

WEBVTT

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00:00:00.000 --> 00:00:18.280

Adrienne Cheng BIO/MCB: Welcome to the Office Hours on Using the Rules of Life to Address Societal Challenges. So we realized that this was advertised more of a as a Bio event. But this is really an effort from all across the foundation from all of our eight directorates. So with that being said, we have Program Director

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00:00:18.290 --> 00:00:30.350

Adrienne Cheng BIO/MCB: Program Directors from all eight directorates if we can manage to get Trish online. So I'm going to go through my screen and ask the PDs one by one to introduce themselves.

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00:00:30.450 --> 00:00:38.660

Adrienne Cheng BIO/MCB: Well, I'm Adrienne Chang. I'm an Associate Program Director in the Directorate for Biological Sciences, and I will pass it off to Cliff

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00:00:39.190 --> 00:00:41.890

Cliff Weil--NSF-BIO: Hi, everybody. I'm Cliff Weil. I'm.

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00:00:41.900 --> 00:00:47.760

Cliff Weil--NSF-BIO: Also in the Biology, Directorate, Bioscience and Directorate in the Molecular and Cellular Biosciences Division.

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00:00:48.350 --> 00:00:49.820

Adrienne Cheng BIO/MCB: Justin

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00:00:50.440 --> 00:00:56.379

Justin Lawrence | NSF/GEO: I'm Justin Lawrence Program Director in the Earth Sciences Division of the Geosciences Directorate.

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00:00:58.440 --> 00:01:05.199

Ellen Carpenter (EDU/DUE): I am Ellen Carpenter, I'm a Program Officer in the Director for Stem Education in the Division of Undergraduate Education

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00:01:05.620 --> 00:01:06.870

Adrienne Cheng BIO/MCB: And Karen.

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00:01:08.470 --> 00:01:18.760

Karen Cone/URoL Steering Committee: I'm Karen Cone. I'm the Acting Division Director in Molecular and Cellular Biosciences, and I'm the co-chair of the Understanding Rules of Life Big Idea Steering Committee.

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00:01:19.320 --> 00:01:20.689

Adrienne Cheng BIO/MCB: Sorin.

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00:01:20.689 --> 00:01:32.689

Sorin Draghici (CISE/IS): Hi, I'm Sorin Draghici. I'm a Program Director in Computer and Information Science and Engineering Directorate and in the Division of Information and Intelligent Systems. So CISE and IIS.

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00:01:32.689 -->00:01:35.120

Adrienne Cheng BIO/MCB: Angel

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00:01:35.120 --> 00:01:42.249

Angel Garcia PHY/POLS: Hi! I'm Angel Garcia. I'm a Program Director in the Physics of Living systems in the Physics Division.

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00:01:42.920 --> 00:01:44.240

Adrienne Cheng BIO/MCB: Alex

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00:01:44.860 --> 00:01:50.690

Alex Simonian/NSF_CBET: Alex Simonian. Biosensing Program Director in CBET Engineering.

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00:01:50.880 --> 00:01:53.190

and last, but not least, Olaf

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00:01:53.790 --> 00:01:59.490

Olaf Corning: Hi, I'm Olaf. I'm a Science Assistant in Molecular and Cellular Biosciences Division in BIO.

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00:02:00.000 --> 00:02:13.129

Adrienne Cheng BIO/MCB: Okay, thank you. And we'll also hopefully be joined shortly by Trish, who is part of the Directorate for Social, Behavioral and Economic Sciences. So with that, Olaf, if you could

pull up, slide two.

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00:02:22.040 --> 00:02:40.990

Adrienne Cheng BIO/MCB: Thank you. So as a housekeeping item, please submit your questions via the Q&A box which you can find at the bottom of your screens. If you like to do so, you may submit your questions anonymously. We will save all questions until the end. If you have specific questions about your project

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00:02:41.000 --> 00:03:02.370

Adrienne Cheng BIO/MCB: we would request that you do not ask them at the session. Rather, we would prefer if you would reach out to a Program Director directly, or you can email the email alias below. We'll also pop that into the chat a little bit later. So today's Webinar is on Using the Rules of Life to address societal challenges which you might hear us refer to as URoL:ASC

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00:03:02.380 --> 00:03:19.580

Adrienne Cheng BIO/MCB: and this is NSF Solicitation Number 23512. If you would like to share this webinar or revisit this Webinar after its conclusion. You may find it on the URoL Addressing Societal Challenges program page, which we will also post in the chat after this Webinar

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00:03:19.620 --> 00:03:21.540

Adrienne Cheng BIO/MCB: or during this Webinar. Sorry.

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00:03:23.330 --> 00:03:39.289

Adrienne Cheng BIO/MCB: So, as I said, this interdisciplinary effort takes a village, and so we have numerous Program Directors representing all of the eight directorates and disciplines from the National Science Foundation, many of whom are on this call currently, and that you met at the beginning of this Webinar,

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00:03:39.300 --> 00:03:52.229

Adrienne Cheng BIO/MCB: and some of them were not able to make it today. But you can find each of us individually on the NSF Website. If you have questions regarding the solicitation. Please reach out to the URoL email alias, which again we will populate in the chat.

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00:03:55.850 --> 00:04:04.359

Adrienne Cheng BIO/MCB: So to give a brief overview of why we've developed this solicitation, this solicitation is really the culmination of several years worth of effort.

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00:04:04.370 --> 00:04:22.670

Adrienne Cheng BIO/MCB: So we began this series four years ago with a fundamental question of what rules it might take to build a cell from scratch, and as we started to develop the Understanding the Rules of Life Series, we began to incorporate many other disciplines to better understand the increasing complexity of our world, the interactions within it,

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00:04:22.680 --> 00:04:27.049

Adrienne Cheng BIO/MCB: the emergent properties that make the whole more than the sum of its parts.

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00:04:29.190 --> 00:04:42.059

Adrienne Cheng BIO/MCB: So our goal for this solicitation is to fund proposals that are truly interdisciplinary in nature. We want to use what we have discovered about rules that govern biological systems and societal impact.

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00:04:42.070 --> 00:05:01.800

Adrienne Cheng BIO/MCB: Hence why our solicitation is now called Using the Rules of Life, whereas in prior years it was Understanding the Rules of Life, the societal problems that we face are vast, varied, and diverse, and can range anywhere from climate change and sustainable use of resources to food, insecurity, and inequities in education and training.

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00:05:05.270 --> 00:05:16.609

Adrienne Cheng BIO/MCB: So there are similarities as well as important differences between this, Using the Rules of Life, solicitation and the Understanding the Rules of Life solicitation of the past few years.

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00:05:17.560 --> 00:05:31.159

Adrienne Cheng BIO/MCB: So, as we mentioned, these projects need to keep that convergent interdisciplinary component, and you need to build a team that has at least two people, and represents the science of at least two NSF Directorates.

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00:05:31.170 --> 00:05:54.289

Adrienne Cheng BIO/MCB: You can certainly have more than one person representing a Directorate. But you have to meet this minimum of two Directorates, and it cannot merely be two fields of biology coming

together. Rather, you must incorporate disciplines represented in other Directorates, including the Social, Behavioral and Economic Sciences Directorate (or SBE), or the Engineering Directorate, the Geosciences Directorate, et cetera.

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00:05:54.300 --> 00:06:10.639

Adrienne Cheng BIO/MCB: So, before we get into the differences, section, if you are addressing a societal problem. It might be a good thing to include in your team someone or someones with expertise in a social, behavioral or economic science, and involve them in the earliest stages of your research design.

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00:06:10.650 --> 00:06:20.800

Adrienne Cheng BIO/MCB: Too often people with social and behavioral expertise are brought in if they're even brought in at all. At the end of writing the proposal. When broader impact activities are being figured out.

