John Boccacino:

Hello and welcome back to the 'Cuse Conversations Podcast. I'm John Boccacino, Senior Internal Communications Specialist at Syracuse University.

Duncan Brown:

The main vision is really to empower and amplify and tell the stories of the amazing research that's happening here and the amazing creative activities that our faculty are pursuing. Faculty really want to do research and creative activities and they want to engage our students and our students want to be part of this. This is what makes Syracuse special and unique, that we're a big university with a big research program, a lot of diverse research and creative activities from the sciences, humanities, social sciences, sport management, all of these amazing programs going on, but we're small enough to actually know each other.

And one of the things that we ran successfully over the summer were Office of Research summer socials, where we got people engaged in research to come together and talk to each other. And it was faculty from all over campus who came, who were on campus over the summer, pursuing their research and creative activities, talking to each other, sharing ideas, and that's where you get new ideas, new collaborations, new creative and research opportunities generated. And that's been my vision, to develop a culture of research and creative activities to enhance that culture of research and creative activities and to help faculty and students pursue new opportunities.

John Boccacino:

Our guest on this week's episode of the 'Cuse Conversations Podcast, I am thrilled to welcome on Duncan Brown, Syracuse University's Vice President for Research and the Charles Brightman Endowed Professor of Physics here at Syracuse University. In this role, he supports and empowers Syracuse's internationally recognized creative and scholarly excellence and advances centers and institutes that are global leaders in their field.

Duncan also leads the Office of Research and its component units, which really serve as a critical backbone of the university's research, scholarship, and creative support enterprise. Collectively, these efforts help students and faculty expand their knowledge through innovation, creativity, and discovery. Duncan, thank you for making the time to join us.

Duncan Brown:

It's a pleasure. Thanks for having me on.

John Boccacino:

I know, as I mentioned with your introduction, there's a lot of hats you wear and you really play a critical component in I think a world that a lot of our podcast listeners might not be aware of; the complex reality of research and getting funding for research projects on campus. How would you describe your role as the vice president for research?

Duncan Brown:

Yes. So my job as vice president for research is an interesting one and one of the things I like about this job is just how varied the responsibilities are. At the end of the day, my job is to support the faculty and students who are pursuing their research and creative activities at Syracuse University and to amplify, to make it as seamless as possible, to help them find new opportunities, to help them pursue the things

that they want to do. Because research and creative activities are essential to the university's mission. For a lot of us, I wear a hat as a faculty member here, I've been a faculty member in physics since 2007, and I love teaching. I taught Astronomy 101 for many years, taught large enrollment classes. And one of the things you said, the part of my job that I really love is where that research meets the teaching and my ability to do cutting-edge research in the department and then walk downstairs into a lecture theater and tell our students about it and have them involved.

And then through programs like Source, our undergraduate research program, get them engaged in the research activities. So there's a lot that goes on within the Office of Research to make that happen, from very dedicated staff in the Office of Research who help faculty match their ideas to funding opportunities, right? Help faculty pursue the things they want to do, all the way through the nuts and bolts of compliance, a lot of government regulations. We get a lot of government funding. That comes with all kinds of compliance regulations and just to make it as seamless as possible for the university community to pursue those research and creative activities.

John Boccacino:

What made you ready? What made you want to take that leap from being a faculty member and a key researcher to heading up this department as the vice president?

Duncan Brown:

So my research career has been building things. I started in what is now called gravitational wave astronomy, but in those days was just called gravitational wave physics back in '99. And I came to the US, I did my undergraduate degree in England and moved to the US to do my PhD. And what lured me over here was the opportunity to get on the ground floor of a project called LIGO, the Laser Interferometer Gravitational-Wave Observatory. And when I started in LIGO, the concrete had been poured, the steel had been put together, but we were still building the detectors. And it would be 16 years later in 2015 when we first actually made the first detections of gravitational aways from colliding black holes.

So that 15 years or so until the advanced LIGO made those first detections was a process of building. It was building collaborations. It was literally building. It was building instruments. It was building electronics. It was building processes, standard operating procedures. It was writing code. It was teaching students. It was mentoring. So a lot of building these things, and one thing I really enjoy is working in a large collaboration and bringing people together. LIGO is a worldwide enterprise. There are hundreds of universities involved. There are many faculty, many students from all over the world. And it's a collaborative enterprise to bring these people together to deliver this amazing goal of proving Einstein right, that gravitational waves exist and discovering black holes.

