

How to Make the Most of Student-Advisor Relationships

Kelly Shaw

Williams College

Trilce Estrada

University of New
Mexico



CRA-WP

Computing Research Association
Widening Participation

What is an Advisor?



- According to the dictionary, an **advisor** is:*
- somebody whose job is to give advice about a subject
- In the academic environment:
 - Someone who knows the rules needed to successfully complete a graduate program
 - Course obligations
 - Teaching obligations
 - Research expectations
 - Time limitations
 - Provides a map to complete your degree

*<http://dictionary.cambridge.org/>

What is the PhD Student-Advisor Relationship?

- A **relationship** is defined* as:
 - the way in which two things are connected
 - the way in which two or more people feel and behave towards each other
 - the way in which things are connected or work together
- The PhD student-advisor relationship is often described as an apprenticeship.
- An **apprentice** is defined* as:
 - someone who has agreed to work for a skilled person for a particular period of time and often for low payment, in order to learn that person's skills

*<http://dictionary.cambridge.org/>



CRA-WP

Computing Research Association
Widening Participation

What is a Mentor?



- A **mentor** is defined* as:
 - a person who gives a younger or less experienced person help and advice over a period of time, especially at work or school
- A mentor helps you navigate a path to your destination
 - May help you decide what that destination is
 - There are many different decisions
 - Helps prepare you to succeed

*<http://dictionary.cambridge.org/>

Have More Than One Mentor

- Ideally, your research advisor is your primary mentor
- A single person isn't the best person for everything
 - We're all more skilled at some things than others
- Good to have multiple mentors for different topics and skills
 - Research advisor for high level research ideas
 - Post-doc / senior grad student for practical research ideas
 - Industrial research mentor
 - Teaching faculty mentor

Two (Extreme) Advising Relationships

Hands-off



Hand-holding



Communication
is a key



CRA-WP

Computing Research Association
Widening Participation

Kelly Shaw

Associate Professor
Williams College

What Are My Advising Experiences?

Student



Stanford
University

Advisor



Williams



Trilce Estrada

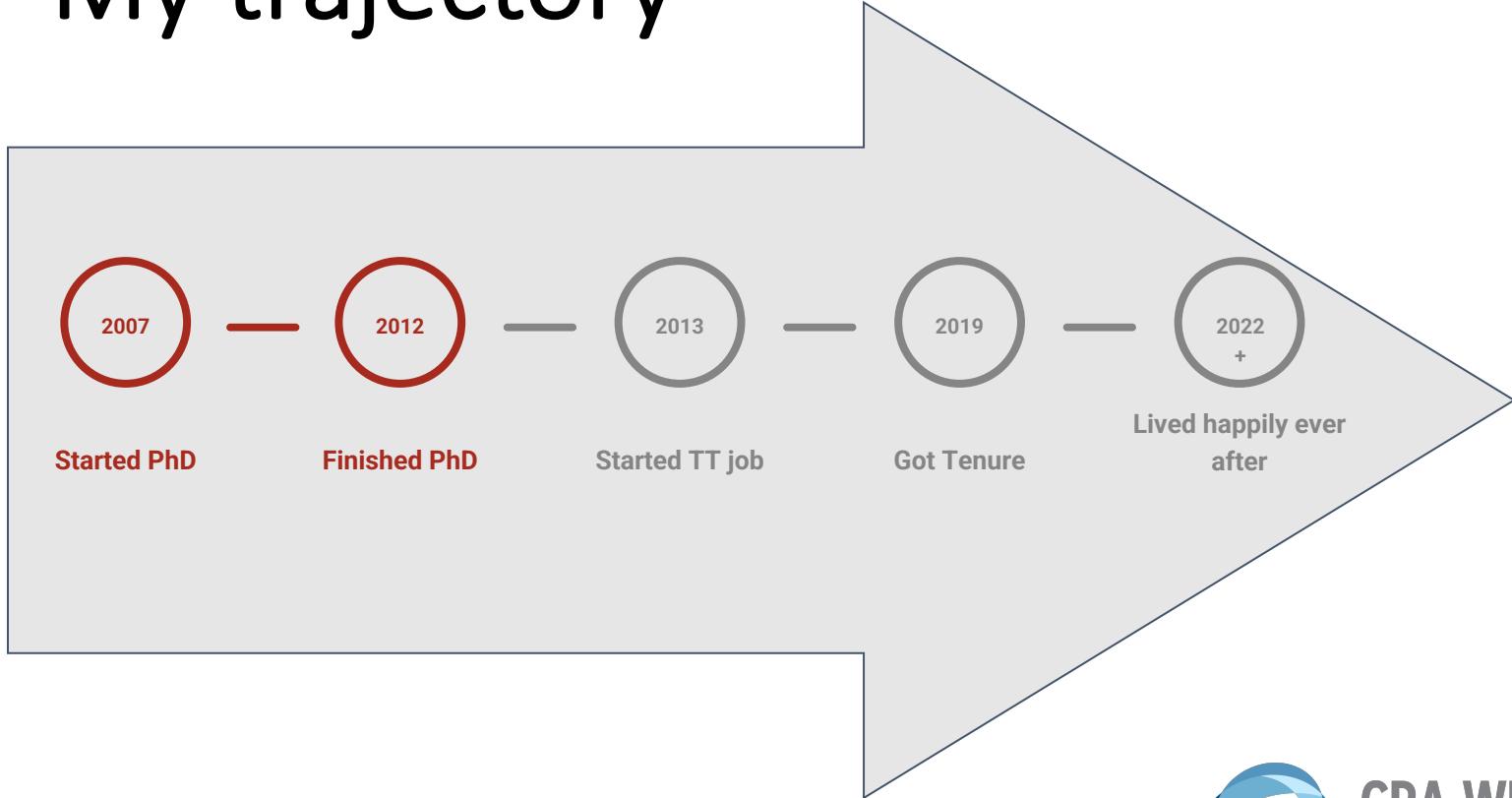
Associate Professor
University of New Mexico

