# Chem 591: Facilitator Guide for LTW Tale of Two Labs

Professor Munjanja will be piloting a use of the HHMI/Illinois collaboration on *Labs That Work.. For Everyone* (LTW) in six class sessions in Chem 591 in Fall 2021. This class is required for all first-year graduate students in the Illinois Department of Chemistry. NCPRE has prepared these ideas for possible class activities for this pilot's use of LTW materials, incorporating the Module One: Cultures of Excellence film, *A Tale of Two Labs*, and workbook elements.

As envisioned by Professor Munjanja, the LTW materials will be used in Module 3 of his course, after the first year students have joined research groups. Each class is 80 minutes long. His stated goal for this course is:

> *One of the goals I always have for each class is to bring awareness to the students that, as scientists, we are not immune from any of the issues in our bigger community. And the takeaway from the class puts the onus on the students to be better citizens in our chemistry community. … Using the case studies, we discuss resources on campus with them to help them navigate challenging issues. I also challenge them to think about what they would do if they were in given situations."*

He proposes the schedule below. He will devote time in the first session to watching the film, though he will have asked students to watch the entire film in advance—and possibly have assigned some workbook sections as well.

These suggested exercises are from sections in the LTW Logbook (Draft of May 2021), from the emerging LTW Facilitator's Guide (Bonetta, et al.), and include some purpose-developed concepts as well.

## Module 3: Cultures of Excellence (after group joining)

| | | | |
|---|---|---|---|
| **Session One** | October 6 | **Cultures of Excellence Intro** | • Watch Film<br>• Workbooks |
| **Session Two** | October 13 | **Incivility** | • Share the Illinois Chemistry Community Values & Expectations<br>• 1.1 A Tale of Two Labs<br>• 2.7 Harold Pushed to the Limit |
| **Session Three** | October 20 | **Gender Harassment/Bias/ Bro-Cultures** | • 2.1 Teamwork<br>• 2.3 Poster Session Debrief<br>• 2.5 A Sympathetic Ear |
| **Session Four** | October 27 | **Racial Awareness/ Microaggressions** | • 1.7 Where to Begin<br>• 2.6 Another Day Another Indignity |
| **Session Five** | November 3 | **Mental Health** | • 1.3 The Heideberg Lab<br>• 1.5 Passing the Torch<br>• 2.12 The Worst News |

# SESSION ONE: CULTURES OF EXCELLENCE

*Before this session, students will have been asked to watch the entire film, **A Tale of Two Labs**, and to complete some reflection questions about it. Some portion of class may be devoted to showing some of the film. Class time before or after the film excerpt could be devoted to tying the purpose of Chem 591 and the LTW materials to the students' own goals for being in grad school.*

**Possible Session Goals**
- Understand that it is a personal responsibility to build professional skills and manage your career to match your values and aspirations
- Identify and list your values and explain how they may differ from other people's values and your institution's values
- Connect your values to your goals for being in grad school/science; implications that has for your choices going forward
- Identify the characteristics of cultures of excellence
- Identify career TRAGEDIES in yourself and others

## Owning Your Career

For students taking a required class as they start in a lab, we suggest that this segment start with a personal focus for each student, either in a written reflection (one minute paper or advance assignment) or a think-pair-share exercise, with either or both of the following prompts. Items in *lighter grey italics* are possible remarks/framing for presenting to students.

*It is your responsibility to build professional skills and manage your career.*

☐ Science can be a demanding discipline. What drives you? What makes you truly excited about what you do? Consider the core of what you love about what you do. Can you explain why are you pursuing a career as a scientist?

☐ Look at your field from the point of view of an outsider. It can be easy to lose sight of the big picture after years dedicated to a specialization. What, fundamentally, makes what you do worth doing?

