

## Interview

**Jason Cahoon:** Hello everyone. My name is Jason Cahoon. I'm one of our contributors on the AI4RA AI Trailblazer blog series.

Today, I have the opportunity to sit with Sylvia Bradshaw and Sarah Martonick. They're two of our Principal Investigators here on the AI4RA initiative, or more formally known as *Crossing the Innovation Valley of Death, Democratizing Data in Artificial Intelligence for Research Administration*.

First, I want to thank you both for joining us. I thought that we would start with some introductions. Sarah and Sylvia, could you please tell our listeners about your positions in Research Administration, and how these connect to your roles as PIs on the AI4RA initiative? How about we start with Sarah?

**Sarah Martonick:** Sure. Thank you, Jason. I'm Sarah Martonick, I am the Director of Sponsored Programs at the University of Idaho, and I get to be one of the Principal Investigators on this National Science Foundation grant. I've been working with Sylvia for a very long time, and I'm very excited to get to work with her even more on this project.

**Sylvia Bradshaw:** I'm Sylvia Bradshaw, and I just want to start by saying what an honor it is to be working with Sarah in this capacity. We've had lots of intersections in our roles in Research Administration, and this has by far been the most exciting, the most work, but absolutely one of the highlights of my career to move forward. I'm the Executive Director at Southern Utah University of our Sponsored Programs, Agreements, Research, and Contracts Office. We affectionately call that the SPARC office—it's much easier to say. I'm excited to be here with you today.

**Jason Cahoon:** Well, thank you both. Today we're here to talk about the partnership between the Research Administration organizations at the University of Idaho and Southern Utah University. We want to talk about how these collaborative efforts have steered the direction that we've taken on the AI4RA initiative.

In our public messaging, we've talked about how AI4RA is built on a vision for democratized access to AI, innovation, and data handling practices. I was wondering if you could talk a little bit more about this vision and how it came to be.

**Sylvia Bradshaw:** That's awesome, Jason. First of all, I just want to jump back on that word you used, *democratize*. That can have a lot of different meanings, but I just want everyone to understand that when we talk about democratized access, we're talking about making resources available to all.

So, let's just make that clear right up front... and that brings in me and my role in this project at Southern Utah University, a predominantly undergraduate institution, a PUI, located in a rural town of Cedar City, Utah. We have a teaching (centered) mission, so we are very different. Having democratized access, or equal access, for us to have these resources, becomes really important. So, with that, Sarah, do you want to add some more?

**Sarah Martonick:** Yeah, our vision for this project and the democratized access is really built on the understanding that we can help the national research landscape prosper by giving people access to tools and resources that they may not otherwise have access to, and that there needed to be a catalyst to develop those resources as an open source mission.

We felt like we were well-positioned to begin that effort but knew that the partnership with Sylvia, at a PUI, was important to ensure that we were considering the differences and the similarities between schools of different sizes and with different missions.

**Sylvia Bradshaw:** It's always exciting when someone calls you up and says, "Hey, do you want us to help you?" At least that was (what I heard) between the lines. She actually said, "Would you like to participate with this?"

When I heard (her) invitation, I thought, *oh my goodness, somebody's willing to use their resources to help us further our mission.* As a teaching mission institution, we don't have all of the research resources built into our structure.

But when we engage in federal funding, we absolutely have to meet all those same compliance requirements. We have to meet all the same things as we dabble in all these different areas with compliance issues at hand. So we have to know a little bit about a whole lot. Where at Sarah's institution there at University of Idaho, they go a lot deeper in their understanding and knowledge, so when I heard, "Would you like to work with us on this?" I was absolutely thrilled to say, "yes, yes, yes, we would love to." And my goodness, what a great journey it's been so far.

**Jason Cahoon:** I want to build off some of these similarities and differences that you two are pointing out between these universities. In my understanding, from an RA lens, some of these differences are considerable.

I want to use these differences as a way to look back to the beginning of this partnership, and (ask): when you all were forming this partnership and envisioning what it would come to be, how did you plan leveraging these similarities and differences that you saw between your institutions and the RA operations within them?

