

- Mitra Basu

00:44 So good afternoon everyone I think we'll wait for another minute have some to let people in, and then we can start.

- 01:45 yeah I think we should start.
- 01:50 Good afternoon, everyone, and thank you for joining us for this webinar I am me traverso I am a program director and one of the cognizant program director in the solicitation.
- 02:05 So we are very fortunate to have our assistant director of size of this, that is, the computer information science and engineering directorate.
- 02:19 assistant director Dr Margaret know see who will be welcoming you and also giving a tree few opening remarks.
- 02:31 After that is done, then we will come back to the presentations and question answer.
- 02:38 This so let me hand it over to Margaret.



Margaret Martonosi

02:42 Thanks so much material, let me, let me go ahead and share my screen.

- 02:55 So good afternoon everyone, my name is Margaret Martin oC and I lead the computer and information science and engineering or science director at nsf.
- 03:03 I know you're here for the science, research visioning webinar and I will get to that in a moment.
- 03:08 I wanted to use 10 seconds of your time to tell you about a fellowship program that not enough people know about and it has a deadline may 19.
- 03:16 If you know of someone who got their bachelor's degree in is thinking about coming back to graduate school, please grab this URL and tell them about it.
- 03:26 fellowships with three years of graduate funding, just like other nsf fellowships but with a year of mentoring that predates that funding to help people understand what graduate school is about and to.
- 03:37 encourage a broader set of folks to go into graduate school in our fields that's my commercial message now let me get to the actual focus that we have today, which is the size research visioning activity, and so I want to give a few slides of intro as me to mentioned.
- 03:56 And I want to start right here in our name the name of our director his computer and information science and engineering.
- 04:04 And that's a pretty broad space and so when we're talking about research visioning we're talking about that full broad space.
- 04:12 See is E writ large, so as the leader of size and spin my real privilege to be able to leave this full breadth of important size topic areas as we at nsf and with the Community set the direction for future science, research funding overall.
- 04:31 And then nsf is america's foundational science funder for academic research across a wide range of stem topic areas but Nowhere is that more true.

- 04:41 than an our topic area where nsf provides get this about 80% of the federally funded academic research funding in the US 80% so that's a big responsibility in terms of getting it right in terms of where we foster new topic areas and that's what research visioning is about.
- 05:03 So I like to make the analogy that research is like planting trees, the seeds that we plant now will show benefits down the line.
- 05:11 But it can take years for an acorn to grow into a big oak tree and so it's important to think long term and to plan ahead.
- 05:17 And so the key really is which trees to plant and how many and where and how can nsf help with that process, so the research visioning organization.
- 05:27 That we that this solicitation is about is a chance to help offer guidance to nsf and to the Community to help answer questions like that.
- 05:37 we've been grateful for the role that the CCC has played in the space for years and it's natural that on some cadence.
- 05:46 In this case, about 10 years it's wise to step back and take stock, how can we make.
- 05:52 This role that CCC has played and that we're now calling size rv in the solicitation, how can we make this be as beneficial as possible across the whole topic space and across the full set of style sighs stakeholders.
- 06:04 So that's what brings us here today to encourage you all to welcome the Community to come forward with proposals about how you might partner up.
- 06:12 join forces and put in these research visioning proposals, not for individual workshops, but for being the organization that takes that on for the Community that helped envision the future for this research visioning activity.
- 06:28 I want to go a little bit more into sort of how that tree planting plays out across size.
- 06:35 When we think about planting trees, the size director is proud of the different types of impact that we've had the way those acorns have grown up over the years.
- 06:44 As I says foundational impact some folks look at this picture on the left and remember it as an imaging of a black hole that caused a sense of wonder around the world about three years ago when it made front page news.
- 06:56 Some folks remember that, as an astronomy result, but I think we on this webinar know there's a whole lot of computing in that result, and so the question is how to envision how computing can help.
- 07:08 With those and other really fundamental results fundamental questions about how information is gathered analyzed and communicated.
- 07:16 One example of the kind of foundational work that size has fostered is the fact that around 60% of the turing award winners, the Nobel Prize for field have received nsf funding.
- 07:27 translational research, the national academies report on the lead to the so called tire tracks diagram.
- 07:34 quantifies the degree to which foundational research, much of it, funded by size has changed, how the world computes and communicates.
- 07:42 To the order of around a trillion dollars in economic impact across the space that's depicted in this image, do you want to read this image.
- 07:49 With a more reasonable font size, you can go to the URL that's down here.