*Section 1.2 Logbook*

## Articulating Your Values

*Values direct our thoughts, attitudes and behavior. As you take responsibility for building professional skills and managing your career, it's important for your efforts to align with your values and aspirations—and to stay in alignment with them over time.*

*If you can articulate your values, you have a good start. Being clear on your values helps clarify decision-making, as it can highlight what issues you are willing to let go and what you are not.*

*Section 1.2 Logbook*



*Facilitator note:* at this point, ask students to complete the Values Inventory exercise. It is designed first to prompt students to we have only done this on paper to date and do not have an electronic version. We are open to adaptations that might make it more useful in the classroom, especially if remote learning is required.

*Closing comments: Values lie at the center of your role in a workgroup, your goals, and your career. Acting according to your values can be challenging in the face of conflicting pressures, incentives, and ambitions.*

*One tool many professionals find helpful for aligning career goals and choices with articulated values is an Individualized Development Plan (IDP). Consider starting—and maintaining by revisiting it regularly—an IDP.*

## Values Inventory

☐ Who do you admire? Think of two people and list their names below. First take a moment to consider the quality of their work and character, how they embody their values, and how each exemplifies excellence. Now, list specifically what you admire about each of them.

1.


2.


achievement                 friends & family              competition

personal growth             helping society               reputation

relationships               honesty                       security

intelligence                independence                  self-respect

status                      community                     decisiveness

money                       loyalty                       wisdom

excellence                  inspiring others              leadership

work-life balance           integrity                     work ethic

adventure                   personal faith or religion    curiosity

                                                          professional recognition, respect

☐ Circle **FIVE** values that guide your life; add your own if not already represented on this list:


☐ How did you make the choices you did to narrow your selection to five values?



☐ Reducing a long list of values to only five requires us to focus us on what we are willing to let go and what we are not. Many of the most serious dilemmas you will face in your career will arise from conflicts between strongly held values: loyalty to a friend vs. your professional integrity, or a conflict between your work ethic and a desire for a good work-life balance, or a conflict between helping society and your personal ambition or desire for achievement and recognition. Reflect on how you made the choices you did, getting to only five values.

Exercise by C. K. Gunsalus

[Explain why it is important to define cultures of excellence for participants; because they will know what they are working toward. They will identify important tools and skill because these are the tools and skills they will practice in the course; facilitator should make a list and revisit that list every time a new tool/ skill is introduced in the course as a way for participants to see their progress.

Listing information that would be useful to have the first day and how students would like that information available to them could also raise consciousness about a range of important factors in cultures of excellence]



## Cultures of Excellence Exercises

☐ How do you define a culture of excellence in a research environment? What observable characteristics would you expect in a culture of excellence?

☐ Consider features of labs or departments in which you have studied or worked—or seek to—whether currently, or another in your career, or in your grad education.

    ☐ What elements exemplify a culture of excellence?

    ☐ What elements detract from a culture of excellence?

<div align="right"><em>Section 1.1 Logbook</em></div>

## Small Group Discussion: Setting Goals (7 min +7 min share out)

1. Ask participants to discuss the following questions:
   - What are your personal goals for this course?
   - How will this course help you in your work and your career?
   - What would you like the goals for the team to be?
2. One person may take notes and another person or the same one will report out key takeaways to the whole group.
3. Share takeaways with the bigger group. Depending on the size of the group you may want to limit the sharing out to one takeaway per group or just take 3-4 takeaways total.

<div align="right"><em>LTW Facilitator Guide Session 1</em></div>

## Small Group Discussion: Cultures of Excellence (7 min +7 min share out)

1. Ask participants to share their answers to these questions:
   - What does "culture of excellence" mean to you?
   - What characteristics would you expect in a workplace with a culture of excellence?
   - How does your own lab institution illustrate or not cultures of excellence?
2. Share takeaways with the bigger group. Depending on the size of the group you may want to limit the sharing out to one takeaway per group or just take 3-4 takeaways total.

<div align="right"><em>LTW Facilitator Guide Session 1</em></div>

## Full Group Discussion

1. Several workplace conflicts appeared the film. Discuss the following questions as a group:

   • What are some of issues you observed?  • What tools would you need to resolve these conflicts?

