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Welcome to College Bound, Notre Dame Admissions' podcast. I'm Maria Finan, and I am a Double Domer. We're really excited this week to continue sharing what's unique about Notre Dame, especially on the student side of things. We'll be talking a little bit about undergraduate research, but I'll let my co-host introduce himself and our special guests for this week.

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Hi everyone! Welcome back to College Bound. My name is Matt Greene. I'm also an Admissions Counselor on the Admissions staff with Maria, and today's topic is the topic of research at Notre Dame, specifically for students who are undergrads and still want to get involved in undergraduate research. And with us, like in past episodes, we have some special guests and current students at Notre Dame, Alena Coleman and Kellen Round. So, Kellen, if you want to introduce yourself, tell everybody who you are, and then we'll also have Alena introduce herself as well.

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Absolutely. Thanks for having us today. My name is Kellen Round, and I'm a senior from Missoula, Montana. I was in Stanford Hall and now I'm off campus. I'm majoring in Science Business and I have a minor in Science, Technology and Values, and I'm planning to go to med school in next summer and I'm applying currently.

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Great. Thanks for joining us today. Alena?

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Hi. Thanks for having me. As you said, my name is Alena Coleman, I'm a junior here at Notre Dame and I'm from Evansville Indiana, which is like the "toe" of the boot. I live in Lewis Hall and I'm majoring in English and Spanish with a minor in Education, Schooling, and Society. And after graduation, I plan to continue going to school, either for a PhD or master's degree.

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Fantastic. I do love English majors- I am a little bit biased since I was one myself at Notre Dame. We have a really big focus on undergraduate research here; approximately 86 percent of our students do research projects or internships. So, today, we're gonna really focus on the research side of things. But Kellen you have some really cool experiences that you've already had. Can you describe your research fellowship that you did in Germany and kind of what the process was for you getting involved with that?

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Yes, so that's the first thing to realize, is that there are so many summer opportunities for Notre Dame students. So after my sophomore year at Notre Dame, I went to Heidelberg, Germany, and I was placed in a research fellowship there. I made the connection through my organic chemistry professor. He got a grant that funded five to seven kids to go to Germany every summer and secure lab placements over there. And so when I got sent there, I was placed in a pharmacology lab. I worked on a 10 week CRISPR project.

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And that was really neat because CRISPR is on the forefront of biomedical research and has a lot of great therapeutic prospects for the future. And so to see that technology firsthand was pretty incredible. Not to mention traveling through Europe for ten weeks as well.

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That's really awesome, and I think a really great example of how getting to know your professors really pays off in a lot of regards. Alena, could you talk about what you're currently working on, and the support that you've received for your current projects?

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Yeah, of course. So right now I'm working on a project on teaching the plays of August Wilson. August Wilson was a Pulitzer Prize winning African-American playwright who wrote ten plays, one for each decade of the 20th century. And the South Bend Civic Theatre, which is the town in which Notre Dame is part of the broader community, is putting on his plays for the next 10 years.

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And I got involved similarly through a professor; by happenstance, I went to the professor to get another recommendation for studying abroad, and we were talking, and she just started talking about this project and was like do you want to work on it, I think would work great with your education minor because the Civic, in addition to putting on plays, is also creating lesson plan packets for teachers in the South Bend area to go along with each play and they're bringing the play to the school or free to the students in addition to putting it on at the South Bend Civic.

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So last year I started with that and I was in classrooms with teachers and students, and I was observing teachers, and interviewing them on their strategies for engaging with August Wilson's work. And then I presented that research at the Humanities Education Research Association conference in Chicago, which was the week before everything shut down. I got funding to go to that and spend the night in the Palmer House, which is very fancy, through CUSE, which stands for the Flatley Center for Undergraduate Scholarly Engagement. It's a center here on campus that gives funding for research and other things like learning opportunities, and just encourages students to be involved in research while they're in undergrad here.

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Thank you both for describing all those amazing things you have started to accomplish with research on campus at Notre Dame. Kellen, could you describe a little bit more about the project you've been working on at Notre Dame? And we also hear that you are working on a paper that you're currently publishing, so if you could describe both of those that would be excellent.

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Yeah. So earlier we talked a little bit about summer opportunities, but there are certainly plenty of opportunities on campus as well while you're here. So since the fall of my sophomore year, I've been working in a stem cell engineering lab, and I've been working on the same project for the last two and almost two and a half years now. And our goal is to engineer nanoparticles that can be delivered to cells and deliver therapeutic agents to those cells. And we specifically are looking at improving vascular complications that result from gestational diabetes, but we foresee our research and our nanoparticles being able to be applied across a vast array of therapeutic agents. And a pretty neat part about Notre Dame, and undergraduate research in general, is that you get a chance to see these long term projects through to the end.

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And that's something that a lot of undergrads don't have the chance to do, and a lot of times those will end up producing a paper, and that's what we've been doing. So we've been working on this project, as I mentioned, for several years, and now we're looking at communicating these results to the scientific community. And so, as an undergrad I've been able to see that process for the first time and it's been

pretty neat. It's also taught me a lot of things about scientific research, which can often be slow and a little bit tedious but it's taught me persistence, especially through this pandemic.

