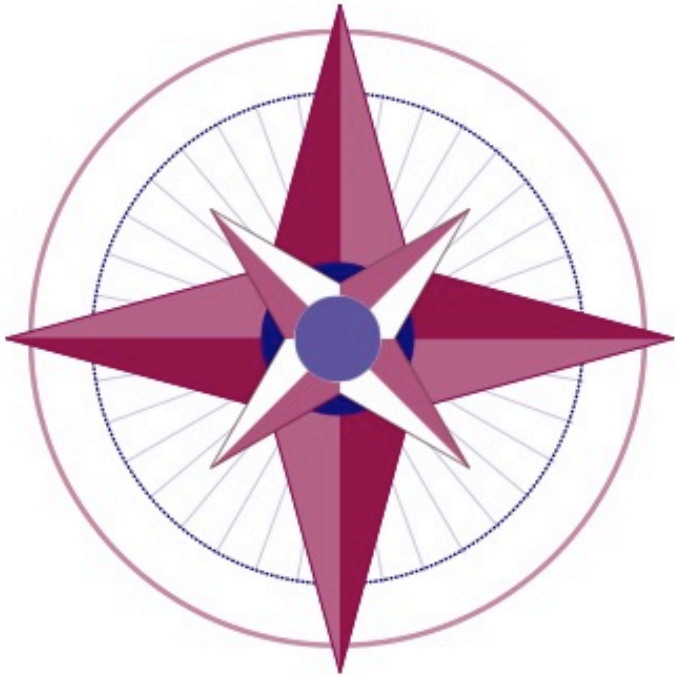


# Practical Skills for Emerging Scholars I: Setting Personal Boundaries to Support Excellence in Science



## Abstract:

Scientific research demands us to be resilient, creative, effective communicators, and skilled at establishing and navigating boundaries with our colleagues and with ourselves. The most important of these skills is boundary setting, which is the art of clearly articulating what is acceptable in interpersonal interactions, learning when to say yes and when to say no, and distinguishing between your own versus others' values. Mastering boundaries helps scientists create professional environments that foster resiliency, creativity, and effective communication. In this practical workshop, you will learn why boundaries are so important, practice recognizing when you need to set them, and practice setting them. You will develop your own personalized toolkit using techniques that draw from both peer-reviewed psychology and pedagogy research as well as tried-and-true methods.

## About the speaker:

Dr. Melodie Kao is a radio astronomer who studies substellar magnetism, including the magnetic dynamos operating in brown dwarfs and exoplanets as well as the physics of extrasolar aurorae. Dr. Kao received her SB in physics at MIT, her PhD in astrophysics at Caltech, and she currently holds a NASA Hubble Postdoctoral Fellowship at Arizona State University. As a graduate student, Dr. Kao identified a set of key personal skills for every emerging scholar to hone that helped her and her peers thrive scientifically. She nicknamed these skills the "Scientist's Personal Toolkit" and aims to integrate the intentional development of the Toolkit skills into formal scientific training programs for all emerging scholars.

