Episode 64: Kevin Ahern

# KL: Katie Linder KA: Kevin Ahern

# KL: You’re listening to “Research in Action”: episode sixty-four.

# [intro music]

# Segment 1:

# KL: Welcome to “Research in Action,” a weekly podcast where you can hear about topics and issues related to research in higher education from experts across a range of disciplines. I’m your host, Dr. Katie Linder, director of research at Oregon State University Ecampus. Along with every episode, we post show notes with links to resources mentioned in the episode, full transcript, and an instructor guide for incorporating the episode into your courses. Check out the shows website at ecampus.oregonstate.edu/podcast to find all of these resources.

On this episode, I’m joined by Kevin Ahern, a Professor of Biochemistry/Biophysics who has taken a very non-traditional path to becoming a professor. A Beaver alum, Ahern received his Ph.D from OSU in 1986 and after post-doctoral work at UCSD, rejoined OSU as a business manager in 1989. Transitioning to the instructional ranks in 1995, Ahern served there until he was promoted from Senior Instructor to Professor in 2014, a rank he currently holds. Along the way, Ahern served as a scientific writer and editor with stints as contributing editor of *Science Magazine*, *BioTechniques*, and *Genetic Engineering News*. His YouTube instructional videos have over 4,000,000 views and his three open educational resource textbooks have saved students almost $50,000,000

Thanks for joining me, Kevin.

**KA:** Thanks Katie, and thanks for inviting me.

**KL:** So I’m really excited to talk with you because one of the areas of your work is this kind of creative writing work in the sciences. And when I stumbled upon it, I thought this is such a cool thing that you’re doing. So you’ve done a range of writing projects over your career, from song lyrics to magazine writing, a few others things, what led you to kind of pursue that? What got you into that in the first place?

**KA:** To be honest, the magazine writing I kind of stumbled into, I had bought a computer way back when personal computers had come out, and I knew the editor of a very small journal and he said, “Would you like to write some software articles for me?” And I said, “Why not?” And so I started doing those for free because he gave me free software, and it was a wonderful way to get software.

[*laughs*]

And that kind of grew over time, but the initial impetus was nothing conscious that I did with that. The creative writing was a little different, I’ve always strived to be humorous, I like to be funny, if there’s something that I do that gives me the most joy, it’s making somebody laugh. And so ever since I was a little kid, I have tried to write humorous things that are obviously, not obviously, hopefully funny things to other people, but certainly very satisfying to me. And that was a, the sort of reason for starting that. So I’ve struggled with a, I guess a voice to do that, I wanted to find the right way, and it took me a long time to find something that people think very comedy-like. There were some things I’d write people would love, and other people would just absolutely hate! Funny things kind of hit their own when I got to the Metabolic Melodies and those songs kind of resonated with people. And so that was in conjunction with teaching, and was something that was just a very natural outgrowth, those just flowed very, very readily.

**KL:** So how are you using these particular pieces? Let’s talk a little bit more, you know what are they, can you give us a little bit of a description and how they get utilized?

**KA:** Sure, so I’m a biochemistry professor, and so I use music as a way of making the subject more friendly. I also use music as a way of teaching principles. So people tend to think they’re more about principles, but they’re really more about making people comfortable about the subject. So the subject of biochemistry is very daunting to many people. I first conceived of doing these because it would make the subject and myself more approachable to students, and so that was why I first started writing them, and of course the humorous component helped with those, so that was good. So anyways, the way I use them in my classroom is, I have a song, at least one song about every topic that I teach, so at the end of every lecture I break out a song and either sing it for the students or play a recording, especially where, my singing voice is not very good.

[*chuckles*]

And play a recording of it that the students can hear. And what that has done over time is, I think made the subject more friendly to students, and brought more students to my office, because I’m told I’m a fairly intimidating guy.

[*laughs*]

**KL:** So I’m interested to know whether those more creative elements that you’re bringing to your writing, how is that impacting other more formal writing that you do? You know, do you see them as kind of playing off each other are they completely separate to you, what is that like?

