Dead Ideas in Teaching and Learning Podcast Series

Season 6, Episode 2: How the Science of Learning Can Be Leveraged for Change with Kelly Hogan and Viji Sathy

Center for Teaching and Learning, Columbia University

[00:00:00] **Catherine Ross:** Hello and welcome to Dead Ideas in Teaching and Learning, a higher education podcast from the Center for Teaching and Learning at Columbia. I'm Catherine Ross, the center's executive director. As a quick reminder for our listeners in this podcast series, we are exploring dead ideas in teaching and learning.

[00:00:25] In other words, ideas that are widely believed, though not true, and that drive many systems and behaviors in connection to teaching, exercising what Diane Pike called "The Tyranny of Dead Ideas."

[00:00:39] I am speaking today with Doctors Viji Sathy, and Kelly Hogan from U N C Chapel Hill. Dr. Kelly Hogan and Dr. Viji Sathy are both award-winning instructors with a combined 25 plus years in the classroom at the University of North Carolina. They're passionate about student success, equity, and inclusion in the classroom. They have expertise with inclusive techniques and active learning in any size crowd online and face-to-face because both teach courses routinely with hundreds of students. On their campus, they lead innovative classroom diversity administrative initiatives that benefit all students, faculty and staff.

[00:01:21] Both are leading the campus and curriculum reforms, bringing course-based undergraduate research experiences and makerspace courses to all disciplines. Kelly and Viji have shared their work with faculty through hands-on workshops at numerous types of institutions. Both are featured experts in the Association of College and University Educators course on teaching effectiveness. They have been active in the scholarship of teaching and learning in their respective disciplines of biology and statistics, and their work has been featured in a number of national publications such as *The Chronicle of Higher Education* and *The New York Times*. Viji and Kelly are well-known authors of the book, *Inclusive Teaching Strategies for Promoting Equity in the College Classroom*, and are themselves researchers.

[00:02:09] Welcome to our Dead Ideas podcast, Viji and Kelly, I am so happy to be talking with you today.

[00:02:17] **Kelly Hogan:** Happy to be here.

[00:02:19] **Viji Sathy:** Yes, thanks for inviting us.

[00:02:21] **Catherine Ross:** Absolutely. I couldn't wait. So in this sixth season of Dead Ideas, I wanted to explore a little bit why dead ideas are so persistent. Why do we have them, and why do they stick around? And also I think it kind of leads into like, why is the research on learning often underutilized or even ignored in higher education, which allows those dead ideas to hang around. Viji and Kelly are well known authors and are themselves researchers. So I figured as authors, they have found a way to communicate the large volume of research behind equitable and inclusive teaching to a national and international audience. So I wanted to have them come today and share their secrets with us on how they communicate about research to their audience and what they've learned in using the research to reach a very large audience.

[00:03:24] So my first question is that, as I said earlier, I think sometimes that dead ideas persist because so many instructors either don't know or just don't even have time to think about the research on learning enough to seriously engage with it. And honestly, the institutions don't always reward and value that work. So, right. There's that piece, but I know it's more complicated than that. That's a kind of simple explanation. So what I want to get at is, you know, how can we better translate the science into action and maybe help people see value in this research? So what have you learned in your work with the book and the work you do with instructors? About people's exposure to the research or resistance or reluctance to engage with it, and how do you address that?

[00:04:22] **Viji Sathy:** Sure. I can start by saying a lot of what you said is true, right. That where is the time and place for us to understand the impact of research on teaching? And we are seeing definitely in graduate school training, there's a bit more interest in thinking about approaching it systematically and looking at evidence, but a lot of us are thrown into the classroom and we're really teaching in the ways we've been taught. And sometimes that is without the emphasis of looking at evidence. And especially as college educators, we have training and research in our disciplines, but we don't often think about or pay attention to the research on teaching. And we think of it as something that's some sort of innate thing that, you know, maybe it's a skill that you pick up along the way, but that you don't actually hone the craft of teaching and pay attention to the literature. So I think that something that has been interesting to Kelly and I is that we, we've been seeing people say, well one thing they've enjoyed about the book is, you know, they see the approach as being used and then the evidence behind that approach and sort of tying that together and

realizing that it is helpful to look at the, to look at the research and think about it in that framework. But we don't often have these kinds of pieces that really do that for practitioners right. So that was a huge emphasis for us was to think about how to translate the research to practitioners. And I liken it to science communication. Many of us are involved in science communication, thinking about taking potentially dense material and translating it for the public.