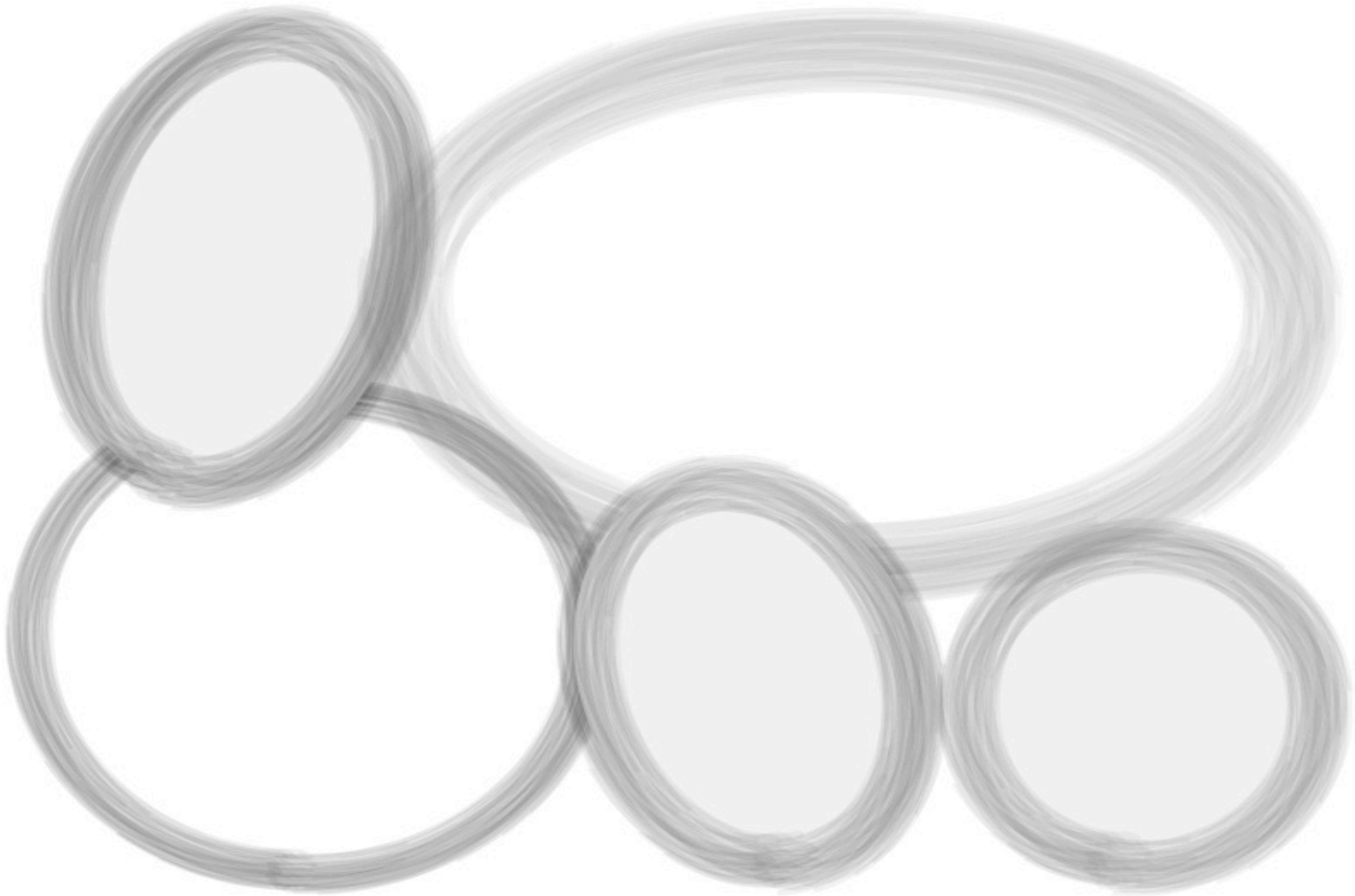
Worksheets from workshop will be available at: [www.melodiekao.com](http://www.melodiekao.com)

Please feel free to add to, make use of, and distribute these tools for yourself and your mentees.

If you have any feedback, I would love to hear it at: [mkao@asu.edu](mailto:mkao@asu.edu)

## My Garden

1. What are the parts of your life that are most important to you? Label them in the garden below as the main areas of your own life's garden.
2. In your ideal world, what do these areas of your life look like? Write down 2-3 specific things for each area.



## How well do we cultivate our life's garden?

This is a non-exhaustive list of common situations that people tolerate in school and as early career researchers.

1. Circle the statements that resonate with you and note how that situation makes you feel.
2. Then, label the rightmost columns with your garden areas and check if that toleration negatively impacts that part of your garden.

Which parts of my garden are negatively impacted?

What am I currently tolerating?

How do I feel?

What am I currently tolerating?	Great	Neutral	Crappy					
1. I'm worried that my professor doesn't like me / think I'm good enough.								
2. I'm worried that I'm not creative / smart / productive / <u>fill in the blank</u> enough.								
3. I'm not sleeping/resting enough.								
4. Urgent tasks keep crowding out high priority but non-urgent tasks.								
5. I put myself down with negative self-talk.								
6. I worry that if my work isn't perfect, then it's not good enough.								
7. I'm scared of making the wrong decision.								
8. I'm getting pulled in many directions by others' needs.								
9. I'm worried about failing.								
10. I compare myself a lot to other people.								
11. I'm worried that people will laugh at me or put me down if I say what I really think.								

## When you say no to one thing, what are you saying yes to?

For each situation that you're tolerating, fill in the following sentence: If I stop tolerating \_\_\_\_\_, then I'll be available to \_\_\_\_\_.