Global Computing Lab @ UD circa 2009

My advisor: Dr. Michela Taufer



My trajectory



My trajectory



has been more like a
labyrinth

My advisors and the mentors
that I have made along the way
have made all the difference

Data Science Laboratory @ UNM

2019



2015



2017



2021

What is the role of the advisor in the relationship

Your advisor is a teacher



Teach you:

- Research skills and strategy
- How to evaluate existing research
- Communication and presentation skills
- Professional and ethical behavior



CRA-WP

Computing Research Association
Widening Participation

Your advisor is a guide



Guidance on:

- Courses to take
- Research topics
- Publication venues
- Career planning

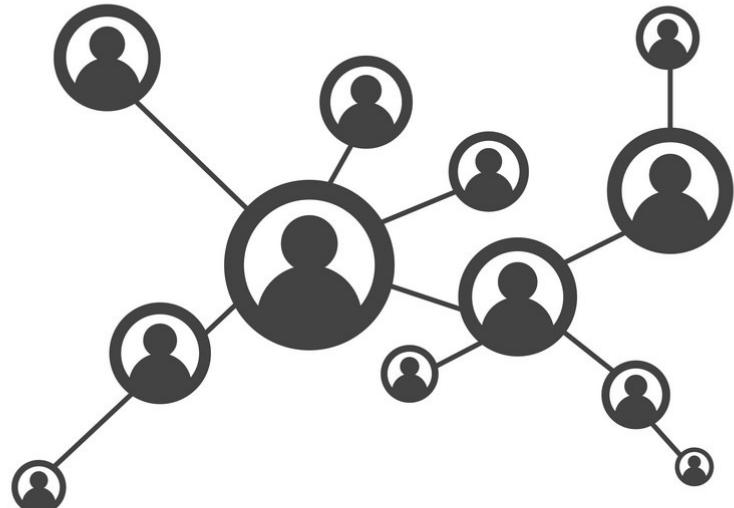
Your advisor is your promoter



- Foster and promote your career
- Enable career opportunities, visibility, and awards
- Support and encourage you through your job hunt and beyond

Your advisor is your network seed

- Your advisor can expose you to opportunities for networking at conferences and other events.
- Their colleagues and your research lab peers will become important nodes in your network.



