Career Development Panel Discussion

Tuesday, December 6, 2022

Session Transcript:

>> Stephanie Fertig: Welcome back everyone so hello again for those who don't know me my name is Stephanie Fertig and I'm the HHS Small Business program lead here at SEED and I'm pleased to introduce our next panel on Career Development particularly how to support careers in product development and entrepreneurship now this panel is going to be led by Eugene Krentsel and I'm going to turn it over to him to introduce the panel and get us started.

>> Eugene Krentsel: thank you so much Stephanie thanks for the introduction and I'm so excited to lead this conversation today and I'm very excited to see so many colleagues and friends across the country from all of the programs that I had a privilege of being a participant of that NIH has done and the Proof Of Concept space and also, other programs in support of entrepreneurial and tech transfer activities so it's a fantastic opportunity so I would like to start by introducing our distinguished panelists we have an amazing array of experiences and backgrounds and I will start with Queenie Chung who is a VP at BlackRock and she crossed to quote unquote dark side from academia in 2018 and she had a wonderful academic career and she decided it's one point to pivot it from academic to business strategy and investments and share that expertise with her colleagues on the investment side this is a fantastic pivot another person on our panel today is Jonathan Thon who is a representative to a certain extent of BBIC from Boston Biomedical Innovation Center he was associated with that program he's a serial by attack entrepreneurs CEO and very experienced board member who has founded and led multiple startups through various stages of formation pre-clinical development financing rounds so he will share his experiences and probably talk a little bit about his current company storm and last but not least Barry Lutz from their other side of the country from the west coast Barry is an associate professor by engineering at UW the University of Washington and he has been a part of multiple programs over the years from Coulter program to now WE-REACH and RADx so great experiences and his you know co-founder and chief scientific officer for Anavasi Diagnostics so he will share some of his experiences and talk about what those programs have done to help him I don't know if it's a full pivot or a partial pivot and I think that there's a whole spectrum that we represent I myself have participated in several of those programs from reach 1.0 to a couple of NIGMS funded from tech transfer commercialization hubs and now IRAD program so uh very much uh grateful to NIH for putting together those opportunities for us and essentially changing our lives to a very large extent and at the same time not only changing our lives but also helping create opportunities for entrepreneurs coming out of academic institutions and when we see those entrepreneurs being successful it leads not only to creation of jobs but also to creation of wealth it was a snowball effect which only entrepreneurship can provide, and I think this is a very important aspect uh that the whole country needs to fully understand and appreciate of the value of entrepreneurial endeavors and when something is

leading to a success that success breeds more success because people are investing in their own communities and uh building their technology development building the whole industry sometimes so the format for our conversation today would be uh we'll start with a couple of questions that I prepared for our panelists but mostly we would love to have an open discussion and have questions from the audience and I'm not quite sure if Stephanie will be the one monitoring the questions and what it would be that that format, but we would love to get this conversation very interactive and hear questions from uh attendees and maybe asking um you know what they want to learn about our journeys uh and uh so okay uh and Nkechi said that she will be doing that fantastic thank you I really appreciate that uh so I would like to start this uh by asking our panelists to talk a little bit just maybe two minutes each about their journey and what prompted them to pivot into this new uh new Endeavor new line of work and I would love to start with Queenie please.

>> Queenie Cheong: great yeah thank you so much Eugene and NIH IH Trinity to discuss and share my experience, so I was involved in the Cleveland Clinic Innovation Co-op program to explore the commercialization landscape of my discovery during my doctoral research with Dr Circle Ursaram and it was really about the use of beta blockers in pulmonary arterial hypertension and over the course of the NIH Innovation core program we were encouraged to step outside of the lab and network with payers, healthcare providers patients and regulatory affairs professionals to really understand the development path and commercialization opportunities so, then I came to realize the strengths and weaknesses of the intellectual properties and big potential commercial strategy of my discovery and so forth so after the PhD program I was thinking about you know going for postdoctoral research with the American Heart Association Fellowship but the opportunity with a business strategy came up which I felt was interesting to learn about a different perspective in the about pharma business so the NIH program was really instrumental to helping me think outside of the lab setting and it opened my eyes to understand above and beyond the science which is a very important to utilize career development so I'll stop there thank you.