Examples:

1. *I'm worried that my professor doesn't like me / think I'm good enough.*

If I stop tolerating worrying about whether or not my advisor likes me or thinks I'm good enough, then I make myself available to asking my advisor for what will help me the most.

2. *I put myself down with negative self-talk.*

If I stop tolerating negative self-talk, then I make myself available to capitalizing on critical feedback, being more patient with my current learning skillset, and freeing up mental/emotional space to focus on what's actually important to me.

3. *I'm worried that people will laugh at me or put me down if I say what I really think.*

If I stop tolerating people putting me down and/or dismissing me, then I make myself available to identifying and seeking out the people who can give me the kind of support that I need to do my best work.

4. *I compare myself a lot to other people.*

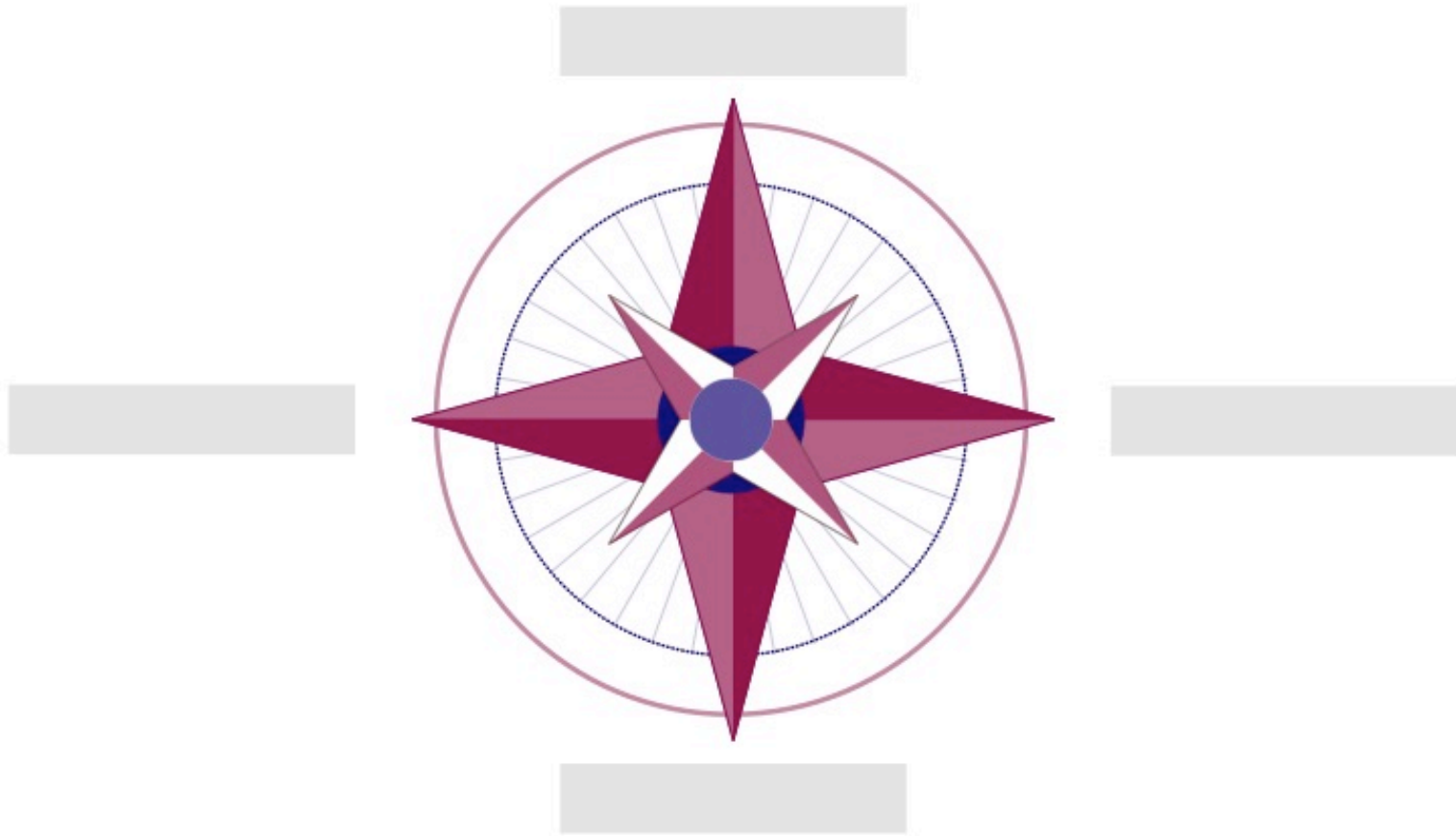
If I stop tolerating comparing myself to other people, then I make myself available to acknowledging what I'm awesome at and leveraging my strengths!