**Sarah Martonick:** That's a great question and a big question. The backstory is pretty simple. It's no secret that there's been a lot of federal regulatory changes in the last couple of years, but there's also been a huge increase in federal regulatory oversight in sponsored funding over the last ten or so years. That means that Research Administrators are truly doing more with less on a daily basis in a very high-risk compliance environment.

Yes, University of Idaho, as a Carnegie R1 and a land grant, we focus a lot of our resources on research and other scholarly activity, but that doesn't mean that our students come second. In fact, we work hard as an institution to ensure that our students gain everything that they can from a research, public service, outreach, or instruction-type sponsored project. That is very similar to what I experienced when I visited Cedar City and got to spend some time with Sylvia on her campus at Southern Utah University.

Their students are highly engaged, and Sylvia has some amazing stories about how engaged her students are. In fact, some of the employees (that Sylvia) leans on heavily at SUU are student employees. I was a student employee at one point in time for the Office of Sponsored Programs before I graduated from U of I. That student experience is not unique; it is very important. I think all schools would agree that they put their students first.

Sylvia and I, we are on a lot of committees together, we do a lot of work together; (this) partnership felt very natural because I knew how small her team was at the time that we began this journey, but I also knew how similar our schools are—not in size but in focus on our students. I know that every school, no matter what their size, has more to offer to the national research landscape, and so when we came up with this idea at the University of Idaho, Sylvia was the first person that I thought of, and she was the first person I called, and as we've gone down this path, we found out that we are much more similar in terms of mission and vision and processes than I had thought.

**Sylvia Bradshaw:** It has really been an incredible realization to think through. We find that in the PUI world, as we tend to work together and lean on each other heavily; we sometimes get a little caught up in thinking, *woe is me, we don't have the resources*, and then realizing, *you know what, yes we do, because we have this network of administrators all around us*.

And that is what I love about Research Administration; it's why I've fallen in love with this field, why I am committed to it, why I want to help contribute to it and to provide more resources. That collaborative environment is everywhere. It is just incredible to be able to recognize that we all have skill sets; we all have strengths that we can contribute, and when we work together, we just get so much farther. So this has been so exciting.

**Sarah Martonick:** And, I mean, Sylvia, you talked about strengths. I think both of our teams, despite their size differences, have the same challenges, but also very different strengths. So, here (at U of I) we have an Office of Research Assurances. They handle all of our major compliance tasks, like financial conflict of interest, human subjects research, animal care and use, those kinds of things. We also have an Office of Technology Transfer. I direct the Office of Sponsored Programs. It's a team of twenty-one people, plus six interns. That's a fairly sizable team for an entity of our size.

Sylvia has a very different sized team, but she does not have those separate compliance departments, which means her team has to know a little bit about everything and perform all of those functions.

My team gets to specialize in very specific processes and regulations, and they know everything about that specific thing, but maybe just a little bit about the things outside of their area. So, we have found that those differences in structure, while they matter, where it really matters is how you use the automations that you put in place. It doesn't change the fact that you do still need automations. We're finding that Sylvia's team is much more agile because they know a lot about every piece of the process, and it enables them to think about things in a full life cycle.

Our team is more siloed in that they are very specialized in their area; they know what the other teams do, but that full lifecycle piece doesn't come as quickly to them. We have similarities but also differences there.

**Sylvia Bradshaw:** Right. And just to add on to that, when we're talking size, both of our institutions are right at that 15,000-enrollment mark for students. So, size-wise, we're actually quite right at the same level. But it's just, again, that mission that differentiates us and really creates the special, unique attributes of each institution.

**Jason Cahoon:** Interesting. It sounds to me like although both RA organizations may have similar foundational aims for how they're serving their universities, the resources that they leverage, and how they leverage them, may differ. There may be different scales in the portfolio, which may call for different tools, and different human resources as well. How are we collaborating? How are we coming together? And so forth.

That brings me to think about the tool that we're developing through the AI4RA initiative. The tool is called Vandalizer. It's an AI tool that's designed specifically for RA functions.