So that being my research trajectory of working on building this global project, this international collaboration to detect gravitational waves, after it was successful and we discovered black holes, we discovered neutron stars. There was an opportunity to give back to Syracuse University. Syracuse got involved in gravitational waves very early. They got in on the ground floor. They hired Peter Saulson, a mentor of mine who's now retired. He was the third faculty member hired in gravitational waves outside of Caltech and MIT.

So Syracuse has invested in this field, been very forward looking for a number of years. And when I was offered the opportunity to be Vice President for Research, I'm a builder, I like building things, but it was also opportunity to give back to the university and say, "Okay, the university supported my ability to build my research program and deliver these amazing things and collaborate with all these amazing

students and people. So in the VPR role, I can give back to the university community and help facilitate that for other faculty and students at Syracuse."

John Boccacino:

I love the analogy of you as a builder, both based on your research and now again in this new role here as VP for Research because as a builder, you have to go through and be a collaborator, you've got to be a planner, you've got to be a communicator, and you've got to bring on all these different factions. But when you took over this job and going through to now, what would you say has been your main vision for the research enterprise here at Syracuse University?

Duncan Brown:

I think the main vision is really to empower and amplify and tell the stories of the amazing research that's happening here and the amazing creative activities that our faculty are pursuing. Faculty really want to do research and creative activities, so they want to engage our students and our students want to be part of this. This is what makes Syracuse special and unique, that we're a big university with a big research program, a lot of diverse research and creative activities from the sciences, humanities, social sciences, sport management, all of these amazing programs going on. But we're small enough to actually know each other.

And so, faculty know each other, our students know each other, the students know the faculty. And so you have that ability to make connections that we're big but not too big, that people don't know each other. You don't have a community here. And one of the things that we ran successfully over the summer were Office of Research summer socials where we got people engaged in research to come together and talk to each other. And it was faculty from all over campus who came, who were on campus over the summer pursuing their research and creative activities, talking to each other, sharing ideas, and that's where you get new ideas, new collaborations, new creative and research opportunities generated. And that's been my vision, to develop a culture of research and creative activities, to enhance our culture of research and creative activities, and to help faculty and students pursue new opportunities.

John Boccacino:

How have you seen the breaking down of the silos when it comes to research where people, departments sharing with each other, best practices, tips that have worked to get research published to get funding in? How have you seen those silos been coming down since you came over?

Duncan Brown:

Yes. Bringing those silos down has been a major focus of my activities. And the team that is leading that from within the Office of Research is our new Office of Research Development. So the Research Development office is... They operate at an Office of Research Level, so they operate at a university-wide level, but with the exception of the Head of the Office of Research, Chetna Chianese, all of the research development people have hybrid appointments in the schools and colleges.

So each member of the research development team is associated with Maxwell, with Arts and Sciences, with Engineering, with Falk and so forth. And so they have that grounding in the schools and colleges to know and interact with the faculty. But they also have this Office of Research appointment that lets ideas flow between that research development team and then they can help bring faculty together and say, "Oh, someone over there is interested in this and someone over there is interested in this. Why

don't you work together and maybe pursue a bigger project than you could pursue alone?" Or maybe this is an idea that's going to influence your research directions or maybe it's an idea of getting students from another college involved in this activity. And so that's one of the things I've focused a lot over the last year is building up this research development team to bring faculty together and de-silo the ideas.

John Boccacino:

Backing it up a little bit for the research in general, when you look around at Syracuse, what exactly makes us as an institution stand out as being a premier research institution?

Duncan Brown:

I think we have real strengths here in many of the areas. And if you look at the academic strategic plan, it was a real ground up effort to really surface from the faculty, the students, the staff at Syracuse University what our areas of distinctive excellence and research are. And if you look at human thriving, emerging technologies, the areas global diversity, the areas in the strategic plan, we have real internationally recognized strengths in these areas. Our Aging Studies Institute that's just upstairs from me is internationally recognized. We have a high energy physics group that is building one of the critical detectors for the Large Hadron Collider at CERN in Europe. So they're leading an international collaboration in the sciences. We have so many of these well-recognized programs, our School of Ed, a School of Education, the Center for Disability and Inclusion is, again, world-class leading the field in disability and inclusion research together with faculty in the School of Law who work on disability policy and law.