>> Eugene Krentsel: Thank you so much Queenie this this is a great segue to maybe to Jonathan to share a little bit about what uh triggered his transition which is uh you know the story is a little bit different and you're a serial entrepreneur uh you've done multiple uh you know startups uh what triggered the first one and what made you stay with this and continue doing this and you know trying again and again and uh just uh switching to a different lifestyle altogether uh if you could share what was their original uh trigger and what made you stay well

>> Jonathan Thon: Maybe I should start by saying that being a CEO is the best job I've ever had that I wouldn't wish on my worst enemy so uh it's got it's got things that let you be terribly creative but there's an it's a very challenging job as well. I wasn't born knowing I was going to be a CEO quite frankly I never took a business class in in high school at all business was never interesting to me I've always been a scientist um but I went into science to make a difference as I'm sure everyone here or most people here have and if there were places where the questions I was asking were fundamental basic research discovery questions where the university was the right place to be asking those questions the infrastructure provided by the university uh the

breadth allowed in terms of the projects we could start and stop to ask very basic fundamental questions that that was the right place right time um I've always been led by the science not by the title or by the career or even by the money I quite frankly I've never really cared much about that either and um as we were developing the work as I was developing the work that I was interested in the project um started to mature and start to develop we started actually proving concepts on a lot of the fundamental points and the technology got to a point while I was a professor actually at Harvard where the next steps were steps around how do we make this technology now available to people and some fundamental question that needs to be answered were around scaling the technology so manufacturing it more at larger volume and cheaper um safety questions that needed infrastructure animal studies support that quite frankly university was not equipped to provide and process development questions that don't really interest most uh academic scientists grant agencies for the most part don't care to help support or answer but are so critical to getting a reproducible safe consistent product uh that is appropriate to put into people and so when the technology mature to a place where the university was the right place to do it anymore I started looking outside of the university to try to understand what was now I was working in selling gene therapy so you know 10 years ago no one knew what a cell therapy was and I had I had assumed that we would out license our technology to a larger company that would pick up the ball and run with it and I would maybe support that company in some way as a scientist there or a collaborator consultants even um but there was no company that was equipped to do cell therapy they didn't know what it was and so faced with the question of whether I should be doing this is the rest of my career and dedicate the next 40-50 years of my life to trying to advance something that I thought we could do in five years in a private setting um I elected the latter and went through a self-education uh process of how to build a company how to license to the technology how to run a company for the purposes of just trying to do the work that needed to get done at a quicker pace and would have been possible within an academic setting

>> Eugene Krentsel: Fantastic this is a great story and you're absolutely right um most if not all people here in the audience and in general people who go to science as at least in the beginning of their career they do that in order to make a difference not about making money and typically money do not really drive them it's a nice side effect it's always good to have money but money is not the goal It's a wonderful byproduct that allows you to do certain things and invest in certain things but uh their ultimate driver is the desire to improve people's lives and make a difference so uh with that in mind I would love to hear from Barry uh because Barry Barry's pivot is a little bit different pivot Barry Berry is um uh staying in academia and doing all this you know stuff on there and well I don't know if you and you tell me if you consider yourself an entrepreneur or you consider yourself a translational scientist uh would be great to get you know your perception of who you are and how you yourself but you're doing amazing things and you've been a part of multiple programs over the years from Coulter that started it all and then uh now WE REACH uh RADx so Mike to you.

