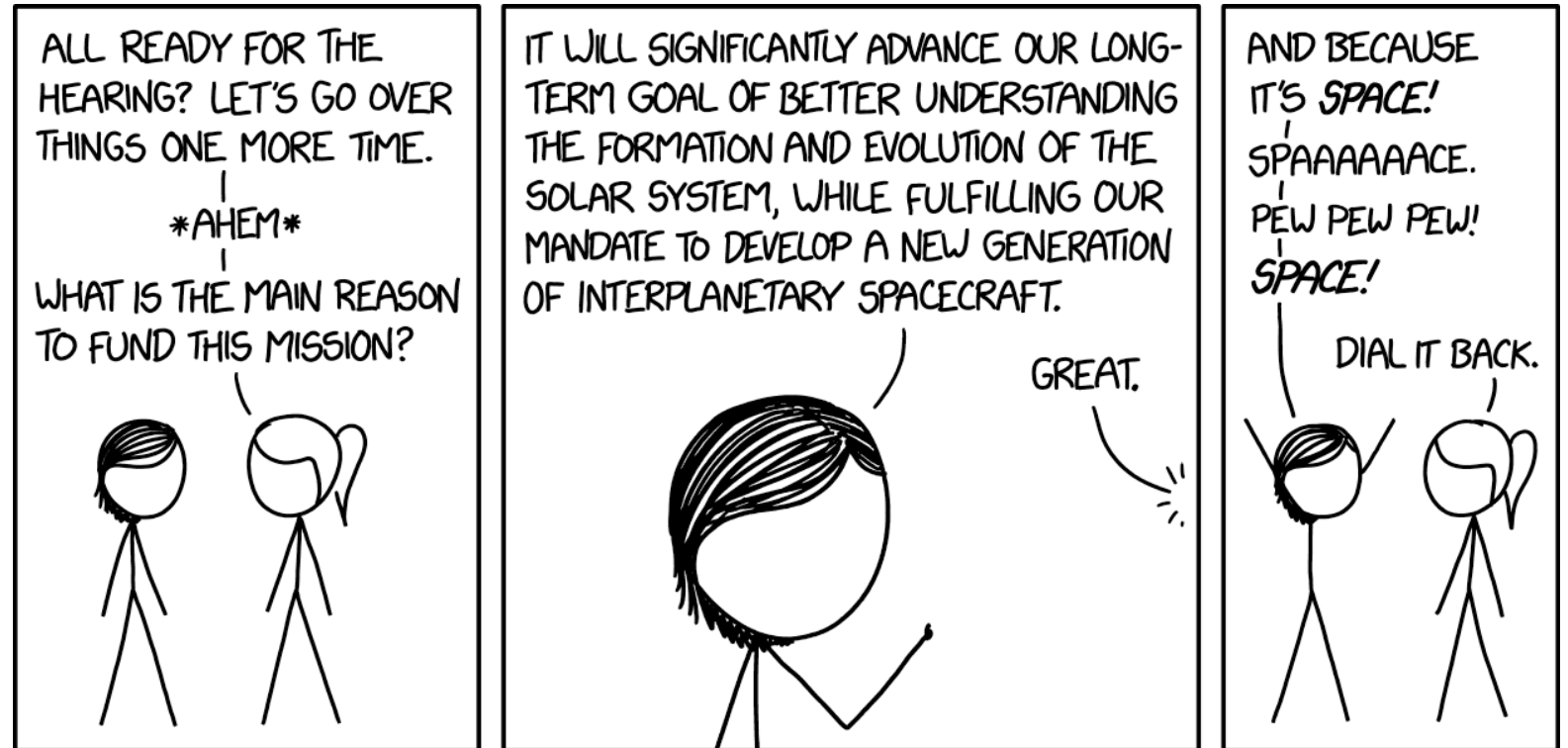


Research Proposal Pitches

- Short pitches to class
- Work with co-investigator to refine and expand your idea



Proposal pitches

- Order based on volunteering
- Quick pitch– no slide set up
- Set up a problem in biological engineering
- What is your proposal to study/solve this problem?
- What are a couple ways you will go about achieving this goal?
- Questions from classmates and instructors – meant to help refine your idea

Next steps for today

- Refine your research question and change it if necessary

To leave early today:

Complete the wiki questions about specific aims and alternate approaches for your homework during class

Complete or make major progress on homework due Friday

With additional time

- Begin to think about the **specific aims** of your project
 - Each project will have 2-3 specific aims
- Research question: Your overall goal
- Specific aim: A specific objective that allows you to make progress toward achieving your overall goal
- Ideally, specific aims to come together to address your research question
- Think about aims that are more than yes/no answers
 - Want an aim where you can still learn something and make progress if the experiments don't turn out as you had anticipated

Example: Can the genetically engineered XKCD enzyme dephosphorylate tau to prevent the development of Alzheimer's disease?

- Specific Aim 1: Test ex_XKCD dephosphorylation activity *in vitro*
- Specific Aim 2: Optimize production and packaging of XKCD enzyme
- Specific Aim 3: Test delivery and efficacy of XKCD *in vivo* using mouse model of AD

Good resource to get started...

- The NIH has a good description of how to approach specific aims

<https://www.niaid.nih.gov/grants-contracts/draft-specific-aims>