Pioneers and Pathfinders: Dan Linna Returns

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Steve Poor
Hi, this is Steve Poor, and you're listening to Pioneers and Pathfinders.

Today, we're pleased to welcome back Dan Linna, director of law and technology initiatives and senior lecturer at Northwestern Pritzker School of Law and the McCormick School of Engineering. Dan was one of our very first guests back in 2021, and it was a real pleasure to reconnect and continue the conversation. Dan's teaching and research focuses on innovation and technology and law, including computational law, artificial intelligence, data analytics, legal operations, leadership, and innovation frameworks. He's also an affiliated faculty member at Stanford's CodeX, the Center for Legal Informatics, and continues to serve as lead organizer of the Chicago Legal Innovation & Technology meetup.

In this return visit, Dan joins us for a wide-ranging discussion about rethinking the end-to-end process of legal work, the impact of generative AI on legal education and practice, his work with the ABA legal analytics committee, and why sustained investment in the judiciary is essential to the future of the legal system.

Five years ago when I started Pioneers and Pathfinders. Well, almost five years ago, one of the first people I reached out to to be on the podcast was Dan Linna, and he rejoins me today, Dan, it's so great to see you. Thanks for making the time.

Dan Linna
Yeah, great to see you. I'm looking forward to catching up.

Steve Poor
Yeah, absolutely. Let's start by talking about one of the fundamentals of your academic and professional life, which is a focus on quality and metrics in the profession. How has since we last did a podcast together, we've had the generative AI boom and the impact of emerging technologies. How has the impetus on quality and metrics grown since we've now got a new player in the field in generative AI?

Dan Linna
That's a great question, and I'm glad you started there. There's been a lot of progress made, and I still think there's tremendous deficit in this space. When we spoke before, I was working on a book chapter that I wrote in for a book that Roland Vogel was working on, on big data, and for a long time, I'd been talking about, and I spoke with you about some of these things, about just in of course, the work you've done at Seyfarth, about how do we measure things, do we understand our process for how we do things? What does good look like? And I was seeing more and more evidence that our inability to be evidence based and define what a good contract looks like, what a good litigation pleading looks like, how to measure the value of the things we do is an impediment for machine learning tools, AI tools. And we've seen that more and more and more realization around that. And so an academic part of this that is there's been an increase in work and evaluation in the academy and also in industry and other places. So I think we're moving forward slowly on that, but there's still a lot of debate about, I think even the direction of these AI systems, which is one of the things that I've worried about for a long time, and that is my particular perspective, is that there's a lot of legal work that we do that has a lot of unnecessary variance, which, if we are evidence based, we'd say is error or produces not good

outcomes. You know, five litigators in the big, fancy firm, and they kind of do it five different ways. And well, should there be a little more standardization here? And how do we understand what actually works here? And just to put a point on this, it becomes an issue when you use AI tools, because then, as lawyers, we're great at poking all kinds of holes in the output from AI tools. But it's like, well, wait a second, we take a step back here and figure out what good looks like. You know, what's the evidence for how we do things and what actually produces results?

Steve Poor
Yeah, you bump up right against the problem where lawyers think a lot of what they do is art. It's magic. I can recall. I'm going back 20 some years ago now, when we first put document automation in at the firm, getting into an argument about where certain clauses in real estate leases fell. Were they the first one? Were they the last one? Thinking, What difference does it make? You need an indemnification clause. What differences make, where it fall. But it was a, I remember it being a brutal argument, and that's only getting I was assumed worse in the AI world.

Dan Linna
Yeah, well, you know, I mean, I think that it makes it difficult to create tools, even just simple document automation, but especially as we get to more sophisticated AI systems, if we kind of can't score the outputs. And there's been some research. I mean, there have been a couple related to this, or a couple studies that came out of Stanford looking at the outputs from legal AI research tools, right? And then there's different ways to evaluate these things. I mean, I think there's some reasonable criticisms of those Stanford studies. But then also, we also learn a lot from how do these systems actually work, and where might they make errors, but then I think it just continues to highlight the need for the work that we do as professionals to really understand, you know, where are we really adding value? You know, if our clients knew how much time we spent sometimes arguing about things like, where is the indemnification provision going to be in the contract? Like, they wouldn't be too happy that we're billing money to do those things. It doesn't really move the needle at the end of the day, right?