**KA:** Yeah, that’s a good question. I do, the most of the writing I do is actually textbook related. I’m no longer doing the science magazine writing, I stopped that about five years ago, those were separate from this. The textbook writing, I think it actually complements it, in fact I actually use the songs in the textbooks and so forth that I have authored. I think that the most important thing you can do as a writer, and I think as a lesser extent as an instructor, is be creative. That there’s that element of looking at a problem, or looking at something that you’re trying to teach somebody, and not doing it in a way that you’ve tried to teach it in the past, or that people traditionally do that. Because people tend to respond to different things, not different, but difference, in a way that they, I think open their minds and I think are more willing to listen to. I teach a class of students on interview skills and one of the things on that is be as different as you can, because again, people pay attention to that, when they see that, they think oh that catches their attention. So that does help a lot with my instruction.

**KL:** So that’s interesting that you brought up this creative component, because I think that when people think about creativity, or creatives, academics might not be the first thing that comes to their mind. They might think of artists or poets or something like that, but actually I feel like a lot of academic work is actually incredibly creative, can you speak to that a little bit.

**KA:** Absolutely. Absolutely, it’s one of the bigger misconceptions that people have about science for example. So I think the non-scientist view of science is unfortunately, here’s a bunch of facts to memorize, and while there is a language that they’re seeing with the facts and so forth, there’s a language that goes with the discipline, every single scientific understanding has happened because of a creative interpretation of what someone saw in the world. Whether that was Newton seeing gravity, whether it was Einstein seeing relativity, or whatever it was, those were creative interpretations of that, and they are really not significantly indifferent in my opinion from the artist’s interpretation of the world that he puts on a canvas. So I think there is very, very strong parallel with that yeah.

**KL:** So one of the elements of your creative output is a YouTube channel, which I’d love to chat with you a little bit more about, this is a channel that has thousands of viewers, we will definitely link to it in the show notes. How has this served as a creative outlet for you? What’s on there, what are you using it for?

**KA:** Yeah, so I won’t say YouTube for me hasn’t been a giant creative outlet. Certainly I use it as an outlet for things relating to my educational mission and educational delivery. The main thing I do with the YouTube is connect with people, so the YouTube has been incredible in those regards. I get reports on a daily basis of how many viewers there are and so forth and it always just blows my mind to see in the span of a month, I’ve connected with people in over 150 countries. And so this land grant mission that OSU has, is I feel something I personally want to do. I want to reach out, I want people to access that. So I wouldn’t say it’s much of a creative thing as much as it is an educational mission as anything, that’s the most important component of that. I use the YouTube in addition as a means of delivering content to my Ecampus course, or courses, I teach four courses. And that enables me to make the content and the delivery of those courses identical to what I do in my classroom courses, because I use the same videos, I videotape the lectures from my classroom courses for those.

**KL:** Mhm, interesting. So it sounds like a lot of the ways that you’ve thought about your writing and your research are really tied to your teaching and are really meant to help students understand your topic from your textbook writing to your YouTube channel, to the song lyrics. Can you talk a little bit about how that’s been like for you to kind of connect the writing to your teaching process?

**KA:** Sure. I think that to me I have a figure that I show people when I talk about this, and it shows how each component, whether it’s the songs, whether it’s the YouTube, whether it’s the books that I’ve written, or it’s actually the delivery of the stuff, they all interconnect and a person can come into my educational material from any of those directions. So for me, if I have a student that, and I commonly hear this, if I have a student that’s heard my songs in high school because their high school biology teacher thought they were funny, and the student says wow, look at this they’re funny, but then the more you listen to those or the more you investigate other things, you start to think biochemistry or molecules are cool, or chemistry or whatever it is you want to say. I think that is the best possible thing that I could do for outreach. So helping that, again this educational thing is the very most important thing that I do, and all of these things help to make that happen. The limericks I write, I write a lot of limericks, the limericks I write, people always think they say, they have an educational purpose, and they’re the only thing I write that don’t have much of an educational purpose.

[*laughs*]

They’re just fun, so yeah.

**KL:** So what are the student’s response to these more creative outlets?

**KA:** Yeah, well as you can imagine, people like to laugh and so I encourage that. The most creative responses have actually been related to inspiring students to write their own. I had two undergraduate TAs who were very fond of the melodies, and they were enough, they said, “well I can do that too”. And they did, and they did, both of them ended up being better song, lyric writers than I am, they both got their songs published in an educational journal, and were fantastic, really, really gifted. And so, that was a great feeling for me in terms of making that happen. And the other has been, when I see people around the world who have made videos of themselves singing the songs, I had a video that a group from Croatia sent me some links, that I just treasure. And I think where else, that without the electronic connections that we have in the world, would that be possible. And that was wonderful, so yeah.