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00:06:20.810 --> 00:06:31.820

Adrienne Cheng BIO/MCB: We want to emphasize the important ways thinking about impact at the beginning can modify how you design your research plan. So this leads us to the differences portion from prior years.

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00:06:31.830 --> 00:06:58.670

Adrienne Cheng BIO/MCB: So many of you who have applied to us before know that the basic science question is usually the starting point of our proposals. However, the major difference in this solicitation is that rather than starting from what we refer to as the Intellectual Merit. That's typically what we see as basic science, cell biology, material, science, computer science, et cetera, as we usually see in our NSF solicitations this time we want you to start with a societal problem, or also known as the Broader Impacts.

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00:06:59.010 --> 00:07:14.329

Adrienne Cheng BIO/MCB: So we really want you to emphasize this fact in these proposals in two ways. First, we want you to begin your proposal with a section entitled Broader Impacts, and second, we're requiring there be a co-production of knowledge with the community that will be impacted.

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00:07:14.340 --> 00:07:33.400

Adrienne Cheng BIO/MCB: So what does this coproduction actually mean? So what this means is you need to identify what segment of society

your research will impact, and why you have chosen this population or societal issue, and how you plan to address it. So one very crucial point about co-production of knowledge is that people impacted should have a say in the design

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00:07:33.410 --> 00:07:36.739

Adrienne Cheng BIO/MCB: execution and assessment of your proposed research.

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00:07:36.870 --> 00:08:05.439

Adrienne Cheng BIO/MCB: So the third difference with this solicitation is that we are also asking that proposals to incorporate training programs aimed at convergent research, whether that is combining the computer information sciences, which is CISE; the social sciences SBE; or the geological sciences, or the Geo Directorate; with material sciences, MPS; or any other combination amongst these disciplines. But this training must be at the same cross directorate level as your research team.

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00:08:06.500 --> 00:08:24.930

Adrienne Cheng BIO/MCB: Next, we want to see proposals that embrace diversifying the stem workforce in its many forms, whether that be through rural communities, first generation, college students, or any other group underrepresented in STEM. We also would like to see that diversity represented in the leadership team as well as in the students.

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00:08:25.100 --> 00:08:49.449

Adrienne Cheng BIO/MCB: So, lastly, through this solicitation, we are also strongly encouraging the involvement of PIs from a broad range of research institutions. So this includes those from primarily undergraduate institutions, minority-serving institutions, or EPSCOR states in order to increase our geographical and institutional diversity we have said this in prior solicitations, but this time we are more explicitly stating it.

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00:08:53.190 --> 00:09:21.870

Adrienne Cheng BIO/MCB: Okay. So let's take an interview of what needs to go in the proposal, and then we'll go into each section in a little bit more detail. So for those of you who have applied to NSF before you know that we have those two review criteria that are usually addressed in two separate section of your proposals. So that's the Intellectual Merit and the Broader Impacts. And, as I said, in the prior slide. Typically, Intellectual Merit has taken the lead. And we thought, you know, given the societal emphasis of this program, what

if we flip that

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00:09:25.600 --> 00:09:36.690

Adrienne Cheng BIO/MCB: So for this solicitation we start the project description off with the Broader Impacts and the total project description is still the usual fifteen page limit.

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00:09:37.480 --> 00:09:46.490

Adrienne Cheng BIO/MCB: Then the second section is the Intellectual Merit which will contain the convergent and interdisciplinary Research Plan and Research description.

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00:09:47.370 --> 00:10:05.329

Adrienne Cheng BIO/MCB: A third section which we've entitled Interdisciplinarity, and Inclusion, is when you will describe your team, and why this particular set of expertise is needed for this project. You will also describe your plans for co-production of knowledge and a brief overview for your plan for interdisciplinary training.

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00:10:06.410 --> 00:10:08.340

Adrienne Cheng BIO/MCB: And finally,

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00:10:09.590 --> 00:10:15.480

Adrienne Cheng BIO/MCB: our supplementary documentation. We'll need to include the following:

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Adrienne Cheng BIO/MCB: a Data Management Plan: Data Management Plan which will describe how you will store, curate, and disseminate to the community the data you produce. Second, if you request a postdoc, you will need to provide a Postdoctoral Mentoring Plan.

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00:10:30.000 --> 00:10:34.520

Adrienne Cheng BIO/MCB: You will need a Project Management Plan and Role of Project Personnel.

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00:10:34.750 --> 00:10:44.269

Adrienne Cheng BIO/MCB: Fourth, you will need specifics of your Student Training Plan. And fifth, any Letters of Collaboration, if you have any which follow the NSF required format.

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00:10:48.240 --> 00:10:51.980

Adrienne Cheng BIO/MCB: Okay, so let's look at some specifics.

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00:10:53.310 --> 00:11:11.119

Adrienne Cheng BIO/MCB: in the Broader Impacts. What, specifically is the societal challenge. Included in the section should be the answers to questions such as "What is the expected societal impact if your research is successful?", "What segments of society will be affected?", and "How will the impact be assessed?"

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00:11:11.130 --> 00:11:21.930

Adrienne Cheng BIO/MCB: You'll notice that in a lot of ways this three-pronged approach is very similar to the way that we approach Intellectual Merit. What is the problem, what do you expect to see, and how will you measure it?

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00:11:24.630 --> 00:11:52.689

Adrienne Cheng BIO/MCB: so in the Intellectual Merit. You will need to identify explicitly what you and your team are identifying as one or more Rules of Life around which the proposed research is oriented, or which the research addresses rules of life being defined as rules that are generalizable across species, and sometimes even scales. So, for example, the GEO research might be at a larger scale than BIO research. It doesn't have to be, but it could be so. That sounds a little nebulous. So I'm just going to give a quick example,

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00:11:52.700 --> 00:12:05.050

Adrienne Cheng BIO/MCB: so we could say microbes or community microbes in order to survive as interdependent communities need to share, cycle, and reuse resources amongst one another as your rule of life.

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00:12:05.550 --> 00:12:19.180

Adrienne Cheng BIO/MCB: You must also describe how your team will use that rule of life, or some principle you derive from it into a compelling hypothesis-driven, cross-disciplinary plan to address the challenge you named in your broader impact section.

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Adrienne Cheng BIO/MCB: Similarly to other proposals, you will need to include a plan of how to assess whether your research is successful as well as discuss their limitations and alternative approaches.

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00:12:29.270 --> 00:12:37.549

Adrienne Cheng BIO/MCB: Lastly, you will need to explain how you have embedded diversity, equity, and inclusion and accessibility into your research plan.

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00:12:40.420 --> 00:12:52.879

Adrienne Cheng BIO/MCB: So, while our core solicitations typically only have two major sections, this solicitation requires a third, and this one is to ensure inclusion of complementary and interdisciplinary research expertise.

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00:12:52.890 --> 00:13:12.350

Adrienne Cheng BIO/MCB: For this section, you must also include a focus on co-production of knowledge which we talked about in more detail in previous slides. Essentially, through this we are trying to ensure authentic partnerships with individuals and communities most impacted by your project, and to generate sustainable relationships.

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00:13:12.360 --> 00:13:21.160

Adrienne Cheng BIO/MCB: and as a note, we will put a link in the chat regarding the importance of co-production, and we'll also put some resources on our website in the near future.

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00:13:21.910 --> 00:13:30.959

Adrienne Cheng BIO/MCB: So in this third section we also ask for ideas and interdisciplinary ways to train the next generation of science -- Scientists.

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00:13:30.970 --> 00:13:48.119

Adrienne Cheng BIO/MCB: Many people think that they need to reinvent the wheel in the section, and rest assured you do not. You may utilize existing programs, although you certainly feel free to create new ones, if you prefer. What we really care about is the impact, not necessarily the novelty.

