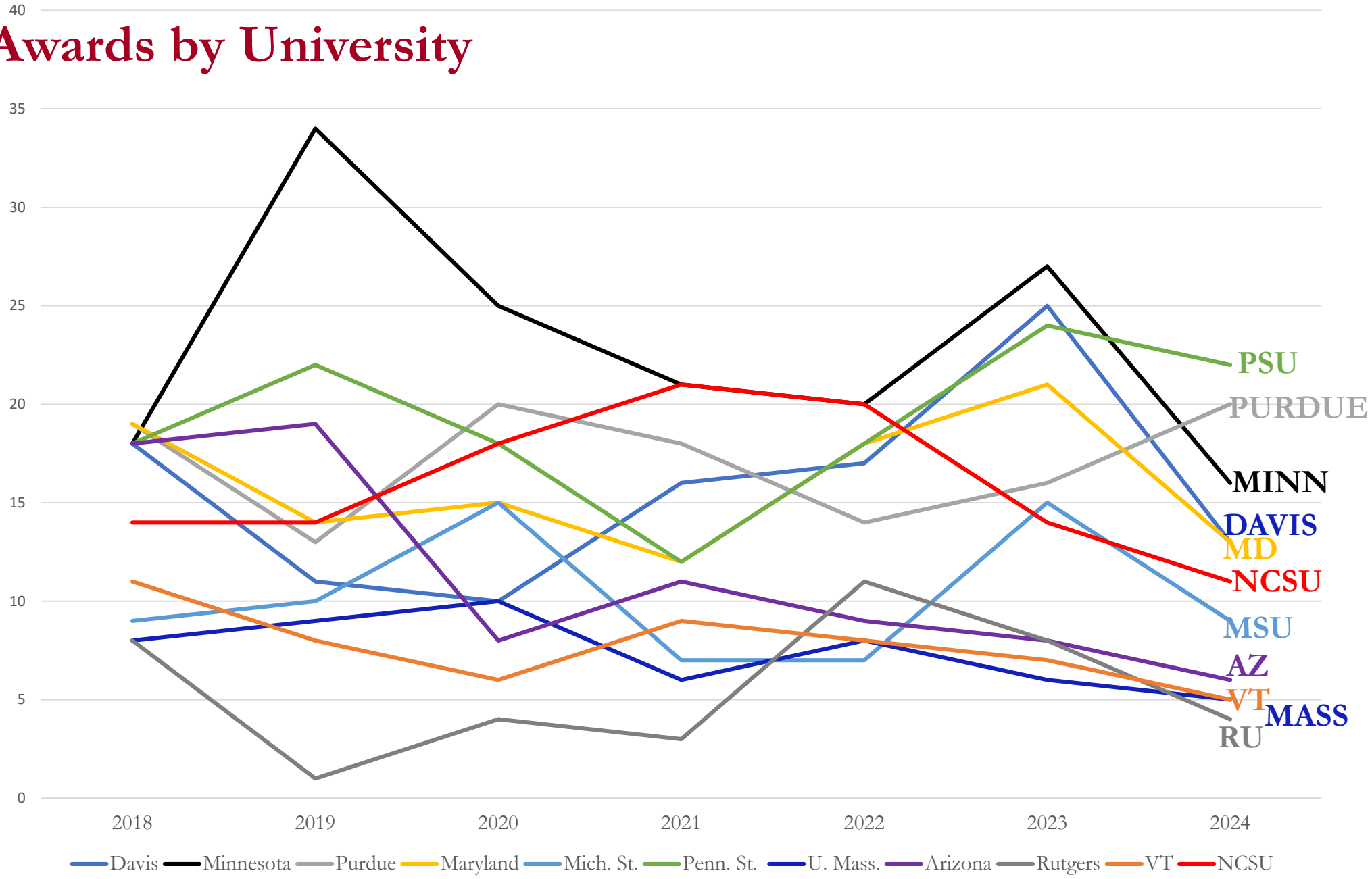
Writing Successful Student-Initiated Proposals Workshop
Fall 2025 Agenda:

Time	Item	Presenter(s)
10:00 - 10:20	Introduction and proposal tips	Kevin Edgar
10:20 – 10:25	Grad school website resources	Lauren Surface
10:25 – 10:40	Working with the Office of Sponsored Programs	Lauren Magruder
10:40 – 10:45	Go to breakout rooms	
10:45 - 11:45	Breakout rooms:	1. NIH: Clay Caswell 2. NSF: Meryl Mims 3. Humanities, Social Sciences, Education: Tom Ewing
11:50 – 12:30	Concluding remarks	Kevin Edgar
11:50 – 12:30	Lunch and networking!	