**KL:** Well that’s phenomenal, we will definitely link to some of the examples in the show notes. We’re going to take a brief break, when we come back we’ll talk with Kevin about some of his experience with undergraduate research. Back in a moment.

[*music plays*]

# Segment 2:

**KL:** Kevin I know one of the things that you’re passionate about is undergraduate research, so I definitely want to talk with you about that, it’s not a topic that we’ve really covered too much here on the show yet. So there’s some programs here at OSU I know that you are involved with regarding undergraduate research, so let’s start there, what are some of those things?

**KA:** Sure. So right now my primary focus related to undergraduate research is that I am the PI of an NSF funded grant called the OSU STEM leader program, which is focused at promoting the success, retention and persistence to graduation of underrepresented minorities in STEM disciplines: science, engineering, and the College of Agriculture. And for that program, we have several components, but one of the components is getting students involved in undergraduate research as a retention mechanism, starting in the second term of their first year at OSU, so we start them very early, to get them going.

**KL:** So there may be some people who are listening who aren’t really familiar with what undergraduate research is, it is kind of a program and a thing. So can you talk a little bit about that, what are some of the elements of that?

**KA:** Sure, sure. So when we talk about undergraduate research, it’s a part of what people call experiential learning, and as I tell students about undergraduate research, the research or the very nature of the research is very discipline dependent. So we tend to think of research as people in white lab coats wearing goggles and so forth going around, but when I served, I was the director of undergraduate research for a few years. When I served in that capacity, I tried to make people aware, and to be honest became more aware myself of research in political science or English, or history. History has an incredible group of students doing undergraduate research. So you can imagine that the nature of undergraduate research in an area like history is going to be different from lab research. It’s research nonetheless, because it is uncovering and reporting of knowledge and that’s really what’s at the root of undergraduate research is just that. For a scientist, yeah it does involve a lot of lab jackets and goggles and so forth, you know things like that, but it’s very varied and every single discipline at OSU has opportunities to do that, so that’s I think one of the great features of OSU, it really is.

**KL:** So OSU has pretty significant research endeavors, I’m curious if undergraduate research looks different on different campuses. Are the principles generally the same? Are the goals kind of the same in what we provide for students or can you speak to that a little bit?

**KA:** Yeah that’s a good question. I don’t think that the face of undergraduate research changes significantly from campus to campus. Now a small college is obviously going to have different types of research going on than a state university, but the undergraduate engagement that involvement really isn’t significantly different. We want students to have connections with the professors doing that research, and I tell students, you know I do a lot of student visits coming to OSU and things like that. And I tell them well when you think about undergraduate research, and one student would say, “Well I’m worried about the student to faculty ratio at the school” at OSU or at another school. And I say well, you know that when you do undergraduate research, you get one on one and it doesn’t get better than that. So it’s something that every student should be striving for, because I think it’s the best way a student is going to improve their educational gains at ant school.

**KL:** Mhm. So I’m curious if, is one of the goals of undergraduate research is to really get students to move on to graduate school or to research opportunities, or are there other kinds of skills and abilities that are really more broadly applicable whatever they decide to do?

**KA:** Sure, well that’s certainly one of the goals. I think, when I work with students I tell them that I want them to identify their career passion. What is their career passion? That may be at a more advanced level where I need to go and learn more to work in this area that I want to work in. In my area, I can say students for example interested in neuroscience. And I say, well neuroscience isn’t something that you’re really going to get a degree in as an undergrad, you’re going to have to get a lot of experience in that. And after you’ve worked in a laboratory and seen the nature of that, then you begin to get an appreciation of that. But one of the other goals of undergraduate research is I think improving that education. You’re learning, I tell my students, from the experts in the world. You don’t get to be a professor at a major university without being an expert in the world of the field that you’re working in. So that one on one component is great. The other thing that happens with undergraduate research in my opinion is the confidence. You see that your notion of research was up here in the clouds or wherever it was, but now you see yourself doing that. And the confidence just goes through the roof and I think that’s absolutely essential. And the last thing I’ll say about undergraduate research relates to, I work with the honors college a lot, and honors college students have to write a thesis. And a thesis is a culmination of a lot of work through undergraduate research and I tell students, it’s the best evidence you have of your ability to complete something. If you don’t write a thesis, then your evidence of completing something is getting your degree, because there’s no formal thing, no formal product at the end of that. But that thesis is really like, okay you can manage, you can plan, you can put all these things together and you can complete that, and I think that’s the last component of undergraduate research.

