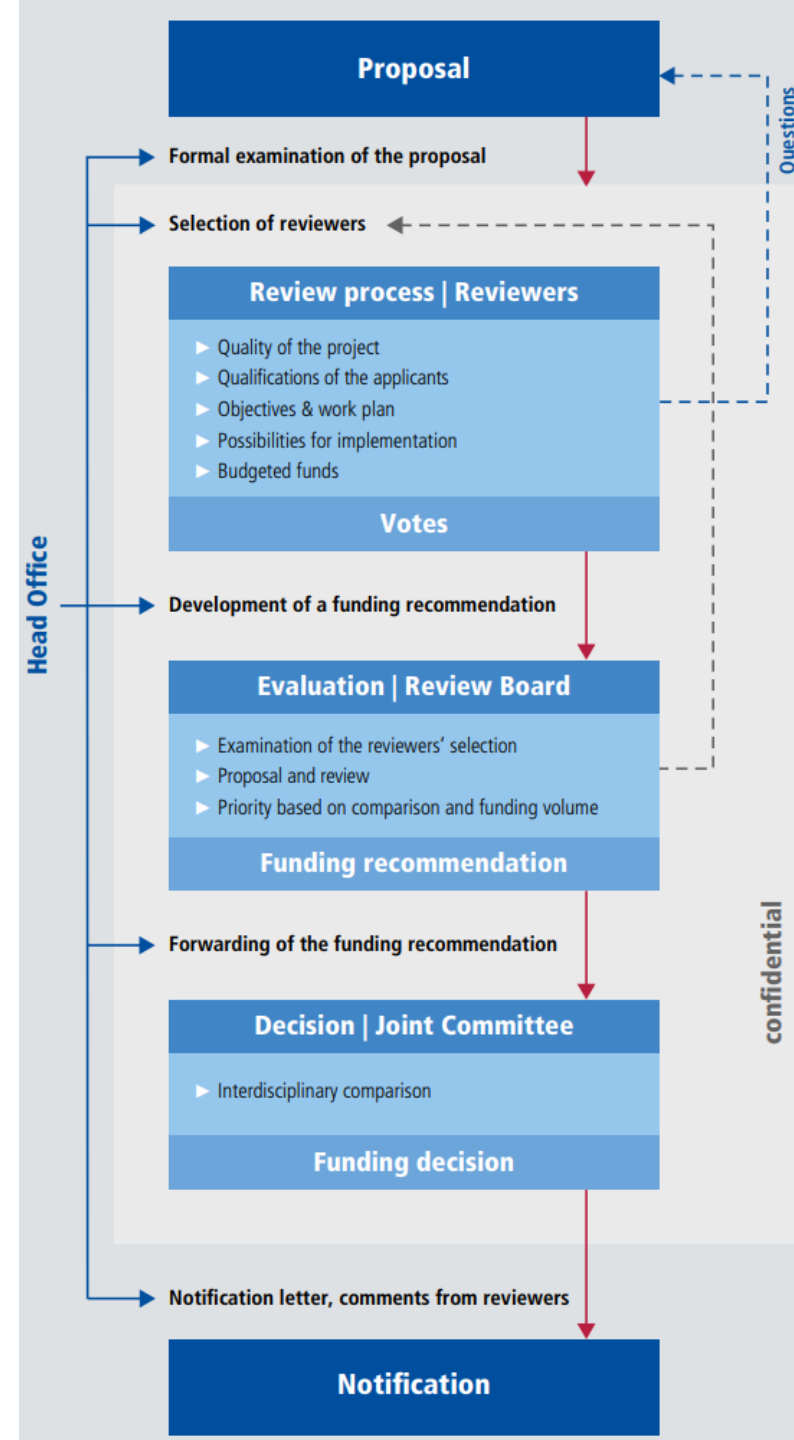


**Average Processing Time of Proposals**

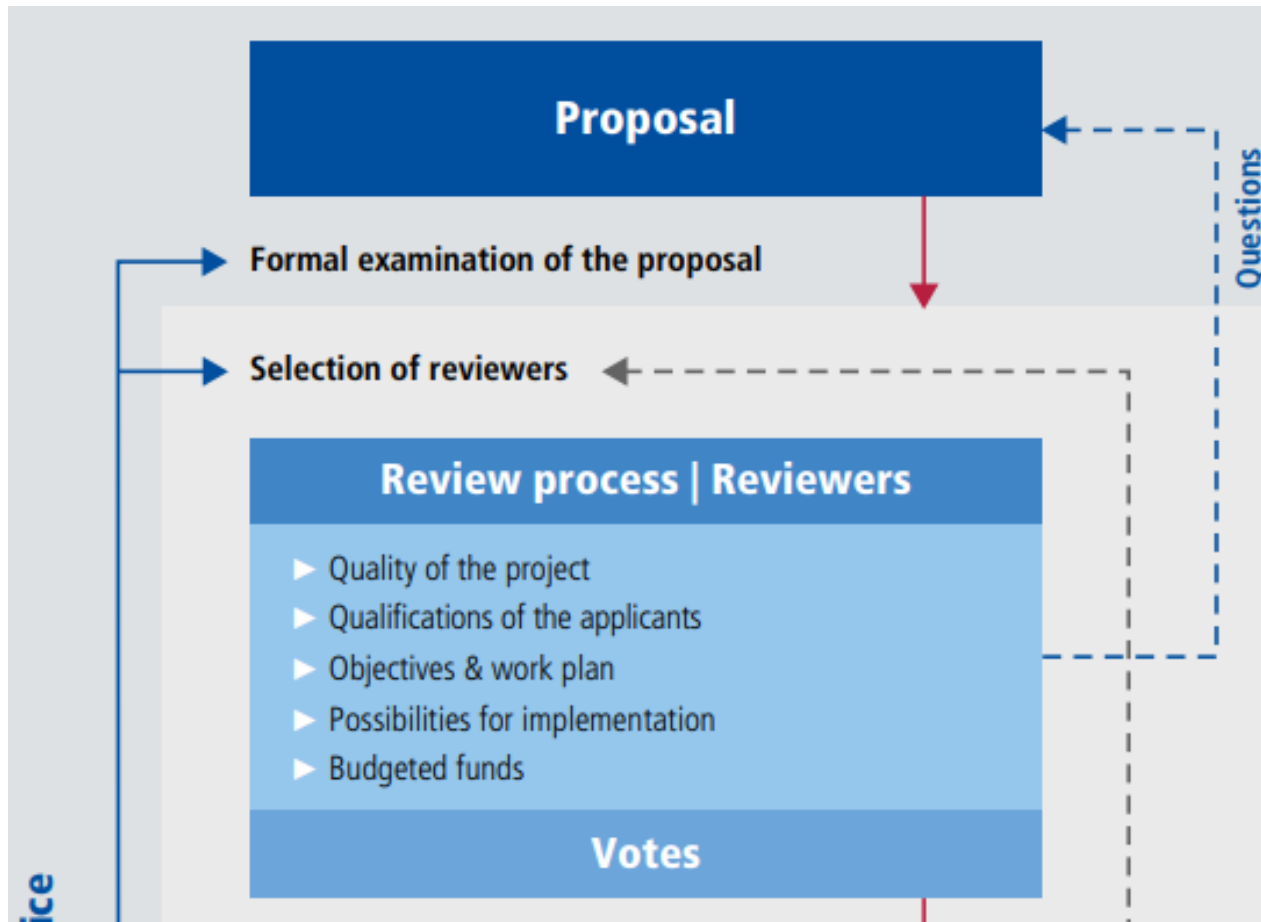




# Put yourself in their shoes...



# Put yourself in their shoes...



# Put yourself in their shoes...



**Why do reviewers read your proposal?**

# Put yourself in their shoes...



**Imagine you're tired, grumpy and hungry.  
You've got 50 applications to get through in two weeks.**

*"If I don't get interested by the first page, the proposal is lost"*

Emily Sohn – Secrets to writing a winning grant. *Nature* (2019)

Robert Porter – What do grant reviewers really want, anyway?

