Top Tips for Balancing the Demands of a Research Career (Research, Service, Teaching, and Corporate Demands)

Tracy Camp (Colorado School of Mines)
Robin Graham (Argonne National Laboratory)
CRA-W.org
@CRAWomen
What does CRA-W do?

Individual & Group Research Mentoring

Undergrads: Undergraduate Research Experiences
Undergrads: Distinguished Lecture series/role models
Grad Cohort: Group mentoring of graduate students
Grad Students: Discipline Specific Research workshops
Academics/PhD Researchers: Group mentoring for early and mid career @ CMW, Grace Hopper, and Tapia

2400+ students & PhDs a year

Stay in touch: CRA-W.org, @CRAWomen, Facebook: CRA-W, Linked-in: CRA-Women
CRA-W Events at Grace Hopper

Visit the CRA-W Booth in the EXPO to learn more (#2050)

Attend another CRA-W Session Wednesday (3) Thursday (3) or Friday (1)

Visit a CRA-W Table at the Student Opportunity Lab on Friday (Undergrads)

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Session Topics

• Understanding institutional expectations for success
• A close look at Academia (and tips for a good balance)
• A close look at Industry/National Labs (and tips for a good balance)
• Closing comments/questions
Pop quiz!

https://tinyurl.com/GHC17-CRA-W
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Expectations at 2 schools

Jane’s institution (R1)

- Teaching: 60%
- Research: 30%
- Service: 10%

Joe’s institution (SLAC)

- Teaching: 60%
- Research: 30%
- Service: 10%
Understand your Institution

Expectations vary by institution – know yours!

• Rules/guidelines often intentionally vague
• Criteria can evolve while you are in the pipeline

• Some schools provide T&P training workshops
• Look at CVs of successful, recently tenured faculty
• Ask!
For Current Faculty

- Read the faculty handbook section on tenure expectations
- Ask your chair what % of your time should be spent in each category
- Ask 2+ trusted mentors/colleagues what % of your time should be spent in each category
Homework!

For Prospective Faculty

- Add this question to the list of questions you plan to ask on campus/Skype interviews
Find Mentors (help set balance)

Don’t all have to be female

Formal mentors
  – Sometimes assigned by institution
  – Even if not best fit, spend time with person

Informal mentors
  – Good to have mentors for different activities (teaching, research)
Get team of mentors!

Research shows that those who are mentored achieve greater career advancement and higher work satisfaction than those who are not mentored.
My early mentors
Academia Categories of Evaluation

1. Teaching
2. Research/Scholarship
3. Service
1. Teaching

Understand expectations of your institution. Find out how much teaching really counts.

General tips:

– Do a good job while minimizing effort
– Have an overall teaching plan/goals; update these annually.
– Try to limit number of new courses you teach/prepare
– Shoot for mix of courses (e.g., ugrad honors and grad core courses)
– Negotiate course release
2. Research / Scholarship

Understand expectations of your institution.
Research includes
– working on problems yourself
– advising graduate students working on problems
– publishing results
– getting funding for your research
– collaborating with peers

LOTS of tips …

A bad student is worse than no students.
3. Service

Understand expectations of your institution. Find out what/how much service really counts.

Examples:

– Academic advising/mentoring
– Departmental and university committees
– Program committees
– Review panels
– Journal/conference paper reviews
– Community engagement projects

Key tip: LOTS of opportunities … quality and reliability are KEY (not quantity)
Think / Pair / Share time!

Which area do you spend too much time?

Which area do you spend too little?

(assumes you understand your expectations!)

Talk with neighbor (1 minute each)
Time Management is KEY
You must focus, prioritize, and manage time.

D Delete
D Delegate
D Delay
D Diminish
TODO List?

Daily List?

TODO List Game?
Importance of saying “no”

Learn how to say “no”

– Everybody is super busy, so don’t just say “I can’t because I’m too busy.”
– Don’t burn bridges. Leave room for “yes” later.
– Give your answer as soon as you can (esp if it is “no”).
– Saying “yes” when you can’t do your best work leads to other problems
– Offer name of someone else who may be able to help.
Learn *how* to say NO!

