

# Mentoring Best Practices Guide

This guide outlines recommended practices for effective mentoring partnerships within the EARTH mentoring program. It is intended to support both mentors and mentees in establishing productive relationships, maintaining momentum throughout the program year, and using mentoring as one part of a broader professional development network.

## Program Structure and Guiding Principals

### 1. Maintain a non-evaluative mentoring relationship.

Mentors should not hold an evaluative role in the mentee's annual review, promotion and tenure process, or other personnel decisions. Program leadership should receive only the information necessary to confirm program participation, such as whether the pair met and completed required program activities. Maintaining separation between mentoring and evaluation supports candid discussion of challenges, uncertainty, career decisions, and work in progress.

### 2. Use a mentee-driven model.

The mentee should take primary responsibility for identifying goals, setting meeting agendas, scheduling meetings, and determining which issues the partnership will address. A mentee-driven structure keeps the mentoring relationship focused on the professional decisions and development needs most relevant to the mentee.

### 3. Establish a defined program cycle.

Mentoring partnerships operate on a program-year cycle. Matches are announced in September, pairs meet at least once during each active semester, and the program includes mid-year and year-end review points. At the conclusion of the program year, pairs may choose to continue the mentoring relationship informally or through a subsequent program cycle.

### 4. Position mentoring as one component of a broader professional network.

No single mentor should be expected to meet every professional development need.

Cross-institutional mentors may be particularly useful for:

- Research strategy
- Proposal development
- Career planning
- External perspective
- Professional networking
- Decisions that may be difficult to discuss within the mentee's home institution

Questions involving local promotion requirements, departmental expectations, institutional politics, teaching responsibilities, or other institution-specific issues are often better addressed by a department mentor, chair, supervisor, or other local resource.

## Recommended Practices for Effective Mentoring

### 1. Align expectations at the beginning of the partnership.

Mentors and mentees should establish expectations regarding meeting cadence, communication, areas of focus, confidentiality, and responsibilities early in the relationship. The Mentoring Partnership Agreement provides a structure for documenting these expectations and should be completed during the first meeting.

## **2. Establish and protect a regular meeting cadence.**

Regularly scheduled meetings are more likely to continue than meetings arranged only when a need arises. Meeting every four to six weeks may work well for many partnerships, although the appropriate frequency will depend on the goals and availability of the pair. Whenever possible, schedule meetings in advance or establish a recurring calendar appointment.

## **3. Use an agenda for each meeting.**

The mentee should provide two or three discussion topics in advance whenever possible. A brief agenda allows the mentor to prepare, keeps conversations focused, and preserves meeting time for meaningful discussion rather than determining what should be discussed.

## **4. Clarify the issue before offering advice.**

Mentors should begin with questions before moving directly to recommendations. The issue initially presented may reflect a broader question about research direction, workload, career priorities, collaboration, or institutional context. Clarifying the underlying concern helps ensure that advice addresses the actual decision facing the mentee.

## **5. Make the context behind advice explicit.**

Professional guidance is shaped by discipline, institution type, career stage, funding environment, and prior experience. Mentors should identify the context underlying their recommendations so mentees can determine how directly the advice applies to their own circumstances.

## **6. Provide specific, actionable feedback.**

Feedback should focus on the work, strategy, decision, or behavior rather than on broad assessments of the individual. Effective feedback identifies what is working, what could be strengthened, and what specific alternatives or next steps could be considered.

## **7. Incorporate sponsorship when appropriate.**

Effective mentoring may extend beyond advice. Mentors should consider opportunities to support the mentee through introductions, recommendations, invitations, professional visibility, collaboration opportunities, or connections to individuals and resources within their network.

Examples may include:

- Introducing the mentee to a program officer
- Recommending the mentee for a panel or committee
- Connecting the mentee with a potential collaborator
- Identifying a speaking opportunity
- Suggesting the mentee for a professional role or recognition
- Including the mentee in an appropriate proposal or project opportunity

Sponsorship should support the mentee's stated professional goals rather than simply reproduce the mentor's career pathway.

## **8. Address lapses in communication early.**

Changes in communication or meeting frequency should be addressed directly rather than allowed to continue indefinitely. A brief check-in can determine whether workload, scheduling, changing priorities, or uncertainty about the mentoring relationship is creating the problem.

