

Module One Cast of Characters

A molecular biology lab and an organic chemistry lab are collaborating on a structure-activity relationship study for a potential anti-cancer natural product compound that had a poor toxicity profile in clinic studies. At the beginning of the relationship, the synthesis of the molecules went smoothly. But complications arose and now the syntheses are not going well, slowing progress of the study. The delays, so close to completing the study, are frustrating to the two postdocs leading the work out of the labs. Poor communication, differing priorities, and personal stresses exacerbate the problem, causing the relationship between the labs and among lab members to deteriorate.

Sorenson Lab: Molecular and Cellular Biology

Summary: Dr. Sorenson gives her students and postdocs freedom to pursue their work without strangling oversight. She also makes diversity a priority in the lab, trying to meet as often as possible in her travels with groups that promote diversity and inclusion in research and has participated in programs in her professional society and on campus. Much of the day-to-day operations in the lab are left to the lab manager and postdocs. The lab is going through a significant expansion due to the success of the lab and the ever-increasing profile of Dr. Sorenson. The loose structure that worked well when Dr. Sorenson was in the lab more regularly is causing problems as the lack of guidance from above becomes a bigger issue. [In the Sorenson lab, there are about 20 lab members, but this document and the scenes will focus on the characters outlined here for the purposes of the program.]

Investigator - Dr. Jules Sorenson (40-47 yrs. old, White, female)

Recently promoted to full professor, Dr. Sorenson is enjoying increasing success and must deal with the complications that come with it. Her research has advanced the field and several previous students and postdocs have gone on to faculty positions or received prestigious fellowships. Her success has led to a busy schedule of invited presentations, study sessions, and advisory committees. In grad school, she felt her development was hindered by micromanagement thus Sorenson firmly believes the best research is done when researchers have some degree of freedom, preferring to nudge the research at key moments rather than setting rigid guidelines. She also believes that delegating lab oversight duties to postdocs promotes their growth as scientists. She thinks if you give people room, they will become the best they can be. This philosophy served her well in her early years as a faculty member. However, as the lab has expanded, Dr. Sorenson finds it harder to provide guidance at key points, in part due to increased size of her lab and in part due to her congested schedule. Sorenson expects her lab manager and the postdocs to step up and take the lead, but there are still decisions only she can make. This is most evident as complications arise from the collaboration with Dr. Heideberg's lab. Sorenson is feeling the pressures of juggling all the competing demands on her time.



- mentoring while dealing with the pressures of a full workload/absent advisor
- dynamics between PIs with differing management styles
- lack of consistent, regular review and feedback
- setting a culture of excellence and what that means



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Lab Manager – Loretta Wenstrup – (55 yrs. old, Black, female)

Loretta is responsible for the day to day operations of the lab and has a wealth of experience. For many years, Loretta ran the lab of a highly-respected faculty member in the department until his death. The spouse of a renowned researcher in the department, Loretta moved to the Sorenson lab as part of the start-up package for Sorenson, as it coincided with the closing of the other faculty member's lab. Loretta has been with Sorenson since her start on the tenure track/in this department, and they have a good relationship. She has a deep passion for the mission of the lab and is well liked by the lab members. With three grown children of her own, Loretta has a motherly bent to her management style and outlook. Loretta sees clearly the growing pains in the lab. She feels that Sorenson must evolve as a supervisor as the lab grows. Loretta is comfortable raising these issues with Sorenson, tactfully, and works to support, not to undermine Sorenson with other lab members. She wants to shield Sorenson from the “minor” conflicts and minutiae and also help her understand that members of the group (her students!) need more guidance than they are getting.



- managing/mentoring up
- questions of effective leadership
- spousal hire; second class status in department
(do we need to see this more actively)
- timing of life: a little later and would have had option to pursue a Ph.D. and/or explore a faculty career of her own (not sure she would have wanted it, but sure would have wanted to choose, not have it closed off to her)

Postdoc #1 – Jayna Bell (27-30yrs. old, Black, female)

Jayna has been in the lab longer than the other post-docs. She is approached often by the grads and undergrads when they have questions. She likes being an authority figure and genuinely does her best to be a good mentor. Of late though, her patience has been wearing thin with everything and everyone. The collaboration between the labs involves Jayna’s research and she is frustrated with the slow progress from the Chemistry lab. Jayna already had strong opinions about all the things she dislikes about how the Chem (Heideberg's) lab functions, and the delays are only reinforcing her biases. Jayna had hoped to go on the market for a faculty position in the previous year, but received strong feedback that she needed one more major publication. The collaboration was designed to produce that publication, but she does not have all the data she needs for the kind of journal she’s aiming for. Sorenson supports Jayna’s ambitions. She is assigning a new grad student to continue the line of research Jayna's project has been in, anticipating her departure. At first, Jayna was excited at the prospect, but now she is concerned that getting a new student up to speed will only slow her down. Jayna sees the lab expanding and is worried new research areas are going to take resources away from her work when she needs to be finishing up.