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00:13:48.130 --> 00:14:05.649

Adrienne Cheng BIO/MCB: Again, think about this in some of the same ways you would think of Broader Impacts and Intellectual Merit. What is the need in your team's collective student community? How will the team, recruit, engage, cross-train, and retain STEM talent. And how will you assess whether you are succeeding?

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00:14:09.760 --> 00:14:11.419

Adrienne Cheng BIO/MCB: So how will this be done?

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00:14:11.430 --> 00:14:27.409

Adrienne Cheng BIO/MCB: Essentially, the world is your oyster. Projects can be laboratory, field, simulation, theory-based, or any combination of the above, it can focus on any sort of organism from any environment that you wish. We are really looking for creative proposals that push the envelope.

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00:14:28.360 --> 00:14:57.820

Adrienne Cheng BIO/MCB: As such projects are encouraged to extend laboratory, experimental, theoretical, or other research approaches beyond established model systems, populations and controlled environments. A key component here is that you convey throughout how your study will impact the targeted societal challenge and how the impact will be accessed. So this is another area where you can really harness the knowledge of that co-production component. Your co-producers are going to be the ones who know how to appropriately assess success.

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00:15:00.050 --> 00:15:12.859

Adrienne Cheng BIO/MCB: So, per usual, we have our Supplemental Documentation and additional sections that we require. So the two most familiar to our NSF Community are the Data Management Plan and the Postdoctoral Mentoring Plan.

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00:15:13.090 --> 00:15:21.060

Adrienne Cheng BIO/MCB: However, perhaps something that is a little new is the Project Management Plan and the Role of Project Personnel Plan.

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00:15:21.070 --> 00:15:34.750

Adrienne Cheng BIO/MCB: So this document is meant to specify how the disciplines are integrated in the research. You must list key individuals on the team, as well as what each person brings to the project and how the project team members will interact.

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00:15:34.990 --> 00:15:49.859

Adrienne Cheng BIO/MCB: The second, perhaps slightly different supplementary document is the student training plan. As said before we must begin training our students in an in an interdisciplinary manner and interdisciplinarity is a huge focus of the solicitation.

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00:15:50.000 --> 00:16:00.130

Adrienne Cheng BIO/MCB: What we want to see from the student training plan is a plan for the students involved in the project, and how they will receive robust and integrated education and training.

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00:16:02.060 --> 00:16:21.450

Adrienne Cheng BIO/MCB: So let's get into the logistics. The budget for each project can be up to five years and up to three million dollars, and we anticipate that many projects will ask for less. The total amount allotted for this program is twenty eight million dollars, so that amounts to about ten to fifteen awards.

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00:16:21.460 --> 00:16:38.720

Adrienne Cheng BIO/MCB: The deadline for this proposed for the solicitation is February the 15th, 2022, which we realize is coming up very soon. There are no limits on the number of submissions per institution or number of times an individual can be a PI or co-PI on proposals.

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00:16:41.650 --> 00:16:51.029

Adrienne Cheng BIO/MCB: And with that we would like to thank everyone for listening as well as making you aware of some future BIO/MCB Virtual Office Hours, because we kind of

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00:16:51.770 --> 00:16:57.289

Adrienne Cheng BIO/MCB: you know, took their time slot and their support staff. So thank you to BIO/MCB.

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00:16:58.750 --> 00:17:07.799

Adrienne Cheng BIO/MCB: And then, with that, thank you everyone for coming. We should have plenty of time for questions. And please put any questions you have in the Q&A box,

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00:17:12.609 --> 00:17:16.029

Adrienne Cheng BIO/MCB: and then I think I am handing this over to Karen

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00:17:17.359 --> 00:17:18.530

Adrienne Cheng BIO/MCB: to field questions.

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00:17:19.540 --> 00:17:31.050

Karen Cone/URoL Steering Committee: Yes, thank you very much,

Adrienne. I appreciate that. Our first question that we will try and answer right now is, "Do the rules of life

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00:17:31.370 --> 00:17:42.089

Karen Cone/URoL Steering Committee: mit ctl. that should be applied, need to be from projects or results funded by the Understanding Rules of Life program?" And I believe, Cliff, you wanted to answer that question.

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00:17:42.470 --> 00:17:43.690

Cliff Weil--NSF-BIO: Sure um.

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00:17:43.700 --> 00:17:58.469

Cliff Weil--NSF-BIO: The answer to that is, no, they don't. You can certainly use those, but that those projects by no means encompass all the rules of life there might be. So feel free to describe something that hasn't been funded in the past.

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00:17:58.480 --> 00:18:12.409

Cliff Weil--NSF-BIO: What we want to emphasize in this program is that this is less about discovering new rules of life than it is about using them to address a societal challenge. So you don't want to spend a large part of your project

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00:18:12.440 --> 00:18:19.810

Cliff Weil--NSF-BIO: describing and validating what you think is a rule of life that presumably has evidence from some other source.

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00:18:20.740 --> 00:18:23.669

Cliff Weil--NSF-BIO: But you, Don't, necessarily have to draw from the existing project

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00:18:25.300 --> 00:18:36.550

Karen Cone/URoL Steering Committee: and Cliff. If I can get you to continue with that, there's a couple of other questions about rules of life, so one of them asks, "Is there a list of these rules, or do you just

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00:18:37.100 --> 00:18:42.110

Karen Cone/URoL Steering Committee: declare your rule, and then justify your proposal based around that?"

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00:18:42.400 --> 00:18:48.550

Karen Cone/URoL Steering Committee: Then the second-- the second question is, "Does the rule have to be about biology?"

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00:18:49.020 --> 00:18:50.790

Cliff Weil--NSF-BIO: So to the first question

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00:18:50.800 --> 00:19:00.350

Cliff Weil--NSF-BIO: there is no list of rules anywhere outside of the list of awards that we've made such as that--that is. You

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00:19:00.500 --> 00:19:11.999

Cliff Weil--NSF-BIO: regardless need to describe clearly in your proposal what the rule of life is that you're going for. The rules of life are that you're going to use. So you have to state that explicitly.

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00:19:12.330 --> 00:19:22.799

Cliff Weil--NSF-BIO: And so, whether you're drawing from one that has been from a funded project, or whether you're starting from one that has not. You still need to describe that explicitly in your proposal?

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00:19:24.610 --> 00:19:27.089

Karen Cone/URoL Steering Committee: And then the question is,

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00:19:27.100 --> 00:19:33.629

Karen Cone/URoL Steering Committee: does it have to be about biology. I think that convergence is is the name of the game here.

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00:19:33.720 --> 00:19:34.830

Cliff Weil--NSF-BIO: Yeah, right.

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00:19:34.840 --> 00:19:44.899

Cliff Weil--NSF-BIO: I would. I would agree with that. So I think these are rules of life So trying to do that without any biology is probably going to be tricky. But you,

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00:19:44.960 --> 00:19:53.230

Cliff Weil--NSF-BIO: you will--will more than likely have some biological component to your project. I think it would be very

difficult to do this without any

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00:19:53.290 --> 00:19:56.629

Cliff Weil--NSF-BIO: it doesn't necessarily have to be the lead of the project.

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00:19:58.440 --> 00:20:01.500

Cliff Weil--NSF-BIO: You'll probably have to involve biology in there somewhere.

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00:20:05.760 --> 00:20:07.489

Karen Cone/URoL Steering Committee: Okay, Thank you very much Cliff.

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00:20:07.500 --> 00:20:08.470

Karen Cone/URoL Steering Committee: Um.

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00:20:10.740 --> 00:20:16.120

Karen Cone/URoL Steering Committee: There's a question that asks, "If they're a nonprofit, not a University.

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00:20:16.870 --> 00:20:20.620

Karen Cone/URoL Steering Committee: It's complicated to mentor postdocs and train students.

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00:20:20.700 --> 00:20:24.809

Karen Cone/URoL Steering Committee: Can this be achieved by a partnership with universities?"