And so we have all of these strengths at Syracuse that our students can also interact with. One of the great things I love about being a faculty member at Syracuse is a lot of the work that I did as a faculty member involved our undergraduate and graduate students. They're really the heart of the academic mission. So what does it mean to have research excellence at Syracuse? It means faculty doing world-class research and creative activities, but bringing our students together and along with those activities. So you can come to Syracuse and you can be involved in this cutting-edge research. You don't get lost in the crowd. You can work with a faculty member who is discovering gravitational waves. You can work with a faculty member who is studying the impact of net-zero carbon policies on the development of the Gulf States, for example, petroleum heavy states. How is net-zero impacting global policy in these aspects? So that's what's really exciting about, like you say, our big but not too big size that we can have this research diversity and have the engagement.

John Boccacino:

And before I ping back to my next question, I do want to go off of what you just mentioned there. I think a really fascinating component, and our podcast listeners, we had the pleasure of having on Provost Ritter and Jamie Winders on over the fall talking about the academic strategic plan. What exactly did you bring to the table for the academic strategic plan and how did you want to emphasize the benefits of the research component in the ASP?

Duncan Brown:

Yeah. So I co-chaired, with Vivian May, who's a colleague in the College of Arts and Sciences and Director of the Humanities Center. So Vivian May and I co-chaired the research and creative working group of the academic strategic plan. And that was a very exciting group to work with because we got together as a group and we looked at the whole research and creative enterprise at the university.

And so people maybe from the outside look at the university's research and creative enterprise and say, "Well, there are lab scientists over here, there are mathematicians over here, there are creative writing people over here, there are education focused people over here." But our similarities are greater than our differences at Syracuse. And one of the really exciting parts of being in that research and creative working group was to look at the whole university and look at these common threads of the things that bring us together and the areas of distinctive excellence in research and creative activities that bring us together and that together we can be world-class in these areas.

And so the opportunity to do that, to get to know the faculty, to get the input from the university community, to get input from students, get inputs from staff who critically support the entire research enterprise, to synthesize that together into these areas was a great opportunity to get to know that entire space, which sometimes you don't always see day to day as a faculty member or a student looking at your piece of it. But it was a fantastic opportunity to look at that and great experience, a lot of work, but it was work that I think was well spent to build the strategic plan out and to see these areas that bring us together.

John Boccacino:

Anytime you can play a critical role in mapping out where a university is heading, I think it's so exciting, not just to pay attention to the past, our great accomplishments, but to be setting goals for the future to keep us where we are as, again, I mentioned earlier a R1 designation. It's a world-class leader in research according to the Carnegie Foundation for the advancement of higher education. How significant is that designation and what does that do to help set us apart from our peers?

Duncan Brown:

If you come here as a faculty member, you come here as a student, you come either an undergrad or a grad student or you come here as a postdoc, you're coming to an environment that has a healthy, productive, exciting research environment, and that's the place you're coming to.

John Boccacino:

And with your history here, having been at Syracuse since 2007, I know we've always prided ourselves on the research, but it took a little bit to get to that R1 designation. What do you think pushed us over the top as far as the key components, the key strengths of our research that really impressed Carnegie and have maintained that status for years to come?

Duncan Brown:

I think it's the growth in our research productivity. We've had sustained growth in our research productivity. We've had initiatives like ongoing faculty hiring initiatives to bring in new research-active faculty emphasizing cross-disciplinary research, cross-cutting research, but also emphasizing the disciplinary as well. So really building this strong foundation of disciplinary research and then looking to build these interdisciplinary bridges on top of it and forging new collaborations both within Syracuse University and collaborations with other universities as well, partners in the region, places where we can partner and, as a group, be great in the sum of our parts.

So I think it's this sustained push to really emphasize the research and creative mission of the university, both in the humanities and STEM and the social sciences across the campus. It's critical that all of these go into the Carnegie ranking. It's not just lab sciences, it's not just the humanities, it's not just one particular area. It's the combination of them all together that distinguishes us in the classification.

John Boccacino:

You mentioned earlier there's a wide cross section of research that falls under your umbrella as the VP of Research. And we could spend hours breaking down the different school and college research components and the impact that it has on campus. But if you had to, from an overarching theme, quantify the impact that our research that's being done on campus, what exactly, how are we making a difference when it comes to our campus and the world that we belong to?

Duncan Brown:

Fundamentally, research is about expanding the frontiers of human knowledge. And your research trajectory starts as an undergraduate at Syracuse University. You can start to get involved in this cutting-edge research even as a first year student at Syracuse University. You can begin to engage. You're being taught in your classes by people who are pushing the boundaries of human knowledge in so many different areas. Being able to sample that across all of these different areas of the university, both in the College of Arts and Sciences and in Engineering, in the professional schools, you have this opportunity to get engaged.

