

A Discussion on Mentoring for Junior Faculty

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Who are today's junior faculty?

Talking Points:

- Why did they choose academia?
- Our discipline is rapidly changing. So are the profiles of junior faculty.
- Junior faculty want to make an impact and LEAD as our field evolves.

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How do our expectations and culture shape the careers of junior faculty?

Talking Points:

- Do our expectations narrow or broaden opportunities for junior faculty?
- Publications: what is the scope of our “top” journals?
- Publication culture: scope, review times, dissemination, impact, etc.
- Non-traditional contributions.
- How does this affect junior faculty post-promotion?

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Fictitious Case Study

Case A

- Developed a novel technical argument for proving optimality of a certain class of estimators as part of her thesis.
- Has continued to apply this technique to various problems as an assistant professor.
- Published 8 first author papers in “top 4” stat journals and 5 other second author papers.
- Has an NSF-DMS Statistics grant.
- Has advised one PhD student.

Fictitious Case Study

Case B

- Began to work closely with neuroscientists as a new faculty member & Has developed the first statistical techniques to analyze new technologies that can simultaneously record from thousands of neurons.
- Only has 1 first author “top 4” stat journal paper.
- Has published extensively (>40 publications) in the top neuroscience, applied statistics & machine learning journals / conferences.
- Most papers are multi-author papers for which she is not the first author.
- Several very popular R packages to analyze neuro-data.
- Has >2000 citations with an H-index of 19.
- Has a large lab with two postdocs and four graduate students.
- Has a strong funding base in NSF, NIH and DARPA.
- Has given over 50 invited seminar and conference talks.
- Teaches a major online course on Stats for Neuro-Data.

Fictitious Case Study

Questions:

- Which faculty member has laid a better foundation for a 30-40 year academic career?
- Who has made a bigger impact?
- Which case more closely aligns with your department's expectations for junior faculty?
- Do your department's mentoring practices steer faculty towards or are more geared towards case A or B?

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What should be the focus of the “tenure-track” time?

Talking Points:

- Building a foundation for a 30-40 year career.
- Discovering who they are as researchers, teachers, and leaders.
 - ▶ Taking risks; trying new things; trials and errors.
- The best advice I received when I first started.

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Goal of Junior Faculty Mentoring

To help support junior faculty as they build a foundation for a 30-40 year career in academia.

- The goal is NOT to help junior faculty to get tenure.

Who are mentors?

Talking points:

- Anyone to whom junior faculty go to for advice and support.
- Mentors from own department.
- Mentors from own university, but outside department.
- Stats mentors from other universities.
- Network of peers - in statistics & in other fields.
- Let junior faculty decide.

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What are some specific action-items for mentoring junior faculty?

- Networking.
- Grants.
- Creative Evaluation Metrics.

Specifics: Networking

Talking Points:

- Introduce to as many other statisticians as possible.
- Help junior faculty get invited stats conference and seminar talks.
- Introduce to researchers in applied domains.
- Set junior faculty up to give research talks in other researchers' lab meetings.
- Provide support for travel to stats and domain-specific conferences.

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Specifics: Grants

Talking Points:

- Send junior faculty members complete examples of recently funded grants.
 - ▶ And templates for project summary / specific aims, project description, data management plan, postdoc mentoring plan, facilities and resources, current and pending, biosketches, budgets, budget justifications, etc.
- Introduce junior faculty to relevant program officers.
- Discuss the entire grant process with junior faculty.
 - ▶ From conceiving of and writing grants, submitting grants, the review process, to how funds are managed after an award and interim reports.
- Offer to read and make suggestions on junior faculty's grants (but don't force this!).

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Specifics: Creative Evaluation Metrics

Talking Points:

- Get creative with non-publication evaluation metrics! (Software downloads, twitter followers, YouTube views, blog views, industry connections, number of online students, adoption of standards by journals or science etc.)
- Go beyond traditional teaching evaluations.
- Read work carefully that is not published in traditional stats journals.
- Down-weight the journal in which something is published and up-weight the quality of the work and its impact of statistics AND science / society.

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