- 07:53 And then societal impact different ways that size funded research is changing American communities and changing the face of computing, so this is a pretty broad space that we're covering and when we're hoping.
- 08:05 For folks to come in with research visioning proposals were hoping for that Brett than that coverage to be reflected.
- 08:12 In terms of sort of more of a sense of breath for size, let me talk about the organization of how size fits a house different units fit within size.
- 08:25 We have four units some units within the size Directorate three of them the green the Teal and the sky blue here represent.
- 08:34 The different research faces of the size directorate.
- 08:39 And the fourth unit, the officer advanced cyber infrastructure always see is organizationally within size, but it has this broader mission to serve the full science Community astronomy to zoology and everything in between.
- 08:51 With advanced computing reese resources software data and so forth, and so, when we're looking for a research visioning effort, an organization The goal is to cover this full broad space.
- 09:04 Another thing to note is the degree to which, while we do have those four sub units we work together on an awful lot of size wide initiatives, the program officers that you see here on the webinar screen reflect that so.
- 09:18 Many cases where we are calling coloring across the lines either to span the four divisions and other cases where we're actually reaching out across many directors as well.
- 09:31 one more example of the breath is when I give a talk about size, I often organize that talk in terms of three overarching technical themes that represent inflection points that our field is facing.
- 09:43 And I don't have time in this intro to dig deep in each thing, but I do want to note again this breath, on the one side of our field we're facing the end of moore's law.
- 09:53 And how that is causing a true seismic shift that changes everything about the program ability, the portability the reliability and the security of the computer systems that are built on top of the substrates.
- 10:08 That are facing these end of moore's law things so end of moore's law can feel like it's just download about the transistors really end of moore's law is about our whole.
- 10:18 computing stack our whole computing ecosystem so that's one of these overarching technical themes another one is about Ai.
- 10:26 rate is pulled from our whole field to get where it's gotten to and the way it is impacting our field and so many more.
- 10:34 In terms of the way it's being used in the way it reflects in the world.
- 10:38 And the third overarching technical theme that we use when we talk about size is the notion of beneficial socio technical systems, this can mean a lot of different things.
- 10:47 This is certainly about things like fairness and trustworthiness in Ai systems, this is also about conductivity how is our advanced wireless research supporting better connectivity.
- 10:59 Through a pandemic and beyond, how are we bringing about better affordable rural broadband and how are those connected systems, helping communities.
- 11:11 And function better than they were before communities, meaning your city your region your state.

- 11:18 There are also cross cutting enabler things that we think about in size and I want to specifically talk about these two in the middle, because I think our research visioning organizations should definitely.
- 11:28 Think about and foster conversations that have to do with what is the infrastructure, our field needs to succeed.
- 11:36 What are the research resources that different parts of our research community need in order to really tap into the broadest set of talents and ideas.
- 11:45 So, for some of us that might be high speed network for others of us that might be data sets at scale that let anyone anywhere.
- 11:53 test out a really good idea about Ai about some other aspect of our world, and then people broadening participation, so far, so.
- 12:02 Three technical themes a bunch of cross cutting enablers sort of spell once again the sort of breadth of the field and the scope of the research visioning that's needed here.
- 12:13 So with that i'm going to pause now and hand it back over before I do hand it back over I want to take a minute to thank a bunch of nsf first who helped to organize this event.
- 12:26 So meet your boss new terrific co star Ralph wachter hector who knows who knows a Viola and Nina online they're here on the webinar along with some other folks who will help to answer questions.
- 12:38 I also want to thank the folks at memes for their it support as well, and I want to thank you for making time for this, and thank you for your energy and your ideas and i'm happy to hand this back over to mitra.



Mitra Basu

12:55 Thank you.

- 12:56 Margaret, thank you for that opening talk and that of course sets the stage for what I am going to say next, so let me share my slides as.
- 13:09 Margaret has already thanked the few people who are the companies and program directors who are all here.
- 13:19 And also, in addition to that, we have other people.
- 13:26 Good deep Singh, who is that division director for computing and network computer in network systems and also Wendy.
- 13:37 Nelson, who is the acting deputy division director of informational interviews that information system hope I got to write.
- 13:46 out and and see Margaret already mentioned about me now she's with the officer assistant director and she's also here and there are tech people, of course, are key to have this process succeed, so now, I am going to share this thing and go on the slides.
- 14:15 hope you can all see my slides and, let me start that slideshow.
- 14:44 Can you see my slides.



Nina Amla

14:48No.



Mitra Basu

14:49No Now you can I don't know why this is the last page.

- 14:59Okay, now, you can see my slides like yes.
- 15:03um okay.
- 15:05So um the the, as I said, this is the solicitation and size rb webinar that we're doing.
- 15:16And then, as a person.
- 15:21how you are going to pose your questions, but let me start with.
- 15:33Now the as Margaret already talked about the breadth and depth of the size of your organization that we are looking for this is an open comm so everyone can compete.
- 15:50Six to find a Community driven organization that will identify ambitions new fundamental and translational research do actions So these are key.
- 16:03Key points to note so you're looking for research directions, not a specific workshop.
- 16:10Specific meeting So these are the sorts of directions that align with the national and societal priorities and, by doing so we are hoping to catalyze the computing research communities person.
- 16:25of our innovation and hygiene factors to goals of this webinar first one is to inform the community about the size program solicitation and there's like people like you who are in that.
- 16:41webinar and also others who cannot join us, but hopefully they will be able to this, this will be available on the program page and they will be able to access that and the second goal is to respond to questions from potential applicants and as again, as I said.
- 17:02That once the presentation is over we going to question answer.
- 17:09phase, you can pose your question in the Q and a icon using the Q amp a icon and we will respond to those questions.
- 17:27So the cognizant program directors our names are listed in the solicitation and we are from the four divisions and officer that actually asset class size, as you can see, so the breadth of the size of the organization that we are looking for.
- 17:49I am mitra as soon as I have already introduced myself from the division of computing and communication foundation, we have route laughter from division of computer and network systems hector millennials every law from division of information intelligence systems and.
- 18:13processes.
- 18:14from office of advanced cyber infrastructure.
- 18:22So what.
- 18:24Do we want to.

- 18:28 accomplish through this size our fee, so the goals, the main High Level three goals are that we are looking for the organization that has a plan plugged in and integrating input from all stakeholders, so these stakeholders are.
- 18:49 From academia industry professional societies government agencies and the public right, so if they are our stakeholders, therefore, want to actually get input from them and put them together that second goal is.
- 19:11 Helping facilitate articulation of compelling compelling long term to such division and the third goal is strengthened connectivity and increase coordination across.
- 19:23 Diverse stakeholders, so this size agree i'm going to edition, that is funded and, finally, eventually, that should be able to.
- 19:36 satisfy things three goals three high level goals.
- 19:42 now coming to the know coming to the submission process and the letter of intent and ally is required so due date is may 10 2022, it has to be submitted by your sponsored research officer oxidized organizational representative and submission of multiple analyze is not funded.
- 20:09 eternal life must include a title that has to begin with size death and the prefix in size CIS dash rv.
- 20:22 It project synopsis up to 2500 characters should contain a brief summary of the project, including the organizational and management principle for the size.
- 20:36 IV, and it should also describe the team, the team his name the name and departmental affiliation of the principal investigator name and departmental definitions of.
- 20:51 The copy is an all senior personnel and name of any additional participating institution or organization, including on Sunday bodies.
- 21:03 Now.
- 21:05 Why are we asking for analyze because they analyze and not going to be defeated.
- 21:12 And they therefore he will not be receiving any feedback from us, so if you suddenly again, like you, are eligible to submit a proposal, so there are two factors for the Allies participating in lies one is, of course, it, you can organize your thoughts.
- 21:34 And you can.
- 21:37 Maybe not full blown because when proposal is not the ideal, but you can at least think about what are the essential points that you are going to touch upon elaborate in that.
- 21:51 In that main US proposal and also start gathering your team right and have a idea of what the project is going to be about.
- 22:05 This also tells you that you should read the solicitation because this few slides and not describing the things that have so much in great detail in the US.
- 22:16 solicitation and it helps a lot if you look at that solicitation I will again emphasize that, as a recap.
- 22:24 So that is the first reason why we are inviting allies, and the second reason is, of course, for our planning practice so when we get them now letter of intent, we have an idea what kind of habits we're going to cover um what is.
- 22:43 That not people number of key the key personnel, we will have an idea and that helps us in.
- 22:54 Organizing or at least start thinking about how to have a panel about all these things, that is the reason we are.

- 23:04inviting allies now proposal is due, is up to and 520 22 this year and the title again has to have a blue fix that in size bash rv and also, we will allow some minor changes in the title between the letter of intent and proposal.
- 23:30That is that that's allowed the project description is up to 20 pages now and then.
- 23:39Follow the guidance of Diana said happy, as you are preparing your proposal, including a new requirements that taxi provides for example, having a separate section applauded in fact.
- 23:55Either section should be included in the project description, this is all within 20 page limit remember that.
- 24:02And those sections are described in more detail in the proposal preparation.
- 24:08section of that solicitation so you against dress and I really bring that again and again that this is really not a substitution for not reading that.
- 24:20solicitation so please read the solicitation to get the full picture.
- 24:25And also note that the principal investigator and read institution should be identical in that letter of intent and the full proposal.
- 24:36So you can change other things, if you are definitely going to add more things as you form your team that is expected so additional personnel and participating institutional organization.
- 24:49may be included in the proposal that are not listed in the letter of intent, but just make sure that the rpi and the movie institution remains same in both of them.
- 25:06Now the project description should describe wings to um.
- 25:14achieve these following PICs again, these are described in more detail in the solicitation but is that the product description should present the plan.
- 25:26As to how they engage all things of size and you already saw from mind that it's flat that is this it covers simple lot of topics diverse topics.
- 25:41Including emerging areas and applications This is important because we are looking for five to 10 years out research visioning ideas.
- 25:52So emerging areas and application areas overlapping with other science and engineering field, as you know, computer science then plays into many, many other areas have become key player in them so some of them would be.
- 26:11You should keep those in mind.
- 26:14embrace a diverse organization on model that strives to balance factors may diversity of topic and massage how broad set of topics that size covers.
- 26:30Demography geography institution pipes and departments and ranking period status so depending on what kind of project, you are proposing.
- 26:41You need to find the right team right kind of people and think of the diversity that you want to include in your team as needed as you need for my expertise to cover those.
- 26:56Other aspects of facilitate the generation of ambitious medium and long things research patients that have broad support from does a nice sized research community, he will be talking to.
- 27:11The stakeholders and we identified the stakeholders beforehand So how do we integrate all these.
- 27:20Opinion all these input and generate this.
- 27:26Research vision plan monitoring research division plan, as well as medium range.

- 27:33enable rapid and efficient Community response to emerging opportunities and the areas of national and societal need so This again is time sensitive, because if something is hard right now, this is needed around now emerging.
- 27:51topic you we want to exploit that to see what should be our research direction not only just answer, but that entire Community.
- 28:03communicate the research visions and their importance to a wide range of stakeholders and that's that's a movie of course itself.
- 28:12And also others in industry and government as well as more to the general public, so your communication strategy has to be there for doing all these things, disseminating that.



Unknown Speaker

28:26The.



Mitra Basu

28:28outcomes of your meetings workshops also to gather input, so those your you have to have a.

- 28:38When plan communication strategy and, finally, most important is you need to check how well, you are doing.
- 28:49So you've had with outcomes, including meetings workshop topics considered at these meetings effectiveness of communication and dissemination awkward.
- 28:59So that gives you an opportunity to change your plan for the future, or should you continue on the same path, if you are doing well, so you need to do have such a you have a strategy definitely.
- 29:15More than project description, so we am hoping that successful proposal will discuss these things Organizational Structure again what is our organizational structure, please look at the sophistication that is much more detailed their.
- 29:31ambitions and forward looking visioning strategies, communication and engagement strategy, remember that, as we talked about communication strategy.
- 29:43As well as that communication, you need to engage the entire all the stakeholders to get the best out of them right and our final is evaluation framework that we discussed.
- 29:58How will the proposals me well.
- 30:01So i'm.
- 30:04proposals will be reviewed by panel review and our diverse site visit review.
- 30:11That to meditate review criteria and at then suck at all that intellectual merit and broader impacts, of course, the proposal shouldn't be evaluated.



- 30:23on those points and, in addition to that solicitation specific criteria is there and, as I was talking in the last slide These are just some dissipation specific criteria, so, if you look at that.
- 30:39substitution, you will see that we are saying.
- 30:43That the reviewers are instructed to look at it had read these points and evaluate what you have.
- 30:53Written and there are specific points on which they are going to pass away, so this is not just for the reviewers they are in the solicitation you should look at them, as you are developing your food proposal.
- 31:07And also, to some extent by Allah so who can submit proposals individuals and institutions of higher education.
- 31:20And nonprofit non academic organized so any of them can submit a proposal and human service PR.
- 31:33So these P eyes can be eyes and copy is can come from any of those institutions or organizations, but only requirement is that either the API or one of the API should hold a primary appointment at an institution of higher education that is required that's you're asking for.
- 31:55I guess maybe from all other kinds of institution unlimited number of proposals spot organization is one, so the Lead is going to submit this proposal, and I am coming to the.
- 32:10way I am and how can you read only.
- 32:14So there is only one proposal organization and the limited number of proposals for PR your book is one, so you cannot be in more than one proposal if you added VI or copia.
- 32:30So collaborative proposals, so when we say collaborative proposals, we of course welcome collaborate collaboration among.
- 32:41among you and your team and the team does not have to print from one institution, they will be different kinds of institution, depending on what you are planning to do in that size of the project.
- 32:54And we talked about diversity so diversity of puppet diversity of institution geography demographics, all these things videos aspects and they're.
- 33:07Not necessarily you have to do all of them, but you should do what is right for the project proposals right so collaboration is welcome, definitely but if it is multiple organization in a proposal, then it must be submitted as a single proposal, so the lead.
- 33:31Bi and the lead institution is going to submit this proposal as a single proposal and the rest of the institution that stop you i'm going to be sub awardees so making note of that.
- 33:49I have one over this required a letter of intent may 10 2022 and put proposal is October 520 20 now after you submit a letter of intent.
- 34:05If you would like to discuss.
- 34:09That, if you have questions and would like to discuss the development, developing the letter of intent into a proposal, and you have.
- 34:18You want to discuss that with us, we can schedule one meeting with your team, you and your team, and we have happy to help you in guiding that respect, but you have to ask for that remember after you have submitted the letter of intent.
- 34:40preliminary proposal is not require it only two things letter of intent and proposal.

- 34:49 And then there will be one hour out of this competition and anticipated funding amount is anywhere between 5,000,009 million that depends on what kind of.
- 35:04 plan you have in your project what budget, you need so it can be anywhere between that and duration is up to five years so actual.
- 35:17 The full blown project will be for four years, so that's the duration for that product, but if he'll need the startup phase.
- 35:31 Then, to develop and set up the organizational structure, you may request for one year of additional support, and that also additional one year that makes it five years, but the actual project plans for four years.
- 35:52 So I am at the end of my.
- 35:56 slides a recording and transcript of the webinar along with the slides will be accessible from the event page shortly after completion of the Web enough now.