I'm (wondering) if you could give our listeners a brief introduction into the tool, and how it can serve different sized RA organizations like those at U of I and SUU.

**Sarah Martonick:** Vandalizer is called Vandalizer because we are the University of Idaho Vandals. (Hence,) our super creative name, the Vandalizer. We utilized our mascot, Joe Vandal, as an icon, within the software itself.

It is specifically designed for research administrators, so all of the tasks and workflows in the system are geared towards processes or products that Research Administrators are responsible for. Some good examples would be taking information out of an agreement and inputting it into a system, whether it's your financial system or your research admin system. There's a particular task that we call extraction that performs that function in Vandalizer for us.

The critical piece here, and the reason why we believe that Vandalizer is so special, is because the workflows and tasks that we will be releasing are vetted; they are secure, they are consistent, they produce similar results each time, and we are able to evaluate those results to ensure that they are accurate. That can't be said for all AI technologies and outputs. You need someone who is a subject matter expert to vet those outputs.

This doesn't mean that we don't have a human in the loop. We are very cautious about what we choose to automate and what we choose to input into the system, still ensuring that we're protecting the information that we're required to protect under federal requirements. But (we are) finding those manual processes that don't require human critical thinking and cutting out the time in our Research Administrators' day from those processes (to spend more time) in those difficult critical thinking areas where Research Administrators truly shine.

We are the type of people who love a challenge, we like to do research, and we really want to find the best solution to a difficult problem. And I say "solution," not "answer," because we are very goal-oriented people who serve our faculty and our researchers so that they can do what they do best, which is high-caliber, impactful, research and scholarly activity.

Vandalizer is meant (to introduce) automation. It's meant to take away those manual, repetitive tasks and allow research administrators to spend time doing the things that they do best to protect their institution.

**Sylvia Bradshaw:** I'll just add one thing; Sarah leaned into it a little bit earlier. My team absolutely likes engaging with Vandalizer (because) we don't have those extra offices for all these other compliance areas. We're very used to jumping out into the vulnerable world and saying, "Hey, I don't know something, I need your help," and going to other resources in order to move forward. When Vandalizer came our way, we were so excited to engage, so excited to put it to the test, and to (have) more resources to ease our lives.

My team was really thrilled about moving forward and making time in their day to engage (with Vandalizer). At a PUI, we have that advantage because our workload is so varied; we're not mired in a very deep process. We are able to think throughout our day, *Okay, when I'm*

*doing this, is this something that I could create a workflow in Vandalizer for?* And (we are) able to have the opportunity to jump over and test it out and see if it is something that would work within the Vandalizer system.

That's why I think part of the beauty of us being able to be involved was because then we can add that real life, real day-to-day processing. We started by asking all of our Research Administrators to get really vulnerable and turn on the little Zoom recording link and record themselves doing tasks that they did every day. That really helped them think through, *oh, this is a process here that I could turn into a workflow*. It was kind of awkward for them to all be sitting there with their record buttons on, but it really helped, and it's been fun to see their creativity and let them join in on this practice and say, "Hey, I've got an idea to bring this forward."

It's not just the co-PIs leading the way; it's everybody on the teams, and I cannot say enough for how appreciative I am of the UI team. Every time I have a meeting with their team, it is humbling to recognize the skill sets within (those rooms). (It is) an honor to be part of this project.

**Jason Cahoon:** Yeah, I really appreciate that, Sylvia, and I want to build off this idea of actually testing Vandalizer and putting this tool into practice between both of your RA organizations.

We have experienced teams of developers and AI professionals and other technically inclined personnel. But of course, it's the RA professionals who actually have to apply the tool to the field and through putting the tools into practice, help develop the tools. I want to ask more about what that development process has been like, and how the two distinct perspectives from your respective organizations have contributed to the design and continued development of this tool.

**Sarah Martonick:** Sylvia, do you want to start, since you guys were first to hire your data scientist and get rolling?