   *Possible answers*: Dr. Sorenson is not there to help Ana Sofia integration into the lab; Jayna talks down to Loretta; microaggressions toward Jayna by Alex, Heideberg, and Darren; uneven power dynamics between Heideberg and the others. Guide participants to things they may not have explored. For tools, participants may mention training on microaggressions, communication skills.

## Possible Interactive Exercise:
### Work through a 2MC about being new in a lab

Examine the Illinois Two-Minute Challenge (2MC) overview, and then pose the following dilemma to the students.

*You have recently joined a lab and were assigned to take over the lead on a project using techniques with which you are not completely familiar. You are happy to be getting the experience, though you have concerns about putting the project and your reputation at risk from your lack of in-depth experience with the technique. You come to understand that the PI replaced one of the more experienced lab members with you—and this other person seems really unhappy about it. You are not sure if you or the PI is the focus of the feelings. What you do know is that the relationship between the two of you is strained.*

An analytical decision-making framework can help work through a problem like this. Either alone or in groups, work through the following questions. (This can be done in any number of configurations: in pairs, in small groups, etc.) with each group assigned one or more questions to address depending on time available to debrief.

• What issues does the situation present?
• What rules and regulations apply
• What questions do you need/ want to ask?
• What resources are available to you to work through the situation?
• What options do you have?
• Who will be affected by each?
• What are you going to do?

## Possible Activity or Assignment:
### Introducing Career TRAGEDIES

After students have considered their values and what a culture of excellence means, it might be useful to send them on the way with the assignment to watch the TRAGEDIES animation that introduces the concept of career TRAGEDIES—and tying those concepts to the concepts of owning and taking responsibility for your actions and your career.

### *Possible Assignment*

Identify career TRAGEDIES in yourself and others; relate to success in working in a lab with people you haven't known well before

2. Make a list of tools and skills that participants would like to gain and revisit them throughout the course.

## Closing Reflection (5 min)

Write for 5 minutes about your goals for the course and how you plan to engage with this course and other participants. [Participants will be asked to review these goals at the end of the course to see if they were met]

## Instructor Resources

Cultures of Excellence:

- NCPRE Cultures of Excellence statement: https://labsthatwork.web.illinois.edu/wp-content/uploads/2021/04/Cultures-of-Excellence-Rev2021.pdf

- Luckman, E. A., Gunsalus, C. K., Burbules, N. C., & Easter, R. A. (2021, June 24). *How research leaders can encourage a culture of excellence and positive group dynamics (opinion)*. Inside higher Ed. https://www.insidehighered.com/advice/2021/06/24/how-research-leaders-can-encourage-culture-excellence-and-positive-group-dynamics.

## TRAGEDIES

- TRAGEDIES animation

- Gunsalus, C. K., & Robinson, A. D. (2018, May 16). *Nine pitfalls of research misconduct*. Nature News. https://www.nature.com/articles/d41586-018-05145-6?platform=hootsuite.

# SESSION TWO : INCIVILITY

*Before this session, students will have been asked to watch scenes 1.1 and 2.7 of* **A Tale of Two Labs**.

### Scene Summaries

***Scene 1.1****: New grad student Ana Sofia Flores arrives for her first day in the lab of Dr. Jules Sorenson and finds herself immersed in the interpersonal dynamics of a high-functioning research lab. She accompanies postdoc Dr. Jayna Bell to a meeting with colleagues in a collaborating chemistry lab led by Dr. Malcolm Heideberg. Tensions rise over the differing working styles of the labs; the chemists and biologists "other" their colleagues, dismissing their work and its value.*

***Scene 2.7****: Meena fails, as Harold did, to make the compound. She seeks help from Darren, who insists that all necessary information is in the notes. Harold arrives late to lab and is called out by Malcolm for his tardiness. Meena persuades Harold the two of them should talk to Malcolm tomorrow to ask for help.*