And then you make this transition from a consumer of knowledge to a producer of knowledge as a graduate student, right? Typically you're probably producing some new knowledge as an undergraduate, but it's not your primary, as an undergraduate you're primarily learning new knowledge. You're primary, in that first stage of your training, doing research projects along the way that are generating some new knowledge. But then when you become a graduate student, our graduate students at Syracuse, they're really at the forefront of transitioning between consumers of knowledge and producers of knowledge. Like I say, that dissertation, that is another substantive piece of original research that nobody has ever

done before, some creative activity that just makes the world a better place by bringing something new into the world that is beautiful or exciting or develops us as a society, our culture, our history, our art, bringing all these pieces together.

And then as faculty members, being able to lead and participate in this research creative enterprise is very exciting. And for me, it's about the excitement of doing this and it's about enabling everyone to pursue their ideas.

John Boccacino:

What are some of the research projects that you're most excited about heading into your second year as VP of Research?

Duncan Brown:

I'm very excited about starting to think about climate policy, climate change. And I think something that Syracuse has is we have a very strong Maxwell School of Assistantship has that very strong policy aspect, and then we also have people in the science disciplines. And I think it's bringing that together, that kind of policy and science interface, that's where things are going to happen. We have the Autonomous Systems and Policy Institute, I think, is going to be something very exciting moving forwards.

One of the cliches in the field is we'll probably have self-driving cars before we have the laws that govern self-driving cars. What does it mean to have autonomous systems in human society? And it means different things in different places. I mean in Western society, people are maybe less friendly to robots, right? Robots are often, you'd see the Terminator movies, robots that are out to get us, but then maybe in other cultures, robots are seen as more friendly, home helpers. And so you have this global diversity of these approaches to one problem.

What does it mean as we build out more autonomous systems? What does it mean as AI systems improve? What does it imply for society? What does it imply for policy? And pushing the tech forward itself is another exciting area. So I think those policy aspects, I think also the arrival of Micron in central New York and pushing the high-tech sector in central New York is going to be very, very exciting. It's going to transform the local economy over the next decade as we see that investment in semiconductor manufacturing that we just haven't seen in central New York or really in the US at that scale before.

So I think as Micron builds out, we're going to see an expansion of our College of Engineering and Computer Science. We're going to see more opportunities for our students. We're going to see the city itself transformed. We're going to see new jobs coming in, developing the economy, how's that going to affect people? How's it going to be done in an equitable and fair way? And again, Syracuse University can play a role in both the technology development, the advanced manufacturing, providing the highly skilled workforce that these companies will need, not just Micron, the startup companies, the supply chain, the business students who are experts in supply chain management all the way through to people studying the education, socioeconomic impacts of this type of once-in-a-generation investment that the Federal Chips investment is driving. So I think they're a couple of areas where I think we're going to see very exciting developments over the coming years.

John Boccacino:

The Autonomous Systems Institute is a phenomenal resource here on campus. A lot of leaders on campuses across the world are really struggling though with artificial intelligence. From your perspective, what role do you think AI can play and what role should it play when it comes to the research scope?

Duncan Brown:

AI is very exciting in the sense that it's giving us a new set of tools to look at the world. So if you think about, personally I think that AI in the sense of conscious machines are not just around the corner. That is something that is, so when people talk about AI, what we're really talking about are a set of advanced algorithms that we describe as artificial intelligence that are empowering us to do new things in new ways. And so I get it can be scary when you talk about artificial intelligence, again because like we're saying, in a lot of Western society, you think artificial intelligence, you think Terminator, you think robots from the future. That's what AI is.

But what really is AI? AI is a set of algorithms for processing information and generating information in new and interesting ways. And, just like in my own discipline, we typically don't do long calculations pencil and paper anymore, as you may have done 50 years ago when you've got Mathematica and computer algorithm programs that can do those types of calculations for you in many cases, it frees you to pursue other areas. So AI properly applied is a tool I think that will actually help enhance research and creative activities because properly applied, it will take a set of tasks off the human plate that it can do, just like I can type in a bunch of calculations, press shift enter, and my computer will evaluate them in 30 seconds as something that might take me three days to churn through a calculation if I was doing it pencil, paper, and looking things up in books.

I can move more quickly, I can do more work. So I think AI properly applied will let us do more things. Now that will have positive impacts, it will have negative impacts. And what those positive impacts and negative impacts will be is one of the topics of research of the Autonomous Systems and Policy Institute.