**KL:** Mhm. So I feel like you’ve kind of embedded this into your earlier responses, but I want to ask it ask it as kind of an overt question which is: what of your time working in this area, what do you see as the main skills that students need to walk away with? I mean part of that is what you said with the thesis project and stuff like that, but are there other elements, particularly ones that are cross-disciplinary, that you see kind of across the board, the kinds of things students really learn from this that they can take with them no matter what they do.

**KA:** Yeah, and again, I think these are very discipline specific, there are some things that cross-discipline yes, the confidence is a really good example. I have yet to see a student that worked with a professor who wasn’t changed by that. I think that that is a really moving thing for students, and that doesn’t matter on what project that you worked on for that to happen. But if you are say, I pick on history, but if you are a history student who is working on a project, what you learn about the topic that you’re working on, what you learn about the culture, what you learn about the times, the era that you’re working in, those as a historian are absolutely fundamental to your going on and doing other things with that. Whereas if I’m a scientist I may learn technical skills relating to the way that I use an instrument or the way I’m measuring something, or even interpreting the results that I see. But I think that the confidence rides over everything, because when you understand how a discipline works, then you’re really able to be successful in that if that’s the direction you want to go. And some people come up to me and say, “I don’t want to do this the rest of my life,” and I say well, that’s also a good thing to learn right? So learning the discipline at a very deep level is really critical because it can lead you both directions.

**KL:** I love that, I think one of the, one of the powers of undergraduate research is how broadly applicable it is.

**KA:** No, absolutely.

**KL:** Across these disciplines, and there’s no end to what students can learn based on what they choose. We’re going to take another brief break, when we come back we’ll talk more with Kevin! Back in a moment.

[*music plays*]

# Segment 3:

**KL:** So Kevin, I would imagine some of our listeners are very intrigued by this idea of undergraduate research, but if they’re not involved in it, it might be interesting to kind of know where do you start, and how do you mentor these students in a really effective way. So I’m wondering whether you can talk a little bit about, if people want to think about this, how might people get started and we’ll also talk a little bit about mentoring.

**KA:** Yeah, thanks Katie. The thing I would say about mentoring, is that mentoring as a discipline or as a topic is very broad and I like to think about it starting with the very first steps that a student takes. So I mentioned that the STEM leader program that I was working on, we start our students second term of their freshman year doing research and that’s partially because of value that has been shown for early involvement with undergraduate research and success. So that’s, that’s important. There’s a problem with that, and the problem is most places, now I won’t say this is everywhere, but most places that is left completely in the hands of students. So when I talk with students and ask are you doing undergraduate research, many students they’ll say, no but I’m going to go talk with a professor, I’m going to go do that. And the limitation for kids is talking to a professor. If you’re 18 and you’re a freshman, and you look at a professor as a big, hairy or bald or whatever.

[*laughs*]

Person that is scary, only those that are very, very on their game are going to go do that, yet everybody can benefit from that. So part of being a mentor from my perspective is actually helping students get over that barrier. So I tell students I will, you tell me you want to do it, and I will introduce you to the professor. So we get over that hump of the fear or shyness or scariness or whatever that happens to be, so that I put you in touch with the professor. I’m careful to be sure that the student is prepared for it, so I don’t take every freshman to a professor, because I don’t believe every freshman is ready for that. But many are, many more than are willing to do that on their own. So getting that mentorship started right there is important. So I look at myself as a mini mentor, because the kids can use me as it were to go on and do something else. That mentoring component happens at many levels, so mine is a relatively minor level in that. In our program we use peer mentors, so we use students who have completed our program in the previous year to help the students who are coming through in the new year.