---

### Possible Session Goals

- Build on the concept of cultures of excellence: identify skills and tools necessary to create cultures of excellence
- Identify baseline expectations of norms of interaction in a working and learning environment: how do you expect to be treated and how do you expect to treat others?
  - Inventory of civil discourse and discussion exercise
  - Connect to Chemistry Community Values and Expectations
  - Introduce or expand on TRAGEDIES as a way to "own" your own reactions/emotions/pressures
- Identify your own boundaries about (in)civility; when you are willing to be bystander, and when you will intervene and/or speak up for yourself and others
  - Introduce and apply personal scripts to harassment/incivility

---

## Approaches

- Draw connections between the scenes watched and cultures of excellence.
- Draw connections to taking personal responsibility for your own actions; TRAGEDIES (if introduced earlier).
  - Introduce TRAGEDIES concept (taking responsibility for your own actions) if not introduced earlier
- Introduce DMF/personal scripts (formally explain if used in 2MC in previous class; introduce if not used in previous class)
- Use civil discourse inventory: ask students to complete/discuss
- Tie to personal tolerances, cultures in labs, personal responsibility, and recognizing when there's a need to speak up, for yourself or others.
  - Introduce personal scripts and do exercise on personal scripts for speaking up in the face of incivility

## Opening Class Questions

☐ What issues did you recognize in these scenes? What challenges, what opportunities? Thinking about what we discussed at the last session, about observable characteristics in labs of excellence, what did you see of those? What was missing?

☐ What are steps that you ***personally*** can take right now to ensure a better work environment and culture in your current lab?

☐ Are there specific lab policies or procedures you are seeing or that you think support cultures of excellence?

## Civility Exercise

*Instructions: Circle the option that best applies to you when you are with your peers.*

1. When a conversation gets heated, I contribute to the conversation.

   • Very Frequently     • Frequently     • Occasionally     • Rarely     • Never

2. When peers disagree about an issue, I remain silent.

   • Very Frequently     • Frequently     • Occasionally     • Rarely     • Never

3. I take an active role in creating a welcoming environment for differing opinions.

   • Very Frequently     • Frequently     • Occasionally     • Rarely     • Never

4. I give my peers eye contact and my full attention when they speak, even when I disagree.

   • Very Frequently     • Frequently     • Occasionally     • Rarely     • Never



5. When I disagree with someone, I keep an open mind and, momentarily, put aside what I plan to say next.

   • Very Frequently     • Frequently     • Occasionally     • Rarely     • Never

6. I can't control others' behavior or opinions, so I focus on my own actions and civility.

   • Very Frequently     • Frequently     • Occasionally     • Rarely     • Never

7. When I'm speaking, sometimes, I use silence to get the attention of others.

   • Very Frequently     • Frequently     • Occasionally     • Rarely     • Never

8. I speak respectfully to people with whom I disagree, even if they disrespect me.

   • Very Frequently     • Frequently     • Occasionally     • Rarely     • Never

9. I ask clarifying questions.

   • Very Frequently     • Frequently     • Occasionally     • Rarely     • Never

10. I am careful not to take over a conversation by talking longer than others

   • Very Frequently     • Frequently     • Occasionally     • Rarely     • Never

11.  When I get excited, I interrupt the person speaking.
   • Very Frequently       • Frequently       • Occasionally       • Rarely       • Never

12.  I have side conversations that distract the person I'm talking with – and others -- from the person who has the floor.
   • Very Frequently       • Frequently       • Occasionally       • Rarely       • Never

13.  I listen for what people mean – not just what they say -- when I disagree with them.
   • Very Frequently       • Frequently       • Occasionally       • Rarely       • Never

14. When peers disagree, I find common ground and call attention to areas of agreement.
   • Very Frequently       • Frequently       • Occasionally       • Rarely       • Never

15.  Sometimes I tune out, then realize I've repeated something that already has been said.
   • Very Frequently       • Frequently       • Occasionally       • Rarely       • Never

