Designing Your Research Statement Around Undergraduate Research

Workshop on

Wednesday, July 18th, 2018

Jeff Werner
Associate Professor

Cornell University
Center for the Integration of Research, Teaching and Learning

Chemistry Department

Workshop on

Designing Your Research Statement Around Undergraduate Research

Wednesday, July 18th, 2018

Jeff Werner
Associate Professor

Cornell University
Center for the Integration of Research, Teaching and Learning

Chemistry Department

My backstory

B.S.
Chemistry
2002

Ph.D.
Water Resources
2006

Postdoc
Civil & Environmental Engineering
2006-2008

Assistant Professor, Castleton State College (VT)
2008 – 2009

Research Associate, Biological & Environmental Engineering
2009 – 2011

Assistant Professor 2011-2015
Associate Professor 2015-present

Expectations vary a lot

- Teaching & service loads vary
- Startup varies, $5k to over $100k
- **Every** four-year college values undergraduate student research
- Do not lower expectations of the level of research you will do, just the means, and the time frame

Get as much information as you can

- Network with colleagues at other PUIs - Find out what PUI searches and research statements are like in your field.
- Show your res. statement to colleagues and solicit feedback! Definitely at least show it to your advisor(s)

Investigate

- Does the college or department you’re applying to require students to do UG research?
- Do they have students staying over the summer doing research? Is this supported financially?
- Do they have resources relevant to your research?
- Are there nearby universities with relevant facilities?
- Potential collaborators?

About You

- Graduate students?
- Postdocs?
- Research area?
- **Four year college faculty job**
  Is this your first choice? Or not sure?

Things we worry about when reading a chemistry research statement

- Does _____ know what they're getting into? i.e., are they being realistic?
- Has _____ thought about how undergraduate students would go about doing this research?
- Does _____ have the adaptability and breadth to continue doing research five or ten years from now?
- Will _____ be able to get funding? Publish peer-reviewed papers with undergraduate student co-authors?
Format, writing, etc
- Sort-of like a grant proposal:
  - Organized with separate goals or specific aims
  - Say in general terms what you will do and why it's important first, and don't dive into the details until later
  - Don't assume that people will see some connection that you think is obvious unless you explicitly state it! E.g., will make use of an instrument that they have, potential collaborators, suitability of project for UG students, etc.

- Aspects that are not all like a grant proposal:
  - Possibly no experts in your specific area of research
  - Leave out the detailed background junk
  - Long-term potential of overall research program is important
  - Write accessibly, in active first person

Bird's-eye example
8 page total, Biochemistry

Nice things to note:
- Consistent organization into separate sections: Project 1, Project 2, Project 3
- Explicitly has sections about UG researchers and possible funding sources
- Somewhat long, but focused on the right things

Group Activity
Writing a Research Statement
Form groups of three or four people
Everyone think up three possible projects, or specific aims, if possible
Pick one specific aim / research project from someone in your group, and discuss as a group:
- How is this specific aim publishable and fundable? Where?
- How is it a feasible aim for a small college with limited resources?
- How is it a good research project for undergraduate students?
- If this aim doesn't work out, would your other two aims still be viable avenues of research? Why? It can't hurt to specifically state this kind of thing in the Research statement.

Questions/Concerns?
Other Resources?

Bird's-eye examples
3 page total, Biochemistry

Hit all the points: importance of work, UG research, funding, publishing, collaborators, relevant equipment at SUNY Cortland, specific first-person about what will do in lab, only took 3 pg!

Challenge for reviewers: One big block of text with few labeled sections
Search committee was concerned about: Only one specific project.
Breadth / adaptability?