**KL:** Interesting.

**KA:** And you know having peers, hearing from your peers is more effective in many ways from hearing from some big authority figure and so that helps students. And then in the research environment, you’ve got very discipline specific problems that the mentor is guiding them through. That occurs through many levels, so one of them of course is the day to day existence and how you do this and things like that, I think it’s more the genesis. So the honors college students I work with, I teach a class in the honors college for students what a thesis is, and so invariably students come into that thinking well if I am going to do undergraduate research, I have to invent the wheel, I have to cure cancer, I have to have some brilliant idea before I go to a professor. And so that means that they don’t see that role in mentor there and they think that they have to do that, well that’s a big barrier to them of course. So I try to cut them through that and say well 95% of you are going to work with a professor, and the complete idea, the complete outline of what you’re going to do is going to come from that professor. Because they are the experts. They know what kind of question can be addressed, they know how to address it, and they know how to interpret the answers, so you are going to learn something about that process. So that’s all built into mentoring. And so, I guess the last component of it that I think with mentoring is that the role model thing, that I want to be like that, that when I see that person, they think intelligently, they’re fair with people, they are doing everything that they can to teach or to do service or whatever. That that role of the mentor is also important, because it’s inspirational to students.

**KL:** So you mentioned students have some trepidation a little bit going into this process, I’m curious if you have concerns or questions from the faculty side about what it means to work with undergraduate researchers. For people who are just starting out, what are the common areas of concerns that come up or the questions?

**KA:** That’s a very good question Katie. I have seen this evolve over the years in a very interesting way. So I used to run a program at OSU that was funded by the Howard Hughes Medical Institute that started in 1999, a lot time ago.

[*chuckles*]

And at that time, undergraduate research was just getting a foothold in the biological sciences, so I’m a biological scientist, and when I started, I didn’t start the program, but when I started running that program, I had to literally go knock on faculties door before I brought students there, saying I’ve got a student, it’s an undergrad, could I get them to work in your lab? And there were professors who were very reluctant, “I don’t work with undergrads”, was the thing that I heard you know. And, “well would you give them a chance,” and it took a lot of borrowing, begging and pleading and by the time that we finished that program in 2014, sorry no in 2012, I had professors who had gone from I don’t work with any undergrad to having eight of them in their laboratory, and they stopped working with graduate students. So yeah, I mean undergrads do take a lot of time, and undergrads can be irresponsible, but then I think everybody can be irresponsible so it’s not unique to undergrads, but there is more of a problem with working with… some kids just aren’t mature enough to deal with responsibility and they learn that later, but if they get trained and they worked, the professors will unanimously tell me that they are as good or better than their graduate students because they’re very motivated. And the other thing about them is that we give very good training to our undergrads at OSU, not working at a research laboratory, but I work with undergrad TAs, and my undergraduate TAs are always excellent, because again they’ve come through my program and I know what they’re doing.

[*laughs*]

So I think we do a really good job of training with that, and they’re ready to do great things once they get in a laboratory. But yeah there are people who’ll be hesitant with that, and they need a little push to get going, but I can’t think off the top of my head of anybody that didn’t, after a little push, say, “Well I’ll give them a chance,” and then after they give them a chance, I can’t think of anybody who ever complained. I can’t think of anybody.

**KL:** So for folks who might be interested on their campuses to start thinking about this, maybe they have an office that does this work or a program that’s running but I’m wondering if there are other resources that you might recommend to people. If they’re starting to think about this, or starting to think about mentoring in this way, are there anything that you would point them to?

**KA:** Yes I would. The Howard Hughes Mental Institute that I talked about, funds a tremendous amount of research around the country. And they have a document they produced, oh it was probably about 10 years ago now called Entering the Mentoring. That is focused primarily on faculty, and is aimed to helping faculty understand their role, their responsibilities and so forth, and I think that is one resource I would point anyone thinking about undergraduate research to. Absolutely.

**KL:** Excellent. Well I know that undergraduate research is also considered to be one of the high impact practices for on campus teaching and learning, so we can also point to some resources on that in the show notes as well.

**KA:** Sure.

**KL:** Anything additional that you want to share about your experience with undergraduate research to get people to think about it if they haven’t already?

[*laughs*]

**KA:** Well I guess what I would say is I think it is rewarding for all involved. I had the good fortune of running some programs where I was able to disperse money to make this happen. And there was where I told everybody who asked that I had the best job in the world, because A I was connecting students with professors who had something that was meaningful for them, B I helped professors in getting free student labor that was talented, and the students were getting money, and it wasn’t costing anyone money except me, and for me it came from a grant! So it was a perfect set up!