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00:20:27.560 --> 00:20:30.090

Karen Cone/URoL Steering Committee: Angel? Do you want to try and answer that one?

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00:20:35.380 --> 00:20:42.179

Angel Garcia PHY/POLS: They will have to use a creativity on how to do it. So, honoring...

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00:20:43.180 --> 00:20:49.009

Angel Garcia PHY/POLS: When you build a team you can have more than one institution, so you can have a nonprofit, and you can have

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00:20:49.890 --> 00:20:52.040

Angel Garcia PHY/POLS: a partner at a university.

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00:20:52.170 --> 00:21:01.009

Angel Garcia PHY/POLS: So many nonprofits have training, even though they do not grant degrees. So that's also a possibility.

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00:21:03.640 --> 00:21:10.380

Angel Garcia PHY/POLS: But at the end everything has to be weighted to make a strong proposal in all the different aspects

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00:21:10.410 --> 00:21:12.339

Angel Garcia PHY/POLS: that are going to be evaluated.

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00:21:14.520 --> 00:21:16.380

Karen Cone/URoL Steering Committee: Okay, thank you very much.

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00:21:20.960 --> 00:21:29.959

Karen Cone/URoL Steering Committee: So the next question is, "Can you give some insight into how much proposal should be about using the rules of life

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00:21:30.110 --> 00:21:46.679

Karen Cone/URoL Steering Committee: to stakeholders versus doing new research, or how this distinction could be made? For example, is it applicable to apply a model or rule of life of non-human biological interactions to human systems?"

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00:21:50.860 --> 00:21:55.130

Karen Cone/URoL Steering Committee: I'm going to throw that out there to the group to see who would like to answer that.

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00:22:02.160 --> 00:22:06.740

Karen Cone/URoL Steering Committee: "So how much should the proposals be about using the rules of life

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00:22:07.050 --> 00:22:21.879

Karen Cone/URoL Steering Committee: to stakeholders versus doing the new research?" I would say, can I just answer that? Because I think that the intent here is that this is still foundational research; that

it should be motivated by how one might be able to use

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00:22:21.890 --> 00:22:28.929

Karen Cone/URoL Steering Committee: the outcomes of rules of life or use a rule of life to address a particular societal challenge.

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00:22:30.250 --> 00:22:32.760

Karen Cone/URoL Steering Committee: Oh, and we finally got Trish.

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00:22:32.840 --> 00:22:49.180

Karen Cone/URoL Steering Committee: Good trish, Thank you. Welcome, I'm going to. Can we pause for a moment and introduce the two Program Directors who were having trouble getting online and have them introduce themselves. So Trish and Eric. So Trish, will you want to introduce yourself.

124

00:22:49.900 --> 00:23:10.110

Trisha Van Zandt (NSF/SBE): Hi, everybody. Um. Thank you for your patience and thank you for your interest in this program. My name is Tricia Manzant, and I am the Program Director for Human Networks and Data Science in the Behavioral and Cognitive Sciences. Division of the Social, Behavioral and Economic Sciences Director.

125

00:23:11.350 --> 00:23:13.920

Karen Cone/URoL Steering Committee: Thank you. Trish and Eric

126

00:23:14.220 --> 00:23:27.629

Erik Pierstorff - TIP/TI: Hi, everyone. My name is Eric Pearstar Program Director in the New Directorate Technology Innovation and Partnerships or TIP. I am a Program Director in the SBIR CTR Program, managing the biological technologies and pharmaceutical technologies portfolios.

127

00:23:28.520 --> 00:23:33.910

Karen Cone/URoL Steering Committee: and then, finally, I'd like to invite my colleague, Rebecca Farrell to introduce herself.

128

00:23:35.380 --> 00:23:48.769

Rebecca Ferrell (NSF/SBE) she/her: Thanks, Karen Hi! Everyone. Rebecca Farrell, I'm a Program Director for Biological Anthropology, which is a program in the Social Behavioral and Economic Sciences Directorate and Co-lead with Karen of the Steering Committee for Rules of Life.

129

00:23:52.460 --> 00:23:54.959

Karen Cone/URoL Steering Committee: Thanks, everybody. Um!

130

00:23:55.650 --> 00:24:12.759

Karen Cone/URoL Steering Committee: So there's Ah, there's another there. There seem to be a lot of questions about. What are the rules of Life Cliff. I'm. Going to throw this back to you, and I would also point people to the program page associated with this particular call for proposals, because

131

00:24:12.770 --> 00:24:24.470

Karen Cone/URoL Steering Committee: ... Cliff, but I don't. I can't remember. Sorry I got distracted when Adrian was talking, and I don't remember if we called attention to the results of the workshops that we held

132

00:24:24.480 --> 00:24:37.770

Karen Cone/URoL Steering Committee: to kind of identify what some of the grand challenges were that people might be interested in using rules of life to address. So Cliff, could I ask you to talk a little bit about that?

133

00:24:37.780 --> 00:24:45.700

Cliff Weil--NSF-BIO: I don't think we did. So -- some of you were at that but for those of you who weren't-- we ran a series of workshops

134

00:24:45.930 --> 00:25:02.930

Cliff Weil--NSF-BIO: last spring, trying to get some sense of what kinds of rules of life might be usable to address various types of societal challenges, and we will make some of the results of those workshops reports from those workshops

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00:25:02.940 --> 00:25:07.949

Cliff Weil--NSF-BIO: available on the program website here, in the next couple of days.

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00:25:11.180 --> 00:25:27.290

Cliff Weil--NSF-BIO: The major questions that were were answered in those workshops were, "What size societal challenge can we really think about addressing?" So it may be a little much to ask of a five-year three million dollars project to solve climate change,

137

00:25:27.530 --> 00:25:44.730

Cliff Weil--NSF-BIO: but there are parts of climate change that might be addressable. There are parts of various pieces of social injustice that might be addressable. There are parts of sustainability and food insecurity that might be addressable, using various

138

00:25:44.740 --> 00:25:59.060

Cliff Weil--NSF-BIO: rules of life, ideas, and approaches. And so what you want to do is try and think of a project, size, and scope that you can carry out in a five year span with this kind of a budget.

139

00:25:59.790 --> 00:26:15.159

Cliff Weil--NSF-BIO: You want, I think, to to be creative in how you address these sorts of things, but not necessarily try to solve enormous problems that won't be solved within five years. And you also want to try and

140

00:26:15.270 --> 00:26:32.789

Cliff Weil--NSF-BIO: utilize principles that apply to different species. Different cell types, different conditions across, sometimes multiple scales, preferably using multiple disciplines, mathematics for modeling

141

00:26:32.900 --> 00:26:38.920

Cliff Weil--NSF-BIO: analysis, computer science, engineering (if you need interesting new sensors or devices),

142

00:26:40.100 --> 00:26:54.390

Cliff Weil--NSF-BIO: social and behavioral sciences when it comes to impacting society, because at the end of the day you want to have some impact on society. You want society to adopt what you've done, and how that happens is not necessarily a trivial questions.

143

00:26:56.630 --> 00:26:59.480

Cliff Weil--NSF-BIO: You want to think in those sorts of holistic terms.

144

00:27:01.690 --> 00:27:03.469

Cliff Weil--NSF-BIO: Did that answer the question?

145

00:27:07.580 --> 00:27:26.510

Karen Cone/URoL Steering Committee: Thanks, Cliff. I think that that-- that sounds great. Um! We have a question about whether this particular solicitation-- how this solicitation differs from a previous Understanding Rules of Life solicitation that was held over the past two years on emergent networks.

146

00:27:26.520 --> 00:27:30.690

The question is, as "Will there be a separate call for the latter?"