Be a reviewer game!

# Be a reviewer game!

**A**

You have a headache, and you are up late.  
Once you finish reading this, you can go to bed.

**B**

You have a headache, and you are up late at night. It is dark outside. Once you finish reading this, you can go to bed. You are still up late. You will be able to sleep after this. Your head hurts, but this proposal is the only thing that is keeping you from resting.

Be a reviewer game!

**A**

**B**

Be a reviewer game!



# Be a reviewer game!

**A**



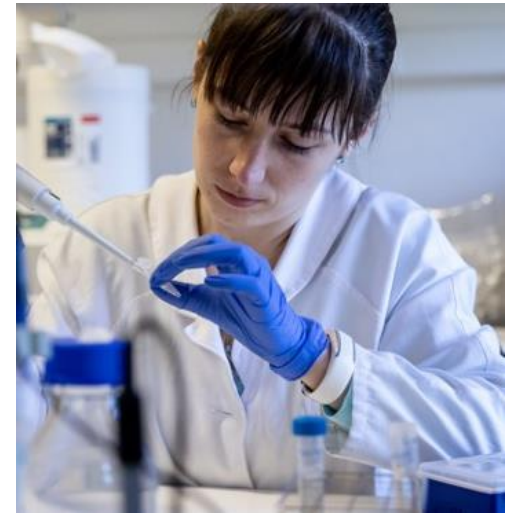
**B**



**C**



**D**



Be a reviewer game!

