Tell Your Science Story: Developing a Research Statement

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Outline

• General remarks/suggestions
• Q & A
• Peer review of your research statements
• Closing remarks/Q & A
Who Am I?

- **Toyoko Orimoto**
  - 2012-2018: Assistant Professor of Physics at Northeastern
  - 2009-2012: Postdoctoral fellow at CERN
  - 2006-2009: Postdoctoral fellow at Caltech
  - 2006: Ph.D. Physics, UC Berkeley
  - 2000: B.A. Physics, UC Berkeley
Who Am I?

- **Grants**
  - Department of Energy Early Career Award (2013-2018)
  - National Science Foundation Awards (2016-present)
- **Search committees**
  - Have served on two faculty search committees so far
  - Read ~250 applications
- **Applications and interviews**
  - Was on the faculty job market for 3 years, interviewed at ~a dozen places
Research Statement

• **Goal of research statement**
  • “The main goal of a research statement is to walk the search committee through the evolution of your research, to highlight your research accomplishments, and to show where your research will be taking you next.”

• **Meant to serve as a complement to your CV and cover letter**
  • Your CV will highlight accomplishments (publications, conference presentations, leadership roles, etc), but your statement will expand upon this, *weaving these accomplishments into a narrative and expanding into future directions and long term plans*

• All quotes come from: [https://www.vpul.upenn.edu/careerservices/writtenmaterials/researchstatements.php](https://www.vpul.upenn.edu/careerservices/writtenmaterials/researchstatements.php)
Research Statement: Outline

1. Introduction/Overview
   • What is your research vision?
     • What are the major questions you are trying to answer in your research?
     • For example, my research vision is: "To explore the energy frontier, utilizing the high precision CMS electromagnetic calorimeter to measure the recently discovered Higgs boson as a probe for potential new physics."
   • First paragraph and page are of utmost importance
     • Search committee may be reading hundreds of applications
     • Want to capture the reader in the first page…
     • Keep in mind that there may be non-experts reading your application
Research Statement: Outline

2. Past & Current Research

• “… do not talk about your research in abstract terms, make sure that you explain your actual results and findings”

• Reiterate main accomplishments, but avoid simply repeating your CV

• There should be an overarching theme/narrative (your research vision) throughout the statement

• Put accomplishments into context for non-experts
  • For example, “I was selected to present results at IEEE 2017, one of the most important annual conferences for my collaboration.”

• If you faced any challenges in your research, you can describe here how you approached and solved those issues

• “… describe how have you used your research as a tool for teaching or mentoring students”
Research Statement: Outline

3. Future Plans

- “… you have asked good questions, and used good methods to find some answers, but how will you now use this foundation to take you into your future?”

- What are your long term plans for research? 5-years and further

- Past & current research description should tell why you are the right person to see through these plans

- Plans should be realistic, with reasonable benchmarks

- Make sure that your future plans are distinct from your postdoc advisor, ie that you are an independent researcher

- Will the proposed program translate well into a grant proposal?
Research Statement: Do’s & Don’ts

• Don’t
  • Make it too long (max length seems to depend on discipline)
  • Use excessive jargon
  • Be overly boastful

• Do
  • Set aside focused time to write your statements
  • Get feedback from mentors
  • Keep in mind that there may be non-experts reading it
  • Be enthusiastic and passionate
  • Reach out to contacts you may know at the places you are applying
  • Tailor each application to the institution you are applying to, focusing on what your unique research program can add
Tailoring Your Statement

• For example, if I was applying for a job in the NU physics department, I would:
  • Describe how I could engage coop students in research, having read about that the NU experiential education program
  • Mention potential synergies and collaboration between my research interests and the existing NU particle physics group
  • When proposing future plans, keep in mind any discussions I may have had with contacts at NU (eg, are they interested in moving into entirely new areas of research, or expanding their current general areas of expertise, etc)
  • Include resources available at NU (eg, the MA Green High Performance Computing Center)
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Questions? Comments?
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Resources

- Academic Job Search Handbook: