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Weingarten>> My name is Micheal Weingarten, and I am the Director of the SBIR program at the National Cancer Institute.   We're very happy that you've joined us today.

And let me go ahead and go through the next slides here.

So just a little bit of background, we actually launched I-Corps a little over a year ago today.   We launched the pilot version of the program, which involved four institutes at the NIH, and we did that in close partnership with the National Science Foundation.   We actually would not be able to offer this program today without the great partnership that the NSF has provided for us because we're actually leveraging a network that they've developed across the country and we greatly appreciate the work that the NSF has put into that and allowing us to work with them and to utilize the great program that we've developed.

But this first slide here actually was an event, the White House is a strong supporter of the I-Corps program, and back in August President Obama actually announced an expansion of the program based on the

success that we had with our initial cohort. We offered the opportunity to other institutes at the NIH to participate in the I-Corps program and we actually have a total of 13 different institutes now at the NIH that are participating in I-Corps as well as the CDC is also participating.

So President Obama announced the expansion at a special White House event back in August.   So we're very happy to be able to offer this program today.

Just a little bit of background about what I-Corps is for those of you who don't know, it's an intensive entrepreneurial immersion program and it's really focused on helping SBIR companies refine the skill set and the experience on how to build a business model around the technologies that each of you are developing.

So we offer it to Phase I SBIR or STTR companies that actually have active grants at the participating institutes.

And really the crux of I-Corps, the centerpiece of I-Corps is its focus on reaching out to customers.   So over the course of the seven or eight-week program, those of you that participate in the program will actually have the opportunity to go and meet with over 100 different customers or potential partners about your technology and to share hypotheses about the need and the market for the technology that you're developing.

So it's really an experiential-based learning type program.

And, you know, so the focus is, you know, actually getting out of the lab.   We know you guys are excellent scientists, but the focus is really more on the business side of things.   So as you'll see, you know, as we go through the program today, there's kind of an organizing principle to I-Corps.   It's called the business model canvas.   There are nine different components to the business model canvas.   And the goal is to develop hypotheses about each component of that business model.   As you go out and meet with customers, based on what you learn from customers you kind of refine, you change and you pivot your strategy based on direct customer feedback.

So as you know, the Phase II SBIR grant has two key components. Obviously the research strategy, but the commercialization strategy is also key.   And that's what I-Corps really is focused on is you can take what you've learned from this program, we think to develop a much stronger Phase II application, and develop a much stronger commercialization strategy.   And a number of the companies that went through the first cohort actually have done that already.   And we think their applications have improved a great deal as a result of that.

So you're going to gain a lot of insights into a lot of different aspects around the business side of your technology.   Those will include clinical utility, customers and customer segments, data and data quality.   There also will be special sections, for example, on regulatory strategy,

reimbursement strategy. That's one of the things that separates the life sciences version of I-Corps that we're offering at the NIH that's a little bit different than what the NSF has been focusing on.

So again, this can be a huge impact on your future Phase II SBIR application.

So just a little bit of information from our first cohort. We had a total of 19 teams that went through the program, and I mentioned that the centerpiece being the customer discovery interviews that those teams accomplish. And those 19 teams were actually able to conduct over 2100 interviews over the time frame of the program.

And they got a lot of valuable data and information as a result of those interviews. So what we did was throughout the program we surveyed the companies that were participating so that we had first-hand data from them on what they felt they were getting out of the program. We surveyed them when they first started the program, they surveyed them midpoint and then we surveyed them again at the end of the program. And at the end of the program 82% told us that they found the program to be very good or excellent. And 82% would also recommend I-Corps at NIH to other companies to participate.

And this just gives you just some of the key quotes that we got from our companies.

In addition to really getting information that helped them develop a

much stronger Phase II application, we've also heard from several companies that what they received from I-Corps to actually build their investor presentations and pitches and their investor slide decks, and in at least one case we know that that information has helped them in bringing a deal from potential investors together.

So I think that's the same sort of benefit that each of you would also share with the benefits in developing your -- the presentations that you're able to make to future potential investors.

A little bit more information.   I mentioned that this is model canvas and in just a minute Edmund Pendleton, our lead instructor, is going to get into some more detail on that.   But there are nine different components to the business model canvas.   Those are listed here.   And these are kind of before and after snapshots, and as you can see for key items along the business model canvas, one of them for example being the value proposition or potential customer segment that a company is focusing on.

Each of our companies that went through the program learned a great deal about those organizing principles.

One of the things that we were very surprised about, though, was not just -- we expected learning around the key components of the course, but we were a little surprised to see how much our companies learned about areas such as medical reimbursement and regulatory

strategy by going through the program.   So a majority of our companies when they entered the course actually knew very little about those two components.   And they were able to expand their knowledge a great deal by going through the program.   So it really helped them as they started to develop both the reimbursement and the regulatory strategies going through I-Corps.

So again, I'm going to go ahead and hand it over to Edmund here. He's going to give you a nice overview of the program.   And then we have one of our companies that actually went through I-Corps also. Will is here and he will be joining us and he will give you a first-hand perspective from a company that went through I-Corps so I encourage you to listen to that.