Grad Awards by University

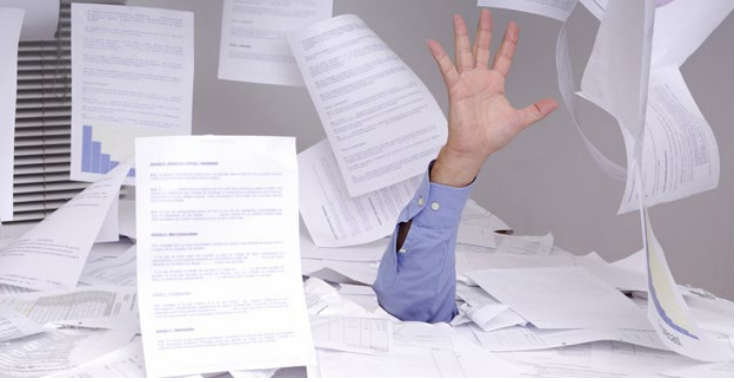
UC Davis (59),
Minnesota (85),
Purdue U. (86),
Maryland (114),
Mich. St. U. (116);
Penn. St. U. (122);
U. Mass. 123;
Arizona 155;
Rutgers 201-250;
VT 251-300;
NCSU 251-300



Grad students with NSF GRFP at each university

So why should a STUDENT write a research proposal?

- Fund your work!
- Enhance your CV
- Provide independence
- Focus your research
- Learn how to sell your work



Writing effective research proposals: general aspects

Key points:

- Keep at it! These things are competitive.
- **Proposal is an act of communication with others**. You must consider your audience and use language they will understand. Otherwise your communication will fail.
- Do your homework. Who, and what has been funded by this program before? Keep in mind, those who‘ve recently received funding likely to be approached by program manager to review.
- Learn to write in constrained format (Shakespeare!); strict page limit, many required elements.
- Write in their language! Echo language in RFP.
- Keep in mind requirements like line spacing, margins, font type and size
- PAY ATTENTION to specific items Request for Proposals (RFP) is asking for. Make sure you address them prominently (one trick; put key ones in header of doc as you are writing)

- **Intro**

  Brief description of what your proposal is about. **What is your hypothesis**?

  Significance? (why should we care? "**broader impact**")

  Novelty? ("**intellectual merit**").

  List **Overall Objectives** (big picture elements of what you hope to accomplish).

  Grab the reader here! Remember, this is the section that even the busy people and procrastinators will read.

- **Background**

  Here you will describe what you are doing, and why. You will seek to **convince** those judging your proposal about your arguments for novelty and significance. What key work has been done in this field, how does it demonstrate the importance of the field, and **what it still missing** (that you of course will provide through this proposed research)?

  This key section will provide the framework for what you propose; the "why". For the experts judging your proposal, your analysis of what has gone before will help convince them that you know what you're talking about.

Specific Objectives

This critical section lays out your objectives. What questions do you wish to resolve? How do they fit together? How do they lead to data that confirms or refutes your overall hypothesis? How do they reinforce arguments for novelty and significance? For example:

- SO1 – figure out a way to make something,
- SO2 - characterize it; prove that you have made it,
- SO3 - ascertain structure-property relationships with regard to a particular proposed application.

Here you describe "what" you propose to do.

Interesting quandary; SO's need to fit together, yet reviewers like it best if they are not TOO interdependent. If SO1 is a failure, does it derail whole project?

- **Research Plan**

  For each specific objective you will describe **how** you will do what you hope to do in that objective. Here you would indicate what methods are needed for the studies and/or experiments that you plan to do. You want to indicate a logical succession of steps, of reasonable chance of success, and within the capabilities of you and your accessible resources.

  In a real application you would also want to address here "**what if**". What is your "Plan B" for each objective? What are anticipated pitfalls, and how might you modify course to circumvent each one.

Other elements

Preliminary Data

Another tightrope to walk. How much does that agency/program expect? E.g. generally NIH expects a lot; NSF, much less.

Budget

Detail cost elements like grad students, undergrads, postdocs, research assistants and their stipends, tuition, travel, training.

Biosketches

Of each PI and co-PI. The idea is to communicate to reviewers that you and your team actually have the expertise to competently and efficiently do the work proposed.

Facilities and Equipment

Where you will indicate that you have the physical capabilities to do the work (of course you can ask to address gaps in the Equipment section of the budget).