>> Barry Lutz: Yes, yeah as he said it wasn't necessarily a career pivot because I stayed in academia but it was it was an entirely transformational for the way that I did work at the University so this you know like you said goes back to the culture program which um uh sort of

evolved into some of the programs that we see today and had you know similar entrepreneurial support opportunities there and you know I was a typical academic doing research hadn't been involved in commercialization at all uh got involved in a project that got the attention of the program and got funding for the program and then all of a sudden we were on this ride where people were like okay this these are the things we need to do to make this into a business and so we just learned as we went along you know through the resources through connections with entrepreneurs with experience learning about regulatory reimbursement um you know which is a completely different way to think about problems than academics think about and so that was sort of my introduction to the uh to entrepreneurship and commercialization but you know from that point forward every problem I looked at I hadn't thought you know what if you know where bioengineers as governments instead trying to make improvements in health and to do that it's necessary that it goes through a commercial path and so for every problem research problem that we would look at I would see it through that lens not that we would commercialize everything but I would always be asking is this is there is there a commercial path for this for this technology and what would it take.

>> Eugene Krentsel: Fantastic the next topic I would like to touch base on with you guys is what do you think was the most important feature of those programs that NIH has run over the years and you know you bury Canada include Coulter if you want to uh but uh what was the most important feature that triggered that desire you to move into the translational commercialization space um uh what was it maybe we'll start this time with Jonathan uh and he could share his and then we'll you know go to other panelists.

>> Jonathan Thon: So, I've been a recipient of a lot of different NIH programs across the spectrum but it was the Boston Biomedical Innovation Center which I don't think exists anymore but what was really unique about it was we had a technology that we were developing this is work out of my academic lab that we thought could be commercializable you know we thought there was a commercial application for there's an application that could help benefit people but I didn't know the first thing about how to translate that technology this grant essentially did two things one which was unique was that it found it funded work that was not research related I mean we did divert some funds towards research but the uniqueness about this award I think more needs to be like this is that it was money that could be used for consulting uh fees for others it could be used for legal costs it could be used for IP costs it could be used across the board and that gave us a tremendous amount of flexibility to develop all those sides of a translational program that aren't research you know the research is a part of it but research not even the most important part it's just a part there's a lot of parts that need to come together to make the thing a whole and uniquely there's in academia and through the NIH there's a lot of funding for the research very little for the other stuff and the other stuff you need to pay for somehow and as an academic you don't have the personal capital and rarely do you have the investor contacts to support the other things that need to be developed as well that was part of it the other part of it which was very unique to this program was that they paired us with a program manager and the program manager you know at first I was very resistant to this idea of a program manager I didn't know what a program manager was as an academic and someone coming in and joining my research meetings and asking questions and

you know pushing us on things that we had never considered felt like a waste of everyone's time initially you know I'm talking about like the first month or two but I very quickly came to realize that the program manager uh especially the one that we were paired with was an exceptional resource probably a transformational resource because there was this huge blind spot in my experience to date around things that we need to develop against that I didn't know what I didn't know and I didn't know enough to ask but having someone in the room who understood the translational process and could ask those questions that can push us from the perspective of an investor or perspective of you know a customer and push us to explore and develop the pieces of the of the idea that needed to have more solid founding and then you know the associative resources to support that development made this transform from an academic research project into a translational uh program and when it got onto the track of translational program and once we knew what we had to solve for and began directing efforts towards solving the things that needed to be solved for this program the idea very quickly accelerated into an actual company a business and then spun out into its own entity outside of the university and it was at that point that I made the career decision to resign for my faculty position and join the company full-time as a CEO and Chief Executive Officer.

>> Eugene Krentsel: Fantastic great points about their importance of the program manager and uh how it looks weird in the beginning but then you quickly realize how valuable that type of support is I've seen that make a huge difference time and again. Barry could you talk maybe a little bit from your perspective in like I said you were a part of multiple programs um so what was their most important trigger and most important feature of those programs that made you make this transition.