Steve Poor
No, that's right. I want to pick back up on something you said to me, there's a difference between in terms of the output from AI systems, there's a difference between errors, getting a case wrong, grammatically incorrect stuff and quality. Errors are obviously a part of quality, but in quality, as we're talking about it, is what's a good brief? It's not just where the indemnification clause goes, but it's style, it's it's presentation, it's how can you ever quantify that in a practice that's so individualized?

Dan Linna
Well, I think part of it is in this book, chapter that I wrote was talking about some of the methods for approaching this: Lean thinking, Six Sigma thinking about different things that you would measure in law, for example. We really focus on inputs, while we have the best lawyers from the fanciest law schools and. Know, and they're the best, because we say they're the best. I mean, of course, of course, they're the best. And we don't think though much about process and what given, especially what folks like you know about process, right? I mean, and you know, observations we can learn from other parts of the world. Just putting a lot of talented people together to do things doesn't mean that they're going to produce superior outputs, right? What is our process? How do we actually do things? This relates also, I think to, this is a little bit of an aside, but I think that one of the things I've heard a lot about this idea of hallucinations is, oh, it's lazy lawyering. And it's like, well, you know, this is part of our quality issue as well, is that you read about Toyota and the idea that and on court, and there's a problem on the assembly line, and you're rewarded for saying, you stop the assembly. I mean, it's not great, the assembly line stopped, but hey, there's a defect here, and fixing it now is really important. So good job. Let's fix it. That's not the way we operate in law, right? You know? I mean, it's, it's, and this

hallucination thing, idea, Oh, you were lazy and you should have checked it five times. Well, we need good processes that produce quality outputs, and we're seeing some of that with better user interface design and things like that, to help better use these tools and prevent errors in our output. But we had errors in output before AI came along, and I think like an example, e tigeri did this study in California where they found some of the best firms in California misspelled the names of cases, misspelled the judge's name in several filings, different sorts of errors like that. These tools can help us reduce those kind of errors. And going back to the question of, how do you measure quality, some of this is going to be depend on the particular setting and what the client really wants and expects, right? So it's a little bit of a relationship, maybe to value. But there's other things that I think you know, there's been some other empirical research that has been done, for example, like looking at contracts and seeing whether they included a choice of law provision. And I think vast majority of lawyers, you ask them if that's really important to be included in a contract, they'd say yes. But yet, when empirical research has been done, or a surprising number of contracts don't have that basic clause in them, right? So we're not being evidence based. It's hard to measure quality, but we're not being evidence based in measuring these things.

Steve Poor
You said something I want to, I want to pull on this thread a little bit, which is sort of the systems, process part of it. I think, particularly at the beginning, when people are creating AI tools, they're just sort of add ons to the way they're currently doing work. They may make it a little bit faster, but they're not changing the process. To me, you have to rethink the process in a light of the different automation tools and the different technology add ons that you have. A, do you agree with that and B, if so, are you seeing any change in that approach as we get more comfortable with AI?

Dan Linna
I agree with that completely, and I think this has been a problem since we've been bringing technology into our work from the beginning. So it's not surprising that this would continue to happen. And I guess just an anecdote that comes to mind is we need to rethink the whole process of how we do work and how we would really integrate, like, think AI first, or where it can really help. These tools are really good, for example, at creating summaries at the same time, it should ask us, Well, why are we creating summaries? Right? Like, right? If I'm litigating, and, you know, I have no better thing to do other than ask an associate to create a summary that I might use four months from now, then okay, create the summary and I'll use it four months from now. But with these tools, four months from now, what I'd be better off using is a system that could look across all of that and gather the information that I need, right? So I think that's a simple, or maybe oversimplified example of like rethinking, what are these? What's the purpose of doing this work? How does it contribute? And how could I actually make better use of AI in these workflows? I think it's also related to another question, which is, it's seldom are people thinking, people process, data, technology, right? As far as an approach to how to do these things, this also gets to the, there's also a the attraction of there, where's the easy button? I just need more data, right? Like, it's also the machine learning people have been saying forever, and, you know, and it's like there's a pushback against, you know, creating rules or knowledge management or ontologies, or things like that. But I think we're seeing the best of these AI systems. They use a lot of different tools, and the better you do at knowledge engineering, really understanding the basics, the fundamentals, how do you build that in the process of how you do the work, the more successful you're going to be building AI systems.

Steve Poor
No, I think that's right. As you look at the law students that you work with, are they grasping this concept? Are they bringing a different perspective to it than those of us who may be more entrenched in the practice? Do we have a generational change coming about?