NOTE: We are considering that “establishing a lab” might be the central topic for Module Two. If so, it would be set later, and Jayna could be the central character, as she becomes a faculty member and sets up her own lab.

- generally, Jayna works well in an open environment like Sorenson fosters, but issues arise when she feels her work isn’t a high lab priority
- issues of data management/good practices
- one of the drivers of the central conflict between the labs
- intra-personal conflicts within the lab
- issues around pushing to publish in a top-tier journal; focused on getting a job

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Postdoc #2 – Alex Park (28 yrs. old, Asian, male)

Alex has not been in the lab as long as Jayna, but Sorenson is invested in his current project as she sees a lot of potential avenues for new research. Alex has a fellowship from the Korean government to study in the US which comes with research funding, providing resources for it. As is her style, Sorenson allows Alex [to manage the money from] the fellowship, leaving him freedom and flexibility. However, Alex seeks more direction. At his previous lab in Korea, the lead researcher set the course of research with specific, defined paths to pursue. At first, Alex was excited by the prospect of having more freedom, but it has led to paralysis more than anything. He sees lots of possible avenues, and really wants Sorenson to direct what she thinks would be best. Alex feels like he is floundering, wondering if he should even be in science. These insecurities are compounded by Jayna, who implies Alex only got his spot in the lab because he came with funding, even though that was not a significant factor for Sorenson (*not in current scene list, but SAVE*).



- Alex does not work well in this lab environment, wants clearer direction
- cultural issues of international lab members, does his heritage feed into his need for direction or is it more of a personality trait alone?
- ranking question of whether he's "as good" as others, or whether his government funding bought him a place in the lab
- competition for resources
- befriends Ana Sofia, potentially raising issues of relationships among lab members (*currently not in scripts so SAVE*)

Grad Student #1 – Ana Sofia Flores (25 yrs. old, Latinx, female)

(She may also be a MD/PhD. grad student who was a part of Sorenson's lab and who is now returning after a year away at her medical school program, and we would adjust age appropriately if we go that way).

Ana Sofia is just starting in the lab. She is eager to prove herself. She met Sorenson at one of her speaking engagements, and they hit it off. They have a good rapport, and Ana Sofia hopes Sorenson will be a good mentor for her going forward. She is particularly excited about the freedom Sorenson allows her students. Assigned to continue Jayna's project line, Ana Sofia picks up pretty quickly that Jayna is frustrated with the chemistry collaboration and had hoped to be further along before bringing Ana Sofia on board. Feeling she is too busy to integrate Ana Sofia into her workflow with the Chem lab, Jayna suggests Ana Sofia look at the work of a previous postdoc who was doing work in the same area as the collaboration. She thinks it may help Ana Sofia decide on her course of research. Ana Sofia is skeptical, but does not want to contradict Jayna. She attempts to reproduce the work of the departed postdoc, but finds his notebook sloppy and there are no protocols in the lab to guide her. Ana Sofia finds herself at an impasse with little direction



- power dynamics of younger lab members coming to a lab
- Ana Sofia is Latina (*do we see this enough now SAVE*)
- participates in affinity groups on campus and is active in them
- personal relationship issues with co-workers as Ana Sofia and Alex bond (*ON HOLD for now - does this change?*)
- struggling with data management and replicability issues --decision making framework
- boundaries about personal/work life (sharing/information/TMI--having some privately shared information get out in the lab and cause unhappiness? *TBD for now*)

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Heideberg Lab: Organic Chemistry

Summary: A more present and directive Investigator, less freedom, high stress, high pressure, rigid. Run much more like a top-down lab, Dr. Heideberg sets the tone and course. Dr. Heideberg is a hands-on and directive investigator, who likes to keep tabs on what his lab members are doing and prefers to give his okay on all research directions. His lab members definitely follow his line. Some members thrive under the attention and some feel stress from the rigidity. [In the Heideberg lab, there are about 12-15 lab members total, but this document and the scenarios will focus on the characters outlined here for the purposes of the program.]