[*laughs*]

So for me I think whenever you can have that circumstance, it’s all the more reason why I think people should be applying for funds to facilitate undergraduate research on their campuses, and I think it is a very important thing for administrators to learn about the value. And I think that that message is getting across, we’re doing a good job at OSU.

**KL:** Well thank you Kevin so much for coming and sharing some of your experience with both creative writing in the sciences but also undergraduate research.

**KA:** Thanks Katie, I’m very happy to have been here.

**KL:** And thanks also to our listeners for joining us for this week’s episode of Research in Action. I’m Katie Linder, and we’ll be back next week with a new episode.

# Show notes with links to resources mentioned in the episode, a full transcript, and an instructor’s guide for incorporating the episode into your courses, can be found at the show’s website at [ecampus.oregonstate.edu/podcast](http://www.ecampus.oregonstate.edu/podcast).

# There are several ways to connect with the “Research in Action” podcast. Visit the website to post a comment about a specific episode, suggest a future guest, or ask a question that could be featured in a future episode. Email us at riapodcast@oregonstate.edu. You can also offer feedback about “Research in Action” episodes or share research-related resources by contacting the Research in Action podcast via Twitter @RIA\_podcast. Finally, you can call the Research in Action voicemail line at 541-737-1111 to ask a question or leave a comment. If you listen to the podcast via iTunes, please consider leaving us a review.

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# “Research in Action” transcripts are sometimes created on a rush deadline and accuracy may vary. Please be aware that the authoritative record of the “Research in Action” podcast is the audio.

# Bonus Clip #1:

**KL:** In this first bonus clip for Episode 64 of the “Research in Action” podcast, Dr. Kevin Ahern shares some success stories of undergraduate researchers – take a listen.

I’m wondering if you have any success stories from your experience with undergraduate research.

**KA:** Oh sure, yeah. So some of my favorite ones were actually, the one I can think of is off the top of my head is a young woman. I’m a biochemist, and she was actually interested in biochemistry, and she was in our major and she had done absolutely nothing to distinguish herself. She was a wonderful kid, wonderful person, but grade wise she was not cutting it very well. And you know, if she had not done undergraduate research, she would’ve graduated from our major and had a very low, average to low GPA coming out, and that’s not the best thing to have. She got involved in undergraduate research, and I give the professor she worked with her an immense amount of credit. He took her, and he did this with other students as well, but he took her under his arm, and she was interested in molecular biology, and he took her and taught her molecular biology and what happened with her, was he later said she was the best molecular biologist that he had ever seen. So here’s somebody who blossoms, who blossoms in the laboratory who struggled academically. And what happened after she did that, was she, her grades improved. So there again is the confidence part of it, her grades improved and she was the best set of hands he’d ever seen in terms of working in the laboratory. So as a result of that, when she went out applying for jobs, she was in demand, even though her grades were probably average, but the letter of recommendation he wrote for her was phenomenal. She got a job at a biotech company in San Diego and did remarkable things. In fact, I think she did, she’s on early retirement right now because she did so well. Just an incredible thing. That’s one example out of many, blossoming I think is the term to me that is the most exciting thing that I see happen in students, and most everybody I think sort of blossoms in their own way.

**KL:** Mhm, and I bet there’s just a million stories like that.

[*laughs*]

**KA:** Oh there are, yeah.

**KL:** In undergraduate research.

**KA:** You know, can I tell another brief one?

**KL:** Yeah, please!

**KA:** I have a student who I am very, very fond of, I’m fond of all my students, but this student I’m very fond of, I met as a, she was a freshman, and she was also struggling a little bit grade wise for a different reason, and in her case, she was struggling because she was working a lot of hours to pay the bills. And I talked to her and discovered she was driving all the way up to Albany to work at Mervins, and they’re paying her minimum wage, and just taking advantage of her something awful. And I said to her, “Why don’t we get you going in a lab or something Katie,” and she said, “Well I don’t know if I can do that,” and I said, “You can do it!” I had the sense that she was much brighter than her grades were indicating. And so anyway, to make a long story short I got her connected with a professor in the lab in the Linus Pauling Institute, and instead of spending all of her time on the road and making a little bit more than she was making at Mervins and so forth was able to pay her bills and focus on her studies. Well by the time she graduates, she’s the top student in her major. The academics she was able to spend time and do what she needed to do, and it was incredible. She graduated from OSU, and I’m not making this up, as an undergraduate with 8 publications.