- to work invitations
- to social invitations

If it’s not absolutely YES, then it’s a no
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A little background on Dept of Energy National Labs

Non NNSA Labs ~$7billion/yr
NNSA Labs ~$7billion/yr
A little background on National Labs

TRL 1 to TRL 7 research

Source: Thom Mason, Director, Oak Ridge National Laboratory
A little background on National Labs

Office of Advanced Scientific Computing Research –
2017 Budget - $619M ; Budget request 2018 - $722M

Key Lab Capabilities
• Advanced computer science, Visualization and Data
• Applied Mathematics
• Computational Science
• Cyber and Information Sciences

High Performance and Leadership Computing facilities
Career demands of National Lab and Industry Researchers

Early Career Demands
- Corporate: 90%
- Research: 5%
- Service: 5%

Mid to Late career Demands
- Corporate: 30%
- Research: 60%
- Service: 10%
Research Demands

Doing research

• Collaborative
• Team

Tips
Find people you enjoy working with

Get to know researchers outside your field – creative things happen

Force yourself to publish even if the sponsor doesn’t care

Learn how to tell a story

– Publishing research

Recognize teamwork requires lots of communication and you need to budget for that time
Lab Demands

- Procuring research funds (yourself, others)
  - Understanding sponsor wants
  - Shaping sponsor wants

- Supporting Sponsor needs
  - Delivering on proposals
  - Workshops
  - Reviewing proposals

Tips
Research potential funding sponsors
Read Sponsor strategic plans; workshop reports
Allow enough time for internal reviews of proposals
Service Demands

Supporting your profession
- Editorships
- Reviewing papers/proposals
- Society positions

Tips
Service is a great way to build networks (and friends) inside and outside the Lab

Supporting Institutional needs
- Strategic Planning
- Diversity & Inclusion
- Safety
- Community outreach

Talk to colleagues about the career value of service
The Research-Corporate-Service Balance Change

As your career matures the balance between Research – Corporate & Service demands will shift

- Less hands on time on research
- More time spent on sponsor needs
- More time on Lab strategy & planning
- More time talking about others research
- Shaping national research directions – exciting
  - more multidisciplinary
  - more cross-institutional
Know your institution to be efficient in your time use

- Learn from your supervisor how funding flows in your institution
  - Accounting side
  - Political side
- Learn what the promotion paths are
  - Don’t just ask your supervisor, talk to HR and multiple colleagues
- Know what your supervisor values. Take advantage of performance planning & assessments
  - Ask her (or him)
  - Ask others
- Communicate your successes!!! Your supervisor looks good when you look good
- But be generous with credit
Realities of Working at a National Lab or Industry

Gov’t (& Industrial) research funding ebbs and flows between years and with Administrations!!

Research flexibility is good
(but have a personal direction)

Keep yourself marketable outside your institution

• Know what other markets appeal to you!
• Recognize what other markets value may not be what the Lab values
Random Practical tips on Time Management

- Keep track of how you spend your time – it helps you focus
- Make annual goals and post where you can see them and revisit them
- Make weekly achieve lists – do they relate to annual?
- Make daily to do lists
- Set aside sometime each week to do something at work that you really enjoy doing

- Spend money to buy time
Finally, know yourself as well as your institution

• Think about whether you’d prefer a support role?
  – Pros
    • May keep you closer to doing what you like (e.g. analysis, coding).
    • The happy introvert
    • Maybe more job options – lots of people need competent “doers”
    • Shielded from chasing $$
  – Cons
    • You will work on what others want you to work on

• Find the balance that makes YOU happy but meets the institutional needs
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Overall Advice

The most important thing is to enjoy the work you do
  – Keep in mind the milestones you need to reach to be successful at what you do

  – The steady pace wins the race!

Strike a balance between your family and social life and your career
In Summary

• Know what your Department or Lab expects for success
• Keep people in your Department or Lab informed about your progress/successes, and ask where you can improve
• Learn to manage your time
• Focus on quality not quantity, but do not forget you also need sufficient quantity
THANKS

Please rate and review the session in the GHC 17 mobile app

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