John Boccacino:

I want to give you another opportunity to delve into your goals and your office's goals when it comes to student research and faculty research.

Duncan Brown:

One of my primary goals, so I'll talk about faculty research first. So one of our primary goals is to really support the research enterprise and make it as easy as possible for faculty to pursue these research and creative activities. And some of those things are kind of the exciting high level things, like building out the research development team where we can bring faculty together and generate new ideas. And some of that is just the logistical work of making sure that we have the staff at the university who are well-trained, well-supported to administer grants, to help faculty apply for grants.

I mean we have an amazing Office of Sponsored Programs at Syracuse University that unless you actually write grants, people probably don't know about. But any grant that goes through Syracuse University goes through our Office of Sponsored Programs and they interface with the federal government, they interface with private foundations, they interface with corporations to do the logistics of getting the funding that helps support the research enterprise that then flows to faculty and students and other areas. And just having that be as seamless and transparent as possible, that faculty and students can focus on their creative and research activities and be well-supported, and our staff who make it happen that they can be well-trained and well-supported in their efforts to enable these activities.

John Boccacino:

Where did your passion for research come from?

Duncan Brown:

I think I've always been interested in research from an early age. I think I was kind of a science-y kid when I was younger and I was fortunate my parents encouraged that. And I think every toy that I had for my birthday was disassembled within about three weeks of receiving it. And my parents were very patient and supportive of the fact that the toy they had just purchased for me is now in pieces on my bedroom floor and probably isn't going to be put back together again.

And so I've always had a curiosity and a series of excellent teachers, both at the high school level and at the university level, who've always encouraged me to pursue my research dreams, to dream big. I mean I remember when I started graduate school, my PhD advisor said, "You could be the student who discovers gravitational waves." And then 16 years later when we did it, he turned around and said, "I never said you would still be a student when it happened." But I've been fortunate to have that kind of encouragement. I think that's something that I and my colleagues in the Office of Research and many other Syracuse faculty members like to instill in our own students as we help them find their path and their excitement for their research and creative activities.

John Boccacino:

In this role, you've walked the walk and you've talked the talk so people know that if they come to you or if you give some advice, you know what you're talking about. How would you describe your approach to your own research efforts? Did you have a philosophy? Did you have a style that you tried to embody when it came to tackling a project?

Duncan Brown:

One of the things that I have been adamant about in this position, so I have an administration position now and I'm not a regular faculty member to the extent that I pursue those types of day-to-day activities, but I've really tried to keep my research activities going. And so I have two postdoctoral researchers in the physics department who I work with on neutral star astrophysics, so the physics of a star when it dies, certain class of stars form neutron stars, which are a city-size atomic nuclei, that if you can understand the way these neutron stars behave, it tells us about the structure of matter, the nature of nuclear matter and the fundamental physics that governs the nature of matter. So I am keeping that research program going. And in fact, tomorrow I'll be in the physics department all day meeting with colleagues and students and postdocs to work on exactly that.

You asked me about my style. My style is very collaborative. I like working with people. I like working in a big group. I like working with students in groups of students. I like facilitating my students to work with each other. We've been very lucky in the gravitational wave group in Syracuse that we've had a lot of support from the university. So we have now, I actually need to count, we have five faculty members in the group now who span the very technical side of building the gravitational wave detectors, working on lasers and optics and cutting-edge quantum optics to measure these tiny, tiny little disturbances of the gravitational waves through people who work in my own field like astrophysics and the implication and trying to use gravitational waves to study neutron stars. And you all need to work together to do that. So if I was to one word to summarize my research style, it would be collaborative.

John Boccacino:

I think you mentioned mentorship playing a strong role both in your role as a researcher and for the students here at Syracuse too. In your esteemed opinion, what role does a mentor play in the lives of our student researchers?

Duncan Brown:

I think mentoring is very important to life and the lives of student researchers because it can be kind of scary when you first begin your research and creative journey, that learning in class is very structured. There are reading assignments, there are homework problems, there are essays you write, so there's a lot of structure. But as you transition to research and creative activities, they become much less structured. And that lack of structure can be scary because like, well, what do I do? What if I don't have an idea? What if I don't know what to do next? And so really, the role of a mentor is to scaffold that transition between the very structured learning of high school or the early undergrad experience to an experience that can be a little bit unnerving because you don't know.