Dan Linna
Yes and no, I think that we have students. They're definitely more technology sophisticated in some ways, or they use they use technology, right? We've known this for a while, though, that they might not necessarily understand how the technology works or be able to rethink, like, what work should look like in the future using technology. But you know, I have more and more students who've been machine learning engineers in their career, or were computer science majors who come to law school, or people who just have experience with technology and think. Hey, this is an area ripe for using technology. I have to say, I think we've got a long way to go in law schools, though, because this is another area where, when I went to law school, I'd worked in technology, but I was convinced law was different, because that's what everyone told me, right? And there's still, to some extent, right in the legal academia, and you also in the practice of law. Sure, I understand you use, you were at Apple, and you were a machine learning engineer, and you did all these amazing things. But law is different. We do things different here, and it's like, Well, come on, this is a lot of nonsense for the most part. I mean, there's some aspects of this are different, of course, just like if someone from Apple went into, you know, into a medical school, but in medical school, I think they're doing a pretty good job of pushing forward and thinking about how to use AI. Not everything's perfect there, either, but in law, it's like there's still cultural impediments. So students come in, they're very impressionable, and many of them have the same sort of doctrinal education that all of us had 10, 20, 30, 40, 50 years ago. So some of them end up being kind of skeptical about the technologies, because they hear a lot of negative warnings versus some of the opportunities.

Steve Poor
Well, that's unfortunate. Where do you see law schools moving as we look out over the next few years? Because the work being performed is going to be different.

Dan Linna
Well, you know, and I don't mean to be too pessimistic or negative about law schools, and there are many law schools that are doing some really interesting things, but I still think we have a ways to go. And, you know, we're more than three years past ChatGPT, and there's still a fair bit of skepticism about, I don't know, you know, there's, it's a bubble. It's too much. I mean, there is hype. Maybe there's some kind of a bubble, but there's a lot of evidence that things are changing. I do think, in defense of, you know, we've got leaders at Northwestern who understand that we're trying to update our curriculum. We've been doing stuff for a long time. There's quite a few law schools that have been doing things for a long time. Some of them are really doubling down and doing more things. But I think there's plenty of law schools where they haven't done as much as they can or should. It's getting easier to teach these classes. I'm working with April Dawson writing a textbook on AI and legal reasoning, for example, right? We want to make it easier. We want to highlight the research being done so that in academia, you could, if you're a young professor, a junior professor, you can look at this and say, hey, I can teach in this area. I can do research. I can get tenure doing research in this space. I think that's helpful to drive change in academia and get more people doing research in this space, more training that's being done around these tools, and just the availability of generative AI tools has been really helpful. But there's a, you know, just like I know it's not evenly distributed in the law firms, even among the best law firms, right? I mean, kind of trying to get everyone to.

Steve Poor
No, it's not.

Dan Linna
It's a challenge.

Steve Poor
One of the things that I want to pick up on something you said about Northwestern, one of the things has been great to see with Northwestern, I think you've been leaders in the field, and you're an example of it is sort of the cross disciplinary approach. You know, for example, you're in the engineering department as well. Tell us how that cross disciplinary approach benefits your research and your teaching.

Dan Linna
Yeah, it's such a great point. And many law schools are very siloed and don't have those partnerships. There are more and more that do. It's difficult to drive forward because it's just like getting people to do cross selling in the law firm, right? You know, kind of sounds good, and people can come to a meeting and shake their head, yes, but at the end of the end of the day, the incentives don't really line up, you know. So you're kind of in a lot of situations, it's hard to drive that forward. But you know, I think there's some really great conversations happening. There are more and more venues to place interdisciplinary research in. The ECM conference, for example, highly respected by computer scientists. They have an annual CS and law symposium, so you've got law researchers and computer scientists coming together. And I think it's, you know, for me, individually, working with people have deep expertise who have been AI experts for 30 years, right? Doing research with them on cutting edge issues. I mean, that's where we should be. I'm at too many law events where it's just lawyers in the room, right? You know, we don't have the computer science discipline or the technology discipline really represented in a robust way. And I'm particularly excited about opportunities for classes where we have computer science and law students in the same class, and we have our innovation lab, we have law students, computer science students develop prototype technologies with external law firms, legal departments, legal aid organizations, courts. I think there's, you know, tremendous value from students working together, from both perspectives, CS and law, to learn about different disciplines, learn how to work as a team. And I teach some of these classes for computer science students. And, you know, it's wonderful. You know, there's a lot of interest in law, right? You know, it's a sexy area. People are interested in going to law school or just somehow be working in an area where they can be adjacent to law and so teaching classes like that for computer scientists. And we need right? We need more of those people. So that's the other opportunity is for people in law schools to go and teach about Introduction to Law and digital technologies. I teach and law and governance of AI. And we need those talented people to want to be a part of thinking about what AI and law looks like in the future.