[00:05:49] And in some ways, as academics, we're not necessarily public, but we, we do have a lot of different disciplinary approaches and so we need to think about how to translate some of more especially common pedagogical approaches across disciplines and make them accessible. The other challenge is that the research on teaching is diffuse.

[00:06:07] Where do we look in our discipline to a journal? Do we look to specifically a journal that focuses on teaching? It's hard to even know where to begin to sort of dig into that literature. So I think part of it is the awareness, but the other part is we've created this system where it's, it's all siloed and it's difficult to even know how to even get into it.

[00:06:27] **Catherine Ross:** Right. Right. I love that comparison with science communication. I think that's a very apt comparison.

[00:06:37] **Kelly Hogan:** Yeah, we've been, we've been fortunate enough now that our book has been out for a little while and some groups are reading it, and as Viji said, you know, a lot of people are just really pointing to the idea that there are really practical approaches and while you know you aren't going to learn everything from one book. We have checklists at the end of each chapter that people are finding helpful. A checklist alone isn't going to do it, but I think it speaks to people's ability to digest a lot of information. They don't have the time, and they're really appreciative of having this sort of manual as a place to start.

[00:07:13] It's been really fun to just hear quotes from people saying, Every new teacher should have to read this book. So I mean, that's the greatest compliment we can get in terms of thinking about what is it that's missing in the field for this to be resonating that way. And I'm sure lots of books about teaching resonate the first time you read a book about teaching, but it's, it's fun for it to be ours once in a while.

[00:07:35] **Catherine Ross:** That's great. And I have no doubt that you get lots of those kinds of comments because I think the work that, that you've done and that many of us in the CTL world do is this sort of synthesis of this, you know,

volumes and volumes of research for, as you said, Viji that come from all different directions and synthesizing it, but also translating it right into practice. Like, so what does that mean when you walk in your classroom? What are you going to be doing? What are you going to be saying? What's your syllabus going to look like? And I think that's in incredibly valuable. So congratulations on getting that kind of feedback. That's very exciting.

[00:08:17] So that's sort of more at the like person level, right. But if we think about from the institutional level, or even broadly, right across higher education systems, what changes might help address the absence of research in university teaching practices and this notion as you identified Viji that like you can just go start teaching and, you know, you, you prepare for years to know your discipline, but you could just walk in and teach. What would, what could we do to change that? So, I mean, particularly with inclusive teaching and things like equitable assessment, anti-racist pedagogy like that really does require some intentional engagement with research and as well as, you know, self-reflection and thinking about what you're doing with your students.

[00:09:15] **Catherine Ross:** But are there structural ways that we could make that easier and or identify some structural impediments that are getting in the way of.

[00:09:29] **Kelly Hogan:** Sure. Yeah. That's a big question, right.

[00:09:31] It is a big question. I'm sorry for that, but I did, I did want to hear your thoughts on it.

[00:09:37] **Kelly Hogan:** Yeah. There was a great piece in *Inside Higher Ed* by Jody Green that gets at a little bit of this. I don't know if anybody's had a chance to read it yet, but it was really about this idea of institutions want to say that they're focusing on teaching. And even when faculty buy into the idea that they are charged with the student success piece, it still comes down to labor, and you know where is the time to be able to do those things, to be able to improve what you're doing? Right. And so, you know, one of the ideas in, in the article, and I always say this when I work with new faculty, new faculty come in looking for structure and guidance, and we just throw them in as if they know what to do, and it's such a good time to provide mentorship, week-long Institutes. They often don't have as much service and teaching when they first come in, if they're at a research institution. So it's this really ripe time when new faculty are listening and really crave that kind of mentorship and structure. So I think a lot of universities really miss the boat on that. But the larger thing really comes down to who are our faculty and what are the incentives and rewards for doing

what they do right. And at a research institution, you've got your research tenure track faculty, and what we're seeing a lot more of now as well are teaching focused faculty, which come in a lot of different varieties and flavors right, but who really is evaluated and rewarded for this kind of evidence-based, research-based teaching that we're talking about. It's not really built into the structures in terms of promotion, tenure contracts, all of that. And that's something that I've been working on for a few years within my own departments. I think about like there must be metrics beyond student evaluations that we can use. We know there are, and student evaluations perpetuate this.

