GRADUATE SCHOOL SURVIVAL SKILLS

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CRA-W.org
@CRAWomen
Research Areas: AI, Multi-agent systems, Robotics

**Autonomy**
- Ability to make autonomous decisions in complex environments

**Distributed decision making**
- Each agent decides, not a central system

**Cooperation**
- Agents are benevolent and/or have common goals
Kathryn McKinley
Senior Research Scientist, Google

Make systems better
faster, reliable, secure, energy efficient

Datacenter efficiency
Programming Language Implementation
DaCapo Benchmarking
Software for Heterogeneous Hardware

Professor, UT Austin
ACM Fellow, IEEE Fellow
22 PhD students
Testified to Congress
Family
Workout most days
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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Outline

- The ups and downs of graduate school life
- Challenges and time management
- 15 min role playing
- Tips on managing your research life
- 15 min role playing
- Enjoy your journey
The Nature of Research

Research is an open-ended exploration of the unknown

Many milestones are vague, Unstructured, long horizon, and delayed rewards
New expectations, levels of independence & maturity
Paper submissions, rejections…

Multi-tasking literature survey, idea generation, coding, experiments, writing… and creativity!

Advisor & a thesis Topic

• Choosing well is challenging
• Learning from and “managing” your advisor
Personal Life

Partners, parents, friends, children…
Finding a partner, starting a family
Finances on a grad student stipend
More logistics of caring for a home, family, pets …
Health
Being away from people you care about
Fun!
Time management

**Philosophical** Reject the bad myth of workaholism as correlated with success

**Make your time count**
- Find your “best time” in the day, block it, and best work style
- Block a day a week for research only (no email/social media)
- Schedule “rejuvenation time”
  - gym, concert tickets, community service
- Schedule time for other “stuff” email, reading, chatting, etc.
- Reward yourself for input not output.

**Many time management books, find one to “fit” your nature**
- Deep Work (Newport), 7 Habits… (Covey), etc.
Productivity != Time spent

Graduate school is a job where you are your own boss

Organize your day, week, month, semester

- 15 minutes: What’s the most important thing for me to do today? Did I do it yesterday?
- 1 hour a week: What did I do last week, next week?
- 2 to 4 hours a month/semester: goals and to-do lists
- To do lists and on your calendar: reflect your day, week, month, semester goals and progress

Control distractions

- Make a list of any bad habits and fix them one at a time
- Set time limits on email, web, social media, chatting, etc.
- Write down stray thoughts, save for later
Role playing I

Work life balance
Structuring your research

• Share an online research notebook with your advisor.
• What is the big picture?
• **Start** by writing the abstract if everything goes perfect
• Can you measure the problem?
• What is the best possible solution? How close?
• Break down problems into manageable components
• Demonstrate each component
• Write progress, ideas, questions, future ideas, & review regularly
• Keep lists of references and notes after reading
Meetings

Advisor

• 24 hours in advance, send agenda links to reading
• Have a plan that works even if she did not read it
• Context: review the short term & big picture
• Then progress, ideas, questions, concerns
• Ask specific questions
• Take notes
• Repeat the action items so you both a clear

Any meeting you go to, set your own agenda!
Choose activities carefully

Saying “yes” to something means “no” to another

- Or less time for what you are already doing

Take some time before you decide

- “Thanks for the invitation/suggestion, let me think it over and get back to you by X”

Does it fit your goals and priorities?

Negotiate

- “If I add X, I cannot do Y” or “I will need to delay Y”

Do not do anything out of guilt

- Say “yes” or “no” to the task, not the person
Be Assertive and Ask

• Discuss with advisor long term goals and strategies
• Discuss your strengths and weaknesses
• Ask for information/resources – classes to take, how to find a topic,…
• Ask for specific training – elevator talk, reviews
• Ask to be nominated for awards
• Ask to go to conferences/workshops
• Ask for meetings when more needed
Role playing II

Paper rejection
All set?

• To make the most of grad school, you have to be willing to take risks, grow, and be bold.
• You can’t be afraid!
• So, with that in mind, it’s time to **sing along**!
Thank You

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

Stay in touch

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Cope with insecurities

Create your support system
• Mentors
• Family and friends
• Other students

Realize we all have insecurities

Prepare for tasks/meetings to increase successes
• What is the most important outcome of this task/meeting?
• Sometimes we fail, consequences of doing something hard

Enjoy your successes
• Celebrate paper submissions & acceptences
• Keep a “good file” of positive feedback
Balance goals and expectations

Know your goals
- Set and write down realistic goals so you can own them
- Ruthlessly prioritize

Understand expectations of others
- Which expectations are self-inflicted!

Understand what is required to achieve a goal
- Why do you want to achieve the goal?
- Is the goal achievable?
- How will you evaluate progress?
- Talk to mentors and others

Learn to enjoy the process
- Focus on the present
- Appreciate your achievements before moving on
General Academic Stresses

The nature of grad school

- *Research is an open-ended exploration of the unknown*
- Milestones more vague than course requirements
- Your solution needs to be the “best” and “only”
- No obvious finishing date

You are here because you are a “high achiever”

- Goal-oriented perfectionists: always more to do
- Competition for “who works the hardest”

Insecurities (we all have them!)

Deadlines encourage insane pace but it’s not sustainable