I encourage you to send us questions as we go through the -- through the webinar today.   We'll be happy to answer them.   And to also follow up with us offline if you're seriously considering applying, but you have some additional questions, but we'd be happy to spend some time with you answering those.

I'll turn it over to Edmund right now.

Edmund>> So thanks, everybody, to joining us this afternoon much. And to Michael for the introduction.   I apologize for making you take a look at me here, but at least you don't have to watch the live webcam.   I wanted to emphasize that I am not only an instructor for NSF, but also

NIH, and spend a lot of time training our new faculty.   I've probably worked now with well over 600 or so companies and teams and taken them through this process and have a pretty good sense for what it's all about.

So I want to talk about why I-Corps.   If you go back in history about three or four years ago now, actually four years.   NSF sent out to actually answer this question.   They have about seven billion dollars of research they do every year.   And one of the big issues at the time was how do we increase the economic impact of some of that research?   We all understand that some of it is fundamental science, might not have commercial potential at all, but a good bit of it does.   And they're really trying to answer this question.

At the time they noticed there was sort of a new way of teaching startups that had grown out of work in Silicon Valley.   Some of you may have heard of this person by the name of Steve Blank.   He's one of the very early disciples of this methodology that we're going to talk about. And I called Steven and said hey, we would like to put something together.   We think what you're doing for your startups in Silicon Valley could be used for our research easy.   Most of them haven't decided whether or not to set up a company and we think that this process could really help them figure out whether it's really worth their time to do so.

So from that conversation came this course called the I-Corps and

we launched that course, but what it really want to emphasize because forgetting the terminology, the names, even the people behind it, this course was developed by entrepreneurs like Steve and myself and more importantly taught by entrepreneurs.   So our focus is been there and done that.   We've had lots of failures along the way.   We think we have important lessons learned to share with you.   And one of the reasons that the I-Corps program resonates so much with me is I see all the things that I probably could have done better in my own startup.

If you come into the I-Corps program, and I certainly hope that you all do, I am tell you a little bit about my startup, but I'll save that for another day.

Some of you may have heard of this phase in the popular press, you might hear this phrase called lean startup.   I want to point out that a lot of the terminology that we use comes from this movement.   It's a popular phrase that has been used.   There are a couple of great articles I'll reference you to.   You will have access to these slides.   A good article by Steve in the Harvard business withdrew a couple of years ago, the economist had a great article on how startups today are much easier to get off the ground and it's not just for the web-based startups either.

But this is the quote I really like to emphasize, has nothing to do with lean core start-up.   This is Buzz Aldrin.   He said you promised me Mars, but I got Facebook.   You promised me this and I got this.   The

reason I bring this up is because what really makes I-Corps unique and different compared to all the other programs out there, the accelerators and other things and other resources you can go to that claim to do lean startup and they may well do it is we focus exclusively on complex engineering, technology and science-based startups.

Now, several years ago everybody was like that's great. NSF funds have variety of things. We can see why it might apply to them. But you know, life sciences is kind of a different animal. Can it really work for life sciences companies?

As it turns out we were already starting to work with a lot of life sciences based teams through the NSF. And as Michael already mentioned we decided to create this pilot for NIH a couple of years ago which I'll talk about in a moment.

In context NSF is a seven billion dollar, NIH is about a 30-million-dollar funding agency, right. And just like NSF, the real kind of concept was can we increase the economic impact some of this research money we're creating to work every year. Recognizing that a lot of it is fundamental science. That some of it has commercial potential. So just like the NSF grantees we believed there was a better way to build life sciences startups and this is where the NIH I-Corps or I-Corps NIH program started. Great blog post if you have time to look at Steve Blank's website, it's Steveblank.com. He talks about this and

highlights some of the companies that you will hear about in a moment. I'd reference to you about that.   It talks a lot about what we did the first time around.

What I want to emphasize again is that it's really not about the execution of the science or the making the technology work, which is what I know as a technology founder I thought was the most important thing.   If I just made the stuff work people would surely buy it.   And unfortunately that blinded me to the fact that even when it did work, fundamentally when we got it to work 95% of the time, they weren't buying it.   I had not seen this coming.   I was so focused on making the technology work.

So in this course Michael already referenced it, you will look at some technology and regulatory risks, but you're really going to focus a lot on what we call the market or customer risk.   And that's going to be the essence of this course.

We recognize you have a lot of technology yet to do or to develop and prove, but really we're going to focus on reducing that customer risk in this program.   That's the goal of I-Corps.

And we're going to use what we call a customer needs driven approach.   Now, I have an asterisk here because I want to explain that when I say customer I mean more than the user.   I mean more than, say, a beneficiary like a patient.   I mean all of the stakeholders in the

ecosystem that you're going to be selling into.

In most startups, particularly those selling into another enterprise or into a complex market, forget the fact that there are multiple people involved in a purchase, and you have to understand their motivations in order to actually get the sale, so to speak.

So we spend a lot of time helping people at the NIH I-Corps understanding their ecosystems because they're invariably very, very complex.

So why are we here? I like to do a high level of why we're here and explain what our goal is.

It really is to improve your odds for success. To contrast that what I tell people is we're not trying to pick winners. We're venture capitalists here. If you come into our program we want to improve all of your odds for success.

If you look at the startup statistics that are published and you probably have seen this before, the basic takeaway is it's a very high failure rate. It's a very high failure rate, 95 plus percent depending on how you define it.

What I tell people is we're trying to create more winners, enable more winners. There's no way that we can fundamentally make sure or guarantee that you're going to succeed. There's no prescription for success in the startup world. But we are trying to shift that curve, right?

We're trying to increase your odds for succeeding, recognizing all along that the odds are still daunting.

So one of our goals is not just getting you through this course and hopefully helping you be successful with your current company or project, it's teaching you a methodology that will help you in the future too. That's my primary goal. If it's not this start-up I hope it's the next one or the next one after that.

So I don't want just to try to get you through. This is not a technology translational program, per se. We're teaching you a skill set.

So Michael alluded to it, I'll cover it real quickly. How will do we build a startup? We use this business model canvas as a simple framework to walk people through various steps of building a business, all right? It's what we would tell you you need to do before you bother trying to write a business plan. A lot of people will send you right off to write a business plan if you tell them you're starting to build a company. But we use a process we call customer development to actually build this business model. We'll talk a little about that throughout this webinar and in what Will has learned in the process of going through I-Corps.

But at the high level, there are several things that we do. Number one, we're looking for what we call a problem solution fit. Real quickly what does that mean? Are you going after a problem or need in the market that enough people care about?

Now, the phrase enough people care about is obviously relative, right?   It really comes back to you.   Are you trying to build a scalable business that's maybe VC backed and you can exit or is it a life-style business.   You want to generate enough money for a handful of founders and have a nice life-style out of it.

Someone might say I have a cure for a particularly rare disease or some type of cancer and I know there's a need for it.   Gotcha.   I understand that.   But again, we make sure everybody first and foremost is going after a problem or need that they can identify in the market and I can assure you there's no single startup that's ever started that didn't think they already had this figured out.   But we're going to make sure that you do when you come into this course.

The second part of this is really what we call the search for the product market fit.   It's one thing to identify a problem or need in the market.   It's entirely different process to build and deliver a solution for it, right?   So after we make sure there's a problem or need out there that's worth your time we're going to transition to helping you figure out whether or not you're headed in the right direction in terms of building a product or service to meet that need.

And again some of you may be a devices-oriented company, some of you may be a therapeutics company.   And they're very different.   Can you build a process or service to meet that need.   And a lot of

things lost for a lot of first time entrepreneurs in particular is, is there actually a business here or is it just a new product idea?   Or maybe it's just a technology I license to a big company.

The real question you're trying to answer is do I have a business? So that's the third aspect of what we are going to take you through and expose you to in this process.   Can you find, can you build an d validate a repeatable and scalable business model?   So keep these things in mind at the highest level.

And fundamentally as Michael said, the spirit behind what we do is getting you out of the building, getting you out of the lab, getting you out of the office and going out and talking to people.   It sounds to common sensical, but the problem is most of us don't do it if we don't have to.

What we like to say is we compare this concept of validated facts versus untested guesses.   It's just about everything you've come into -- into this program with we're going it assume is more or less untested even though you may think you know where you're headed, our starting assumption is let's find out if it's true and let's make sure that we're going out and actually testing some of the hypotheses that you have.

We like to say the evidence really comes from the customer discovery revenues.   We'll talk more about that in the Q and A.   And this is evidence-based entrepreneurship.   And that's fundamentally at the heart of what we're trying to do here is build a business based on

evidence you're gathering in the market.

Almost done here.   Real quickly, you what you going to do?
Michael alluded to it.   I like to say you're going to jump in.   You have
about seven weeks.   We push all teams to do 100 interviews.   This is
what you're going to feel like.   You will have a pit in your stomach and
thinking this.   You will think why do I have to do that?   How about 20
good ones?   I'm really busy with my technology development.   Do I
have to do this?

And my answer to this I always say is I use two examples from what
I call famous startup gurus, neither of which was a start-up guru, but I
love this quote from Richard Feynman.   The first principle is that you
the money fool yourself and yet you are the easiest person to fool.   This
is the spirit behind I-Corps.   And if that doesn't work for you, you're not
a science fan, you are a sports fan, I quote Mike Tyson, everybody has a
plan until he gets punched in the face.   And that's the spirit behind
getting out and a talking to people.   As I tell people here are the top 10
startup mistakes.   I made them all.   If you look at the top three these
are the things we really focus on in I-Corps, primarily number one and
three here.   Don't build something no one wants or not enough people
want.   And number three, don't be defocused.   Again, these are two
things that we really spend a lot of time on in I-Corps.

So in summary, why is I-Corps especially valuable for life sciences in

my opinion?   Short answer is there's a lot to learn in these markets.

They're some of the most complex I've seen.   There's a ton to learn

there.   Very complex, lots of stakeholders.   The pathways to market

are often lengthy, complex and costly.

Startup risks are generally very high in these markets.   These are

the best three reasons I can think of to come in the I-Corps program at

NIH.   With that I'll wrap up.   Looking forward to doing Q and A with

you a little later.

Christie, I know we were going to have transition here.

I'll turn it over to Will, who is one of the past participants, and he

will go through some of his lessons learned.

Will>> Thanks, Edmund.   This is a good dove tailing because I'm

going to talk a lot about what Edmund talked about and Edmund was

also the instructor of the cohort that I went through.   This should be

queued up well here.   My name is Will Plishker.   And we brought to

I-Corps technology which is an augmented reality solution for

laparoscopic surgery.   It helps laparoscopic surgeons do procedures

faster and with more confidence.

And what I want to talk to you today is about some of our lessons

learned in this.   I don't want to give you a whole pitch of what's

happening at IGI tech.   I want to give you a glimpse of what it was like

for us to go through this process and where we started from and kind of

where we finished based on it.

So the first thing I'll give a little bit of overview of our technology because it will help frame some of the rest of discussion.   If you go and have a laparoscopic procedure done now there are lots of things in the operating room, but two of the things that are very commonly there is the laparoscopic camera screen that is a doctor is using to go and do the procedure.   And often right next to it there is an ultrasound screen which is allowing them to see inside a solid organ as they're doing the procedure.

It's the same patient, it's the same, you know, set of information, but it's across two screens and requires kind of mental correlation between these two screens for the doctor to correctly interpret what they're doing during the procedure.

So we had a clinician come to us, Tim, and said this is annoying.   I want one screen.   I can see the ultrasound on the screen.   I want it to be in place so I can do it faster and with more confidence.

So we built this little setup that is simple.   It takes an ultrasound display and it takes in your laparoscopic camera, it tracks everything and then provides a fusion image, which is what you saw in that first slide.

And Tim Kane likes this solution.   He calls it the perfect balance of these two technologies.   So we came into I-Corps feeling pretty good about ourselves.   We had started from a real problem that a clinician

was having, we were deployed, we got feedback based on the unit and we started off the unit -- and then our I-Corps team is actually made of myself, Raj Shekhar at Children's National and Mark Chandler, our Industry Expert.

So we started off this process with what we thought was, you know, not too bad a business canvas, a little thin here, but we knew what we were trying to provide in terms of value.   We had some customer segmentation.   We thought about laparoscopic surgeons and the kind of cameras they use and that would be a good way of segmenting.   And how we thought we would make money and what the cost structure would look like.

So we went right out as per the I-Corps model and tried to start validating these things.   Particularly outside of our own institution. We already talked a lot with our own institution, but it turned out quickly in the interview process when we were going and talking with surgeons who were not research oriented, who were not at these kind of top tier institutions, that they had a very different view of the world than we were used to in working with our own institution.

One of the key takeaways that I've highlighted here is that the use of ultrasound in laparoscopic surgery was much lower than we expected it to be.

And that was surprising.   There's lots of literature, great research,

new pioneering techniques, but if most of the market isn't using ultrasound -- first place we needed to go back and look at our business canvas and really re-examine a lot of these assumptions.

And so we did.   We did it in a few ways, but primarily we refined our customer segment, so instead of looking at laparoscopic surgeons as a general pool of customers, you know, defined by the kinds of cameras they used, we divided them instead into their specialties.

So we looked at urology and gynecology and oncology and thoracic and started talking to them.   We realized how little we knew about their procedures.   We had been working with one surgeon and so we knew a lot about his procedures, but not a lot about the larger problems occurring in different domains.   So we started to take more takeaways from that.   We figured out those customer segments that were already using ultrasound or were at least amenable for using ultrasound.

Lots of the canvas gets populated in lots of different ways so this is as we're iterating and filling out the key segments.   And really had this great ah-ha moment when we started talking to thoracic surgeons. Thoracic surgeons were not a set of people that were on our radar when they were developing the technology, but part of I-Corps and just exploring these different domains is we found they had a very serious pain points in particular procedures that they do.   And if they had had a solution, a minimally invasive solution that could leverage ultrasound to

help them locate things and particularly packaged in a way that would help them do it quickly, it will be a major win for them.

So this is an example of a market that we hadn't considered when we first started the program that we were stumbling on to because of gaining more focus and really, you know, assessing our own assumptions going forward.

So we went back, refined our customer segments even more. We're now very focused on how can we provide value to the core need that they have?   Do they work with the channel partners that we're talking to?

Do they have the kind of buying power necessary to actually purchase the technology as well?   Do they have the kind of volume, the procedure load necessary to justify it to hospitals?

So all of these things got more and more fleshed out as we went through the process.

And so we had this pivot then away from just general surgery and particularly focused on compatibility area and really refined in on these thoracic surgeons and surgical oncologies.   And there were lots of things that we learned about the process, but what's great about I-Corps is that as you go through these interviews you get ah-has all over the place on the business canvas as you're -- as you're going and evaluating each of your assumptions when you do the interview process.

And that's what was really so valuable for us, guessing out there, taking everything as an assumption that needed to be tested, and once you found the ones that were wrong, because every team in our cohort found assumptions that were wrong in their original business canvas. What do you do after that and how do you pivot and how do you find assumptions you can build off of was really the great takeaway for us.

So we're kind of -- we're about a year removed from the program. We're now participating in NIH's CAP program, which is a great kind of next step for us after we have figured out a lot of these things with the business canvas.

We've got a lot of new contacts both on the surgeons, hospital administrators, regulatory, lots of people now in our Rolodexes that we can contact as our questions arise.

And it's been a great way of getting our foot in the door at other places too in terms of making pitches even though the point of I-Corps is not to formulate a pitch, it is a natural by product of going through the product. So we've been fortunate enough to do some regional things with that too.

Okay. So with that, that's just my brief overview of our path through I-Corps and I'll turn it back over now to Michael.

Christie>> Thank you very much, Will. At this time we'd like to continue with the Q and A portion of our webinar. And I have Michael

here.   And please continue to enter your questions through the Q and A box and we'll be addressing them over the course of the event.

Michael>> All right.   Thank you very much.   First off, let me just give you some information on our next application due date.   So we are accepting applications for our next cohort and that cohort is going to run in the summertime.   And Christie, the exact dates for the cohort are? I'll get to that in just a second.

But the application due date is March 21st.   And again, if you want to actually get a link to the Funding Opportunity Announcement, again, just go to our website at sbir.cancer.gov/icorps.   That has a link to the FOA there so you can see all the details.   There are two stages of the application process.   There's a written application and there's also an oral interview process.   But I encourage all of you to apply that are eligible.   And again, March 21st is the first date.

Let me actually ask the first question to Will.   Will, one of the concerns we hear about from companies is the amount of time required for the program because it's about an eight-week program.   So a lot of folks are -- have expressed a concern to us that they don't have that time available to commit.

So you've been through the program.   You understand the time required.   You know, could you give us a sense of why it was valuable for your company even with the time that you had to put into it?

>> Yeah. The first thing is that we should be clear that it does take time. This is something that requires effort on your part, it requires a commitment from you in order to be able to do the work.

The way I kind of respond to the question is reframing it in terms of, you know, what are you doing right now that's more important than the goals of this course? If you're really focused on trying to do commercialization and you're a technology person, I have a Ph.D, I'm not a business person, and we didn't have an MBA person on our team.

There was nothing more important for us to make sure that the technology that we had already spent a lot of time on and continue to spend a lot of time on actually had broad market appeal. If it doesn't have those things then all of these things that we were spending time on just weren't important.

I think that we didn't completely ditch what we were working on, but we definitely have taken lessons that we've learned from the time we've spent in I-Corps and changed the way -- changed some of the focuses that we're doing in the lab. And that's so valuable for us.

We have a lot of confidence now with the technologies that we're working on that we really know we're working towards something that can succeed in the marketplace. And if you don't have that, I don't know -- I'm trying to think from a technology perspective, what's more important than trying to make that fit?

So yeah, we're all strapped for time.   That's always going to be a problem, but for me this is just one of the most important things you can do for any piece of technology that you really hope to find in the marketplace.

>> Okay, thank you.

Next question is for Edmund.   Edmund, can you tell us kind of what the magic is behind 100 I interviews.   And do you really need to go out and do 100 interviews to really make this program work?

>> Right, Michael, I will tie this to Will's answer there.   I think that one of the things that we're trying to do over the course of this program is teach folks a process they continue to do throughout, even after they leave our cohort.   The one reason we like to use 100 is quite frankly I would say it takes 20 to 30 interviews for people to even get sort of reasonably adapted doing them.   And it's not until about 60 or 70 on average you start to see what we call that signal from the noise.   You can hear a lot of different things out there and it's not always that you hear exactly the same thing.   So we push 100 because we have seen many times that it works well.   There's no magic about 100 or 150. The more you do the better, I would say.   We've always said 100 is the goal and objective because it is just enough to get people really sort of bought into the process and get decent learning out of it.   Anything less than that we find it more and more difficult to get good learning.

>> Okay.

>> It's something you want to keep doing throughout the course of building your startup.

>> Okay, thanks, Edmund, appreciate that.

Will, what would you tell companies who think that they already know all this stuff?   That they've been through it?   That they already can do this on their own?   What should entrepreneurs ask themselves to evaluate the value of a program like I-Corps for their company?

>> Yeah.   I would come at that from two angles.   First is to, you know, really revisit that idea of you think you know something or you actually know something?   Like how much evidence were the assumptions that you have for your current venture do you feel completely confident in and can be backed up by evidence.

Even if you're 100% right, if you don't have the evidence necessary and you're going to an investor or you're putting in another award, you're not going to have the credentials necessary to make -- to convince that person sitting across the table from you.

And furthermore, more than likely you've just got things that are wrong in a business canvas.   Like I said, everybody has something wrong in their business canvas.   And there were some seasoned teams in our cohort.   It wasn't like everybody was starting from scratch.

The other thing I would say with respect to the value of I-Corps is

that even having the right mindset, doing the interviews on your own,

let's say you already have done these surveys and everything.   There's

just an immense amount of value coming from the program itself in

terms of its structure and the mentorship that it provides.

For us in particular we had Allan May as our local group mentor and

being able to run ideas and bounce things off -- ideas off him and bounce

things off him was so valuable.   You were able to short-circuit a week's

worth of deliberation on your part and get right to a valuable answer.

So the people that are involved in the ability to really tackle our

assumptions and get all the evidence you need and the value added.

>> And as a guy in the medical device industry for years and --

>> Amazing resource.

>> And that's the quality of people that we have involved in this

program who are available to work with companies in the program.

Edmund, did you want to say more?

>> Will summarized it well.   I will say a quote I once heard.   I wish

I could remember who actually said this.   I will start by saying when you

hear about this approach, the most common reaction, particularly if

you've been a start-up founder like myself, say this is not new.   Of

course I should talk to customers.   Well, of course I should do this.   But

one of the best quotes I ever heard is when someone says that, the

typical response is that's great.   The problem is you weren't listening

the first or second time you heard it, right?   We all fall into this.   Yes, we know we, quote, should do it, but actually having a structured way here and as Will brings out, not just with the mentors, but one of the things I point out is working with peer companies is very helpful because you learn from them as well.

I think it's one of those things that you step back and you think sounds logical.   I'm doing it already, but there's always an opportunity to learn from others and I think that's probably one of the greater benefits of the program is a lot of others in it.

>> Thanks very much, guys.   That's helpful.

Lee asks another question.   Will, can you share tips on how to interview super busy people like doctors?

>> Yes.   You know, we heard -- we were warned going into this that sometimes getting interviews was going to be hard, particularly because face to face interviews are so valuable in order to have a meaningful discussion with somebody.

And we were trying to get ahold of surgeons.   Many of our interviews were with surgeons.   And they were extremely busy people that can bump you and you really cannot say anything if they have an important case.   You cannot say oh, just 15 more minutes for that patient to be on the table.

So what we did was a lot of waiting around in waiting rooms trying

to catch people.

Honestly, just being physically located at places, we found that eventually we would just run into people.   They still have to go in the hallways between places and could find time for us if we were there.

Of course, the other things that were important for us is, you know, we had the other companies were looking for people to interview that had overlap with ours that was a very valuable thing.   Allen May as I mentioned before and the other I-Corps instructors had contacts.   We had our own contacts we kept branching out from.   But this idea of really being there, being present and getting the face to faces.   And we had multiple instances too where we would have a face to face with a doctor and he would say oh, do you know what?   I think Joe down the hall would really be interested.   Let me just bring him in.   And then bang, that's another whole perspective that we're getting right face to face that's happening right there that we hadn't even anticipated.

So these things can happen.   It's just a matter of being there, being committed to getting the interview and it will work out.

>> The one thing I'll quickly add to that that I think Will really highlighted here is the value of the network.   It's not just the network you meet in the course, your peers and instructors and mentors, but these contacts through these interviews that you get because once you crack in and you get a handful of interviews and you ask for some

references, all of a sudden your network grows exponentially and these people will be the ones you turn to when you're ready to sell that first product.   You will hopefully keep some of these people as early adopters.   Another great benefit of the program.

>> Edmund, can you talk a little bit about the other instructors that are being going to be teaching the program?   Kind of what their backgrounds are and how they can offer benefits to the teams that are going to be applying?

>> Absolutely.   So for folks on the line, the way we have this set up for this round is we have six instructors.   All six of us are actually certified I-Corps instructors and have taught this program to a variety of different types of companies, not just at NSF, but also NIH.   But three of the instructors have very deep domain expertise.   So we have one person with devices experience, is not only a startup founder, but an investor.   We have another person that's focused on diagnostics and another person on therapeutics.   They not only have experience with startups, but also investors.   Our goal is not to pretty you up for an investor pitch by teaching you an methodology, but our background is also to help you with that aspect as well.   One of the things that we're seeing more and more now in the investment community is that people expect you to use this common language to be able to answer questions.

So they're a great group of instructors.   A lot of experience and I'd

be happy fly to see all of you this summer and if not this summer, shortly thereafter.

>> Can you talk more about you mentioned kind of your ah-ha moments or key pivots.   That's kind of the driving -- that's the driving force or some of the most immediate results that you see coming out of the program.   Can you mention a little more?

>> So one of the -- kind of what lead to that later ah-ha with thoracic surgeries is one of the programs we did with the program, which was to -- we had a contact with a laparoscopic surgeon and we hadn't done very many interviews.   And we started on our normal line of questioning and got to this ultrasound question and asked it in a very leading way like oh, what procedures are you using ultrasound for right now lap laparoscopically.   And her answer was none, I never use ultrasound.

And being still new to the program, that really threw us off the rails because we just had one of our assumptions in that interview just totally invalidated.   We spent the rest of the interview kind of stumbling around trying to figure out, oh, is this just a weird outlier or what's going on here?

And so it was from there actually that we went and revisited our customer segments in a much more focused way.   And so it was actually that -- Edmund said, that punch in the face that got us really back in

revisiting and starting to think more critically and that's what allowed us, cleaning off that assumption is what cleared the way for ah-ha moments later in the process.