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00:27:30.910 --> 00:27:39.980

Karen Cone/URoL Steering Committee: I'm going to answer that, and just say, No, there will not be. This is the last call for the Understanding Rules of Life program,

148

00:27:39.990 --> 00:27:53.490

Karen Cone/URoL Steering Committee: and there will probably be some additional solicitations, and related to these kinds of topics in the future. But for the Understanding Rules of Life, big idea this is the last

149

00:27:57.180 --> 00:28:04.700

Karen Cone/URoL Steering Committee: Cliff is answering the question. Actually, Cliff, you're typing an answer to the next question, but I think it's a good one

150

00:28:04.710 --> 00:28:16.270

Karen Cone/URoL Steering Committee: to answer out loud about. Can you use multiple rules of life to develop your conceptualization?

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00:28:16.660 --> 00:28:26.749

Cliff Weil--NSF-BIO: What I was typing was, you certainly can right, in fact, not at all unreasonable to imagine it will take multiple rules of life to address something. So by all means be creative. Weave them together. That would be great.

152

00:28:29.500 --> 00:28:49.240

Karen Cone/URoL Steering Committee: and then there's a question about defining the people and the disciplines that would be involved in the project. So should you include -- when we say we're interested in having one person-- at least one person-- from each of two different disciplines, should those be specified

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00:28:49.250 --> 00:28:50.840

Karen Cone/URoL Steering Committee: in the proposal?

154

00:28:51.170 --> 00:28:59.709

Karen Cone/URoL Steering Committee: So maybe somebody could talk about what it is that we want to see in the team descriptions for the projects?

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00:29:10.830 --> 00:29:13.729

Karen Cone/URoL Steering Committee: Cliff, you're muted, I think, if you're trying to speak.

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00:29:14.390 --> 00:29:19.559

Karen Cone/URoL Steering Committee: What I was saying was, "Come on, gang" hoping that somebody else was going to say something.

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00:29:25.310 --> 00:29:41.809

Karen Cone/URoL Steering Committee: So I'll jump in here. So we are. There is a section of the proposal that-- where you're asked to describe your team members, and I think that there's an opportunity there to just demonstrate the expertise that will

158

00:29:41.820 --> 00:29:56.260

Karen Cone/URoL Steering Committee: be applied to the project, and that that expertise really does represent multiple disciplines, and how that expertise will really drive the project forward from the convergence research approach.

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00:30:06.440 --> 00:30:12.679

Karen Cone/URoL Steering Committee: So maybe I'll give this question to Trish. "If we are to work on human behavioral networks of

160

00:30:12.690 --> 00:30:26.689

Karen Cone/URoL Steering Committee: pandemics and polarization, how do we involve local people and diversity, equity, inclusion? If we are to do research at the epistemic level via social media."

161

00:30:26.760 --> 00:30:33.859

Karen Cone/URoL Steering Committee: Did you talk a little bit about what we're looking for in terms of thinking about the social, behavioral and economic

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00:30:34.630 --> 00:30:35.970

Karen Cone/URoL Steering Committee: perspective.

163

00:30:37.390 --> 00:30:39.539

Karen Cone/URoL Steering Committee: Oh, Trish you need to unmute.

164

00:30:39.660 --> 00:30:51.859

Trisha Van Zandt (NSF/SBE): That's a long question. And again, I'm still having technical difficulties. I'm not seeing this in the Q&A. But so if the question is, how do you --

165

00:30:52.020 --> 00:31:01.759

Trisha Van Zandt (NSF/SBE): How do you incorporate social science into your research? Which I think is sort of the fundamental question. From what I heard

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00:31:01.770 --> 00:31:30.770

Trisha Van Zandt (NSF/SBE): I would recommend that you have at the outset someone with expertise in the particular social science that you are. Um that you're doing research in at the time that you write your proposal. So you don't want to just bring social science on board as an afterthought. Um, this is um. You need to have a a research team that's well constructed to answer those kind of questions, and with the appropriate expertise to know how to bring individuals on board.

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00:31:31.690 --> 00:31:37.060

Trisha Van Zandt (NSF/SBE): I'm not sure if that answers the question again. I'm not. I can't. I can't see the Q&A. But

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00:31:37.160 --> 00:31:40.829

Trisha Van Zandt (NSF/SBE): if it doesn't, ask it again.

169

00:31:43.010 --> 00:32:01.659

Karen Cone/URoL Steering Committee: Thank you. Trish. Um Eric. I would like to pose this question to you, since you represent the new Directorate for Technology, Innovation and Partnerships, and the the question I'm going to reframe the question. The question was, "What are the shortcomings that led to the development of this program by NSF?"

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00:32:01.670 --> 00:32:16.210

Karen Cone/URoL Steering Committee: But I want to turn that around and say, what are the opportunities with this particular solicitation to emphasize use-inspired research as it's kind of being envisioned by the new Directorate

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00:32:16.220 --> 00:32:22.590

Karen Cone/URoL Steering Committee: for technology innovation and partnerships, which is, which is partnering in this particular endeavor?

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00:32:22.600 --> 00:32:51.309

Erik Pierstorff - TIP/TI: Yeah, absolutely, Karen, you know, and NSF traditionally funds curiosity-based research, you know, really looking into what motivates the PIs to delve into the areas of interest and topics of interest. The goal of the TIP directorate is really multi-fold, one of which is to encourage use-inspired research. So how can you start to think about how this curiosity-based research can impact you know society going forward, you know, in a way that can be

173

00:32:51.320 --> 00:33:04.589

Erik Pierstorff - TIP/TI: applied directly for some specific use. A lot of times people would think, you know, use inspired means there needs to be a product. That's not the case. That just means that the research is geared towards something that can be applied to a specific

174

00:33:04.600 --> 00:33:12.469

Erik Pierstorff - TIP/TI: area of concern. And so that's one of the main goals of the TIP directorate. It is really about

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00:33:12.740 --> 00:33:35.389

Erik Pierstorff - TIP/TI: seeing how much of this curiosity-inspired research can be. You know developed and continuous beyond that, that once you start to elucidate some of the you know the rules of life in this case, or you know some of the other curiosity-based answers into something that can be, you know, directly, or maybe in the future, directly applied to to benefiting society in some way.

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00:33:35.400 --> 00:33:38.589

I hope that addresses the question Karen, but I'm happy to

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00:33:38.600 --> 00:33:40.300

Erik Pierstorff - TIP/TI: expand if needed.

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00:33:41.480 --> 00:34:01.239

Karen Cone/URoL Steering Committee: Thanks. I think that's that's perfect, Eric. Thank you very much. Um, Actually, I want to pose this question to Justin, if I can. Justin, can you comment on projects that impact the global population rather than a subset of population? So will projects be

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00:34:01.250 --> 00:34:02.330

Karen Cone/URoL Steering Committee: Um.

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00:34:02.520 --> 00:34:18.670

Karen Cone/URoL Steering Committee: Will these projects still follow the requirement to get input and consent of the study population? So I think that this is probably going to that sort of idea about co-generation of knowledge and involving the

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00:34:18.679 --> 00:34:26.489

Karen Cone/URoL Steering Committee: the potentially impacted individuals in the design or the implementation of the project.

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00:34:28.260 --> 00:34:31.330

Justin Lawrence | NSF/GE0: I'm sure I mean, I think. Um,

183

00:34:31.719 --> 00:34:48.119

Justin Lawrence | NSF/GE0: there's a portion of the solicitation that asks you to specifically identify the the segment of society that the project will be speaking to. So I think we are asking for you to be a bit more specific.

184

00:34:48.130 --> 00:34:53.639

Justin Lawrence | NSF/GE0: Than the global population. But what particular group of people you'll be working with,

185

00:34:55.460 --> 00:34:58.030

Justin Lawrence | NSF/GE0: and you would need to follow all of the

186

00:34:59.450 --> 00:35:00.810

Justin Lawrence | NSF/GE0: appropriate

187

00:35:02.110 --> 00:35:04.899

Justin Lawrence | NSF/GE0: institutional review board policies for

188

00:35:05.040 --> 00:35:07.989

Justin Lawrence | NSF/GE0: for engaging with that portion of the population.