[00:11:37] **Catherine Ross:** They do.

[00:11:38] **Kelly Hogan:** Yeah, cause students feel like when learning is easy, that's what they want. And if professors have to have rewards based on student evaluations, it just perpetuates this cycle of being rewarded based on what students want instead of learning.

[00:11:54] **Catherine Ross:** And not to mention the bias that shows up with women instructors, instructors of color, all kinds of ways. It's good to ask students, you know, their perceptions and their experiences with the learning, but it's not good to put the entire weight on that and not do any other kind of evaluation. And most departments frankly, couldn't even do like a effective peer evaluation because they've never articulated what good teaching looks like for that department. Right. Yeah. So that's a good one. That's a big one. If we could change just that thing like that would be huge. Yeah.

[00:12:34] **Viji Sathy:** Mm-hmm. And I'd back up even a step further. I mean, it's great to get them in their first weeks of teaching, but why not before that? Why not when they're getting their graduate training? We know that not all will become educators in a college classroom, but we know that there are many who aspire to that, and they should really be getting that training there as well. And I think that's something we're seeing more of and on our campus we're involved in the CIRTL network and I think that does a really nice job of promoting this sort of, not just training and teaching, but, but dovetailed nicely with the research on teaching and helping young scholars, new scholars figure out how to maybe do both in the positions that they're about to go into.

[00:13:18] **Catherine Ross:** Yeah, that's interesting. And yeah, CIRTL is a great network. That consortium provides so many wonderful resources for STEM graduate students and many universities now in the teaching centers are developing robust graduate student programs. And I've heard a couple people say and read in some articles that that's really the hope for the change in

teaching that, you know, if we could convince more universities to really focus on graduate students, uh, so that by the time they get their role as a faculty member, lecturer, or whatever kind of role it is, they are ready to teach. They know enough to not have to make hard mistakes in the classroom.

[00:14:04] **Kelly Hogan:** Yeah. And even if they still need some of the logistical training, I think coming in with the mindset that there is evidence for how teaching works.

[00:14:13] **Catherine Ross:** Right.

[00:14:13] **Kelly Hogan:** That you're just not naturally born with it. It's not about being funny and charismatic, that there is research behind it. Just that mindset alone, I think brings a lot of change.

[00:14:24] **Catherine Ross:** Yes.

[00:14:24] **Kelly Hogan:** To teaching and then people can still, they will make mistakes. They will learn on the job, right?

[00:14:30] **Catherine Ross:** Yes. That's, I think that's all very true. Yeah, I don't know why it's not more widely adopted in universities, but, and I know I've heard at least, and maybe you have some thoughts on this, that it's a little bit difficult for STEM graduate students to engage in these kinds of programs, even when they do exist because the demands on their time is often focused around research, doing your research in the lab and working with your mentor and getting published. So yeah, it's tough. Even when those programs exist.

[00:15:12] **Kelly Hogan:** Well, much like we talk about faculty development, like to have people go to extra institutes and do things beyond, I've been involved in programs where I have co-mentored, a faculty member in my classroom, in a class we were going to teach together right. That doesn't cost people more time. The two major barriers are time and knowledge right?

[00:15:34] **Catherine Ross:** Right.

[00:15:34] **Kelly Hogan:** And so, right. Putting a mentor in the class that they're teaching. Right. Um, and I think the same is true for graduate students. Like it's great to have them go to all those extras, but at the same time, there is a faculty member there potentially mentoring them right. So that experience could be rich in context as well. And I think that's where people sometimes get the best learning in real time.

[00:15:56] **Catherine Ross:** Yeah. And it's very meaningful learning because it's directly applicable to their entire career, what they're going to focus on. So the other aspect of this is, you know, when we think about dead ideas in teaching and learning, sometimes you know, we have to remind ourselves that students are also part of this equation. And as you just referenced, Kelly, right, this belief that learning should be easy. And if it's not easy, then something's wrong with the instructor. Which also shows up in the research, right? For example, on these huge studies on the adoption of active learning in large science classes where there's a lot of push-back from students because they have this sort of illusion of comprehension that happens when you sit and listen to an expert talk about something or solve an equation on the blackboard or whiteboard. So they don't necessarily embrace active learning as something they like. Right.

