

**Presentation Overview:**

- Goal: mentorship in STEM and how to support students developing actionable plans
  - How to cultivate independent and successful student researchers
  - Introduce mentorship program to other institutions for facilitating advisor/advisee relationships
- Background: Effective Mentorship Matters
  - Effective faculty advising can enhance graduate student success
  - Few faculty are formally trained on mentorship and learn this “on the job”
  - Students find mentorship is important, but do not have experience in nurturing mentorship relationships
  - Good Books: Entering Research by Branchaw et al.; Entering Mentoring by Pfund et al.
- Challenges:
  - Learning and implementing mentoring programs is a lower priority compared to research
  - Advisors/advisees don’t know same terminology, which hinders communication
  - Lack of accountability in mentoring programs
- Potential Solution: faculty advisor and doctoral advisee joint program
  - Participation of both advisor and advisee is required
  - This will increase the accountability and adherence to the program
  - Advisor participation is essential to tailor advisee’s training materials that are intrinsically needed for career success in their research group
- AMPP Program at UMass Lowell:
  - 10-week program
  - Advisors and advisees alternate attendance for 10 weeks, advisors meet one week ahead of advisee session
  - Advisor and advisee pairs are required to meet after each advisee workshop
  - Workshop topics: Effective Communication, Researcher Independence, Advisor/Advisee Expectations Agreement, Networking, Individual Development Plan
- Program Evaluation:
  - Positive evaluations and students found it effective
  - Recommendations:
    - Extend workshop time by 30-60 minutes
    - Use emails prior to workshop and sessions to remind them of resources and discussions
    - Share additional examples and approaches from prior experiences
    - Shorten time on summarizing workshop and wrap-up

**Discussions:**

- What do other institutions have? Anything formal?
  - Tyler Harvey – institution has a “preparing to be a professor” certificate program in Engineering Graduate Development department
  - Maria Bruce - organizations in our university try to mentor other students
- Do you see these challenges in your own institution? What other challenges do you see?
  - Ruth Ochia – if you don’t know what it is how to find a mentor and be in a relationship, it is hard to keep that going, it can be difficult on both ends if they don’t know the mentor/mentee expectations
- How might the table for Independence Grid for MechE be different for your graduate or graduate students or your field?
  - Ruth Ochia - How would this work for MS students. They don't have this long to 'develop' these skills.

- Yanfen – timelines will change and skills will be different depending on where they start and where they need to be at the end, so they may not reach the full researcher independence, so they may only get to an “intermediate” level so expectations will change
  - Ruth Ochia – did you start with the end, meaning what you expect at the end of the PhD, and then work backwards?
    - Yanfen – we used a generic research independence grid from Entering Research book by Branchaw et al., but expanded and edited the grid for PhD students in mind
    - Ha Pho – originally for research, so applicable to Master’s students getting into research to get them into participating into writing papers etc., and not just coursework based Master’s degrees
    - Yanfen – we should collaborate on how to edit this specifically for Master’s students
  - Tyler Harvey – have you shared this with new PhD students and see what they expect, and see where the miscommunications exist based on their perspectives
    - Mark Hsu – in following advisor/advisee section, we use a worksheet to circle which level they are at, and where the advisor believe they are at
    - Mark Hsu - Students should also create this grid to see what they think researcher independence is
    - Yanfen Li - Maybe should be more of a negotiation, so instead of read through grid and decide where they think they are based on grid and support they need to move on
    - Ha Pho – we asked students to individually use the generic grid but still need a negotiation between faculty and student to make their own grid anyway to move from which levels the individual is at given the mentor-mentee meeting and reviewing what they put down to facilitate conversation about where student really is and need to go
  - Ethan Geheb - Is this some place for Advisor/Advisee to provide evidence for their ranking? Where is the discussion of the evidence that one is bringing forth to argue their stance of their own perceived ranking?
    - Yanfen – we did not do this, but we should add into the program
    - Mark Hsu – grid could be improved by adding major goal items that are deliverables to be able to show evidence
    - Ethan – add column in ranking grid that provides evidence – project they did or paper they wrote
    - Tyler Harvey – we have to do this for our own portfolio to justify our own jobs, and may be a good practice for those who want to go into academia
    - Ethan – when I have to choose what rank they are in my own rubrics, I provide evidence about what artifact influenced my own decision
- Advisor-Advisee Expectations
  - Christine – do you do a RASI matrix (responsibility accountability matrix) similar to industry during the agreement process?
  - Yanfen – great idea, we’ll look into it
- Individual Development Plan
  - Yanfen Would be re-negotiated and written every year
  - Christine King – we have a formal IDP form that gets submitted to the department, <https://engineering.uci.edu/files/e-idp-fillable.pdf>
  - Yanfen – we do not have a formal IDP
  - Ethan Geheb - I’ve only ever filled out a Program of Study for the graduate school
  - Maria Bruce - We have an evaluation form from the beginning of the semester then end of the semester evaluation. So what will you do for the semester, then did you achieve the goals you set up with your advisor

- Q&A:
  - Christine King – do you develop a health and wellness plan during your IDP?
  - Yanfen – we anecdotally do this, and talk about it in workshops, but nothing dedicated to it
  - Tyler Harvey – if you could find a way to incentive those who participate, e.g. travel grants, it would be a good mechanism to encourage faculty who may be too busy to participate
  - Tyler Harvey – can you share the resources with us?
  - Maria Bruce – admitting students where advisors can't attend may be important to allow them to start conversations that could help them improve their advisor/advisee relationship, as well as allow students to talk to someone else about their goals
  - Tyler Harvey – there should be a “student only” version as advisors who did it once may not want to do it again