**Sylvia Bradshaw:** You bet. That was one of our first huge wins. This grant did allow us to hire a data scientist, something that we'd never even thought about in the past. It hadn't even crossed our minds how critical that position would be. And wow, now that we have that position, I will never have a team without one again.

To be able to have that data piece added to the work we do, the decisions that we make, and help us think through our processes from an outside, fresh lens. Wow, that's the first thing that I tell everybody. (When they ask) "what have you learned from this project?" I say, get a data scientist of some sort to be on your team permanently, forever and always. That will absolutely move you forward with what you can do. That was definitely a huge win.

I also was thinking about the fact that today, later this afternoon, we have a celebration for Vandalizer. We've had competition going on about who can create the best workflows, and it's going to be fun to see what kind of things everyone came up with. There was a lot of variety, like simply taking a NOFO, uploading it to the Vandalizer system, and having the system suggest programs with a unique, catchy acronym.

That's always one of the things that moves us forward in this world, on the research development side of it, when they're just starting their idea creation. Our research development team has to work closely with our faculty. Just that one piece, as simple as that sounds, really can move something forward and make excitement for a project, and the creation of that project, and the idea.

That's a simple one, and then one of the more complex workflows was one that our compliance person in our office had thought about our post-award workbook. Now, that one is a lot more complex. That's taking all the information from a Notice of Award, extracting that information out, putting it into our workbook that we complete, and then we send that on to our accounting services to do account setup.

It's quite an extensive workflow that she has created—I think she had sixteen different prompts, and within each prompt, there's a lot of different tasks involved—But once that work has been put in up front, (it becomes) a very quick process, and cuts down that post-award setup time for our institution. There's a great variety of things that have happened, and those are just two samples of the ideas that are coming forward.

**Sarah Martonick:** Those are great examples, though, because really, you're talking about what's important to the sponsor, and how you get a proposal to the next level of review. Sometimes it is just the title. Sometimes that's what they see first. That matters a lot. And when that gets out into the world, having a catchy acronym matters.

So, there's that piece, but then you also talked about the post-award workbook and the return on investment. You're (going to save time) per account setup if that automation goes through, right? (Coming from) just one workflow that was created by a subject matter expert on your team as part of a competition because they wanted to win a prize and be able to brag that they built the best workflow.

**Sylvia Bradshaw:** Exactly.

**Sarah Martonick:** (Research Administrators are) very overwhelmed. There is a ton of work, and it is rapid-fire, high-risk, fast-paced environment. Getting their engagement in building workflows and using yet another electronic tool was not as easy as I thought it was going to be, and Sylvia's team has come up with some really cool ideas for engagement that I don't know that we would have thought of, and that's because they are such an integrated team with such expertise in the lifecycle.

(Sylvia's team) can sit down and think through all components of what an automation might need. That has led to some really inspired ideas, where we now have ten workflows undergoing verification right now. Once they're verified, they will be published in the Vandalizer tool and available to everyone that has access to the tool. That includes Southern Utah University.

And what we're trying to do with this competition is gain momentum in getting RAs to actually build their own workflows and submit them to the technical team so that we can do the verification, the evaluation, and the security risk. Once that's done, and we know that a workflow is producing consistent and accurate results, we publish it in what we're calling our Global Store, and all of the team members will have access to that particular workflow.

So not only is this coming from subject matter experts, but they'll be able to use it and gain real-time return on investment, freeing up their time to do those more critical thinking type tasks. And all of this has come out of really inspired ideas, not just from our technical team, who is absolutely amazing, but from our Research Administrators themselves. They want to buy back time as well; if you ask any research admin operation at (almost any entity), they are going to tell you that they have more work to do than they can manage in a single day, week, or year.

**Sylvia Bradshaw:** Absolutely. I was reflecting on this idea of being multipliers, that Research Administrators are absolutely multipliers in what we do. Everything that we support and give resources to allows others to do more. And any AI application is absolutely a multiplier (too). You have this power of exponents now, (creating the) ability to do more work. It doesn't sound all that exciting to be able to do more work, and we've had a lot of discussions with our team about recognizing that that's not the goal. The goal is not to do more work. The goal is to be more efficient and to reclaim some of those hours that we're putting in overtime on weekends and after five (o'clock), so that we can have a better work-life balance as well.