[00:16:59] **Viji Sathy:** And I'd say that even faculty have that illusion sometimes.

[00:17:02] **Catherine Ross:** Yes, very much so. Like my job is to just show them how to do it and then they'll get it. Yeah. Yeah. So, yeah, what do we do about these sort of student dead ideas about learning? And that goes back again to those student evaluations, right? Because if they're not happy, even if you've explained to them like this is a research-based approach, it's going help you learn more deeply, right. You're going remember things longer. You're going to be able to synthesize information better. They still can go after you in those student evaluations. So how can instructors maybe help students let go of some of these dysfunctional learning strategies? Or even like neuro myths, right? Like the whole learning styles thing or you know, whatever they're convinced of. Yeah. How do we do that?

[00:17:59] **Viji Sathy:** Well, I can start us off by prefacing this comment by saying the institution has to have our backs. No matter, you know, whatever it is, that we have to trust that if we're, especially if we're sincerely hoping to improve our courses and working on them and looking at the literature and maybe being mentored or looking at our teaching centers for help, that hopefully that we feel we're in a safe environment to make changes, to try things, to experiment without that risk of potentially not having a contract renewed or not getting promoted.

[00:18:30] And as you mentioned, you know, it's important especially for people of marginalized identity, faculty of marginalized identities, cause you know, these techniques can land really differently with students depending on who is teaching and, and what kind of experience they feel that person has. And

we can't ignore those biases. They're human biases. They're not student biases, they're human biases can impact the kind of feedback we get. So we have to, like Kelly was saying earlier, we have to think about not just student evaluations of teaching, but other forms of evaluations of teaching. But if we were to focus on what an individual instructor might be able to do, knowing that their institution would support them in these changes, would be to think about, you know, how can you bring more transparency to the approaches you're using?

[00:19:16] I know for both Kelly and I, um, our experience with the classroom, I, I would present data to my students. I mean, it was a course where we talked about data, so it made sense for me to bring it up and say, here's, you know, I was doing it this way and this is what the results look like, and I am doing it this way because these are what the results look like.

[00:19:33] And so, you know, it's a little bit of a, I guess, a sales pitch in some ways, but at the same time, it is about educating our students. How would they know that sometimes the harder way is the better way? And some of our students know that because they've experienced it firsthand. They know that being, you know, it's not about just like having information dumped on you.

[00:19:54] That's how you learn. Well talk about this a lot. Like when you're teaching somebody how to drive, it's not about being told how to drive. You have to actually, you know, you have to get behind the wheel...

[00:20:03] **Catherine Ross:** Right.

[00:20:03] **Viji Sathy:** And you would do it in a very scaffolded way, you wouldn't do it on a highway the first time, right. Like there's all these things that we recognize when we're teaching someone something, usually a skill that, that there's a sort of an approach we might use that is a more gentle approach. And it's a way that recognizes that a novice might need the instructions broken down. And somehow we get in the classroom and we think just because we've said it one time, that now it has been learned.

[00:20:27] **Catherine Ross:** Right. We forget that maybe we need to scaffold this assignment or this, you know how they're going to approach this reading. Yeah.

[00:20:35] **Viji Sathy:** Right. And part of that is, is we do lose sight sometimes. We are experts in our area and we sometimes forget what it's like to learn it for the first time. So we have to remember that. But I think a big part of it is just having that comprehension about how learning works, communicating that to

our student. And then doing it often and early, right. Early is important. It needs to happen on day one. They need to understand, and I would say even prior to day one, they need to understand the approaches you're using in your course.

[00:21:02] This is another, you know, I guess a personal preference is I have stayed away from labeling my classrooms in a certain way. So when I essentially flipped my classroom, I never referred to it as a flipped classroom to my students, and I stand by that decision even now. I think that students experience classrooms that get labeled in a certain way, and they automatically assume that they're going to be that way in your classroom.

[00:21:27] And so we don't want people to think about, you know, stereotyping a particular class because of the approaches we're using. Right. So just talk about the approaches you're using and why you're using them and really I think use a lot of opportunities to show students that they're experiencing success because of the approaches you're using. So reminding them that this is working or they're maybe not cramming because they don't need to cram now if you're really practicing all along.