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Our paper has been pushed back about eight months, which was frustrating because we've been working on this project for so long, but at the end of the day, I've seen now seen the project from its inception to publication here in the coming months, and that's been a rewarding process and a challenging process, and I've certainly grown as a scientist and as a person because of it.

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That's incredible. That journey and through that persistence that's awesome to hear through your more science-based research, it even seems like you're trying to impact the world through research, and that's such a great thing.

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And on the flip side of that, too, is Alena. The research that you've done is maybe more in the humanities and maybe away from any science or lab research, but I just want to ask you if you could please talk about that, also your involvement with the Sorin Scholars program and any research you've done through that program.

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Yeah, of course! I was just thinking while Kellen was talking about how humanities research and scientific research are very different, but they're kind of similar in this idea of how slow it goes. This is just something I wasn't expecting, you know, as someone who is working with teachers, and to some degree students- people are real, and they have lives, and they don't do everything you want them to do at the time you want them to do it. So part of research is handling that and keeping going throughout it. And I think that's one thing that the Sorin Scholars program has really taught me and supported me through.

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Sorin Scholars is a program through CUSE, which is the Center for Undergraduate Scholarly Engagement, and you apply during the spring of your sophomore year, and it's an interdisciplinary program. So there are lots of students like Kellen who are doing research in labs, and there are also students like me who are doing research in archives and with people and more ethnographic data. You are part of a mentor program, so you get an upperclassman mentor group that can really just tell you about things that they have done, and how they got there, which is really helpful for me as I began to form this project on August Wilson.

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You also get special time with the advisors at CUSE, who can really help you plan, or "chart your course," is what they say, but plan your way through your undergraduate experience to get what you want out of it for research. One project I did with a lot of help from Sorin Scholars in the formation of the project, was my freshman year I worked with fourth graders. I studied children's response to race in fairy tales, and I read two Cinderella tales from different cultures around the world, and I had students write their own tales and illustrate them and then we talked about them, and I found that students really do perceive and understand aspects of race, in other places and school, were all important to them in stories.

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They really valued seeing themselves in stories, and they really easily inserted themselves into the stories they wrote. So you would have characters that I had to blur out of my final product because they were just the student who wrote its name. So that was my intro to research and my beginning there,

and it didn't move far beyond getting a paper together, but it was very formative to me and learning how to do this kind of work in schools and with teachers and students that I now use on this project.

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That's fantastic, and thank you both for your insight and just telling us a little bit about some of the cool research that you are doing. It's such an awesome thing and it's a true testament to what undergraduate students at Notre Dame can accomplish with their research opportunities.

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And I'm sure that we're going to have a lot of students who are in high school or looking into the college admissions process, and they're probably going to be interested in beginning continuing research that they've done when they would attend Notre Dame. So I want to ask, Kellen, we'll go with you first, if you had any advice or any tips for students that you could give who want to begin or continue undergrad research at Notre Dame.

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So the first thing you have to do when you decide it's your time to get involved with undergraduate research is to be bold. Just don't be afraid to ask professors and ask other students how they got involved. Cold call, email professors looking for spots and labs if it's science research that you're interested in doing.

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With that being said, I would strongly caution students from getting involved with the research just because they feel like they have to. It's really important to get to college, figure out what college is, and then once you think you have that managed, then to start pursuing your academic interest a little bit further in the form of research. That's something that I think a lot of people fall into the trap of doing—feeling like they're going to get behind if they don't get involved with research immediately when they get to school, which could not be further from the truth.

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I waited an entire year. I ended up finding a lab with great fit and a topic with a topic that I was interested in and it made all the difference. So the first thing is to be bold with the professors you're looking into, ask them questions, ask them for their advice and getting into labs, and eventually you'll end up finding a spot. The next piece of advice I can give to prospective undergrads looking for a spot is to be educated. Be educated on the lab that you're interested in and impress that professor and show them why you should be the next undergrad they hire in the lab.

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And the last thing is persistence. It's incredibly important to be persistent throughout the process of getting into a lab or a different research opportunity because you're gonna get "No's." There are gonna be people who just don't have spots in their lab for you, and that's just the way it is. It's nothing against you, it's nothing against your intellectual capability, it's just the fact that they just don't have the time or resources to educate another undergrad in their lab.

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And so when you're first getting to campus trying to sort through this overwhelming number or overwhelming amount of information and an overwhelming number of labs, my basic advice is just to talk to older students and talk to people in less formal environments so you can just get a sense of the atmosphere and what truly is going to be your passion and your best fit. And then from there, run with it and pursue it with full commitment, because if you give yourself that time to thoroughly vet out your interests, you can then commit 100 percent to that endeavor.

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Well thank you again, Kellen and Alena. Matt and I are really looking forward to talking about all things internship and career-related next week, but this is a lot of fun to talk about research this week. For those of you listening, if you would like to connect with us in the meantime, we'd love for you to visit our website or to send us a message on Instagram, Twitter or Snapchat @NDadmissions. You can also follow ND Admissions on Facebook.