189

00:35:09.810 --> 00:35:11.459

Karen Cone/URoL Steering Committee: Thank you, Justin.

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00:35:13.580 --> 00:35:16.769

Karen Cone/URoL Steering Committee: There is a question about um.

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00:35:16.790 --> 00:35:27.640

Karen Cone/URoL Steering Committee: I think it relates to the sort of use-inspired research. And what is an appropriate use so somebody is asking about mechanisms of human disease,

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00:35:28.480 --> 00:35:36.179

Karen Cone/URoL Steering Committee: and they are using a model organism. And what to test, whether the mechanism causing neuro-degenerate--

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00:35:36.210 --> 00:35:51.030

Karen Cone/URoL Steering Committee: neurodegeneration and cancer is conserved in humans. So they're wondering if it's possible to write a proposal to ask whether the same mechanisms are used in humans as in the

194

00:35:51.460 --> 00:35:59.679

Karen Cone/URoL Steering Committee: in the community of elders. So I think I'd like to hear Trish, or maybe Rebecca address

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00:35:59.950 --> 00:36:17.560

Karen Cone/URoL Steering Committee: Where where's the fine line between mechanisms and studying studying mechanisms of human disease? Um, and and bringing a proposal to NSF: because typically in, certainly in biology, at NSF we don't typically fund for proposals that are based on studying the mechanisms of human disease.

196

00:36:23.230 --> 00:36:25.269

Karen Cone/URoL Steering Committee: So Trish or Rebecca, can one of you comment to that.

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00:36:25.580 --> 00:36:47.179

Trisha Van Zandt (NSF/SBE): It's it's the same in SBE. So the National Science Foundation funds basic research, and so to the extent that a health-related question um involves basic as opposed to applied health research. Then perhaps it is appropriate for the the National Science Foundation,

198

00:36:47.190 --> 00:36:56.379

Trisha Van Zandt (NSF/SBE): and in SBE we are interested in research that advances theories about human behavior more generally

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00:36:56.550 --> 00:36:58.040

Trisha Van Zandt (NSF/SBE): So

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00:36:58.520 --> 00:37:06.210

Trisha Van Zandt (NSF/SBE): if that's a health related, a health related. Um question, then that's great. But it needs to be basic research.

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00:37:06.840 --> 00:37:25.739

Rebecca Ferrell (NSF/SBE) she/her: Yeah, I would just add, I would just add that if--if what you're talking about is using a model system to understand a disease process in humans, and then look at that process in a particular human population. That sounds just based on that short description, more like an NIH public health type of project versus

202

00:37:25.750 --> 00:37:37.119

Rebecca Ferrell (NSF/SBE) she/her: something that would come to NSF. But it might require a slightly longer summary, and you can send that to anybody in the working group, and you know we can

203

00:37:37.550 --> 00:37:38.990

Rebecca Ferrell (NSF/SBE) she/her: give you a little bit more feedback,

204

00:37:39.000 --> 00:37:42.279

Rebecca Ferrell (NSF/SBE) she/her: but just on the surface it sounds like It's not appropriate.

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00:37:44.740 --> 00:38:02.350

Karen Cone/URoL Steering Committee: Thank you. And maybe, Adrienne, if you can put the um web address again in the chat for people to to send that their um their questions. If we don't get to them online today, we have an alias. You can send a question to the alias.

206

00:38:02.360 --> 00:38:22.180

Karen Cone/URoL Steering Committee: Um. I have a question I'd like to direct to Alex. So, Alex, this question is: "Would it be possible to have an engineering point of view to solve a problem that's aimed at using rules of life?" So can you talk from the engineering perspective about

207

00:38:22.190 --> 00:38:27.350

Karen Cone/URoL Steering Committee: how this uh solicitation crosses over to the engineering.

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00:38:27.850 --> 00:38:39.709

Alex Simonian/NSF_CBET: Yeah, sure, engineering is doing a lot of things relevant to biology, to life, and so on. Recently we have had some recode

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00:38:39.820 --> 00:38:46.609

Alex Simonian/NSF_CBET: solicitation to create new organelles with different properties. So, without

210

00:38:46.970 --> 00:38:55.890

Alex Simonian/NSF_CBET: relevancy to rule of life, we cannot do anything by that. My biosensing program is using any kind of

211

00:38:57.040 --> 00:39:02.870

Alex Simonian/NSF_CBET: came from live structures: enzymes, antibodies, phages, you name it. So,

212

00:39:03.360 --> 00:39:12.449

Alex Simonian/NSF_CBET: knowing all these parts we're creating some systems, we are creating some uh fundamental knowledge how we can

213

00:39:12.460 --> 00:39:20.449

Alex Simonian/NSF_CBET: use that. And also now, synthetic biology is

playing more and more and more role, like CRISPR systems coming from the

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00:39:20.820 --> 00:39:35.979

Alex Simonian/NSF_CBET: life again. So all these things are helping us to create engineering biology and biological engineering, let's say, and use it for environmental research, health, and so on.

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00:39:36.680 --> 00:39:39.690

Alex Simonian/NSF_CBET: If you have a specific question [we can be] more specific. But

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00:39:39.700 --> 00:39:46.490

Alex Simonian/NSF_CBET: in general, Yeah, that's that's really very important part. And I believe we are using --continuously -- Rules of Life for all of ours.

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00:39:52.430 --> 00:39:54.130

Karen Cone/URoL Steering Committee: Thank you, Alex.

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00:39:55.260 --> 00:39:58.110

Karen Cone/URoL Steering Committee: There's a question about um

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00:39:58.990 --> 00:40:17.660

Karen Cone/URoL Steering Committee: collaborating. Oh, actually, Rebecca is going to answer this question by typing. So I'm not going to read that one. I think that there's another question that's about partnering. I see several questions about partnering, and one question is,

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00:40:23.240 --> 00:40:43.159

Karen Cone/URoL Steering Committee: one question crosses over to partnering with people who are engaged in management. So, for instance, fisheries, or to other Federal agencies, for instance, NOAA, who monitor and eventually apply the results of the study.

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00:40:43.170 --> 00:40:53.990

Karen Cone/URoL Steering Committee: So would those be good opportunities for partnerships. Maybe I'll ask this to Justin. So thinking about partnering with

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00:40:54.460 --> 00:41:01.619

Karen Cone/URoL Steering Committee: agencies like NOAA or other domains like fisheries biology.

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00:41:01.860 --> 00:41:09.270

Karen Cone/URoL Steering Committee: Tell us what you think about that as a partner-- a partnership opportunity for this particular solicitation.

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00:41:10.770 --> 00:41:14.690

Justin Lawrence | NSF/GE0: My first reaction is that

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00:41:14.700 --> 00:41:19.970

Justin Lawrence | NSF/GE0: yes, they they could be potentially be useful collaborators depending on the

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00:41:19.980 --> 00:41:22.060

Justin Lawrence | NSF/GE0: the goals of the proposal.

227

00:41:24.320 --> 00:41:35.940

Karen Cone/URoL Steering Committee: I also think that this is maybe one of those situations where a little bit more information through a one-pager, if you would send that to the alias, and we can have a little.

228

00:41:35.950 --> 00:41:53.959

Karen Cone/URoL Steering Committee: This, alias goes to all the people on the screen that you see here, and so there you would get an answer from um from an informed point of view from people who would be able to give you some feedback on a specific question. So if we don't get to an answer

229

00:41:53.970 --> 00:42:01.470

Karen Cone/URoL Steering Committee: to your question that seems good for you, please reach out and and let us let us hear from you again.