[00:21:55] **Kelly Hogan:** Yeah. Um, Viji referred to the idea of getting this message out early and often and I think the often piece is something that well-intentioned instructors forget about. Kimberly Tanner has a lot of research around what she calls instructor talk, which we are both fascinated with. And when I do observations now, I'm very much focused on a lot of different things, but instructor talk is always on my mind. And how is this person doing this? And for those that that aren't aware of it, it's the the non-content talk that you do. So if you say like, "great job," that's non-content talk, right. So it can be motivational, but I find that the more experienced I am with all of these approaches, the more comfortable I am with this kind of instructor talk. So maybe my students think they know a topic or a process in biology, and then I say, oh, let's take a moment and draw it. Right. And then that's when they realized, I don't actually know it, that well and I don't just let it be, right? I say the reason we're drawing it is because you think that you know it, but just reading it once isn't going to do that for you. We need to practice it multiple times in multiple ways. Now I want you to turn to somebody and explain it, or now I want you to make a group drawing of this.

[00:23:08] Right? And so scaffolding that practice, but also being transparent in the moment and showing them. Now, if I give you a question about this, isn't it so much easier because of this practice we just did. And this is the kind of studying and the skills you need to bring to all your classes and outside of the

classroom and, and that's when I think it clicks for students that they hear it over and over and you're in it for their success and their learning.

[00:23:34] **Catherine Ross:** Yeah, it's that metacognitive reflection and then maybe adding like reflections when they get their first graded exam or assignment back, and having them think about what they might do differently the next time. How did it work out and what maybe do they need to make a change in how they approached it?

[00:23:55] Those also are very powerful and I think the thing I've found is that dialogue with students is so critical. You know, if you do like a classroom assessment where you ask students, you know, what should I start doing that would help you learn? Is there anything I should stop doing that's not helping you learn? What should we continue doing that is helping you learn? They love, they love to give feedback and feel like they're part of the conversation, you know, and then coming back and talking with them about that feedback. You know, why are we doing group work? I know some of you don't like group work. Let's talk about that. Right. Just acknowledging it and giving them that voice, I think is really helpful. I don't know if you've tried those things. You have very large classes, so it's probably hard to do, but it is that constant messaging and keeping a dialogue going throughout the entire semester.

[00:24:56] **Viji Sathy:** Yeah, and I think a lot of that too is our students have been trained to do school and to not really question the approaches and techniques that we use in a classroom. And so this is part of our way of saying no, we can, we can be better informed learners and educators by sort of unpacking this a little bit, and hopefully they can take these messages with them in other courses and see this. And we've been really focused on the instructor, right? What can the instructor do?

[00:25:21] But they're actually many things that that the environment, the institution, the system can do to support an instructor in these messages too, right. So it should not be just falling on the instructor to, to sell of these approaches. We should be really thinking about the ways in which we can support instructors in there in that kind of messaging. And um, you know, an example that we have on our campus is this year we launched our new general education curriculum and one of the courses that's a required course in the curriculum, it's called a college thriving course. And Kelly and I have had a hand in sort of thinking about planning this course. And we made, we really wanted this to be a focus. So think about, at least for a class session, what are the approaches they might expect to see during their time at Carolina in the classroom, and why are they seeing those approaches, those techniques. Like

what, when an instructor says, turn to your neighbor and talk about this, what is that really about? And how can we get them to just understand as they start to, again, to be a better informed student, to think about these approaches and, and as you said, the thinking about the thinking.

[00:26:26] **Catherine Ross:** Yeah. It's a lot of work. I know why some instructors don't do it. Right. Because it takes time.

[00:26:31] **Viji Sathy:** It does take time. It does, but it's important. It's a valuable use of time.

[00:26:35] **Catherine Ross:** I totally agree. But I know it's, it's hard sometimes for people to...

[00:26:40] **Viji Sathy:** sure.

[00:26:40] **Catherine Ross:** ...sort of say, well, I'm going to take five minutes and talk to my students about this thing.

[00:26:46] **Viji Sathy:** Mm-hmm. . Yeah. And it's a parallel discussion with active learning. I think that's oftentimes what we hear too. I don't have time for that because I have to cover some content.

[00:26:55] **Catherine Ross:** Right. Yeah. We got content to cover.