## **9. Build and use a mentoring network.**

Professional development needs often span several areas, including:

- Career guidance
- Technical expertise
- Research development
- Sponsorship
- Institutional navigation
- Teaching
- Leadership
- Professional networking
- Personal and professional support

Mentors and mentees should periodically identify where additional relationships or expertise may be beneficial.

## **10. Close mentoring relationships intentionally.**

The end of a formal mentoring period should include discussion of what was accomplished and what should happen next. A deliberate conclusion helps distinguish a successfully completed mentoring cycle.

Pairs should determine whether they will:

- Continue meeting informally
- Continue through another program year
- Shift the focus of the relationship
- Seek an additional or different mentor
- Conclude the formal mentoring relationship

## **Best Practices for Mentors**

### **1. Commit only to a sustainable level of participation.**

Mentors should consider their full academic-year workload before establishing a meeting cadence. Periods of heavy teaching, travel, proposal deadlines, or other commitments should be discussed at the beginning of the partnership so expectations can be set realistically.

### **2. Recognize the boundaries of personal expertise.**

Mentors should be clear about the areas in which they can provide meaningful guidance and those in which another person may be better positioned to help. Referring a mentee to an appropriate colleague or resource is an important mentoring function.

### **3. Listen before moving into problem-solving.**

Not every conversation requires an immediate solution. Mentors should determine whether the mentee is seeking:

- Advice
- Feedback
- Perspective
- Connections
- Assistance thinking through a problem
- A specific decision or recommendation

#### **4. Share lessons from unsuccessful experiences as well as successes.**

Examples of failed proposals, difficult collaborations, stalled projects, changed plans, and professional setbacks can provide valuable insight. Discussing how decisions were made in difficult situations can be more useful than presenting only a polished career narrative.

#### **5. Maintain appropriate role boundaries and confidentiality.**

Mentors should maintain the non-evaluative nature of the relationship and follow the confidentiality expectations established in the Mentoring Partnership Agreement. Concerns about the partnership should generally be addressed with the mentee directly before being elevated to program leadership, unless circumstances require otherwise.

#### **6. Approach mentoring as a reciprocal learning opportunity.**

Expectations related to research, funding, publication, data and software practices, teaching, professional communication, and academic careers continue to change. Cross-career-stage mentoring can provide useful perspective to both participants.

#### **7. Support the mentee's goals rather than recreating the mentor's career path.**

Mentees may be pursuing professional goals that emphasize research, teaching, industry engagement, applied work, leadership, outreach, administration, or combinations of these areas. Effective mentoring supports progress toward the mentee's identified goals.

### **Best Practices for Mentees**

#### **1. Define specific goals for the mentoring relationship.**

Specific requests are easier for mentors to act on than broad areas of interest.

For example:

Instead of: *Help with proposals.*

Consider: *Provide feedback on my specific goals before the February submission deadline.*

The Mentoring Action Plan should be used to identify concrete priorities and desired outcomes.

#### **2. Take responsibility for meeting logistics.**

This keeps the timing of the mentoring relationship connected to the mentee's professional priorities and deadlines.

The mentee should generally:

- Schedule meetings
- Send calendar invitations
- Provide an agenda
- Share materials in advance
- Record agreed-upon next steps
- Follow up after meetings when needed

### **3. Bring work in progress to mentoring conversations.**

Mentoring is most useful when there is an opportunity to shape a decision or product before it is complete.

Useful materials may include:

- Draft proposal sections
- Research plans
- Publication strategies
- Collaboration questions
- Career decisions
- Timelines
- Presentation drafts
- Funding opportunities under consideration
- Unresolved professional challenges

### **4. Treat feedback as information.**

Mentor feedback should be considered alongside the mentee's own goals, institutional context, and other available information. The mentee retains responsibility for deciding whether and how to act on advice received.

### **5. Direct questions to the appropriate member of the mentoring network.**

The EARTH mentor may be especially well positioned to address research direction, proposal strategy, broader career perspective, and cross-institutional professional development. Institution-specific questions involving promotion, teaching assignments, service expectations, departmental procedures, or local policies should generally be directed to appropriate individuals within the mentee's home institution.