Principal Investigator – Dr. Malcolm Heideberg (66-73 yrs. old, White, male)

Dr. Heideberg is renowned in his field and respected in the scientific community at large. Stately and distinguished, he operates very much in black and white with little tolerance for gray areas. A belt and suspenders type, he never leaves an “I” undotted. He likes to have things just so and walks the lab often, adjusting things that are not “the right way” (his). Passionate about his science, Heideberg spends a lot of time in his own head, figuring things out. When he hits upon an idea, he gives it to someone to work on, but is frustrated when they do not easily grasp them. He is mostly unaware of the effects his style has on the members in the lab. If people seem upset or frustrated, he attributes it to a lack of professionalism on their part. He is charming, yet hard on everyone. Ultimately for him, the science and the results are more important than people's feelings.

- questions of high-performance environment vs. growth-oriented environment
- communication
- giving feedback
- mentoring



Postdoc #1 – Darren Novak (32yrs. old, White male)

Darren is a senior post-doc in the Heideberg lab and the point person on the Sorenson collaboration. Darren has accepted a faculty position and is anxious to leave - he wants to move, get settled, start his prep, etc. in his new life. Dr. Heideberg sees a lot of himself in Darren and trusts Darren's work implicitly. Darren is a very capable chemist, but he has become over confident. He was excited at the prospect of synthesizing the compounds for the Sorenson lab, but now that he has accomplished that, his patience with Jayna is wearing thin. Although delivering the compounds sometimes took longer than expected, Darren thinks that it is just how long it takes: this is difficult work and not everyone can do it. He assumes any issues Jayna is having with the compound is a result of Jayna's errors. He finds the work in Bio Labs to be messy and imprecise anyway. Not like in Chemistry where you set out to make something and you make it or you don't. His ego and prejudices make him blind to any possible problems with the compounds he has delivered.

- generally, Darren works well in the rigid atmosphere that Heideberg fosters, is the lab favorite and has developed an ego
- one of the drivers of the central conflict between the labs
- intra-personal conflicts within the lab
- issues of data management/good practices



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Grad Student #1 – Meena Anand (24 yrs. old, Indian-American, female)

Small in stature, Meena is quiet, non-assertive, and very capable. She is one of the few women who have ever been in Heideberg's lab. He brought her on because she came highly recommended by a former student (*not currently in scenes but SAVE*). The most technically oriented of all the lab members, she is fastidious, detail-oriented, and efficient. Heideberg has been impressed with her work. As Darren is finishing up in his lab, he assigns Meena to take over the Sorenson project. This would be an add-on to her current workload on her thesis project. She worries about the time commitment and whether it will distract from her work but she wants to prove Heideberg's faith in her is well-founded.



- gender and cultural issues within the lab
- gender biases' potential poster session scene; comments from Heideberg now and then (not about appearance, but about expectations; he would have expected her to do something or other, why isn't she more interested in..., or assuming because she's female, she'd...)
- becomes friendly with Ana Sofia as the collaboration continues, and joins her in some women in STEM events; Heideberg finds this to show insufficient commitment to her graduate program and doesn't understand it (*not in current scene description yet critical to include in scripts — SAVE*)

Grad Student #2 – Harold Wendling (25yrs. old, White, male)

Harold is a third-year, preparing for his prelims working with Darren on the Sorenson Lab collaboration. Harold's work in the lab up to now has been exemplary and he is excited to be put onto the Sorenson collaboration with Darren, seeing it as a strong vote of confidence from Dr. Heideberg. Harold completed his undergrad work at a smaller university where he easily stood out among the other students. He is definitely in a more competitive environment doing his grad work at an R1 institution. However, he has continued to excel and being placed in the Heideberg lab was a boost for him given Dr. Heideberg's reputation. A bit of a perfectionist, Harold has always done well and has rarely found himself confronted with an academic or lab situation he could not overcome. As Darren transitions out of the lab, it is expected that Harold will take over the collaboration with the Sorenson lab. However, he is unable to reproduce the compound on his own and has no idea where the problem arises from. His stress level rises as he sees Dr. Heideberg and Darren's confidence in him falter, culminating in the project being passed to Meena instead. This shatters Harold's confidence and his mental state spirals downward.



- stress issues
- mental health
- managing expectations
- mismatch of skills/placement; hook for mentoring?

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