**Sarah Martonick:** (We seek) efficiency, but without sacrificing accuracy, because the risk in our field of inaccuracy is too great.

**Jason Cahoon:** That brings me to another question that I've had in mind. (I am thinking about) your roles in your respective positions both as directors of the Research Administration operations at your universities and as Principal Investigators on this grant. I'm (interested) in thinking about (how you're) leading the way forward at either of your organizations.

How has your experience working as PIs shaped or informed the approaches that you're starting (or continuing) to take as directors of your respective organizations?

**Sylvia Bradshaw:** I love this question because it's going to bring out the reality of what this really is. As you were leaning into, we are Research Administrators, which means we support PIs; We are not usually PIs (ourselves).

(It is a) completely different role, and I have been in the field for quite some time, and I've always had a certain perspective in my mind and thought that I was meeting the needs of the PIs.

Now that I'm the PI, my team is like, *Oh my gosh, Sylvia is the worst PI of all \*laughs\**. But now, I'm looking at things going, *Oh, this doesn't make sense, oh, we should do this better, oh, we should change this report, oh, we should do this*. It's given me a better perspective of what I thought we were doing well, and which (overall) I think we are doing very well, but maybe we can do a little bit better. It's been fun to employ a data scientist into that process and to say, "yeah, we could do this better. Let's think about this a better way." We've been able to create better processes with our team as a whole, outside of Vandalizer.

This will, in turn, hopefully create other workflows in the future that we can incorporate into Vandalizer. But it's helping across the board, and my empathy level has greatly increased. I will never complain about another PI ever again, when they're last-minute working on their annual reports, or just wanting to do one more thing, or when we're too busy to do something, I will always show empathy first.

**Sarah Martonick:** Yeah, I mean, being a PI, we both knew was a big responsibility and a heavy lift. Living that reality is entirely different, and I agree with Sylvia wholeheartedly that that perspective for a director of sponsored programs, or any similar or equivalent role, is super important.

Earlier, Sylvia said one piece of advice she gives straight away is "get yourself a data scientist or data analyst." I echo that, but I also say, if you get the chance to be a Principal Investigator or a co-Principal Investigator, take it. (Doing so) will open your eyes to what that

experience actually entails and help you think of ideas for your entity to support your faculty and your researchers that you may not have thought about before.

It could be as simple as a (thinking of) a different way to deliver reports. It could be as simple as looking at how your expense system categorizes specific items, or what level of detail you're providing to a PI in order to create a projection, (or ask): *are you creating projections? How are you helping them manage their spending within the time they're given?*

(There are) a lot of questions, a lot of new process ideas, and a lot of really cool ideas for automations that I think will significantly decrease the burden on our faculty and researchers at all schools, (especially since) we plan to release both Vandalizer and the Unified Data Model as open-source components.

**Jason Cahoon:** I want to ask more about the opening of the Vandalizer tool and the workflows that have been created for it. I know that there are a lot of other RA professionals that are following the AI4RA initiative fairly closely and have been for quite some time. I (also) know that some of them are eager to learn more about Vandalizer itself and what this tool could mean for their RA organizations.

I'm curious to know, at this stage, how do you envision future collaborations with other RA organizations outside of SUU and U of I?

**Sarah Martonick:** There are a few options or ideas here. Initially in the proposal, we wrote in adding two more subaward partners in Year Three. We are in year One-and-a-Half and quickly came to realize at about Year One that (waiting for) Year Three is too long. People at other schools have a need now for additional support and automations, and so if we can provide that earlier, we certainly want to advance our work to do that.

We're trying to figure out a way to do this right now. We want to release what we're calling Community Edition of Vandalizer. We're working on the security platform, what that would look like to integrate, whether or not we would host it, etc.

There are a lot of security concerns relating to hosting sponsored programs information from another school into our atmosphere. So, what we want to do is host a Community Edition where all people, not just partners or subawardees, can log in and try Vandalizer. That would be our first open-source type release.