What is your role as a student in the relationship

What is Your Role as a Student?

- Manager of your graduate experience
- Need to be proactive and organized
- Need to effectively communicate
 - Goals
 - Areas for growth
 - What does and does not work for you
 - How advisors and mentors can help
- Need to seek out and take advantage of other resources
- Need to be open to your advisor's and mentors' guidance



CRA-WP

Computing Research Association
Widening Participation

Manage Your Advising Relationships

- Meet regularly
 - Bring work products to discuss short-term progress
 - Periodically discuss longer term plans
- Decide on communication frequency and mechanism
 - How to get help between meetings
 - Pre- and post-meeting emails
 - Shared electronic notebook

Manage Regular Advising Meetings

- Bring a written plan (e.g., Powerpoint slides)
- Start with contextual review
 - Problem you're working on and why it's important
 - Target deliverable
 - Progress made so far
 - Current and future problems
- Discuss recent accomplishments
 - New definitions, classifications, related work, understandings, progress on infrastructure, experiments, proposed solutions, ...
- Discuss problems or challenges
 - Bring detailed examples



CRA-WP

Computing Research Association
Widening Participation

Manage Regular Advising Meetings (cont.)

- Agree on what to accomplish next
 - Propose next steps
 - Discuss and revise accordingly
 - e.g., too ambitious, too limited, pursue some intermediate steps or totally new direction
 - Discuss concrete goals or products for next meeting
 - Provide written summary on next steps



Manage Discussions of Longer Term Plans

- Discuss longer term goals and strategies for achieving those goals
 - Paper submission
 - Acquisition of skills or experiences
 - Career goals
- Review your overall progress
 - Ask if you are making adequate progress
 - Discuss your strengths and weaknesses
 - Discuss how you can build on your strengths
 - Discuss how you can address your weaknesses
 - Ask about specific opportunities
 - Internships, workshops, fellowships, teaching opportunities



CRA-WP

Computing Research Association
Widening Participation

Navigate Your Own Path



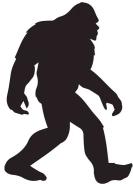
- Find and explore opportunities to develop your skills
 - Research methods, statistics, data visualization, etc. course
 - Workshop on specific technology needed for research
 - Writing workshop
 - Teaching workshop
 - Talks (including practice talks)
 - ...



CRA-WP

Computing Research Association
Widening Participation

How to find a research advisor and how to decide if they are a good fit



How do you find an advisor

- Before joining the program:
 - Google interesting research areas/projects
 - Email the professors
 - Meet them at conferences
 - Have someone to recommend you
- After joining the program:
 - Apply for existing funding/research opportunities
 - Take classes and impress the professor
 - Volunteer for a research project and participate in their research lab



CRA-WP

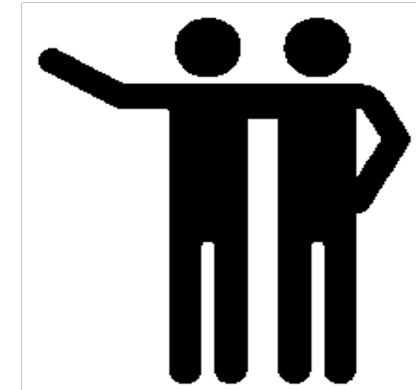
Computing Research Association
Widening Participation



Personality



- **Extreme:** your advisor is your pal, and that prevents them from giving you constructive criticism.
- **Extreme:** your advisor is mean or grumpy, you are scared of them, and you cannot communicate with them effectively.
- **Middle ground:** your advisor is friendly and open to communication, they are able to tell you the hard truth about your work.



CRA-WP

Computing Research Association
Widening Participation



Funding



- **Extreme:** your advisor has no funding and they are not actively looking, or there are no funding opportunities for the specific research area.
- **Extreme:** your advisor has plenty of funding, but their role is to act as a money-maker and they are not involved with students or research.
- **Middle ground:** your advisor has funding and can support you through the program, or they can provide you with opportunities of external support.