>> Barry Lutz: Yeah, I think um similar to what Jonathan said in the most recent experience with WE-REACH uh we were developing a covid test and so it was really rapid uh development cycle and we got funding which of course is helpful you know to do the technology development but really it was the mentorship and guidance to help define what were the really critical milestones of that early stage to tip the needle you know towards making it viable, commercially viable and we did a lot of work with actually I see Steve Blaine is on here I don't know if Rodney Ho is on but we did a lot of work to figure out with that amount of money what are the key uh milestones that we wanted uh wanted to go after um since that we uh we've been involved with the RADx program and it's just a huge wealth of resources so it's amazing to if you have a question like a regulatory question that their the network can help to identify uh somebody to get an answer and I mean if we were out on our own trying to do that trying to find a consultant you know and pay the consultant it would be a lot of work to find people and expensive and so it's really amazing to have to be have access to top-notch experts to ask questions and get advice and mentorship.

>> Eugene Krentsel: Yeah, that's excellent points and uh just one more confirmation that it's not just about the funding uh the funding is great but everything else the guidance that help that support is even more valuable.

>> Barry Lutz: I'm just we'll add to that the they that you're learning as you're doing that so it's an educational process especially for faculty members who don't have that training.

>> Eugene Krentsel: Yep and I see the question uh in Q&A's from Ethel we'll get to it in just one second uh I want to give Queenie an opportunity to comment uh because she comes from the investment side now it is to a certain extent about the money but it's more than just about the money and your transition to that role that you have right now with BlackRock uh what was the most important uh feature of the program uh that you went through at the Cleveland Clinic that made you interested.

>> Queenie Cheong: Thank you so much for the question um so I briefly touch on it a little earlier so my discovery during my research at the clinic uh was about the use of beta blockers in PAH so uh it's really a translational research about how beta blocker impacting a certain pathway in in that indication so the question that follows what it was is there like a is there a commercial opportunity and what's the path for that so the NIH program really leads us to think outside of the lab and just um instead of discussing within the institute research institute it really brought me outside of the research institute and talked to people in the field to understand what the development of would be competition what is it there to protect um the discovery and whether there are not commercial opportunities there, so I thought the program director there that connected me with the people in the field really helped me think through that program very well so I thought that was a great experience to think outside of the science as well.

>> Eugene Krentsel: Fantastic so this is a kind of reiteration of the importance of getting out of the lab and hearing the voice of the customer essentially that that is a very important feature so as I mentioned we have a question from Ethel and it's a fantastic question having gone through or going through your entrepreneurial journeys can you think of any other ways or resources you would like would have liked to help teach you how to do commercial product development that's it’s a great question and who wants to start answering okay Jonathan.

>> Jonathan Thon: Yeah I'm happy to take a stab at it first I mean there were there were a lot of programs available to me at the time there are there are many more programs available to people now when I was coming up there was a program Mars out of Toronto I'm originally Canadian and Mars out of Toronto had this online free course videos that were available on all aspects of commercialization and translational developments and so I watched them religiously you know one after the other to learn all the things that I didn't know I never learned because I never went to business school but I was able to bring myself up to speed pretty quickly um now when we were founding the company and in the very first year or a couple years of the company I was also a part of a lot of accelerated programs so we were part of lab central here there's mass challenge mass connect in the Boston area um every city or major cities have got now these days uh programs available I know the NIH has got resources as well that you can tap into and I wouldn't restrict yourself to a singular resource they all come at it with a different perspective approach so I would just go as broad as you possibly can and get that perspective from as many different people as possible different cruises as possible but I think that the

culmination of all of that research is going to start shaping your perspective on what sort of things you need to do and what kind of questions you need answers and what I did personally and I know everyone is different here but what I did personally is um bin those asks into categories and put checklists of or bullet points of things that I needed to get an understanding of the redirection of or strategy around and then find experts within personal network or my advisors networks or you know networks of people who aren't well connected um that I can put into those different categories ask them those types of questions and through an extensive process of learning and mostly listening and being challenged a lot starting to shape what would we would need to do to develop our idea and where I personally would fit within that development plan.

>> Eugene Krentsel: Okay thank you uh Barry uh what would you think you know be helpful to you that you didn't get.