**A**

**B**

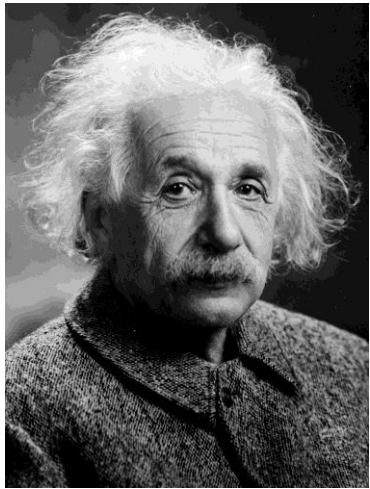
**C**

**D**

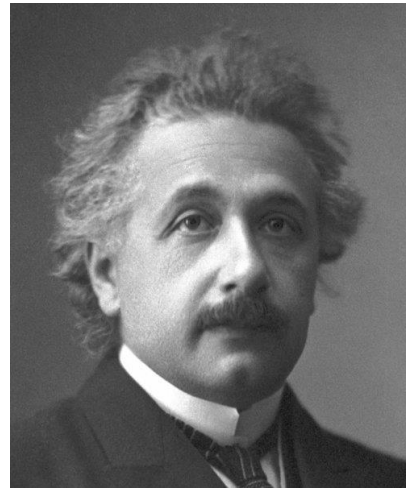
Be a reviewer game!

# Be a reviewer game!

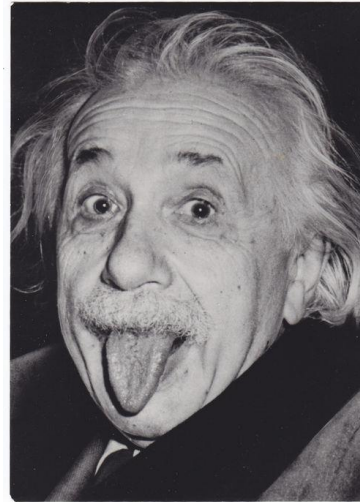
**A**



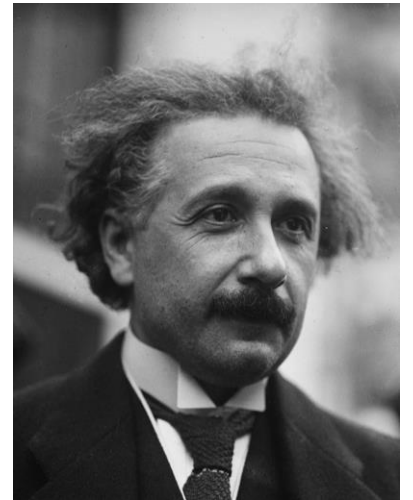
**B**



**C**



**D**



Be a reviewer game!

**A**

**B**

**C**

**D**

# Put yourself in their shoes...

**Sidenote:**

*Getting Lucky*

*Across all dimensions of NIH's official rubric, we find low agreement among reviewers in their judgments of scientific merit.*

*Supplemental analyses found that reviewers are even less reliable in the language they use to describe proposals.*

# Put yourself in their shoes...

## SNSF Reviewer Recommendation Form

### Recommendation:

#### Applicant:

Responsible applicant

co-applicant

Responsible applicant (abroad)

#### Evaluation:

Scheme: Postdoc.Mobility

Referee:

Second referee(s):

Evaluation:

Ranking:

#### Requested:

Budget:

Start:

Duration:

**Preliminary comments by the administrative offices**

# Put yourself in their shoes...

## SNSF Reviewer Recommendation Form

Comments and a score from 1-6 on:

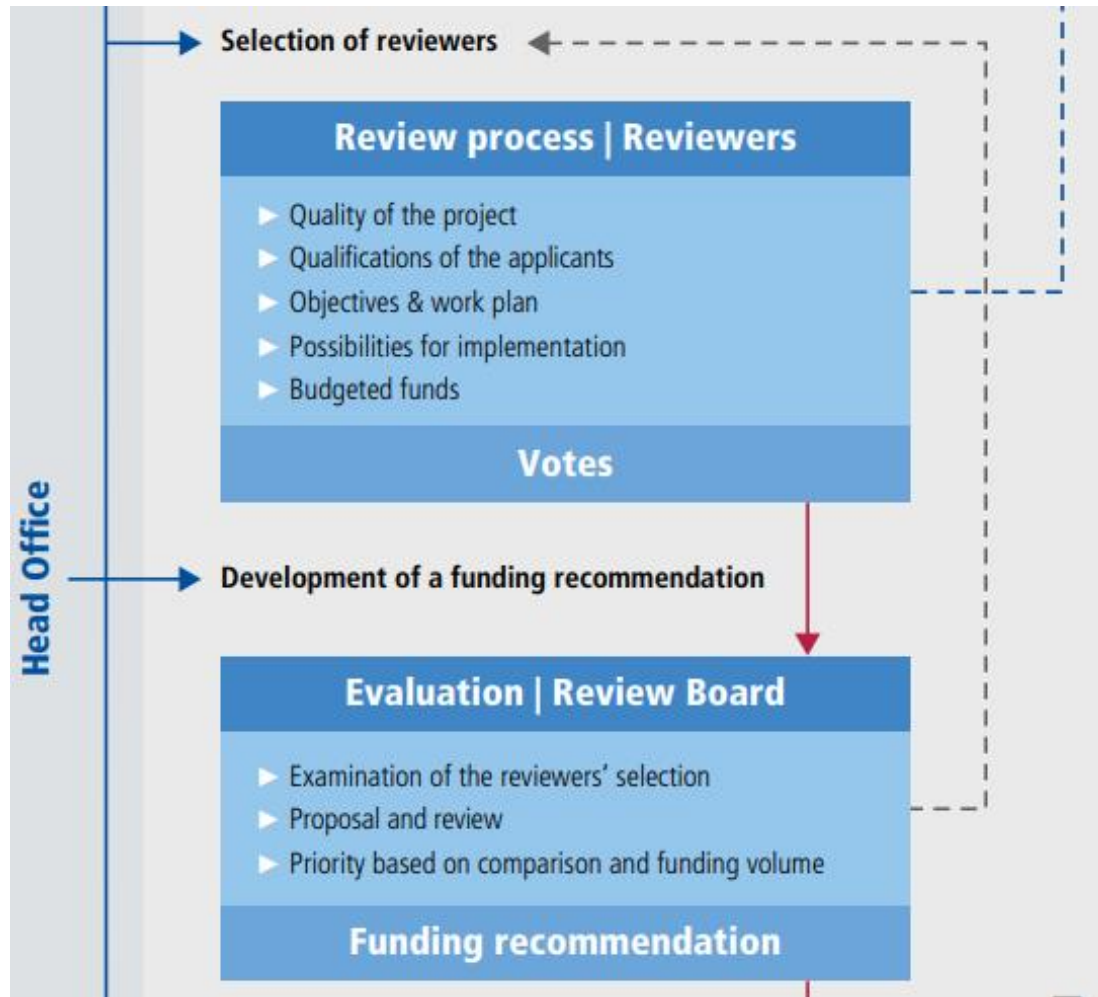
- Person
  - Career development
  - Research Output (publications, etc.)
  - Statement of mobility and career plan
- Project
  - Scientific relevance, originality, and topicality
  - Approach and methodology
  - Feasibility
- Research Institution