One of the things that people often struggle with in my discipline, maybe they can be very strong students, very good at solving problems, but then they'll present you with a piece of research, say, "Well, is this correct?" I'm like, "Well, there's no correct answer. The universe doesn't have solutions at the back of the book. Maybe it does, we're going to have to wait a long time to get there." So there is no... Particularly if you're looking at something where you're making an observation and just, I mean this is where Vivian May and I have talked a lot about how the humanities and the sciences part of the academic strategic plan, often there are more similarities than differences.

There is no right way for a piece of creative work to look. There's sometimes no right answer for a piece of science work, right? You make an observation, this is what it is, this is the best we can do based on the knowledge, based on the theories we have, and we've advanced knowledge, but we are not saying this is definitively the right answer. It's not 42, to make a Hitchhiker's Guide to the Galaxy reference, right? There's no answer to life, the universe, and everything that we can write, "42 and there you go. We're done."

And so making that transition, that's the role of a mentor; to help. There's no right answer here, just like there's no correct short story to write. There's no right question to answer next. There is what we do, the ideas we pursue, and the directions they take us. There are ways you can do things wrong. Don't get me wrong. You can do all kinds of research wrong. You can get wrong answers, but this is [inaudible 00:35:16] where there are wrong answers, but maybe there aren't clear right answers and we're just building one step at a time human knowledge moving forwards.

John Boccacino:

Speaking of no wrong or no right answers, I do want to get your thought on, for our audience who might not be aware, as you were spending, you had your PhD in physics from the University of Wisconsin, Milwaukee. You spent three years as a postdoctoral scholar at Caltech and you got to work alongside and study under a pair of pretty prestigious researchers and a pair of Nobel Prize laureates, Kip Thorne and Barry Barish. What did you learn from them and how beneficial was that mentorship experience for you?

Duncan Brown:

Oh, it was, working with Kip and Barry was a privilege. It was amazing. I was very lucky to be a postdoc at Caltech and this is from 2004 to 2007, so right before I came to Caltech. So we were really in the midst of building advanced LIGO, the machine that would make the gravitational waves happen. And I was very lucky when was at Caltech that it was an era where Frans Pretorius, who's been a friend of mine since those days, he's a professor at Princeton now, he just solved what was called the binary black hole problem. And the binary black hole problem was simulating two binary black holes going around each other is incredibly computational challenging. You can't do it pencil and paper, you have to do it on

a computer. And people have been trying to get computers to simulate two black holes going around each other for 30 years and hadn't succeeded.

And Frans actually produced the first binary black hole mergers in my first year as a postdoc at Caltech. We were both postdocs in Kip's group. And one of the things Kip said was, "Well, Frans, you're what we call a numerical relativist." So someone who does a combination of pencil and paper and computer simulations. "Duncan, you're a gravitational wave physicist. You work on the detectors, you think about what these signals are going to look like. You two should work together and you two should collaborate together and you should look for the points of the interfaces." And so with a group of us, we worked on that interface between numerical relativity and the analysis of signals from gravitational wave detectors and that collaboration, working across those, it's all physics, but fairly hefty disciplinary boundary within physics of these people who do these computer simulations, these people who build gravitational wave detectors.

We forged a new approach to doing this under Kip's mentorship and supervision that then when we detected the first signals, 150914, the binary black hole signal, the same group of us who were then tenure professors and our students were saying, "Okay, well, we know how to do a computer simulation of this," right? So when the paper was published, it had the gravitational wave signal, it had the computer simulation, it had the two together and extracting the astrophysics from the source. And so that was an awesome time and I learned a lot about collaboration from Kip.

Barry is an amazing project manager. He really helped make LIGO happen. And so watching Barry, who comes from a high energy physics background, building a machine like LIGO is just incredible. And Barry was the Director of the LIGO Laboratory when I was a postdoc. And so learning from him about big science, about how you bring these teams of people together, delivering a common goal where people maybe want to go in different directions, but we're all in it together to produce the same big science output at the end. So again, I had the mentorship of Kip and the mentorship of Barry and both of those pieces have been very, very influential during my career.

John Boccacino:

Your expertise from your work as the Vice President for Research, I know there's a ton of departments you work with on campus. You mentioned Source. There's too many great campus partners to mention here in your role as Vice President for Research but I know our students and our faculty are in great hands. This has been a fascinating and an eye-opening conversation. Duncan, I want to thank you for coming on the podcast and giving our audience some insights into a world that they might not know a lot about.

Duncan Brown:

Great. Thanks, John. Thanks for having me on.

John Boccacino:

Thanks for checking out the latest installment of the Cuse Conversations Podcast. My name is John Boccacino, signing off for the Cuse Conversations Podcast.