Tell Your Science Story:
Developing a Research Statement

Toyoko Orimoto
Northeastern University

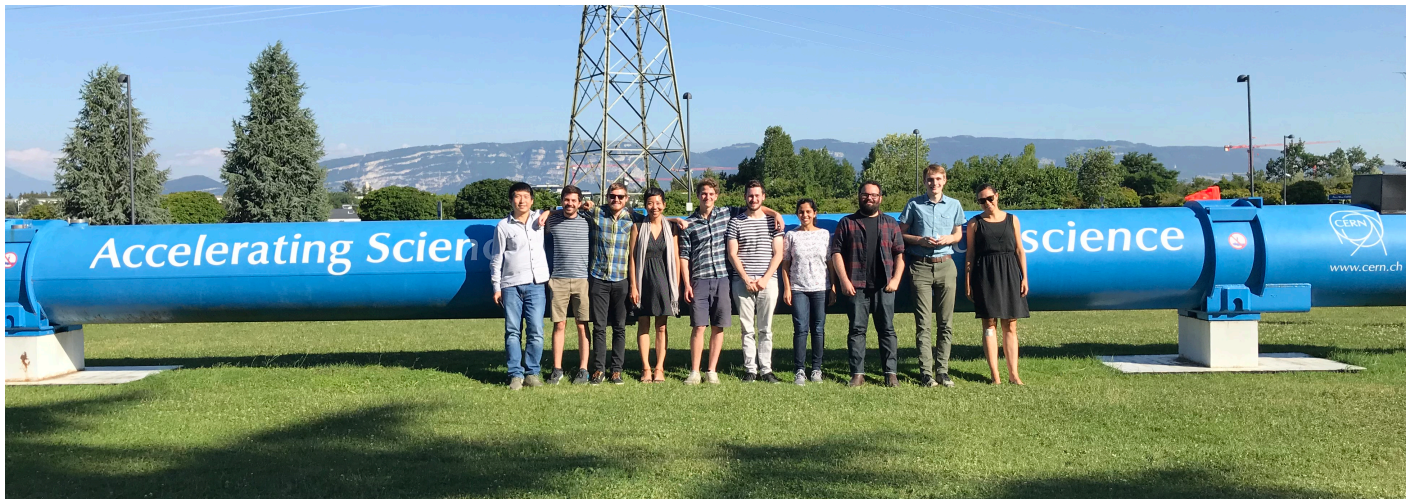
Outline

- 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

NU CMS Group at CERN Large Hadron Collider



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

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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

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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t.orimoto@northeastern.edu

Resources

- **Academic Job Search Handbook:**
  - http://www.upenn.edu/pennpress/book/915.html