>> Barry Lutz: Yeah I mean I think it's it has been pretty comprehensive but the thing that stands out to me is you know being involved over time seeing the things that haven't improved and or things that have been added that weren't there you know when I was first entering this area so like one of the things is the uh emphasis on customer discovery up front there's a lot more of that emphasis right now and that's something we didn't do when I was first going through this uh but it's a common part of a lot of the programs now uh the other is the sort of structure like the gates analysis I don't know how familiar people are with that but a uh a checklist of uh the sort of the status of the key areas of technology development regulatory medical acceptance that can be used as a framework for asking the right questions really early and so seeing those types of tools that have been developed you know the past 10 years or so um I think that's been a really nice improvement compared to what uh what I saw in my early days of Coulter

>> Eugene Krentsel: Fantastic and uh this is actually a very important point uh when you talk about innovation and healthcare and biomedical space there's a couple of very serious uh gaps in academics understanding of what is important we are typically a scientist where very much technocrats uh you know we talk about you know our technology all the time but some of the most important things are not even about the technology it's about your regulatory and the reimbursement and those things do not even get covered within academia typically so Queenie could you uh you know share maybe what you think now uh from your position uh at BlackRock what would you like to see those NIH programs you know add to their portfolio

>> Queenie Cheong: I cannot speak on behalf of BlackRock but just uh from my personal experience that I think that um you know keeping open-minded and if for example you're in certain therapeutic area or certain technology attend the conference like for example oncology go to ASCO and stay on top of what is the latest and greatest of the technology, so you understand very well the gap of the unmet need in the space and see where the technology that one is developed pain really fit that gap and feeling the unmatched need intellectual curiosity is very important as well so understanding where the competition is and what's the

differentiation of the product that you're trying to develop it's a probably most importantly I guess in the experience in the battle type field I think that's the key question, but science is still like a major part of it as well if you don't have the science, it doesn't matter if the commercial opportunities but it has to be differentiated.

>> Eugene Krentsel: Yeah, I think I think I think it's you know both sides need to uh come to you know come together both the commercial side and science side um without science of course there is nothing to be commercialized but understanding the way things need to go through their commercial part is very important for people who are trying to bring it to help the patients. I think this is great and by the way uh it is full and stood that you were European is not BlackRock's opinion that is your personal and I would just um asking from this standpoint of someone in a role that typical for someone like what you were doing now what your perception is uh and uh thank you Matt for answering John's question about the difference between a proof of concept program and SBIR so we have a question um from Dr Jones why are there basically, no pathways for mid-career physicians to pivot back into research development or I.T um interesting question I'm not quite sure have met a few of physicians that pivoted back to this I don't know if it was through any kind of specific program, or they were going kind of against the grain whatever they were doing and get a definition of meat careers you know could be different too but there's a lot of interest right now that I see and both on their academic side and on the federal government side to address the need to get more physicians into their innovation space and not just pure research but innovation in general and provide them opportunities the right tools the training and help deal with some of the burnout that they're going through because part of the burnout is just being overwhelmed in general and just having way too much to do but part of that is also not necessarily being able to have an outlet for their Innovative spirit and that is that is the opportunity for physicians maybe someone to go and switch to innovation space permanently but some may want to do it just part-time so I think I think that the more opportunities would exist I think would be the better that's a good thought for maybe NIH to consider some of their additional programs uh for the physicians.

>> Barry Lutz: Eugene if I could make a comment I think one of the largest misconceptions here is that there are career tracks and I think we believe in career tracks because we've spent most of us to spend so much time in school that we're used to going from grade one to grade two to grade three from high school to university to a postdoc so we're sort of expecting there to be another track in front of us and that we're on a road that's leading somewhere all right that that's actually not true I mean the you can do is you can go progress in in your education and within schooling at the university as far as you want to go but at the end of the day when you're ready to enter the workforce you're creating your own opportunities and um just because someone more senior to you went down a particular path doesn't mean that there is a path to go down right, they were a unique individual with under unique circumstances in a specific point in time uh those options that were available to them may not be available to you and likewise the things that drove them that interested them that that pushed them down a particular career uh are probably different from the things that motivate you um what I would encourage you to do and I encourage everyone to do is find out what it is that that you're