And as an aside too, to kind of tie in with something else that we were talking about, because we were new to this interviewing process, obviously we talked to surgeons about their needs and everything, but that was just something that happened early in that interview that just totally threw us off.

Once we had 20 or 30 interviews under our belts that kind of thing didn't phase us anymore.

Even when a person -- even when we find out the person we're talking to is not even a potential customer for our product in any near term sense, they still know other things on the business canvas that you can go visit.   How do you do your purchasing process?   What are the kind of cost drivers for you when you do consider a technology?   It was still a laparoscopic surgeon, they just weren't in the domain that was going to match with what we were doing.

So this ability of getting -- of getting better at the ability of doing the interviews was one of the things that we really valued from getting out of this experience too.   Whenever you're face to face with somebody, at a party, a doctor's office, there's somebody to be learned, something you can gather evidence for in your business canvas or strike

something up and realize that's not the path that's going to work for us.

>> Okay, very good.   Thanks, Will, that's very helpful.

Edmund, do you have any thoughts on that too from your prior experience of teaching a number of these cohorts?

>> A couple of things and I will step back and address first of all the fact that all of the folks on the line are probably Phase I grantees or hope to be and that's who we serve in this program, right?   And we've done some of this for the NSF Phase I teams too.   And one of the big concerns is oh my gosh, I've just gotten this Phase I award.   What happens if I find out that oh, that's really not the right way to go?   Am I going to be in trouble?   Do I have to return the money that I've just been granted?

And the answer is no.   And that's one of the beautiful things about this program I really want to emphasize which is NIH is giving you the opportunity to go out there and make sure you're headed in the right direction and they want you to come back and tell them honestly what you've learned because their ultimate objective is for you to succeed.

And so make it even better you get a little additional funding to do this.   And as I tell people when I had my startup, I would have died for someone to have given me several thousand dollars to go talk to customers.   Nobody did that.

So this is a great opportunity.   So some specific examples, Michael, because where we really find sort of the most interesting ones is when

the team realizes oh, it really wasn't this customer or this application.   It

wasn't this -- we had one that went through a recent program that

thought they were going after a certain type of surgeon and they ended

up with an entirely different type of surgeon.   They are still in the life

sciences phase, but weren't going to the same types of people.   They

don't realize how the segmentation in these markets tends to be very

complex.

    We had another team that went through the NIH cohort last time

that I think -- it's in my slides that I won't look at right now, but I think

they said they expected it would take them six years and three million

dollars to get where they needed to go.   And in the process of the six

weeks they realized they could actually cut that in half.   Pretty

interesting finding for them.

    So we see all kinds of examples like that.

    Primarily, though, and it may not even be these major pivots, it's

the refinement of understanding.   It's knowing where to start and who

really needs it.

    You're probably headed in generally the right direction, but the

question is do you have a real refined understanding of where to start

and what the motivations of everybody involved in the purchase decision

really are.

    So I'll stop there.

>> Okay, thank you.   I'm just looking at some of the questions that have come in.

One question, is there additional value to a company to do I-Corps if you've already done the CAP program?   And you've actually got -- Will has actually said that he's -- he went through I-Corps and now he's doing CAP.   They're really different programs.

>> Yeah.   It's interesting the person has already gone through the CAP program because the way that we're getting a lot out of the CAP program is the fact that we've done I-Corps first.   And CAP just doesn't have the same -- again, CAP can be very focused -- it has a few different branches and can be for different companies.   But for us what we want -- what we are currently working on getting out of CAP is actually building our road show so that we can go and get private investment.

And the thing -- our first meetings with our CAP mentor are, oh, great, you've already got all this primary market data that you've gathered from I-Corps.   And that put us on a much better footing to get more out of the CAP program than we would have done otherwise.   So that's -- I can only speak to my experience with the CAP program, but that's the way that it seems to be working well for us.

>> As a quick follow-up to that and I addressed it very quickly in my opening remarks, what we tell people is don't write the business plan right now.   Let us help you find the foundational material that would go

in it.   I think it was the same analogy here.   What we'll do through the NIH I-Corps is foundational material that should naturally be symbiotic, so to speak, with the CAP program and be a perfect complement.   We don't really do the same things, to be quite honest, and they're very complementary.

>> Thank you.   There have been a few questions regarding eligibility for applying to the program.   Again, if you take a look at the Funding Opportunity Announcement you can see all the different institutes that are participating.   But there also was a question about whether is the right time to apply.   And the program is open to all Phase I SBIR or STTR companies who are being funded by one of the participating institutes.

So really the opportunity is a good one for anyone that has an active Phase I.   Your projects still have to be active at the time you apply and over the course of the award.   You can't be a Phase II and apply to the program.   You do have to be a Phase I.   But at any point in that process from when you started the Phase I, we really think -- again, this is from our conversations with the companies that have gone through it. You really have the opportunity to benefit from the program at any time in the Phase I.   And again, it can really do a lot to help inform your Phase II application and strengthen the whole business component to your Phase II application, which is a critical component to review.