**KL:** Oh my gosh.

**KA:** With 8 peer-reviewed publications, it was remarkable! And it happened because there was this freeing for her. She could spend her time on the things that she needed to work on, and then she completely threw herself into it. So yeah, there’s a lot of stories like that.

**KL:** That’s an amazing story.

**KA:** It was amazing.

**KL:** You’ve just heard a bonus clip from episode 64 of the “Research in Action” podcast with Dr. Kevin Ahern sharing some success stories of undergraduate researchers – thanks for listening!

# Bonus Clip #2:

**KL:** In this second bonus clip for Episode 64 of the “Research in Action” podcast, Dr. Kevin Ahern discusses his experience using open educational resources – take a listen.

Kevin I know one of the areas you’re really passionate about is Open Educational Resources or OER, as it’s known to many. Tell me about that, what drew you in to working with OER.

**KA:** Yeah, open education resources are what I guess people like to think of as free books. So I got involved in this when I was teaching a biochemistry class about ten years ago. And at that time I discovered the students in my class were paying 200 bucks for a book that I consider to be not very big. And I was honestly shocked. I just couldn’t imagine that that book could cost that much. So I got investigating and sure enough it did cost that much, and I didn’t know what I could do about it. I got investigating and found out textbook prices have been increasing faster than tuition prices, and tuition prices have skyrocketed. So as a professor, I thought there was something I wanted to do about that to mitigate that cost that students were experiencing. So my wife, Indira Rajagopal, who’s also a biochemist and I wrote a biochemistry book called “Biochemistry – Free and Easy” that we put out that could be used to teach an elementary biochemistry course. It was completely free, Apple will distribute a book for free on iBooks if you don’t charge for it, and we don’t charge for it, and OSU puts download abilities for the book as well. So we released that book in 2012 and it went great guns. As of today, 2017, we’ve had almost 195,000 downloads of the book around the world. And so that has been, we can’t change tuition prices, but we can change book prices and that’s been very good.

**KL:** Mhm. So one of the things, I know a little bit about OER, we have a section of Ecampus called Open Oregon State that works specifically with faculty to create these kinds of resources for students. Everything from open textbooks to different modules and things, and one of the things we know that faculty are concerned that maybe these OER books are not the same level of quality as a textbook. Is that something you can speak to, especially as you’re thinking about, you’re creating these resources yourself?

**KA:** Sure. That was very much a factor in how I created the textbook. So I’ve been a coauthor on a major traditional textbook back in 2000, so I knew pretty well what the expectations were and of course as an instructor, I know what I want in a book. So that was very much in my mind as we created the first book, and then when I created the second book which we created next year, which was a very, much more thorough textbook that could be used to teach a majors class in our subject, I wanted to have that. Now, that perception is actually the hardest thing to deal with. There are things out there that are not appropriate and so the person who’s having to navigate OER if you’re an instructor, there’s a fair amount of work that’s involved in that. You have to be dedicated ad willing to wade through things to find the thing that you’re after. I think as OER becomes more mainstream, and people get more involved in this, and people understand these issues, that the quality of OER resources is going to improve. We are very happy with the two books that we have put out, and we’ve had great feedback from both students and faculty. The biggest issue we have is actually getting the word out. Because the traditional textbook publisher has salespeople all over, creation, knocking on people’s doors saying, hey take a look at our free book! Take our book and you could adopt it for your class, and free in the sense that they give it to the professors, but not to the students. We don’t have that, and so we rely on word of mouth. I use my YouTube videos as a way of distributing information about those for free advertising, and things like that, but we don’t have people knocking on doors. So if I could overcome that, that’d be wonderful, and I’ve worked with Open Oregon State and they’ve done some great things with us, and they’re going to help us in fact, with our newest book in terms of getting the word out.

**KL:** Excellent, well we will link to Open Oregon State for those who are interested, and also link to these resources as well so that people can find them, thanks for sharing.

**KA:** Great, yeah you betcha.

**KL:** You’ve just heard a bonus clip from episode 64 of the “Research in Action” podcast with Dr. Kevin Ahern discussing his experience using open educational resources – thanks for listening!