passionate about what you're interested in I can assure you um those opportunities are out there and if they're not you can just create them yourself um it's hard to see I get it uh coming out of the academic setting because you've got these blinders on you're not really exposed to a lot of what's around you um but once you start having conversations with people that aren't your peers within the same environments you'll start realizing that there are actually, a tremendous near infinite number of opportunities there for you and again you know if the opportunity is not there and you see something that doesn't quite exist you can always create it it's what you've been doing in your academic lab so there's no reason why you couldn't do that in your professional world as well.

>> Eugene Krentsel: Yeah it's an interesting take uh Jonathan thank you so much and you know kind of encouraging and uh not waiting for someone else to create those opportunities but actually go and do it go and do it it's a little bit more complicated for MDs that are not PhDs because uh they're accustomed to a little bit different um you know way of looking at things and um so it's I'm not quite sure if there is a bias that Dr Jones has uh you know pointing against them to be included in the review panels uh they're panels that I've served on there were quite a few of them these some of them were MD PhDs but I think that their value of a clinician on a panel is valuable and by the way that clinician does not have to be an MD it could be a nurse uh and sometimes also I was I was really impressed with CDMRP program when I served on one of their review panels that they also include on those review panels uh patient advocates and I think I think this is a very important uh point and uh brings tons of value and uh it really during the discussion it opened it completely different viewpoint but uh maybe there is some kind of a bias that I may not have seen and uh this is the question for NIH to um you know to consider I don't know if we have any anybody from NSF here today but NSF does a lot of biomedical stuff, but they don't do clinical and I'm not quite sure whether their value of physicians on their review panels would be as much at NSF on the biomedical side but at NIH absolutely no question about that um anybody wants to add to that Barry, Queenie. No you're good okay any more questions that we have from the audience if we don't actually have a question to um our panelists today and my question is uh what you think the geographic location uh there you know some of you are coming from the place of a critical mass that exists in their geographical kit on Jonathan, you know you know you're in Boston you cannot imagine a higher concentration and you know of critical mass a little bit different equivalent um a little bit different uh in Seattle although it's changing to the better but what is what is the importance of uh they're creating that critical mass especially for places that do not have it right now maybe Queenie can start this conversation because you know Jonathan does not maybe not does not even see it because you're in such a privileged position being in Boston and you get all those wonderful uh you know people in critical mass and the accelerators and incubators uh and I'm just listening to that and I'm very envious it's fantastic.

>> Jonathan Thon: but I've got I've got strong opinions that we should be democratizing access across the country not concentrating in singular cities obviously you know we benefit here in Boston, but most people don't live in Boston.

>> Queenie Cheong: Yeah go ahead sorry Eugene I that's actually exactly my um comments uh in the previous question to encourage people in the field to really go out and talk to other Professionals in the fields uh key opinion leaders and talk to the colleagues in different institutions so you really understand where what people are thinking and what's out there what's new what's innovative relative to was cooking in your own life so that actually brings you out of your own uh location so like for example in the um in at my time when I was doing pulmonary research I was always attending ATS conferences and speak to other PIs in the field so I think that's a very important um to really talk to other people and get as much opinions possible and know where you are.

>> Eugene Krentsel: Barry what do you think about Seattle uh which is becoming a hotbed for biomedical Innovation but still not the same level of concentration of uh entrepreneurial support that we can see in Boston or San Francisco.