16.  I roll my eyes, or make subtle faces when I disagree with someone's opinion.
   • Very Frequently       • Frequently       • Occasionally       • Rarely       • Never

## Instructor follow-up for civility discussion starters

1. When a conversation gets heated, I contribute to the conversation.
   *Would people say you, typically, are an inflamer, an informer, an inquirer, an influencer, a good listener, a comedian? What other roles do people take in heated conversations?*

2. When peers disagree about an issue, I remain silent.
   *Why do you tend to remain silent? Can that be a good thing? What makes you comfortable enough to speak?*

3. I take an active role in creating a welcoming environment for differing opinions.
   *What do you say and do?*

4. I give my peers eye contact and my full attention when they speak, even when I disagree.
   *When people are really listening to you, what difference does that behavior make to you? What difference does it make in the conversation?*

5. When I disagree with someone, I keep an open mind and, momentarily, put aside what I plan to say next.
   *What do you say to yourself so that you really listen, not just wait for your turn to speak?*

6. I can't control others' behavior or opinions, so I focus on my own actions and civility.
   *What does that mean? How does it work?*

7. When I'm speaking, sometimes, I use silence to get the attention of others.
   *How do you use silence? How effective is it?*

8. I speak respectfully to people with whom I disagree, even if they disrespect me.
   *Why? Give an example of what you can say or do/not do when someone is disrespectful to you.*

9. I ask clarifying questions.
   *Give examples of clarifying questions.*

10. I am careful not to take over a conversation by talking longer than others
    *What limits do you put on yourself to keep from talking too much? On the other hand, what do you do/say when you can't get a word in edgewise?*

11. When I get excited, I interrupt the person speaking.
    *When you feel strongly about a subject, how do you monitor yourself so that you don't interrupt?*

12. I have side conversations that distract the person I'm talking with – and others -- from the person who has the floor.
    *How do you feel when someone is whispering while you're talking, even when they're trying not to be disruptive?*

13. I listen for what people mean – not just what they say -- when I disagree with them.
    *What do people do/say when they are listening just to the words? What do they do/say when they are listening for what the person means?*

14. When peers disagree, I find common ground and call attention to areas of agreement.

    *What are some phrases you can use to bridge the gap when you are trying to find common ground?*

15. Sometimes I tune out, then realize I've repeated something that already has been said.
    *How do you feel when someone repeats a point that already has been made?*

16. I roll my eyes, or make subtle faces when I disagree with someone's opinion.
    *How do nonverbals detract from the civility of the conversation, even when the speaker doesn't see you rolling your eyes or making faces?*

## Connection to Chemistry Community Values and Expectations

## Background on In/Civility

Colleagues do not always get along. Complete consensus is not required; for the academic mission to be fulfilled, disagreements and antipathy must be professionally bounded. It is possible for an otherwise positive unit culture to be undermined or destroyed through negative, uncivil, or anti-social behaviors if these are not confined and limited.

An individual's emotions, perceptions, and behaviors can be "caught" by others in the group through social contagion. Negative emotions and behaviors are more contagious and can be more powerful than positive behaviors. Uncivil behavior can, over time, become the group norm even if initially only deployed by one or a few group members.

Bob Sutton labels his "dirty dozen" of uncivil conduct:

| | | |
|---|---|---|
| Insults | Sarcasm | Interruption |
| Violation of personal space | Flames | Backbiting |
| Unsolicited touching | Humiliation | Glaring |
| Threats | Shaming | Snubbing |

### Examples of damaging incivility

- Unrealistic expectations for responses and requests
- Continued complaining
- Making belittling or denigrating comments
- Engaging in disrespectful meeting conduct: eye-rolling, negative side comments, etc.
- Faculty dismissing or disrespecting staff, viewing them as lower class group members
- Public shaming or blaming
- Taking credit for work done by someone else
- Ignoring the contributions of colleagues
- Forming silent coalitions that do not surface disagreements and express them in a passive-aggressive manner

Unchecked incivility escalates and spreads because it sets the norm for "how we do it here"—it provides evidence that incivility is what works if one wishes to succeed in the immediate environment. Endemic uncivil conduct diminishes cohesion, commitment, and communication. It can aggravate disagreements into the development of factions. It makes it harder to recruit and retain top performers, and spreads hostility and division.