Comparative Ranking

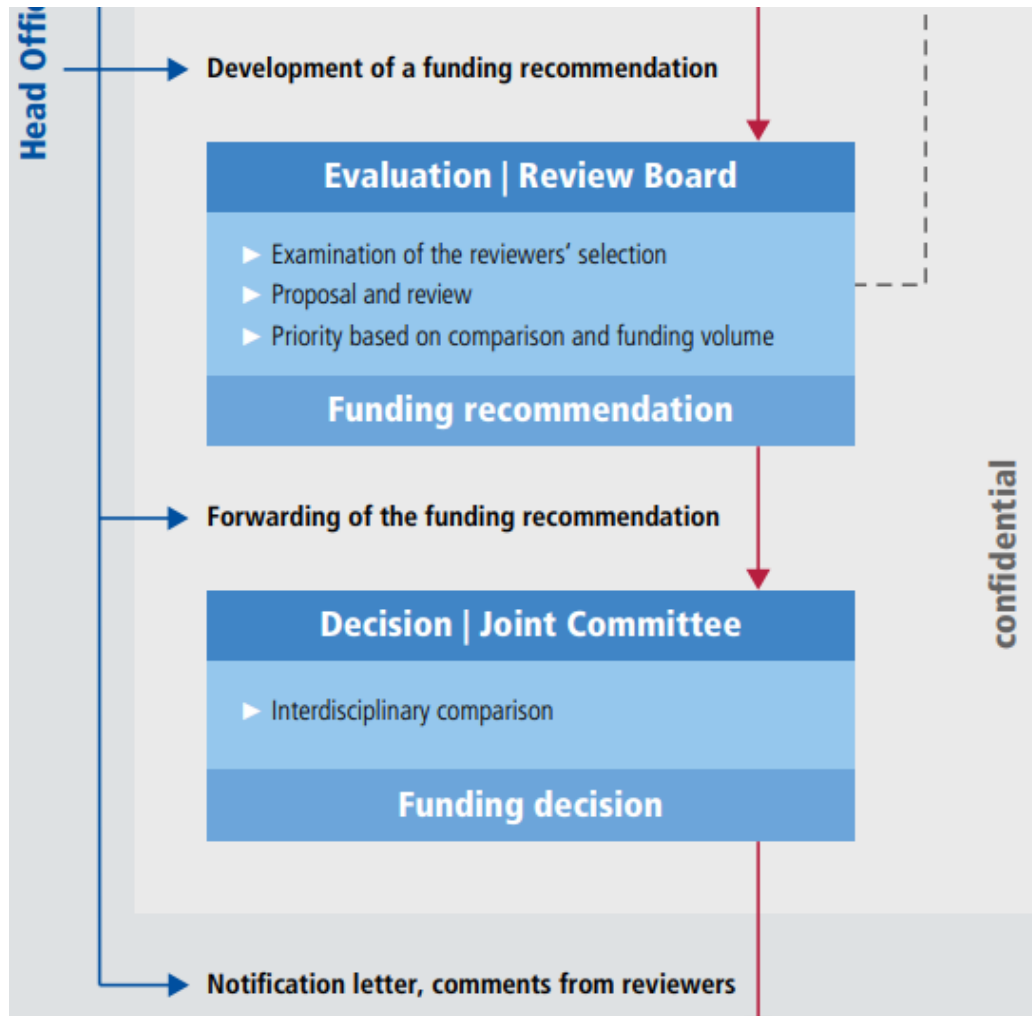
- Summary



# Put yourself in their shoes...



# Put yourself in their shoes...



**DFG** Deutsche  
Forschungsgemeinschaft

Be Memorable

*90 seconds*

*Describe your partner's main project back to them.*

Self evaluation

# Elevator Pitch

- Why should I care?
  - How will this impact me?
  - How will this impact the world?
  - Why is this needed?
  - So What?

*“I get to the big picture first. If I like it, then I’ll go on to the details. If I don’t, I’m done reading.”*

*“I stop reading if it takes me too long to figure what it is that they want to do”*

# Elevator Pitch

I research mechanisms for inhibiting the beta subunit of vitriagate catalaze quantified by NMR spectrometry of reaction biproducts with samples taken at 5 minute increments.

I research ways to inhibit a protein that contributes to the symptoms of cooties, a disease that negatively impacts 50% of the world's population.

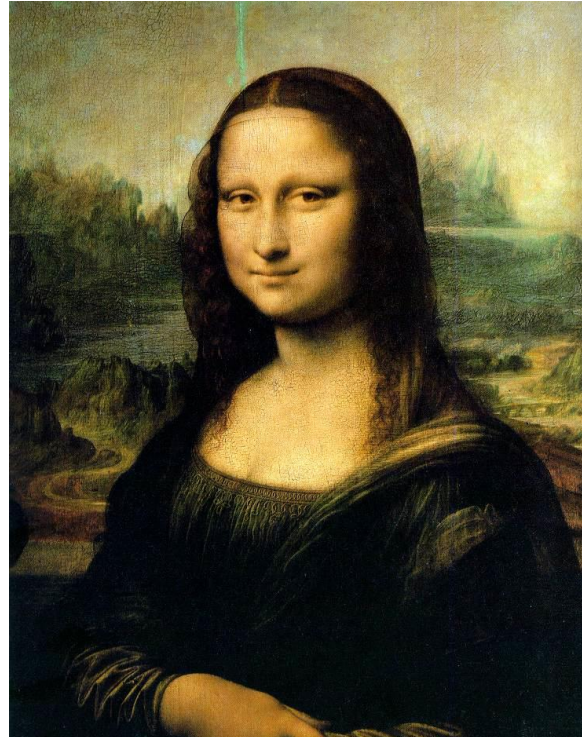
Be a reviewer game!