## List of Values

Accountability	Courage	Family	Legacy	Selflessness
Acceptance	Courtesy	Fidelity	Love	Self-reliance
Accuracy	Creativity	Fitness	Loyalty	Sensitivity
Achievement	Curiosity	Flexibility	Making a difference	Serenity
Adventurousness	Daring	Followership	Mastery	Service
Agility	Decisiveness	Fluency	Merit	Shrewdness
Altruism	Democraticness	Focus	Moderation	Simplicity
Ambition	Dependability	Freedom	Morality	Soundness
Assertiveness	Determination	Fun	Obedience	Spaciousness
Authority	Devoutness	Generosity	Openness	Speed
Balance	Diligence	Goodness	Order	Spontaneity
Being the best	Determination	Grace	Originality	Stability
Being right	Devoutness	Growth	Patriotism	Status
Belonging	Diligence	Happiness	Peace	Strategic
Boldness	Discipline	Hard work	Perfection	Strength
Boundary-pushing	Discretion	Health	Piety	Structure
Bravery	Diversity	Helping	Positivity	Success
Calmness	Dynamism	Holiness	Practicality	Support
Carefulness	Economy	Honesty	Preparedness	Teamwork
Challenge	Effectiveness	Honor	Professionalism	Temperance
Cheerfulness	Efficiency	Humility	Prudence	Thankfulness
Clear-mindedness	Elegance	Imagination	Quality-orientation	Thoroughness
Commitment	Empathy	Independence	Quiet	Thoughtfulness
Community	Enjoyment	Ingenuity	Reliability	Timeliness
Competitiveness	Enthusiasm	Inner Harmony	Resourcefulness	Tolerance
Consistency	Equality	Inquisitiveness	Restraint	Traditionalism
Consideration	Excellence	Insightfulness	Results-oriented	Trustworthiness
Contentment	Excitement	Intelligence	Respect	Truth-seeking
Contribution	Expertise	Interdependence	Reverence	Understanding
Control	Exploration	Intuition	Rigor	Uniqueness
Conservatism	Expressiveness	Joy	Security	Unity
Cooperation	Fairness	Justice	Self-actualization	Usefulness
Correctness	Faith	Leadership	Self-control	Vision

## My Personal Values Compass

Once you have identified your core values in this Values Compass, reflect on and write down why these values are important to you.



## Which values are you not upholding when you tolerate these situations?

Label the right columns with your personal values from your Values Compass. For each statement below, check the box under each value if tolerating that situation would not uphold that value.

What am I currently tolerating?	My Personal Values			
1. I'm worried that my professor doesn't like me / think I'm good enough.				
2. I'm worried that I'm not creative / smart / productive / <u>fill in the blank</u> enough.				
3. I'm not sleeping/resting enough.				
4. Urgent tasks keep crowding out high priority but non-urgent tasks.				
5. I put myself down with negative self-talk.				
6. I worry that if my work isn't perfect, then it's not good enough.				
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## Cultivating your garden: Be firm with your intentions and flexible with your form.

- 5 min:**
1. Select one situation that you are tolerating.
  2. **Be firm with your intention:** Identify which value you want to uphold while collaborating with yourself to improve the situation.
  3. **Be flexible with the form of your expectations:** Brainstorm at least 5 different ways that you can uphold your intention while improving the situation that you are tolerating.

I am tolerating:

My intention is to connect to this value:



## My roadmap to cultivating my garden: Taking my next best step

**5 min:** Choose one value to connect to. Imagine that you are your own biographer, and you have lived life to the utmost with respect to this value. For each of the timeframes below: What have you done? How are you like? How have you treated yourself and others? Be specific and DREAM BIG!

**1 min:** Circle one item from each time frame that would have the MOST positive impact on your life.

My intention is to connect to this value:

1 year

3 months

3 years

Lifetime

# The Boundaries Cycle