### **6. Address problems with the partnership early.**

If meeting frequency, communication, focus, or mentor–mentee fit is not working, the issue should be discussed directly. If the concern cannot be resolved within the partnership, program leadership should be contacted to discuss adjustments or reassignment.

## **Conducting the First Meeting**

The first meeting should establish the structure of the mentoring partnership rather than serve primarily as a status update. Approximately 60 minutes is generally sufficient.

Recommended topics include:

1. Introductions, professional backgrounds, current roles, and current work.
2. The mentee's professional goals for the program year.
3. Two or three areas where mentoring support would be most useful.
4. One current decision, challenge, or project that can serve as an initial mentoring discussion.
5. Meeting cadence and preferred meeting format.
6. Communication expectations and preferred communication channels.
7. Responsibility for scheduling and agendas.
8. Confidentiality and the mentor's non-evaluative role.
9. Completion of the Mentoring Partnership Agreement.
10. Scheduling the next meeting before the first meeting concludes.

## **Addressing Common Mentoring Challenges**

Mentoring partnerships may encounter periods when meetings become inconsistent, conversations remain too broad, or the original goals no longer fit. These situations do not necessarily indicate that the match has failed.

### **Meetings are repeatedly rescheduled.**

Establish a recurring meeting time and consider shorter meetings. A consistent 30-minute meeting may be more effective than a longer meeting that is repeatedly postponed.

### **Conversations remain too general.**

Use a specific artifact or decision to anchor the discussion.

Examples include:

- A proposal draft
- A research question
- A career decision
- A publication plan
- A project timeline
- A list of funding opportunities
- A presentation
- A collaboration question

### **Advice does not fit the mentee's context.**

Discuss the differences in institutional setting, discipline, career expectations, or professional environment that may be affecting the recommendation. Making the mismatch explicit gives the mentor an opportunity to adjust the guidance.

### **The partnership lacks candid discussion.**

Both participants can help establish greater openness. Mentors can share challenges or unsuccessful experiences from their own careers. Mentees can bring unresolved problems, incomplete work, or decisions they are still considering.

### **Action items are not completed between meetings.**

Record action items with clear owners and target dates. Begin the next meeting by briefly reviewing progress on the prior meeting's action items.

### **The mentor's expertise does not align with the mentee's needs.**

Identify whether another person within the mentor's network can provide the needed expertise.

If the mismatch affects the overall usefulness of the partnership, contact program leadership to discuss an adjustment to the match.

## Mid-Year Relationship Evaluation

A mid-year review provides an opportunity to evaluate whether the mentoring partnership is functioning as intended.

Particular attention should be given to areas where responses differ, including:

- Meeting frequency
- Communication
- Areas of focus
- Expectations
- Progress toward goals
- Roles and responsibilities
- Areas where additional support is needed

The Partnership Agreement and Mentoring Action Plan can be helpful in evaluating and discussing when circumstances or priorities have changed. Goals that are no longer relevant should be revised or removed rather than carried forward automatically.

## Ending the Program Year Well

The final meeting should provide intentional closure to the formal program year.

Recommended practices include:

- Review the mentee's original goals.
- Identify outcomes and accomplishments, including those that were not anticipated at the beginning of the year.
- Discuss professional needs that remain unresolved.
- Identify additional people or resources that may be useful.
- Determine whether the mentoring relationship will continue.
- Update the Review Record in the Mentoring Action Plan.
- Complete required program feedback.

Mentors may conclude the formal year by offering an appropriate continued connection or identifying someone who may be particularly useful during the mentee's next stage of development.

## How the Program Resources Work Together

### Mentoring Partnership Agreement

Completed jointly during the first meeting. Establishes expectations related to meeting cadence, areas of focus, communication, confidentiality, the broader mentoring network, and review points.

### Mentoring Action Plan

Drafted by the mentee before the first meeting and revisited at mid-year and year-end. The plan follows the same general structure as the EARTH Individual Development Plan used by graduate students and postdoctoral researchers.

### Suggested Discussion Topics

Provides suggested questions and conversation topics across seven areas. It can be used when a mentoring meeting needs a starting point or when the partnership is considering a new area of focus.

### Meeting Log Template

Provides a simple mechanism for recording discussion topics, decisions, action items, owners, and target dates. At minimum, pairs may find it useful for tracking action items between meetings.