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00:42:05.620 --> 00:42:08.990

Karen Cone/URoL Steering Committee: Okay, somebody's asking Trish another question.

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00:42:09.040 --> 00:42:10.200

Karen Cone/URoL Steering Committee: So

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00:42:11.080 --> 00:42:19.860

Karen Cone/URoL Steering Committee: so the solicitation is asking for involvement of local communities and a diversity, equity, and inclusion focus.

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00:42:19.900 --> 00:42:25.570

Karen Cone/URoL Steering Committee: This individuals trying to ask -- to understand the dynamics of human networks that

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00:42:25.620 --> 00:42:29.659

Karen Cone/URoL Steering Committee: look at um at large, using social media.

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00:42:30.610 --> 00:42:41.330

Karen Cone/URoL Steering Committee: So how do you balance? I think that The question is, how do you balance the local community participation DEI in that context?

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00:42:41.840 --> 00:42:52.699

Trisha Van Zandt (NSF/SBE): So I've been going back and forth with this individual through the the Q&A window. And I think that this particular question is just too

237

00:42:52.710 --> 00:43:04.229

Trisha Van Zandt (NSF/SBE): heavily dependent on the specific research question that's involved, and I encourage this person to um get in touch with me and or and send a one to two pager to the Pose group.

238

00:43:04.890 --> 00:43:06.189

Karen Cone/URoL Steering Committee: Thank you. Trish.

239

00:43:06.200 --> 00:43:07.330

Karen Cone/URoL Steering Committee: Appreciate that.

240

00:43:12.020 --> 00:43:26.860

Karen Cone/URoL Steering Committee: Um. Actually, I'm going to pose this question to Ellen, because the question is about education and training. So could you give some examples of how to address the interdisciplinary education and training component of the proposal.

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00:43:26.870 --> 00:43:33.559

Karen Cone/URoL Steering Committee: Should the researchers be partnering with educational institutions to have impacts

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00:43:33.620 --> 00:43:35.979

Karen Cone/URoL Steering Committee: beyond the specific

243

00:43:36.030 --> 00:43:37.680

Karen Cone/URoL Steering Committee: group research

244

00:43:38.040 --> 00:44:07.269

Ellen Carpenter (EDU/DUE): That certainly could be one approach. I mean it sounds like this may be a query from someone who's not associated with an academic institution, in which case, I think Angel said earlier to think about creative ways, to integrate training and mentoring that what that might be appropriate, certainly partnering with an institution providing things like internships, providing opportunities for um students from underserved populations to engage in the project in some way, shape or form, whether that's doing data, collection, community outreach all kinds of things like that.

245

00:44:07.280 --> 00:44:20.980

Ellen Carpenter (EDU/DUE): There are lots of different ways to think about incorporating the educational components of this. And you know I'm the one from the Education Directorate. I'm certainly happy to answer any questions, you know. If you want to go into more detail and send a one pager I'd be happy to take a further look at that.

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00:44:23.740 --> 00:44:43.139

Karen Cone/URoL Steering Committee: Thank you very much, Ellen. There is a question that to ask if this, if this um presentation is this, Webinar is being recorded, and the answer to that is yes, it is being recorded, and there will be a recording available on our program page.

247

00:44:43.160 --> 00:44:47.579

Karen Cone/URoL Steering Committee: We will make it clear how to find that for you

248

00:44:51.260 --> 00:45:02.699

Karen Cone/URoL Steering Committee: and I'm going to answer. There was a question answered--asked earlier, and I'm going to, if I can take a

stab at this one, because it was. The question was,

249

00:45:02.970 --> 00:45:17.639

Karen Cone/URoL Steering Committee: When we ask for a lot of different things which we have done in this solicitation. Are we making the I think the question is really, are we making the bar so high that you aren't even going to be able to get there?

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00:45:17.650 --> 00:45:34.699

Karen Cone/URoL Steering Committee: And so I want to say a little bit about where the various kinds of components, and why we decided to incorporate some of these components into this particular solicitation. Where these came from, so that ah, many of the ideas that we're

251

00:45:34.720 --> 00:45:42.750

Karen Cone/URoL Steering Committee: trying to pull together in this in this solicitation came from NSF's new strategic plan

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00:45:42.760 --> 00:45:48.289

Karen Cone/URoL Steering Committee: in one way or another. So the idea of co-production of knowledge

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00:45:48.380 --> 00:46:03.819

Karen Cone/URoL Steering Committee: use inspired research, this strong integration of research and education, these are all strictly from our new strategic plan, the very strong focus on diversity, equity, inclusion.

254

00:46:03.830 --> 00:46:27.599

Karen Cone/URoL Steering Committee: These are things that are really important values for the National Science Foundation with our new director and our new, directorate, and also some of the ideas that have been percolating in the Foundation for a number of years, and are now codified in the new strategic plan that just was published this past year.

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00:46:27.610 --> 00:46:28.500

Karen Cone/URoL Steering Committee: So

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00:46:29.010 --> 00:46:45.310

Karen Cone/URoL Steering Committee: is it going to be challenging for

you to to write to all of these requirements. I think The answer to that honestly is yes, but I --but we also understand, in asking for this kind of

257

00:46:45.860 --> 00:46:47.450

Karen Cone/URoL Steering Committee: holistic

258

00:46:47.630 --> 00:47:07.250

Karen Cone/URoL Steering Committee: approach to this big question of "How do we use Rules of Life to Address Societal Challenges." We think it's really important in the context of use-inspired research to be cognizant of the fact that we should be involving

259

00:47:07.410 --> 00:47:12.260

Karen Cone/URoL Steering Committee: in the research idea and the development of the research project. The

260

00:47:12.350 --> 00:47:17.399

Karen Cone/URoL Steering Committee: the people that we hope to impact in this research.

261

00:47:18.020 --> 00:47:20.500

Karen Cone/URoL Steering Committee: I think the days of

262

00:47:20.870 --> 00:47:31.090

Karen Cone/URoL Steering Committee: building something and hoping people will come to use it are kind of past, and I think that we have opportunities at

263

00:47:31.100 --> 00:47:42.489

Karen Cone/URoL Steering Committee: this point to involve the people that we hope to impact directly in the research. I see Adrienne has put a link to the NSF strategic plan, and

264

00:47:42.500 --> 00:48:01.100

Karen Cone/URoL Steering Committee: normally I wouldn't tell you to go read a strategic plan. But this one is particularly well done, I think, and I think if you look at the strategic plan, even if you only look at the executive summary of it. I think you'll understand sort of where elements of this recitation have originated.

265

00:48:03.310 --> 00:48:05.719

Karen Cone/URoL Steering Committee: Okay, I'm going to look back at questions again.

266

00:48:18.370 --> 00:48:34.060

Karen Cone/URoL Steering Committee: So one question and I'm-- I'm going to go there. There's been a couple of questions about international partnerships and international impact. So "does the societal impact need to be associated with U.S. citizens, companies, government agencies,

267

00:48:34.070 --> 00:48:38.729

or can it focus on interacting with people in foreign countries?"

268

00:48:38.760 --> 00:48:49.420

Karen Cone/URoL Steering Committee: "If our participants are involved, how could they be involved?" And I saw another question earlier about: "Can we pay for foreign involvement?"

269

00:48:49.430 --> 00:48:52.049

Karen Cone/URoL Steering Committee: So NSF has some strict

270

00:48:52.090 --> 00:49:06.290

Karen Cone/URoL Steering Committee: Ah, we are ah obviously a Federal Research Agency, and much of what we find is research to um improve the U.S. to U.S. participants. And but we are

271

00:49:06.650 --> 00:49:13.420

Karen Cone/URoL Steering Committee: very interested in the globalization of science. This is actually part of the strategic plan as well,

272

00:49:13.430 --> 00:49:36.019

Karen Cone/URoL Steering Committee: So involving international partners is certainly something you can do. I think that you have to be cognizant of what we can directly pay for in the context of international partners and what we are not allowed to pay for. And I think that that's something that you could ask as a specific question to the Program Directors. If you send to send us one pages,

273

00:49:42.890 --> 00:49:45.869

Karen Cone/URoL Steering Committee: there is a question about.