Steve Poor
You've been at this for a while, in your combined classes with computer science people and law students, there's a language barrier, if I can overstate it, computer folks, technology folks talk about certain things that lawyers don't understand. Lawyers don't talk about certain things computer scientists don't understand. I would think one of the great values of sort of this cross disciplinary approach is to you talk about working as teams, is understanding each other's approach and understanding the language and what they're talking about and what you're not seeing. How do you facilitate that coordination, that collaboration between disciplines?

Dan Linna
One of the things we try to do is provide a little bit of training around this, and it's only a three credit class. We can't do everything we want to do, but we introduce a little bit of agile project management, and that's what we use for the course. And we really try to teach them how to run meetings in a way that they can everyone get on the same page, have a have a stand up meeting, have a Kanban board, where they figure out what they're working on. And, you know, there's just a lot of discussion among the groups and and Chris Hammond and I, who teach it, right? I keep telling them too, that, you know, we

really want to empower them to learn how to solve problems. So we try to introduce methodologies Toyota kata, kind of testing their ideas, not spending lots of time debating who's right. But like, how can we test the idea? And the communication thing, right, is, I think that's something else that really helps. Lawyers will often be accused of this, right, throwing words around and like, if you're a technologist, you have to understand that you can be in a computer science class and say, well, we'll use an LLM with REG and yada yada yada. Like, okay, you've just lost everyone who doesn't have a technical background. How can you explain things in a functional sense, that people understand the problem and how important that is to getting work done in the world right, whether you're a lawyer or a technologist, like really understanding the customer and the requirements and making sure you're all on the same page early on in the process, and those are some of the things we really try to get these teams that we bring together and get them to work collaboratively. Like, hey, you're all equal partners. You're just contributing different things in these projects.

Steve Poor
How much technical fluency is enough for lawyers, particularly those going into the profession, as opposed to the more senior lawyers who if you can get them to learn how to turn on their computer. It's a success. But for the entry level lawyers, how much technical fluency is enough?

Dan Linna
Yeah, well, the debate about this will probably never end. Forever I've been saying you should learn some programming, and the key word being some it just learning how something's functionally about how computers work and now programming, I still think it's useful to learn that, but a lot of the programming now is like prompt engineering and driving these systems. So having a functional understanding, if it's just magic, you're not going to be able to do well, even as a senior partner, it's dangerous, because you should be supervising other people, and you need to understand what your team of associates and your admin and paralegals, you need to understand what everyone's doing in the tech, the tools they may be using, and how do you make sure the client is comfortable with that? I just think that if you understand the way these AI tools work functionally, the role of training data, the role of retrieval, augmented generation, the way that commercial providers are using many types of tools to produce outputs, and some of the ways that you know, some of the things these tools can do, some of the things they can't do, you know, and a few think, for example, when Elon Musk says we're going to have al that's smarter than every human next year, if your BS detectors don't go up a little bit and go, I'm a little skeptical of those claims, then you know. And you know. And of course, hey, who knows what can happen? Like, that's part of the argument always. I'm sure there could be some crazy, amazing breakthroughs next couple months. But if you really understand the technology functionally right now, you probably say, I don't think we these super capable tools can do things, certain things really well, smarter than humans, the artificial super don't. Yeah, we're not quite there. I don't think this takes an extraordinary amount of time for people to kind of get there, but you invest 10 hours in thinking about this, and you be ahead of 90% of lawyers.

Steve Poor
Yeah, it's so interesting that generative AI is something you learn by using. It's difficult to sit in a classroom and have someone teach you how to operate systems and give you tips and clues and everything, but until you get your hands in it and say, Oh, it's just like having a paralegal working for me, or this is like having a colleague working for me and treating it that way, many of these tools, that's when you begin to understand the power of these things.