# Be a reviewer game!

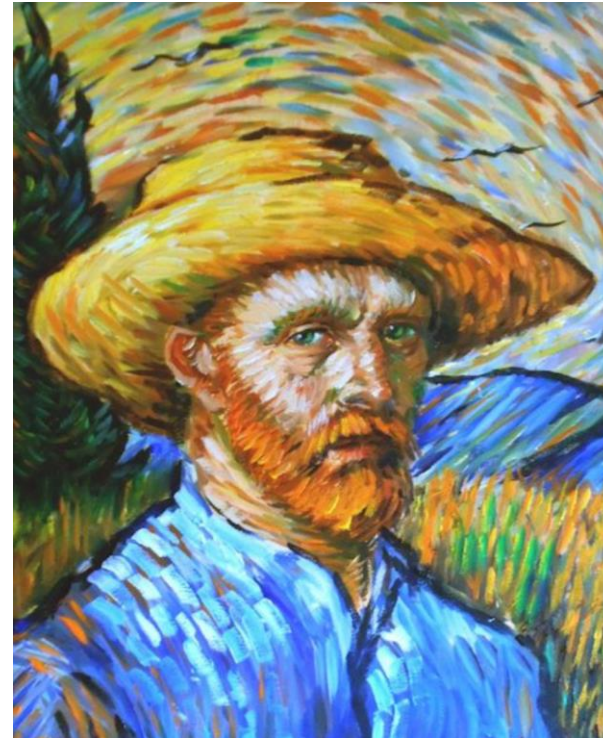
**A**



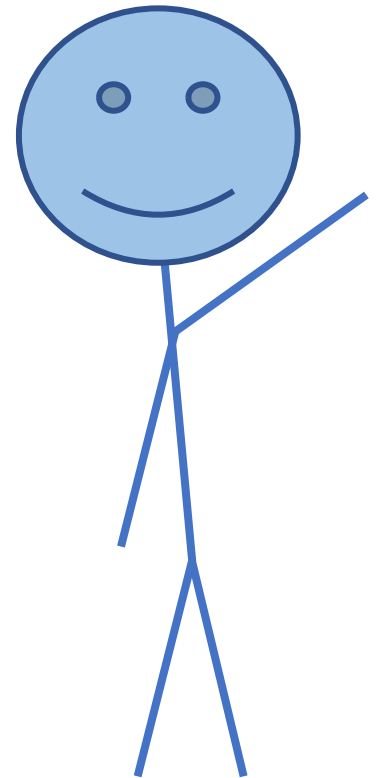
**B**



**C**



**D**





Be a reviewer game!

**A**

**B**

**C**

**D**

Be a reviewer game!