Rude, uncivil, and unprofessional behavior can be costly for organizations through reduced performance, productivity, and creativity, as well as increased distraction and negative emotions (Cortina & Magley, 2009).

The effects of incivility on individuals accumulate and can raise stress levels, cause health problems, increase absenteeism, and lower achievement (Sliter, Sliter, & Jex, 2012). It can lead even to acts of violence.

The effects of incivility generally, and bullying specifically, are to distort communication and make it harder for certain people to express some or any views without fear. Even more seriously, whole views or positions can simply get excluded even from consideration. Incivility thus works against one of the main goals of an academic community: idea generation. Creating and maintaining a respectful research, teaching, and learning environment enhances collegial relationships and creates psychological safety, thus supporting increased creativity and productivity. Be aware of your own behavior.

Adapted from NCPRE Quick Tip on Civility and Incivility

## Personal Scripts

In our first session, we used the decision-making framework to analyze difficult situations (applying the scientific method to interpersonal interactions, as it were). The last step is to figure out what words you will use to address something either said to you, or said to another. We've all had experiences where we didn't think of a good thing to say until much later, or seen circumstances where others were not able to respond appropriately. Anticipating future events of that sort, and preparing words in advance, you are more likely to be able to respond the *next* time something happens or you see it happen. Preparing words, and practicing them out loud, can build neural pathways so you are more able to speak in the moment.

It's not just for yourself that this matters: you can contribute to a culture of excellence by stepping in when someone else is in a difficult situation on the receiving end of incivility.



## Contributing to Civility by Upstanding

An 'upstander' is someone who steps in to help in an awkward situation instead of just standing by—someone who "stands up" for their values and for others. Remember Ana Sofia speaking out to Alex in 1.7?

- To start: when do you sense your values influencing your decision to speak as an up stander? Identify a specific example:

- If you seek to support others in uncomfortable situations, how can you build your skills and comfort level to be effective?

Identify questions that makes you shut down or feel like your feelings are being dismissed. Identify questions that motivate you to speak up.

- When you are in a situation where you are experiencing bias or incivility:

- When you are listening to someone else talk about a time when they experienced bias or incivility:

- When you are a bystander and you observe someone who is experiencing incivility:

## Discussion

Imagine you are Darren; how should you react to Harold and Jayna?

- How would this change the storyline?

Someone in your lab has recently been expressing anger to their peers. How would you confront this issue and speak to the individual?

- If you were another peer?
- If you were a PI
- How would the conversation change if they were in a higher position.

It can be hard to find the right words in the moment, so it may help to think through how you might respond to different situations and have your personal scripts developed, ready, and practiced.

Come up with two to three personal scripts you can use in the following situations….

- When you are in a situation where you are experiencing bias or incivility;
- When you are listening to someone else talk about a time when they experienced bias or incivility;
- When you are a bystander and you observe someone who is experiencing incivility

Remember that the fourth step of the Decision-Making Framework (DMF) is to identify your resources. Where can you turn for support, advice, or working hard issues through? Identify resources available to you on your campus. (Hint: do a search of the student services and graduate college websites.)



## Closing Reflection

Write for 5 minute some things that you learned during this session. Could also structure this reflection as "I used to think" "Now I think"

- In what ways have you encountered gender or racial bias in your own science career?

- What other areas of bias may be present which can create exclusivity in lab or research environments? Take a few minutes and make notes about biases that may be present in your current situations.

- What can you do to mitigate these barriers to inclusivity?

- What are some ways in which power might be related to creating or hindering cultures of inclusion and excellence?