274

00:49:46.290 --> 00:49:53.549

Karen Cone/URoL Steering Committee: If we're asked for the Broader Impacts to be detailed before the Intellectual Merit.

275

00:49:56.330 --> 00:49:58.830

Karen Cone/URoL Steering Committee: Is it going to be correct, that

276

00:49:59.350 --> 00:50:08.680

Karen Cone/URoL Steering Committee: the broader impact of the proposal will be given more weight in the merit review process than Intellectual Merit?

277

00:50:09.250 --> 00:50:13.149

Karen Cone/URoL Steering Committee: So, Cliff, I'm going to ask you to take that one

278

00:50:13.710 --> 00:50:19.229

Karen Cone/URoL Steering Committee: So will broader... How will... I-- I guess I've seen this question before in another context

279

00:50:19.240 --> 00:50:36.350

Karen Cone/URoL Steering Committee: is, how are these proposals going to be reviewed in terms of Intellectual Merit versus Broader Impacts? And also, I would say, in the context of the convergence that's expected for these particular puzzles. So it's kind of two different functions,

280

00:50:36.500 --> 00:50:40.239

Cliff Weil--NSF-BIO: So both criteria will still be evaluated

281

00:50:41.790 --> 00:50:46.619

Cliff Weil--NSF-BIO: more or less with equal weight. But what we would like to make sure happens is that the

282

00:50:46.640 --> 00:50:48.709

Cliff Weil--NSF-BIO: the Broader Impact,

283

00:50:48.770 --> 00:50:53.479

Cliff Weil--NSF-BIO: are not relegated to any kind of second place.

That

284

00:50:54.130 --> 00:51:02.830

Cliff Weil--NSF-BIO: in these projects we're really looking for an emphasis on the impact and an emphasis on...

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00:51:03.160 --> 00:51:11.390

Cliff Weil--NSF-BIO: still on the quality of the science. But on the impact that science is going to have. A lot of times, what we see in projects

286

00:51:11.480 --> 00:51:28.840

Cliff Weil--NSF-BIO: that we-- we try and evaluate both the Intellectual Merit and the Broader Impact-- but, a lot of times, the emphasis in the proposals themselves tend to be more on the Intellectual Merit, not always, but often. And so in these particular projects we're looking for clear emphasis on the impact of the science.

287

00:51:29.190 --> 00:51:42.710

Cliff Weil--NSF-BIO: So the the way they'll be evaluated are through the same sorts of criteria that we usually apply, but with some additional emphasis on things like your involvement

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00:51:42.790 --> 00:51:58.509

Cliff Weil--NSF-BIO: of the--the of the segment of the population that you're likely to impact. For example, on your ability to really create training programs for the students and postdocs on these projects that reflect the interdisciplinary nature of the team that's on the project.

289

00:51:59.200 --> 00:52:10.550

Cliff Weil--NSF-BIO: There's a little bit of a shift in the kinds of things that we're looking at, but the emphasis is still going to be on both criteria, and they'll both be waiting.

290

00:52:23.480 --> 00:52:32.110

Karen Cone/URoL Steering Committee: So Olaf has just put a note in the chat about where the recording of this office hour will be uploaded.

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00:52:32.500 --> 00:52:37.919

Karen Cone/URoL Steering Committee: We still have a couple more

minutes. If there are any other questions that come in, I think we have.

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00:52:38.390 --> 00:52:41.209

Karen Cone/URoL Steering Committee: I think that we have flagged most of them.

293

00:52:43.900 --> 00:52:56.269

Karen Cone/URoL Steering Committee: I see one question. Maybe I could ask Sorin to take this one, and this is a question about what would be best resources for

294

00:52:56.310 --> 00:53:01.699

Karen Cone/URoL Steering Committee: rules that deal with human teams or human AI teams.

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00:53:01.790 --> 00:53:06.720

Karen Cone/URoL Steering Committee: So are there opportunities in this solicitation to think about

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00:53:07.640 --> 00:53:11.799

Karen Cone/URoL Steering Committee: that that human uh artificial intelligence interaction?

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00:53:12.600 --> 00:53:24.610

Sorin Draghici (CISE/IIS): Yeah. So we are interested in anything that has to do with information, integration, including AI machine learning, data, science, and so on.

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00:53:24.620 --> 00:53:40.659

Sorin Draghici (CISE/IIS): But it has to be -- for this particular solicitation-- it also has to meet the other requirements. So it has to be based on at least one rule of life, and it has to have significant impact, so that one

299

00:53:40.670 --> 00:53:55.310

Sorin Draghici (CISE/IIS): could legitimately see that it could solve some societal problems, and so on and so forth, but absolutely anything that could involve AI, it could involve machine learning, it could involved data science, and, again, so on and so forth. But again, in the context of the solicitation that we described before.

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00:54:12.000 --> 00:54:15.289

Karen Cone/URoL Steering Committee: and I'm going to um. I'm going to...

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00:54:15.610 --> 00:54:30.289

Karen Cone/URoL Steering Committee: I read this one last question, and I will probably answer it myself. The question is, when you write a proposal that's turned down. You hope you can improve the proposal and resubmit it. But with program focus changing so rapidly, it becomes hard for researchers,

302

00:54:30.300 --> 00:54:42.570

Karen Cone/URoL Steering Committee: and we are sympathetic to that, and we hope that we will have that, even though this is probably the only competition that will be formulated this way for using rules of life

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00:54:42.580 --> 00:54:54.919

Karen Cone/URoL Steering Committee: to address societal challenges. I think, with our new directorate coming online with a very heavy focus on use-inspired research that there will be other opportunities at NSF.

304

00:54:54.930 --> 00:55:08.039

Karen Cone/URoL Steering Committee: To um to take that kind of focus, and to use that kind of focus with the research that you propose for many of our directorates. And so I think that there will be opportunities to

305

00:55:08.050 --> 00:55:21.700

Karen Cone/URoL Steering Committee: um to learn from this particular solicitation, and what you might write for it, even if you're not if you're not funded, so I hope that's a good question or a sufficient answer from you.

306

00:55:21.800 --> 00:55:23.540

Karen Cone/URoL Steering Committee: That was from Wakim

307

00:55:24.650 --> 00:55:34.000

Karen Cone/URoL Steering Committee: the reviewers, and that there's another question about Will the reviewers be representative of different directorates. Can you answer that one?

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00:55:34.000 --> 00:55:36.000

Cliff Weil--NSF-BIO: I'm sorry. I was looking at something when you...

309

00:55:36.000 --> 00:55:39.789

Karen Cone/URoL Steering Committee:I'm sorry. Will the reviewers be from different directorates?

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00:55:39.800 --> 00:55:49.120

Cliff Weil--NSF-BIO: Absolutely. This is going to be a very multi-talented review process. Both the panelists and the Ad Hoc reviewers so

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00:55:49.360 --> 00:55:55.379

Cliff Weil--NSF-BIO: while we're asking for you to put together multi-disciplinary teams. We are doing that as well.

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00:56:00.240 --> 00:56:08.790

Karen Cone/URoL Steering Committee: Okay, I think we have expended our hour. We thank you very much for joining us, Adrienne, any more words of wisdom?

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00:56:10.110 --> 00:56:26.780

Adrienne Cheng BIO/MCB: And Karen. Thank you so much. Thank you all for coming today. Please again email any one of the Program Directors on the screen or the email, alias that we've popped into the chat. Should you have any further questions, and the recording for this office hours will be uploaded shortly. Thank you. Everyone have a great afternoon.