*There are also bad ways to be memorable!!!*

Be a reviewer game! - Organization

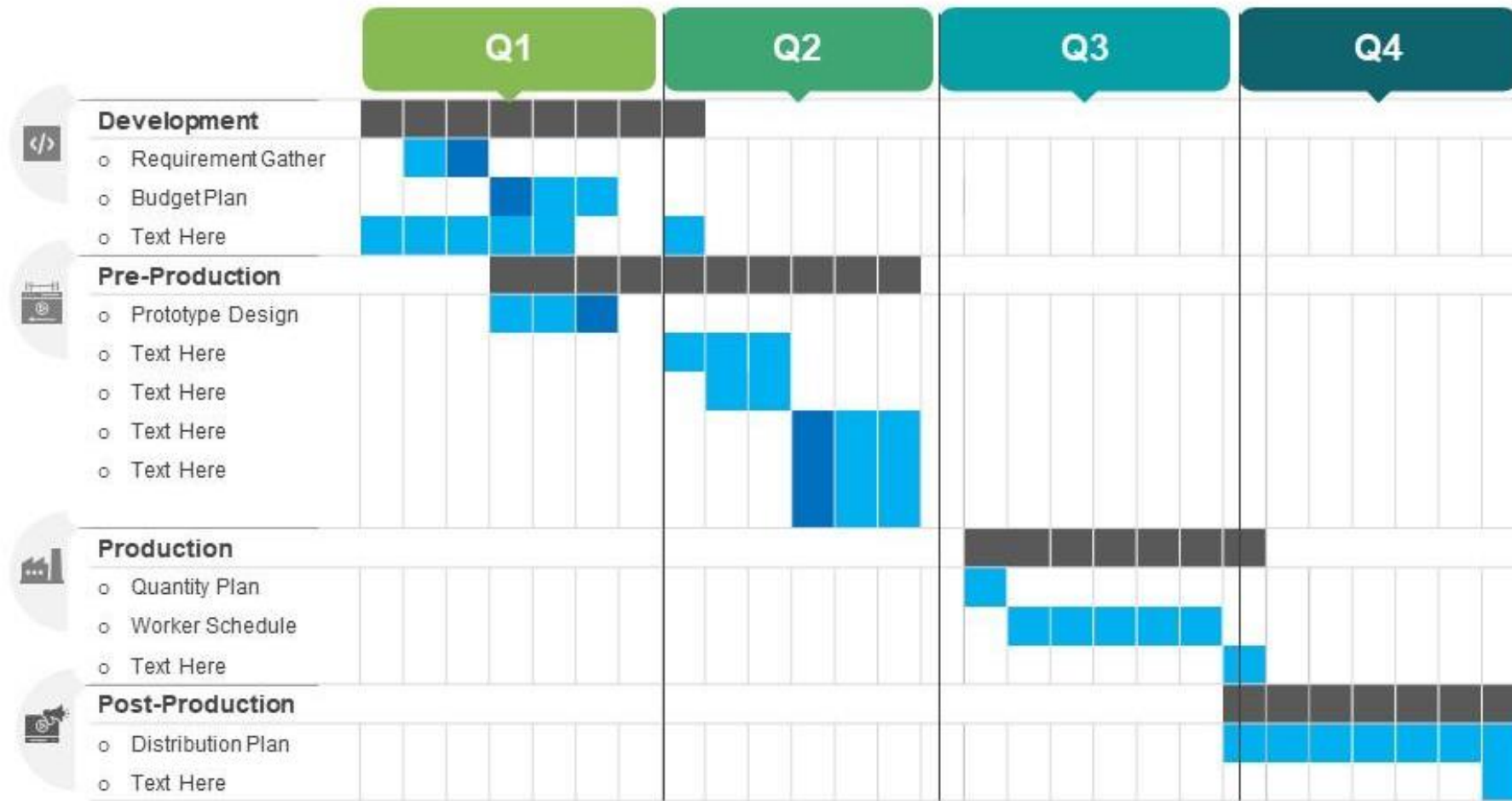


# Questions/Transitions help tell the story

- Once upon a time....
- Every day...
- Until one day...
- Because of that...
- Ever since that day...

*Tell a Story*

# Organization – Gantt Chart



# Organization – Work packages/Milestones

Let the Questions/Story naturally guide your work packages

- Aim to have 4-6

Be realistic

- Acknowledge risks and challenges
- How will you address and mitigate these risks/challenges?
  - Ways to reduce risk
  - Backup plans
  - Integrated resources/support

Be a reviewer game! – Be Real





# Organization

Avoid repeating information between sections.

- Proposals may have sections for:
  - Introduction
  - Background
  - State of the field
  - State of your research
  - Research plan
  - Schedule (Milestones/ Work Packages)
  - Relevance and Impact
  - Etc.
- It shouldn't feel like the same information is being repeated in each of these sections (*You will exhaust/bore your reviewers*)
- **But!** – everything should build on and relate back to the main takeaway (The elevator pitch)





# Organization



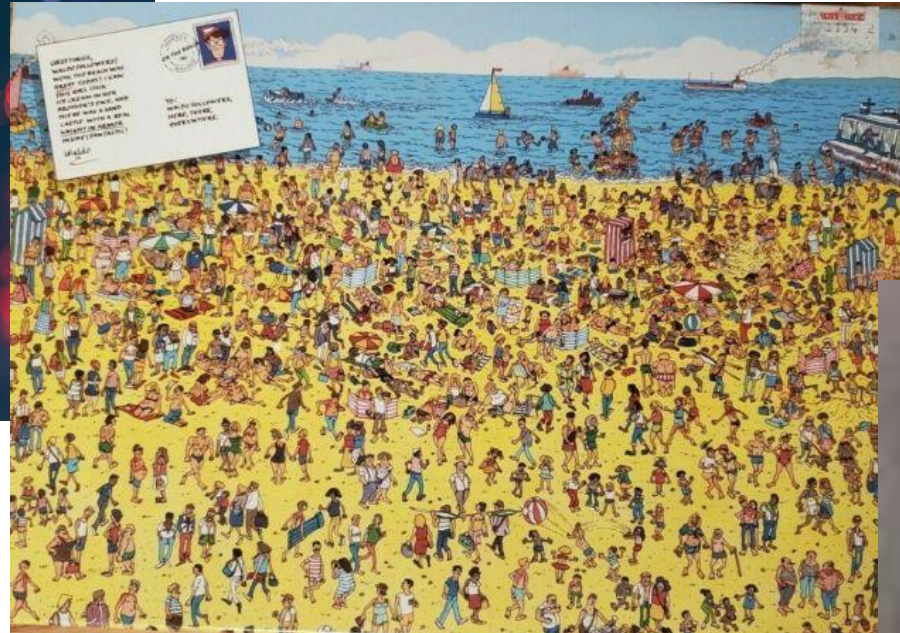
Be a reviewer game! – Avoid Repetition



# Important Lessons:



# Be a Reviewer Game! – Level of Detail



# Be a Reviewer Game! – Level of Detail





Be sure to remember:



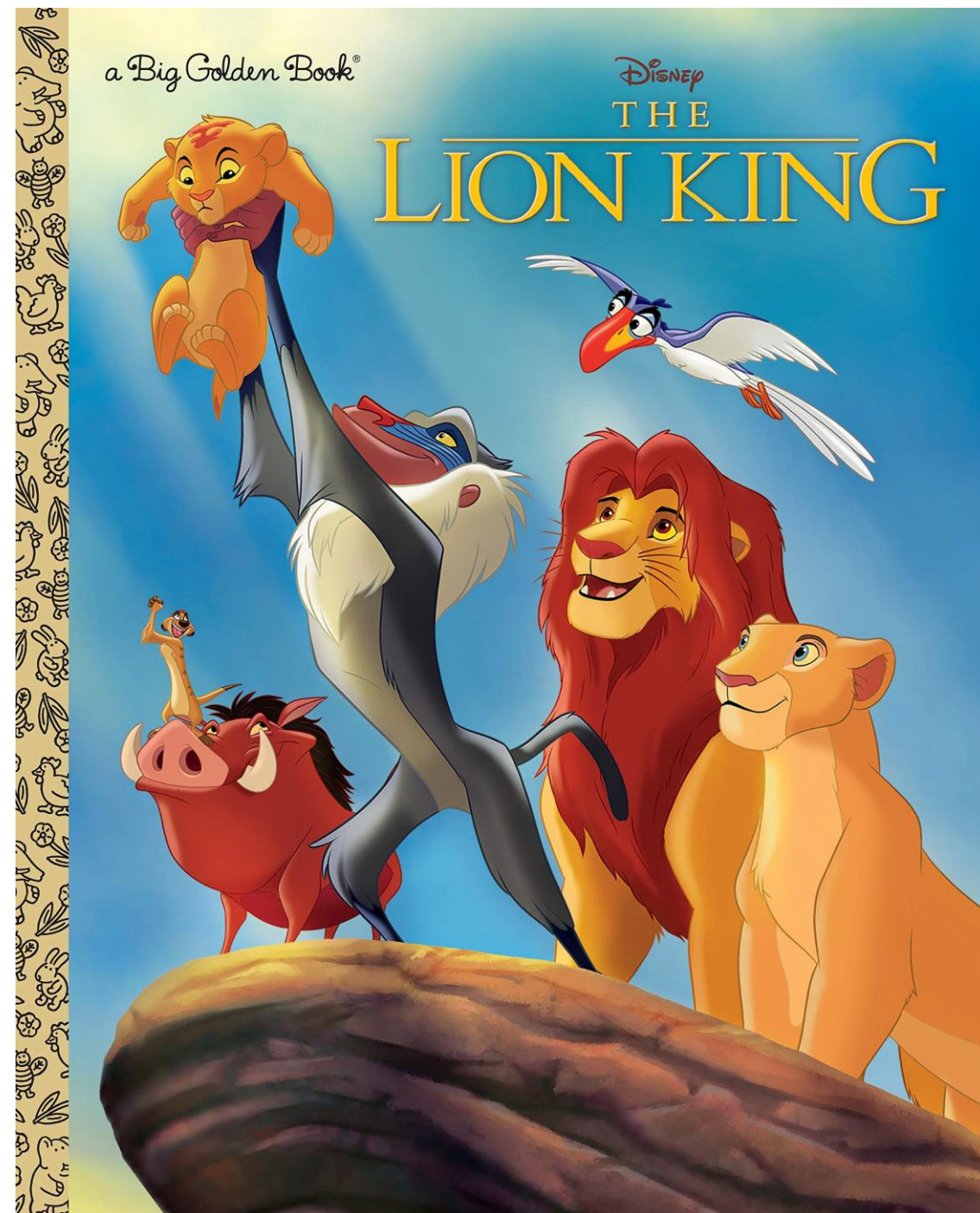
# Jargon – Sounding Smart

The anecdotal impact of avunculicide and fratricide in relation to the hierarchical organization of a *Panthera leo* population and the surrounding organismal communities.

*Combatting Imposter Syndrome and Science Clickbait*

What is The Lion King really about!?  
Why do people love The Lion King!?

## Build Confidence



# Rejection



# Rejection is ok!

*On the same day that molecular biologist Carol Greider won a Nobel prize in 2009, she learnt that her recently submitted grant proposal had been rejected.*

- Luck isn't always on your side
- Get feedback if you can
  - This can be a great way to learn
- You have a draft for the next proposal!

# Goals for the Workshop

Be Memorable

*Tell a Story*

**Build Confidence**