**Mid-Year and Year-End Reflection**

Supports private reflection by the mentee, shared assessment of the mentoring partnership, and program-level feedback reported in aggregate.

**Mentor Profile Directory**

Provides information about participating mentors and their areas of experience. Profiles should be reviewed during the matching process and again before the first meeting.

**Preparation Checklist**

Using the Mentor and Mentee Preparation Checklists can be used before the first mentoring meeting. Items that cannot yet be completed can become topics for discussion during the meeting.

## ENRICH Mentee Preparation Checklist

- ☐ I can identify two or three outcomes I would like from the mentoring relationship.
- ☐ I know which professional goals require attention during the current program year.
- ☐ I can briefly explain my research or professional work to someone outside my immediate specialty.
- ☐ I am prepared to take responsibility for scheduling meetings and establishing agendas.
- ☐ I am prepared to follow through on agreed action items or communicate when circumstances change.
- ☐ I understand that my mentor provides perspective and guidance while professional decisions remain my responsibility.
- ☐ I am prepared to consider feedback that may differ from my original plan.
- ☐ I am willing to bring drafts, setbacks, questions, and unresolved problems into mentoring discussions.
- ☐ I understand which questions are appropriate for this mentoring relationship and which are better addressed by a department mentor, chair, supervisor, or another resource.
- ☐ I have drafted the initial section of my Mentoring Action Plan.
- ☐ I have identified at least one concrete issue or decision to discuss during the first meeting.
- ☐ I will bring my calendar to the first meeting so the next meeting can be scheduled.

## ENRICH Mentor Preparation Checklist

- ☐ I can commit to meeting at least once during each active semester and allow reasonable time to review materials provided in advance.
- ☐ I have identified periods of the academic year when scheduling may be difficult.
- ☐ I can generally respond to mentoring-related communication within approximately one week.
- ☐ I understand the areas in which the mentee is seeking support.
- ☐ I can identify which of those areas align with my experience and which may require another resource.
- ☐ I am prepared to ask questions before offering recommendations.
- ☐ I can provide feedback that is specific, actionable, and focused on the work.
- ☐ I understand that I hold no evaluative role in the mentee's annual review, promotion, or tenure processes.
- ☐ I understand the confidentiality expectations of the program.
- ☐ I will address concerns directly with the mentee when appropriate.
- ☐ I am prepared to support professional goals that may differ from my own career path.
- ☐ I have reviewed the mentee's information and prepared several questions for the first conversation.
- ☐ I have reviewed my calendar so that we can establish a realistic meeting cadence.

# Mentoring Action Plan

This plan is the early-career faculty counterpart to the EARTH Individual Development Plan used by graduate students and postdoctoral researchers.

Mentee: \_\_\_\_\_

Mentor: \_\_\_\_\_

Date drafted: \_\_\_\_\_

Program year: \_\_\_\_\_

## 1. Self-Assessment

Where do you want your career to be in three to five years?

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What are your strengths as a researcher, teacher, and colleague?

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Which skills, experiences, or relationships will most affect whether you get there?

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What would make this program year a success for you?

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## 2. Priority Goals for the Program Year

Identify two to four goals for the next six to twelve months.

| Goal                                      | Action steps                                                                                                     | Success indicators                                           | Target date       |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-------------------|
| <i>Submit one external proposal as PI</i> | <i>Identify two solicitations by October; draft specific aims; send to mentor four weeks before the deadline</i> | <i>Proposal submitted; full draft circulated on schedule</i> | <i>March 2027</i> |
|                                           |                                                                                                                  |                                                              |                   |
|                                           |                                                                                                                  |                                                              |                   |
|                                           |                                                                                                                  |                                                              |                   |
|                                           |                                                                                                                  |                                                              |                   |

### 3. Longer-Term Goals

Identify two to four goals on a two-to-three-year horizon.

| Goal | Desired outcome | Timeline |
|------|-----------------|----------|
|      |                 |          |
|      |                 |          |
|      |                 |          |
|      |                 |          |

### 4. Support Requested from Your Mentor

Mark the areas where mentor input would be most useful this year. Use the notes to say what specifically you are asking for. “Review my specific goals in February” is actionable, versus more ambiguous items, such as: “help with proposals.”