>> Barry Lutz: Yeah, that that is large of a scene but you know sort of medium-sized uh scene so when it comes to funding I think that makes a huge difference but you know I feel like here we've had a critical mass for in terms of uh support for these types of programs for entrepreneurship you know at the university um so we've been lucky in that way to the extent that I take it for granted you know I mean if it weren't there it would it would be I would I really miss it would be very difficult but so I think we've had that I think we have uh critical mass of mentors around people who have been through the process and are available to support those programs and like I said I think the mentorship is one of the most important uh parts of a program so having um uh that local pool of people um I think really makes a huge uh difference I mean we heard from Ian a little bit earlier about the regional development I know that NIH has been pushing this and you know pushing to get these types of programs into places that don't traditionally have of that type of sport which I think is a is fantastic uh to do um in particular I think that having these programs has helped to change the culture in academia. We also heard from Ian about tenure in promotion and so you know there's over the past years or so, it used to be you know this type of work was seen as maybe beneath academics you know not the type of work that academics should pay attention to but I think it's completely changed or at least I feel like that here and I think part of it is um the these kind of programs from you know distinguished institutions you know NIH saying this is important we need to be doing this um they're supporting research to do it and that I think has probably had a big hand in changing the culture so there may be universities where you know the existence of these types of programs may also help to change that perspective in that culture.

>> Eugene Krentsel: the excellent point about mentorship I think it's a very critical component and uh I'm pretty sure that the three of you are mentoring your you know your you know former colleagues and younger colleagues and younger not necessarily in age but uh on uh their journey to entrepreneurship uh we have one more question that may be the last one I'm looking in that we um have a little bit yeah we have three minutes left uh we have a question from Orlando Lopez uh what would be some suggestions to promote awareness in basic scientists on how to identify potential opportunities for commercializing their research uh Jonathan could you take that on and then Darian Queenie.

>> Jonathan Thon: so, I'm going to give you an answer that maybe you're not expecting but one of the most useful things I found, and this happened again early in my career was you know when you're at the bar or you're out with uh meeting new people um and they ask you what you do telling them what you do and describing the science uh and getting better at describing the science in a way that helps them understand or follow what it is you're doing, and you'll find that there are the same things that excite you about it excite other people as well what's really interesting and having those conversations is that they're going to ask follow-on questions and the following questions you're getting from them are not the technical questions you get from your peers in the University they're the Practical questions that try to bridge the gap between the really exciting science that you're doing and how that science could impact them or their loved ones or society as a whole and I wouldn't dismiss those questions I would lean into them because at the at the core of those questions are the gaps in the translation of your program to something applicable to them and at the end of the day you know what we're talking about here is science is of zero value to anyone if we can't make it available to people right so the translational component is that exercise and taking something that theoretically could be of a lot of value and actually turning it into something that actually is of a lot of value that actually helps people so I would I would really lean into those conversations with non-technical experts.

>> Eugene Krentsel: Barry if you could do one minute.

>> Barry Lutz: Sure, I hey just thinking through this I think you know jumping into it uh is it's you know it starts to generate those questions so even something as simple as identifying a funding opportunity and starting to develop you know the proposal a lot of these programs give feedback or even have develop help with developing the proposal even pre-submission stage so that can sort of get potentially get the foot in the door where you get these questions generated and maybe connection to resources to uh to try to try to answer them excellent point and Queenie close uh close our session for today.

>> Queenie Cheong: I thought Jonathan's and Barry Thomas I think um if um if you're in basic science research can ask about um you know the impact that you're driving uh is it because the technique is really um making it the research much more efficient is it changing you know the this uh treatment modality what is it that you're changing um over the existing uh that that would be very helpful to think about thank you so much.

>> Eugene Krentsel: Thank you, uh it was a great uh great panel thank you so much I would like to thank our distinguished panelists and uh for those in the audience that uh may have other questions or comments or would like to discuss something uh I would encourage you to reach out uh to myself and to other panelists and to NIH and continue this conversation I think I think it's a great topic and I applaud uh the NIH SEED office for bringing it to uh this conference thank you so much uh and Stephanie um back to you thank you great thank you all thank you all again this was a great panel um so we're going to take another 15-minute break, so we'll see you all back here at 3:15 for our next panel on transitions to Small Business Development.