The other question I think was the time commitment factor.   And, you know, these are three person teams, so in order to apply you do have to have a three-person team.   You have to have someone who is playing the role of a corporate level officer, which that's you, Will, that's you on your team.   You also have to have the PI on the team.   And then a third person is an Industry Expert.   Usually the Industry Expert is someone who can be from within the company, could be someone on the board, it could be someone who you have a personal relationship who really knows your industry well.   The role of the Industry Expert is really to have someone who has got a strong set of contacts, strong Rolodex within the community, someone who can really help set up interviews when you're trying to really get going in the process.   And also is familiar kind of with the decision-making process for -- for how decisions are made in that particular industry.

If you do have trouble potentially with the Industry Expert and finding the right person there, I would suggest talking to us or your -- the point of contact at your institute.   In some cases we can try to help out there, so I wouldn't -- I would not not apply because of that.   We may be able to help out there.

In terms of time commitments, we estimate time on a weekly basis probably around 20 hours a week while you're going through the course, but Will, if you can talk about your experience there.

>> I think that's a fair estimate too.   I mean, what's nice about having a team too is if you need a little more time one week you've got other team members to lean on.   And in turn they can lean on you. But yeah, I think about 20 hours a week is fair.

>> The other thing, I heard a lot about from the first cohort, was it wasn't just the customer relationship you were developing, but the fact that you were working with -- the first cohort, 19 other companies, you got some really valuable information and relationships from the other teams that went through the program.   Do you want to say anything about that?

>> Yeah.   What's nice is the way that you structure the process is that there was -- there was a large cohort of lots of teams, but there were also local groups.   So IGI being a device company, we were with other device companies.

Not that there was another company working on laparoscopic surgery.   We were the only ones doing that, but they still had many of the same common issues that we had.

And there were a number of overlaps in terms of interviews that they did that they could refer to us.   So that really helps get to that magic number of 100 as well, to have these other groups around.   You don't have to spend quite so much time just finding people.   You have a local network just within I-Corps to help find more interviews as well.

>> Okay.   Thanks, Will.   There was another question here, what about the ending date of our grant is in June, which is when the program actually starts?

What I encourage you to do is talk to your institute, the point of contact for I-Corps at your institute, which is again listed in the Funding Opportunity Announcement.   We've had other companies with a similar situation and there are ways of solving that and still being able to apply to the program.

So again, connect with your institute on that.

Let's see... does the I-Corps emphasis on customer development make the commercialization of SBIR Phase II applications more attractive when they are being reviewed?

Again, from what we've seen at the NCI from companies that have gone through I-Corps, it's a much stronger commercialization strategy as a result of going through the program.

Just because there's a huge value in talking to 100 customers, which that information can go directly into your application.   So again, strong benefit.

How many I-Corps teams are there per session?   We are equipped to actually handle up to 24 teams.   But it's really more a reflection of the number of people that apply that are really qualified to go through the program.

So I encourage you to apply.   We've had a very high success rate in terms of applicants who have been accepted.   Most of them have been accepted up until now.   And if you have any more questions about that, again, you can follow up and email us on those.

Before we break -- there was one question about what happens after this next cohort, the second cohort which is being offered in June, will we be offering the program again?

Well, that really kind of depends on how much interest we see from you and the community in terms of applying for the program.

If we get a strong response from applicants who are really interested in participating in I-Corps, I think then there's a very good chance that NIH would continue to offer it.

If the response isn't so strong, then we'll have to really look at that and assess kind of where we are.   But we're hoping for a strong response.

>> Will, let me make one quick point.   I know we need to wrap up. In terms of the NSF program because it was started earlier.   We started with a handful of teams, about 20 in the first cohort and maybe total of 40 in the first year.   We just crossed over to the number 600 just like two months ago.   And this year we'll train another 300.   So the NSF program has grown very significantly.   I would expect and hope we see the same over here.

It does take some time to build that.   So I would encourage all of you too to reach out to any of the regional I-Corps folks if you have questions going forward, not just now, but some time in the future.   So happy to work with you.

The other thing I wanted to point out, there was another question of what are the most single most important qualifications as a team?   I'll speak as an instructor what is important to me.   Teams that are committed.   You've already gotten to Phase I.   NIH has already picked you as worthwhile to fund.

So if you're coming into this program I assume that you're committed to doing the work.   As long as you're committed to doing the work that's the most important thing we look for with this program.

>> Just to add on to that, if you're applying, make sure you pick a team that you really want to go in the trenches with because having a great team will pull you through a lot of challenges and obstacles.   I was lucky, I had a great team.   I know there were some other teams that weren't so lucky.   Make sure you know who you want to bring on board when you do the program.

>> And again, just one final word.   The next application due date again is March 21st, a little over a month from now.   All this -- the instructions and the review criteria for selection are in the FOA, so I encourage you to read that.   And as you do that, and you have

questions, please follow up with the point of contact at your institute that is funding your Phase I grant.   And we can answer any questions that you might have.

You can also shoot any general questions to us -- to us at the NCI and we'd be happy to answer them too.

With that I want to thank each of you for joining us today, and we look forward to seeing your applications for the next round.   Thank you very much.   And thanks to Edmund and to Will and to Christie for organizing this event today.   Thank you.

[End of webinar].