- ☐ Proposal development and funding strategy
- ☐ Building and sustaining a research program
- ☐ Recruiting, advising, and mentoring graduate students
- ☐ Publication strategy and manuscript development
- ☐ Promotion and tenure navigation
- ☐ Teaching and course development
- ☐ Collaboration within NSF ERC EARTH
- ☐ Industry engagement and external partnerships
- ☐ Leadership and professional service
- ☐ Professional visibility and networking
- ☐ Managing workload and competing priorities
- ☐ Sustainable work practices and well-being
- ☐ Other:

### 5. Mid-Year Review

Which goals should be adjusted, dropped, or added?

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What support would help most in the second half of the year?

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6. Year-End Reflection

What did you accomplish this year?

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What will you carry forward into next year?

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What are your next steps, and who in your network supports them?

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7. Review Record

| Review          | Date | Mentee signature | Mentor signature |
|-----------------|------|------------------|------------------|
| Initial plan    |      |                  |                  |
| Mid-year review |      |                  |                  |
| Year-end review |      |                  |                  |

# Mentoring Partnership Agreement

## 1. Partnership Information

### Mentee

Name: \_\_\_\_\_ Rank: \_\_\_\_\_

Department: \_\_\_\_\_ Institution: \_\_\_\_\_

Email: \_\_\_\_\_ Preferred contact method: \_\_\_\_\_

Year of first independent faculty appointment: \_\_\_\_\_

### Mentor

Name: \_\_\_\_\_ Rank: \_\_\_\_\_

Department: \_\_\_\_\_ Institution: \_\_\_\_\_

Email: \_\_\_\_\_ Preferred contact method: \_\_\_\_\_

Areas of expertise most relevant to this partnership: \_\_\_\_\_

## 2. Meeting and Communication Plan

Program terms ask each pair to meet at least once per active semester. Pairs that meet every four to six weeks generally report more progress, but the right cadence is the one both people can sustain. Decide now rather than leaving it to be worked out later.

How often we will meet: \_\_\_\_\_

Who schedules meetings (default: the mentee): \_\_\_\_\_

Preferred channel for questions between meetings: \_\_\_\_\_

Reasonable response time for a message: \_\_\_\_\_

Periods when availability will be limited (teaching loads, field work, travel, leave): \_\_\_\_\_

Who sets the agenda (default: the mentee, shared in advance when possible): \_\_\_\_\_

## 3. Focus of the Partnership

The mentee identifies where guidance would be most useful. Mark all that apply, then agree on the top three for this year. Naming priorities keeps conversations from defaulting to whatever is most urgent that week.

- ☐ Proposal development and funding strategy
- ☐ Building and sustaining a research program
- ☐ Recruiting, advising, and mentoring graduate students
- ☐ Publication strategy and manuscript development
- ☐ Promotion and tenure navigation
- ☐ Industry engagement and external partnerships
- ☐ Leadership and professional service
- ☐ Professional visibility and networking
- ☐ Managing workload and competing priorities
- ☐ Other: \_\_\_\_\_

## 4. What We Each Agree To

### The mentee agrees to

- Come to each meeting with an agenda or specific topics to discuss.
- Take ownership of the goals in the Mentoring Action Plan and follow through on agreed action steps.
- Give advance notice when rescheduling, and propose a new time in the same message.
- Be candid about what is working and what is not.
- Review the Mentoring Action Plan with the mentor at mid-year and at year-end.
- Respond to program check-ins and feedback requests.

### The mentor agrees to

- Meet at least once per active semester, and more often when it is useful.
- Offer perspective and candid feedback in the areas the mentee has prioritized.
- Share opportunities and make introductions where appropriate.
- Keep the content of conversations confidential within the limits described in Section 5.
- Say plainly when a question falls outside their experience, and help identify someone better placed to answer it.
- Confirm to program leadership that the pair met and reviewed the action plan, without reporting on what was discussed.

### Both of us agree to

- Treat scheduled mentoring time as committed time.
- Raise concerns with each other first, early, and directly.
- Revisit this agreement at mid-year and update it if the focus has shifted.
- Tell program leadership if the partnership should change or end.