Secondary to that, we will be having a subaward competition and adding at least two more subaward partners. They would have very similar to the access to that of Southern Utah University. They would host Vandalizer in their own environment behind their own firewall with their own security controls. We've built out the infrastructure to do that with the help of SUU, so we now know what that looks like, what equipment would be necessary, what infrastructure that would require. Those would include additional partners.

Nearing the end of this project, we do intend to release instructions and the open-source materials so that other schools can create their own Vandalizer in their own environment.

**Sylvia Bradshaw:** Just to add to that, (Sarah's describing aims) specific to the vandalizer tool itself. But peripheral to that, the (number) of requests for presentations and engagement across the nation has been astronomical. It's been very humbling to realize the interest in this space and also humbling to realize: *My goodness, U of I is incredibly, incredibly talented.*

But there needs to be recognition of the amount of time it takes to put into building these things. Yes, we've got this grant that's helping (us), but I think we underestimated the immense

amount of work behind it. (We are) hoping that others in our communities are recognizing that this is a lot of work, and (will be) grateful for the time of those who are engaging in this.

And then, also in return, (I am) very grateful to have opportunities that I never would have experienced. I am so honored by these things that I've been invited to participate in, that I never thought would ever be part of my career pathway, and here we are, in spaces that are pretty cool. And we're able to engage others along the way. So, anytime there's a conference that we can have somebody attend, there is most likely going to be a session of some sort for AI4RA.

In March, NCURA is doing an AI Symposium. Because of this AI4RA work, we were asked to help chair this symposium, and we were able to expand our network (to include) others that are also really interested in this AI work and doing incredible work as well at their own institutions. (We are) creating this community of practice so that we're all connecting and working together. We can really make some great impact.

**Sarah Martonick:** Yeah, and Sylvia, you said you're humbled to be participating. We would be remiss if we did not note that we don't believe that we are the best, the greatest, the experts. We are one contributor in an area that is very powerful but also needs powerful guardrails. There are ethical considerations, security considerations, and technical needs that (require) a lot of people to collaborate on to ensure that we're doing what is best and using the tools in the right way.

To that end, we do have a listserv and a community of practice. What we are hoping to do is transition that listserv into a bi-directional listserv, so that our community of practice members can contribute their expertise and help SUU and the University of Idaho advance AI in RA in a way where all of our brains are working together, making this a much more powerful, impactful project for everyone.

We need community input, and that's why the third aim of our project is a community of practice—a true community of people who have an interest in either a unified data model or artificial intelligence in a research admin operation, or both, contributing their expertise, their needs, their knowledge in a space where we can all learn and grow.

**Jason Cahoon:** Wow. Well, Sarah and Sylvia, you both have given us a lot of insights into the AI for RA process and what it's like working through it.

Before we depart, do you have any final advice to give to others who are interested in exploring these tools? Do you have any parting words for our listeners?

**Sylvia Bradshaw:** That's easy. Say yes. When you hear an invitation, say yes. The journey that you will travel will be well worth it. That “yes” answer will bring on a little bit more work, but the dividends are phenomenal. So, engage. Engage in the work. It's worth the time.

**Sarah Martonick:** That's great advice, and I would also say, remember that you don't have to be an expert in everything. Lean on your collaborators and those around you, and share that knowledge and enthusiasm. Great things will happen no matter what space you're in.

**Sylvia Bradshaw:** Yeah, I can't overstate the fact that I am not a techie. The fact that I am helping in the AI space is just fun for me to go and tell my techie husband and my techie son “Hey, I'm engaging in this space,” and they're like, “*Wow.*” (AI has helped open the way for me to meaningfully engage). It goes back to the fact that AI helps everyone. There's nobody that AI cannot help in some way, so just be open, and engage.

**Jason Cahoon:** Well, thank you both so much, again, for offering your insights into this project. I know a lot of our listeners have been curious about this partnership and what it's been like working through it. I want to thank you one last time, and great work today.

**Sylvia Bradshaw:** Thank you!

**Sarah Martonick:** Thank you, Jason.