Dan Linna
Well, you know, I think that, let me just push back a tiny bit on that, but, and I think it's generally true that using them you can learn. But I also think, and this is what I'm trying to do as an academic, and

writing a textbook about this is to think about like, what is the knowledge, and how do you how do you provide it, and what are the things that people need to learn? And just an anecdote around this is, I think teaching people prompt engineering is still extraordinarily valuable for a variety of reasons. And I don't think it's going to go away anytime real soon. And if a vendor says, Well, you don't need to do prompt engineering; we did it for you, then, okay, well, you need to ask questions about how you're doing the prompt engineering so you better understand how their system is working. Fair point. But I've had some people say, like, oh, it's intuitive, and you can figure out you can just play around with it. I'm like, I think that's kind of true, but I think there's some other things, and there's some kind of structured knowledge and learning about, you know, kind of how it works. So, I mean, I'm just trying to be a little bit controversial saying, I'm pushing it back on you, but I think, you know, the idea that I think there's a little too much of the lawyer like, I can figure it out, you know, I don't, I'm not a doctor, but I can figure it out as I go.

Steve Poor
Yeah, no, that's a good that's a fair point. That's a fair point. I mean, I think there is some learning you need to have in order to structure your experience with the machine. But I think once you have that sort of fundamental persona creation, et cetera, et cetera, you can get to the next level by experience, I think.

Dan Linna
I agree that part of it is essential. I agree and I've tell people whenever I give talks or have a chance chat with them. Experiment and use it. You don't have to do legal work doing it and make sure you do it responsible if you are doing legal work or in your organization, you understand the policy, but plan your vacation or have it brainstorm about, hey, I have to have a difficult conversation with my spouse. How should I approach this? Or whatever it might be, there's a lot of ways you can experiment and get some ideas to think about, wow. How could that translate to the work I'm doing as well?

Steve Poor
Yep, let's change just a bit. You've been chair of the ABA Legal Analytics Committee. Sort of, what is the task of that committee? Sort of, what progress are you making?

Dan Linna
Yeah, well, you know, John Murdoch is now the new chair of that committee. And, you know, Warren agan was a driving force by pulling that committee together. And, you know, one of the things really we are trying to do, and the pandemic came along, is then we had a good core group of people, and people coming to the committee. What is our mission? What are we really trying to accomplish? And, you know, we did a variety of things. We were doing some training, and doing some of the things we've been talking about, making sure people understand the difference between statistics and machine learning and generative AI tools, things like that. So a variety of programming and education, bringing people together. You know, I've had conversations with John recently, and I think this is one of the questions, frankly, that we are trying to figure out is, you know, because I think you've got a lot of traditional groups in the ABA and now. And this is a consideration in law schools too, right? So I teach AI and legal reasoning and law of AI and robotics, but to what extent do we need to be pushing AI into every course, right? And how does that change the courses you're doing? So with our committee, early on, before generative AI, especially, we were doing programs where you couldn't get that anywhere else, but then when generative AI took off. Well, now everyone's doing you're focused on contracts or M&A and, okay, well, we're doing AI programs. Okay. Well, now, given the changing environment, what is our role? And a lot of it was from the beginning, there will be al happening and machine learning and statistics and other areas, but we want to be the place where we can help people, bring people to a deeper level of competence in the technology tools.

Steve Poor
That's great. Have you encountered resistance from the rest of the ABA? Lawyers tend to be pretty traditional.

Dan Linna
You know, I think that, you know, there's a few different committees and sections where there's a fair bit of this work happening, right? And more and more technology lawyers and things like that. You know, I think this is another interesting thing about this. I've been training a lot of judges in Illinois. I've been doing a lot of work with, you know, they do a biannual training program, and I've had a lot of opportunities. That's been really fulfilling. And others around the country. You know, it's interesting, because everyone is more comfortable kind of, talking about the law of AI topics. So I think even in the ABA, right? Like, that's kind of when talking about the law of aspect of it is something we're more comfortable of with as lawyers versus, oh, how is the AI going to do what I do, kind of top part of it is definitely...

Steve Poor
That gets uncomfortably personal, doesn't it?

Dan Linna
Yeah, right, yes, yes.

Steve Poor
I'm fascinated by your work with judges. What's the objective? I assume it's not just law of AI. I assume it's things like deep fakes and how to use it in the courtroom and how, etc. Am I right about that?