## 5. Confidentiality and the Mentor Role

**The mentor holds no evaluative role.** The mentor does not contribute to the mentee's annual review, promotion and tenure file, or any institutional personnel decision, and is not asked to report on the mentee's progress. Program leadership receives confirmation that meetings took place and reviews feedback about the program in aggregate. It does not receive accounts of what was discussed.

Conversations stay between the two of you, with these limits:

- Either person may consult program leadership about how to handle a mentoring challenge, described in general terms.
- Disclosures that institutional policy or law requires to be reported, including harassment, discrimination, research misconduct, and safety concerns, will be directed to the appropriate office.
- When a mentor needs to seek outside guidance about the partnership, they will tell the mentee first whenever it is possible to do so.

Anything either person wants held more closely should be said at the time.

## 6. Mentoring Network

No single mentor covers everything an early-career faculty member needs. Effective mentoring is a small network of people with different vantage points.

List the people who currently support your development, then name what this partnership is meant to add.

| Role                              | Name and institution     | What they support                                     |
|-----------------------------------|--------------------------|-------------------------------------------------------|
| <i>Example: department mentor</i> | <i>Name, Institution</i> | <i>Local promotion and tenure norms, service load</i> |
|                                   |                          |                                                       |
|                                   |                          |                                                       |
|                                   |                          |                                                       |
|                                   |                          |                                                       |

Gaps this ENRICH partnership is intended to fill: \_\_\_\_\_

## 7. Review and Revision

Goals change. Record each review so both people can see how the partnership has evolved and so the action plan stays current.

| Review point      | Date planned | Date completed | Mentee initials | Mentor initials |
|-------------------|--------------|----------------|-----------------|-----------------|
| Initial agreement |              |                |                 |                 |
| Mid-year review   |              |                |                 |                 |
| Year-end review   |              |                |                 |                 |

## 8. If the Partnership Is Not Working

Mentoring relationships sometimes do not fit. If you find yourself in a mentorship that is not working, raise it with each other first. If things cannot be resolved, contact the program coordinator to request a change. Reassignment carries no penalty, and no explanation is required beyond a brief note about what was not working.

**Program contact for mentoring concerns:**

EARTH Engineering Workforce Development  
j.sprague@ku.edu or connie.durangomez@ku.edu

## 9. Signatures

Signing indicates that both people have read this agreement and agree to the expectations recorded above. Electronic signatures are acceptable.

**Mentee signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Mentor signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

## NSF ERC EARTH Postdoctoral Mentoring Plan

Postdoctoral (PD) mentoring will be provided through structured activities designed to prepare PDs to excel in their chosen career path, be it academia, industry, or government. Working in conjunction with the University of Kansas (KU) Postdoc Association, the University of Notre Dame (ND) and University of Maryland (UM) Offices of Postdoctoral Affairs, the University of Hawai'i Faculty Puwalu Research Forum, and the Lehigh University (LU) and the University of South Dakota (SD) Offices of Research, the EARTH team will provide the following mentoring for all PDs. This plan operates as the postdoctoral component of ENRICH MENTOR, EARTH's Early Career Mentoring Program within Impact and Belonging (IB), and uses its standardized tools, mentor-mentee matching, and assessment instruments.

**Orientation and Career Counseling:** Each PD will be onboarded through an orientation that will introduce the PDs to the resources at the different universities along with national resources, such as the National Postdoc Association. The orientation serves to also introduce the PDs to each other, the EARTH project team leadership, as well as the project goals. Consistent with ENRICH MENTOR, PDs will complete an Interest Survey capturing their professional goals, mentoring needs, and mentor preferences, and will be matched to a mentor from the shared Mentor Profile Directory. Each PD will develop an Individual Development Plan (IDP) that provides clear statements regarding project responsibilities, skills to be learned, research goals, and training and career goals, documented using the shared ENRICH MENTOR Goal-Setting Worksheet and Mentoring Agreement. The IDP is reviewed and updated at least annually.

**Scientific, Technical, and Communication Skills:** The PD roadmap can include such skills as grant writing, identification of key research questions, definition of objectives, description of approach and rationale, construction of a work plan, creation of timelines, preparation of budgets and justifications, management, mentoring, preparation of manuscripts, reports, proposals, and presentations. The PD will construct a roadmap based on their career goals: academics, industry, or government. PDs will present their work and provide technical updates in the style of their intended career.