CRA-WP

Computing Research Association
Widening Participation



Mentoring style



- **Extreme:** your advisor hand-holds you. But you never learn to be self-sufficient.
- **Extreme:** your advisor gives you no guidance and let you stumble on your own. You may learn to land or you may perish trying.
- **Middle ground:** your advisor gives you the tools to succeed, they are vigilant but not overprotective.



CRA-WP

Computing Research Association
Widening Participation



Working style



- **Extreme:** your advisor is apathetic and never available. You do what you want, whenever you want. The end result can be catastrophic.
- **Extreme:** your advisor is controlling and micromanages you. Their expectations may be unrealistic.
- **Middle ground:** your advisor understands your working style. They can push you without breaking you. They provide you with realistic and well defined goals and standards.



CRA-WP

Computing Research Association
Widening Participation

Research lab and collaboration environment



- **Extreme:** your advisor leaves the research lab to self-manage; there is no guided collaboration. The environment feels disorganized.
- **Extreme:** your advisor is authoritarian, nobody has a voice except for them. The environment feels heavy.
- **Middle ground:** your advisor promotes a healthy and collaborative research lab, everybody feels heard and appreciated. The environment is supportive.



CRA-WP

Computing Research Association
Widening Participation

What to do when the relationship is not working

What can break the relationship

- Why the relationship fails:
 - Mismatched working styles
 - Mismatched expectations
 - The relationship is one-sided
 - Lack of funding
- How to tell that it is failing:
 - Communication is breaking
 - Frequent arguments
 - Lack of interest from at least one side
 - Inconsistencies and contradictions

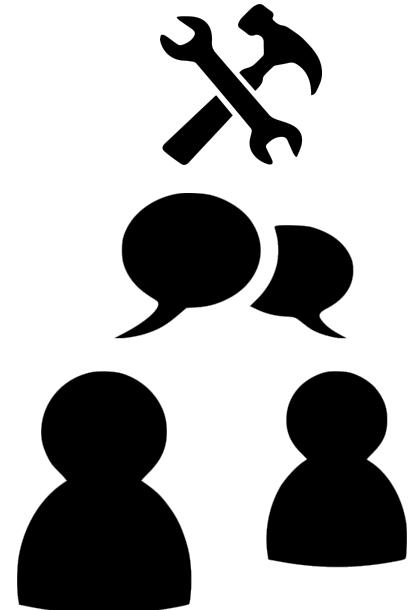


CRA-WP

Computing Research Association
Widening Participation

How to repair the relationship

- Open/frank communication
- Setting up boundaries
- Define common and realistic goals and expectations
- Define contingency plans
- Balance the effort
- Find a co-advisor
- Talk to your peers in your research lab
- Talk to your peers in other labs





Despite all of this, the relationship can still fail

How to break up with your advisor

- You don't need to stay on an unhappy situation
 - Find another advisor on your same department
 - Switch programs/universities
- The way in which you make your exit matters!
 - **Best case scenario:** your old advisor is an ally, participates in your committee, writes a recommendation letter
 - **Worst case scenario:** you made a lifelong enemy, whose only goal in life is to ruin your career
- Do NOT burn all the bridges
 - Communicate, be polite, be helpful



At the end, it's all about balance

- You and your advisor form a symbiotic relationship for 2 to 7 years
- But the care and commitment to each other can last a lifetime



How do you find additional support?

How Do You Find Additional Support?

- Create or join peer networks
 - Paper reading group
 - Qualifying exam study group
 - Thesis writing group
 - Online student groups
 - Conference student groups
- Find additional mentors
 - Senior research member of group
 - Research group alumni
 - Industry researcher in your area
 - Former research mentors
 - Teaching faculty mentor
- How do you create connections?
 - Volunteer to present your work
 - Ask for feedback on preliminary research
 - Ask questions after a talk
 - TA for a faculty member
 - Do an internship
 - Participate in “Meet a Senior X” programs

Thank you!

Kelly Shaw

kas10@williams.edu

Trilce Estrada

trilce@unm.edu