Dan Linna
Yes. And so, it's more you're right, more focused on a little bit of deep fakes, but really, just like, how is AI being used by litigants, but also by judges? And so, for example, one of the things I've spent a lot of time talking about is some of the judges that have disclosure policies and talking with judges, well, do you really think that's going to help? Is that you know the people who are filing briefs with hallucinations? You think they're reading your standing orders? I don't think so. You know that always gets a chuckle. But no, there are technology tools that you can use that can help you to review cases quickly to find out if the cases that are cited in the briefs are good cases, right? So I think there's a technology that can really help us with this, thinking about how they can use AI and the different work that we do, and in academia and sometimes in a lot of law practice, we tend to think about federal court judges who have a lot of resources and clerks, but, you know, the majority of cases are in front of state court judges who do not have a lot of resources. Some of them have practically zero resources. Mean to tell me that they're not using AI tools? I mean, of course they're using it. I think the vast majority of them are using them responsibly, but we want to train them and think about, Okay, where can we use it? Where should we use it? And you may be familiar with, I don't know if you happen to see the cases that came out of the 11th Circuit Judge Newsome, where he used chatgpt in a couple of cases and the interpreting insurance contract and then interpreting statute, yeah. So the first time interpreting whether a trampoline was part of landscaping in a yard, right? And he said, Oh, hey, we'd usually go to a dictionary. I can use ChatGPT. And he talked about all the weaknesses, but in the risks of potentially doing that, but thought it was still good nonetheless. And then in a second case, it was about interpreting a sentencing guideline, and it said if someone was physically restrained, there was an escalator. Now his opinion in both these cases was dicta didn't decide the final case. But in that case, he was even more excited about, oh, yeah, I can't put physically restrained in the dictionary, right? I look it up. I've got to only look up one word at a time. So he thought, oh, ChatGPT is even better in this

setting. But he also said, I put in the same question twice, and I was not rocked back on my heels when I got different output the second time.

Steve Poor
That's gonna happen.

Dan Linna
Yeah, and it's like, well, gee, Judge Newsome, if I'd have been clerking for you at the time, I'd have probably said you don't need to disclose that, Judge, you know, you can kind of like, you know, to his credit, he's been very transparent, and I'm glad that he's talking about these things, but, you know, it highlights some of the risks potentially of using these systems in the judiciary. But there's also an example out of Shenzhen, China, where they had 12 judges come off the bench, 12 judges for a full year, and they worked with a technology company to create a large language model trained on on all the applicable law to they make a decision, it creates a first draft of the opinion for them, and then they rise the opinion and issue it. So I think that's interesting.

Steve Poor
That's fascinating.

Dan Linna
Yeah, absolutely.

Steve Poor
Do you see that happening in the States?

Dan Linna
I don't see why it couldn't. I mean, of course, one of the huge impediments here, and this is one of the things you and everyone else who cares about rule of law and all these things we should be saying is like, Good God, we've got to invest in the judiciary and make sure they have the resources they need. And I've never heard of a project in the US where we've done anything along the way of taking 12 judges off the bench for a year to help create a technology tool. But and you know, so how are we going to invest in creating tools to help judges do the work they do?

Steve Poor
Yeah, that's a great question, because, as I think about it, the tools are going to help individual litigants file more cases and file more claims and exercise their rights. And that's a good thing.

Dan Linna
Yes, that's a good thing, absolutely, if the courts are prepared for it.

Steve Poor
If the courts are prepared for it, right? So your point about investing in the courts is really spot on.

Dan Linna
Yeah, we're going to have to do more, right? I mean, that's going to mean the legislature, quite obviously, at some point in time. So I don't know who's thinking about those things, but, you know, we've got to be thinking about it more, and hopefully law schools can help drive some of that forward. But obviously we can't fund, you know, multi million dollar projects to do the work that needs to be done.

Steve Poor
Oh, come on, Northwestern has got a lot of money.

Dan Linna
We can supply some students anyway, and we'll certainly ... We're collaborating on projects and seeking out grant money to do more things. Absolutely, there's some role there, but we need to get some big foundations behind this.

Steve Poor
No, absolutely. Well, Dan, you're doing such great work. I really appreciate you taking the time to share some of your thoughts, and it's going to be fascinating to see where all this goes over the next few years.

Dan Linna
Oh, yeah, absolutely. I think things are changing really fast. And you know, I heard someone say recently that, well, the only thing you know for certain when you hear people making predictions about this space is that they're wrong, right? So we just it's really hard to know exactly where this is going. I mean, we don't know exactly, but exciting times, lots of opportunities. So I really appreciate chatting with you about this stuff, Steve, and I really appreciate you doing this public service of doing the podcast.

Steve Poor
Well, thank you. I learn as much from it as anybody else. I think I get to talk to really smart folks like you and listen to you talk about some interesting stuff. So thank you very much.

Dan Linna
You're welcome. Thanks, Steve.

Steve Poor
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