**Teaching and Mentoring Skills:** PDs will receive guidance on improving their teaching and mentoring skills, including opportunities to mentor undergraduate and graduate students participating in the ERC.

**Responsible Conduct of Research:** Formal training of the PDs through online courses and interactive classroom sessions, available at the different institutions will ensure that proper reporting and research protection including intellectual property occurs. PD mentors will contribute to informal instruction on conflicts of interest, data acquisition and management, research misconduct, creating safe working environments and lab safety protocols, and federal and state regulations.

**Professional Development and Networking:** The combination of research institutions, industry, and government entities as part of an ERC provides unique networking opportunities not otherwise available.

**Impact and Belonging (IB):** EARTH cultivates a supportive environment where PDs experience belonging and psychological safety and collaborate effectively across diverse backgrounds and disciplines. Mentors also help PDs connect their work to EARTH's broader impact on the refrigerant-technology workforce and the communities it serves.

**Success of Mentoring Plan:** This will be assessed by tracking a PD's individual and collective progress toward their IDP, interviewing the PDs to assess satisfaction with the mentoring program, and tracking their progress toward their career goals after the project.



Date \_\_\_\_\_

Name \_\_\_\_\_

☐

Graduate

☐

Postdoctoral

Institution \_\_\_\_\_

Department/Unit \_\_\_\_\_

Mentor(s) \_\_\_\_\_

## Self-Assessment

Where do you hope to be 2-3 years from now (academia, industry, entrepreneurship, industry, etc.)?

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What are your strengths?

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What skills or experiences will prepare you for your next steps?

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## Educational & Research Goals

| Goal                                            | Action Steps                                                          | Success Indicators                                                 |
|-------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------|
| <i>Example: Strengthen Communication skills</i> | <i>Attend writing workshops, give presentations at EARTH meetings</i> | <i>Presentation feedback, increased public speaking confidence</i> |
|                                                 |                                                                       |                                                                    |
|                                                 |                                                                       |                                                                    |
|                                                 |                                                                       |                                                                    |

## Career Exploration & Professional Development

| Goal                                                | Action Steps                                    | Success Indicators                                |
|-----------------------------------------------------|-------------------------------------------------|---------------------------------------------------|
| <i>Example: Gain industry or applied experience</i> | <i>Seek internship, industry-linked project</i> | <i>Complete internship, submit project report</i> |
|                                                     |                                                 |                                                   |
|                                                     |                                                 |                                                   |
|                                                     |                                                 |                                                   |

**Mentoring Plan**

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**Meeting Frequency:**

Formal review with advisor/mentor at least once per year. Frequent informal check-ins encouraged.

**Annual Progress Reviews**

Reflect on

- What have you achieved?
- What skills or experiences are you still working on?
- What is the next step toward your long-term education or career goals?

Student Signature \_\_\_\_\_

Mentor Signature \_\_\_\_\_

Date \_\_\_\_\_



Date \_\_\_\_\_

Name \_\_\_\_\_

☐

Graduate

☐

Postdoctoral

Institution \_\_\_\_\_

Department/Unit \_\_\_\_\_

Mentor(s) \_\_\_\_\_

## Review Questions

What have you achieved since your IDP inception?

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What skills or experiences are you still working on?

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What are your next steps?

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## Revised Goals *(if applicable)*

| Goal | Action Steps | Success Indicators |
|------|--------------|--------------------|
|      |              |                    |
|      |              |                    |
|      |              |                    |

Student Signature \_\_\_\_\_

Mentor Signature \_\_\_\_\_

Date \_\_\_\_\_

# ENRICH Mentoring Meeting Log

**Meeting Information**

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Format (in person, video, phone): \_\_\_\_\_

Meeting number: \_\_\_\_\_

Mentee: \_\_\_\_\_

Mentor: \_\_\_\_\_

**Topics Discussed**

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**Progress and Follow-Up on Prior Action Items**

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**Action Items**

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**Resources, Opportunities, and Introductions**

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**Notes**

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**Next Meeting**

Proposed date: \_\_\_\_\_

Proposed time: \_\_\_\_\_

Topics the mentee plans to raise: \_\_\_\_\_

## Suggested Discussion Topics

These topics are suggestions to help mentors and mentees identify areas for discussion across the program year.