[00:26:58] **Kelly Hogan:** I also, um, started doing weekly emails to my students, which came out of the pandemic. But I've kept, and it's such a great place to thread some of those things in too, like, why I'm doing that or, I'm so proud of you this week for X, Y, and Z. And then I always add a little bit about what I'm watching on TV and that that's the hook at the end. They want to know more about me cause they're nosy.

[00:27:21] **Catherine Ross:** That's great. And, and you're right, it doesn't have to be in the classroom during class time. Mm-hmm, you can communicate this in many ways. You can build it into your syllabus, you can, you know, there's just lots of ways to think about it and, and embed it into, you know, whatever learning platform you're using, there can be opportunities for students to have little, like reflections and things.

[00:27:45] Yeah. Wow. Great answers. Thank you so much. So we'll get to our wrap up question here. What is it that keeps you inspired, um, and motivates you to just really push, keep pushing for that change in higher education?

[00:28:06] **Kelly Hogan:** For me, it's the students. I have changed over the years. I have learned to be a better instructor and every time I do something that I know is based on evidence and I know why I'm doing this thing. And I ask for feedback on it. The students usually give me what I need to keep moving forward. That's not to say it's executed perfectly and that there isn't room for improvement, but when done well, the students really do get it and they want more of it.

[00:28:35] I'm in a biology department at U N C where it's not just one class that has changed. The entire curriculum has changed. The strategies are the same across all of their introductory courses. As well as chemistry, math, physics. So the students are seeing this across all of their STEM classes, um, and that reinforcement helps them buy into it and then be able to be these really informed partners, right, with this constructive criticism, but also filling your bucket with like, this is awesome. This is helping me reach my goals. I'm so glad that it wasn't as intimidating as I thought it was going to be. I really look forward to my next class like this. All those kinds of things. I think for me, that's what I need to keep going.

[00:29:26] **Catherine Ross:** Great. Yes, students are important and that's why we do this work. Viji

[00:29:35] **Viji Sathy:** I think I would say I absolutely agree. It's nice to hear from students and especially when you make such efforts in your classroom. I'd also say more and more recently I've been thinking about the sort of systems level changes and how we can create and cultivate an environment where we support not just individual instructors, but thinking about just changing the water. Like not really focusing on individuals, but how do we change the climate around some of these things. And to me it's rewarding when you see. I mean they're ripples, right. Like little things that you make changes to and then they impact other things. So even seeing change happen and, and we've been at it, I guess in, in the span of time, you know, let's say a decade of teaching, that doesn't feel like a long time, but to see the kind of changes we've seen just in that short time span, it feels really rewarding and hopeful for me to think about like, what else is.

[00:30:29] I love that. And I think it's important that we see change happening. Otherwise it's hard to, to make progress. So the small wins, but, but more importantly, how um, not just one instructor is impacted, but multiple instructors are impacted, multiple classrooms are impacted, and just the idea that it could send a wave in ways that we've never anticipated. And I appreciate that a lot.

[00:30:51] **Catherine Ross:** Right, right. And you know, the outcome is going to be, for many students a transformative experience, life transformative experience. So

[00:31:02] **Kelly Hogan:** Yeah. Um, we've been seeing some of these changes on a small scale, but I would also say I'm optimistic that some of the institutional level thinkers are really starting to push for how do we make these changes happen more quickly?

[00:31:15] Right? How do we change the rewards and the tenure system. So I really think we're going to hear a lot more about that and some departments and institutions are going to move forward in a really inspiring way and model how this can happen. Boy, I hope so.

[00:31:32] **Catherine Ross:** I hope you're right. I hope I can be around that long.

[00:31:38] **Kelly Hogan:** You invited optimists on this show,

[00:31:42] **Catherine Ross:** Well, thank you so much to both of you for taking the time to talk with me today and to try and help make that change happen and make it happen quicker. So we really appreciate you being part of our Spring 2023 podcast season.

[00:32:00] **Viji Sathy:** Thank you for inviting us.

[00:32:01] **Kelly Hogan:** Yeah. Thanks for the conversation.

[00:32:06] **Catherine Ross:** If you've enjoyed this podcast, please visit our website where you can find any resources mentioned in the episode, ctl.columbia.edu/podcast. Please like us, rate us and review us on Apple Podcasts or wherever you get your podcasts. Dead Ideas is produced by Stephanie Ogden, Laura Nicholas, John Hanford, and Michael Brown. Our theme music is *In the Lab* by Immersive Music.