| Mentoring Topic                                        | Discussion Topics                                                                                                                                                                                                                                                                                                                                                                                            | Sample Questions                                                                                                                                                                                                                                                        |
|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Transitioning into an Early-Career Faculty Role</b> | <ul style="list-style-type: none"> <li>• Navigating expectations for research, teaching, and service.</li> <li>• Establishing priorities and managing competing responsibilities.</li> <li>• Building a sustainable professional routine.</li> <li>• Identifying opportunities for professional growth and visibility.</li> <li>• Developing a support network within and beyond the institution.</li> </ul> | <ul style="list-style-type: none"> <li>• What aspects of your faculty role have been most challenging so far?</li> <li>• How are you balancing your major responsibilities?</li> <li>• What support or resources would be most helpful at this stage?</li> </ul>        |
| <b>Building a Research Program</b>                     | <ul style="list-style-type: none"> <li>• Establishing a research agenda.</li> <li>• Recruiting and mentoring students.</li> <li>• Building research collaborations.</li> <li>• Managing research projects and resources.</li> <li>• Identifying opportunities for interdisciplinary work.</li> </ul>                                                                                                         | <ul style="list-style-type: none"> <li>• What are your research priorities over the next one to two years?</li> <li>• Where do you see opportunities for collaboration?</li> <li>• What resources or partnerships could help advance your work?</li> </ul>              |
| <b>Proposal Development and Funding Strategy</b>       | <ul style="list-style-type: none"> <li>• Identifying funding opportunities.</li> <li>• Developing competitive proposals.</li> <li>• Building proposal teams.</li> <li>• Responding to reviewer feedback.</li> <li>• Creating a long-term funding strategy.</li> </ul>                                                                                                                                        | <ul style="list-style-type: none"> <li>• What funding opportunities are you currently exploring?</li> <li>• What challenges have you encountered in proposal development?</li> <li>• How can you strengthen your proposal portfolio over time?</li> </ul>               |
| <b>NSF ERC EARTH Engagement</b>                        | <ul style="list-style-type: none"> <li>• Participating in EARTH activities and initiatives.</li> <li>• Identifying opportunities for collaboration across institutions.</li> <li>• Contributing to ERC goals and workforce development activities.</li> <li>• Building relationships within the EARTH community.</li> <li>• Leveraging ERC resources and networks.</li> </ul>                                | <ul style="list-style-type: none"> <li>• How would you like to engage with the EARTH community?</li> <li>• What opportunities for collaboration are most relevant to your work?</li> <li>• Are there ERC activities that align with your professional goals?</li> </ul> |
| <b>Industry and External Partnerships</b>              | <ul style="list-style-type: none"> <li>• Developing industry relationships.</li> <li>• Translating research into practice.</li> <li>• Understanding stakeholder needs.</li> <li>• Exploring partnership opportunities.</li> <li>• Expanding professional networks beyond academia.</li> </ul>                                                                                                                | <ul style="list-style-type: none"> <li>• What types of external partnerships would benefit your work?</li> <li>• Are there industry connections you would like to develop?</li> <li>• How might partnerships support your research or career goals?</li> </ul>          |
| <b>Leadership and Career Development</b>               | <ul style="list-style-type: none"> <li>• Developing leadership skills.</li> <li>• Professional service opportunities.</li> <li>• Building a professional reputation.</li> <li>• Long-term career planning.</li> <li>• Preparing for future advancement opportunities.</li> </ul>                                                                                                                             | <ul style="list-style-type: none"> <li>• What leadership experiences would you like to gain?</li> <li>• What are your longer-term professional aspirations?</li> <li>• What steps can you take now to support those goals?</li> </ul>                                   |
| <b>Work-Life Integration and Well-Being</b>            | <ul style="list-style-type: none"> <li>• Managing workload and competing priorities.</li> <li>• Setting professional boundaries.</li> <li>• Time management strategies.</li> <li>• Preventing burnout.</li> <li>• Maintaining personal and professional well-being.</li> </ul>                                                                                                                               | <ul style="list-style-type: none"> <li>• What strategies have been most effective for managing your workload?</li> <li>• Are there areas where you feel overextended?</li> <li>• What changes might improve your overall sustainability and effectiveness?</li> </ul>   |