Welcome and Opening Remarks – Elizabeth Mynatt
Opening Remarks by NSF Officials – Margaret Martonosi, Skip Lupia

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00:36:10.620 --> 00:36:17.100
Beth Mynatt: Good morning everyone. This is our first test of the audio glad to see so many people logging in. First thing this morning.

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00:36:20.880 --> 00:36:25.230
Beth Mynatt: We will get started in just under 15 minutes

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00:44:09.750 --> 00:44:17.820
Beth Mynatt: Good morning everyone. This is your second video and audio tests will be starting in about five minutes. Right now we're just trying to get everyone logged into the session.

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00:44:18.660 --> 00:44:29.970
Beth Mynatt: We'll start with opening remarks from the NSF and then move to our first panel again asking everyone to have your audio and video off as we launch into the roundtable. Thank you.

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00:48:02.850 --> 00:48:07.170
Beth Mynatt: Morning everyone will start in just a minute. Leave my video mike on

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00:48:08.550 --> 00:48:13.920
Beth Mynatt: Again, as you come in, please turn off your audio and your video and we will be underway shortly.

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00:48:21.210 --> 00:48:27.270
Beth Mynatt: It's fantastic to see everyone's name appear in the participants list. We also have the chat open

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00:49:01.050 --> 00:49:10.650
Beth Mynatt: Alright, good morning. My name is Beth Mynatt it I'm when I am not doing this. I am a professor of interactive computing at Georgia Tech.

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00:49:11.010 --> 00:49:23.370
Beth Mynatt: And what you see behind me is actually the Georgia Tech tech square background, which is where I would normally be and it also hides the fact that I have a busy household with lots of critters and people running behind me.

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00:49:24.420 --> 00:49:30.240
Beth Mynatt: It is my privilege and honor to be able to welcome you to our virtual roundtable on harnessing

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00:49:30.690 --> 00:49:43.230
Beth Mynatt: The computational and social sciences to solve critical problems, and my job this morning is to get us going to establish a bit of the background and ground rules, and then to hand off to our sponsors from the NSF to welcome us as well.

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00:49:44.460 --> 00:49:50.010
Beth Mynatt: So the.. the background for this roundtable is it's really pulling from discussions that we've had

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00:49:50.550 --> 00:49:58.440
Beth Mynatt: With the NSF directors of both CISE (Computational Information Science and Engineering) and then SBE (the Social Behavioral and Economics).

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00:49:58.920 --> 00:50:05.340
Beth Mynatt: Which is the to say that the members of the steering committee represent members from those advisory committees and we have been

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00:50:05.790 --> 00:50:18.990
Beth Mynatt: Having reciprocal sessions meeting together last year, and especially in our last meeting in December 2019. The goal was to create a workshop that would be able to foster and scaffold

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00:50:19.590 --> 00:50:33.420
Beth Mynatt: Collaborative scientific research within our respective communities. Our original plan was to hold a one and a half day by invitation workshop in early May in DC, and then as planning shifted

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00:50:33.870 --> 00:50:49.920
Beth Mynatt: this spring we shifted to this virtual roundtable. We are still working under the same overall timeline, which is to summarize the discussions and recommendations that come out of today's meeting to a joint advisory committee discussion with the NSF in early June.

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00:50:51.060 --> 00:51:00.960
Beth Mynatt: And you've read and responded to, and you've you've joined us today. So you've heard about the background, but really the focus is to underscore the need for deep interdisciplinary

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00:51:02.040 --> 00:51:09.690
Beth Mynatt: collaborations between the technological and social sciences and bringing these systems together so that we can better understand

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00:51:10.470 --> 00:51:23.100
Beth Mynatt: The problems. The deep socio technical problems that face our society day and then we can foster and improve collaboration between our disciplines between academia and industry around Data Science Society and more

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00:51:24.120 --> 00:51:34.980
Beth Mynatt: So the good and the bad, and the ugly of what this means. So the good is by pivoting to a virtual round table, we have over 70 participants today including our invited speakers, our NSF observers, and more

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00:51:35.430 --> 00:51:40.290
Beth Mynatt: And as you recognize from the list of participants available to you. We have a

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00:51:40.890 --> 00:51:53.850
Beth Mynatt: Beautifully diverse and esteemed set of folks participating and I'm sure we never would have been able to get all of you to fly into DC at the same time to participate in a workshop. We're also able to accommodate over a half,

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00:51:54.660 --> 00:52:00.540
Beth Mynatt: Twice as many of the people that we normally would have when we're paying for coffee breaks and food and paying for physical space.

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00:52:00.930 --> 00:52:08.640
Beth Mynatt: But the bad that comes with that is that we have fewer opportunities, at least in this forum for the kinds of robust discussions that we had originally envisioned.

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00:52:09.210 --> 00:52:17.880
Beth Mynatt: So it's important to realize that this meeting is going to be one point of a series of interactions. You've been invited to send in one page responses responses to

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00:52:18.390 --> 00:52:26.100
Beth Mynatt: Our description of this initiative. You're also invited to continue to do so, especially inspired by the discussions today.

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00:52:26.370 --> 00:52:35.340

Beth Mynatt: We will have our invited presentations, we will have moderate Q and A, and we anticipate bringing these discussions to other forums later this year.

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00:52:36.090 --> 00:52:51.030
Beth Mynatt: The good and the bad, and the ugly: the ugly is you're logging in from your, from your homes, probably, but this is still an NSF sponsored meeting and it still falls within a traditional code of conduct that's available to you on our website. So in short version: don't be ugly.

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00:52:52.230 --> 00:53:00.870
Beth Mynatt: So the rules for today, we're going to have three sessions that follow the major themes that were described within the roundtable brief.

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00:53:01.710 --> 00:53:08.070
Beth Mynatt: Each one of these will have a very short Q and A if possible and time permitting

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00:53:08.520 --> 00:53:17.670
Beth Mynatt: For specific questions for the speaker. All questions will come through our chat channels and will be provided by our moderators, so we will not be having

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00:53:18.090 --> 00:53:25.260
Beth Mynatt: We will not be raising hands, we will not be streaming a live video from other participants, but we will do this to a moderator format.

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00:53:25.560 --> 00:53:34.800
Beth Mynatt: And we again will pick those up from the chat or some of you are also in our slack hallway channel. The hallway channel is also available to you and is the equivalent of stepping out of the room.

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00:53:35.370 --> 00:53:47.250
Beth Mynatt: grabbing a cup of coffee, and chatting with other participants. We will have 2 30 minute breaks during the day. You've probably learned by now but sitting in zoom meetings all day is not good for your body and mind.

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00:53:47.880 --> 00:53:53.880
Beth Mynatt: Please dash outside refill your coffee move and then make sure you come back after 30 minutes

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00:53:54.720 --> 00:54:02.910
Beth Mynatt: The audio and video channels are reserved for our speakers and moderators, that is to protect your privacy. It's to make it easy to

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00:54:03.750 --> 00:54:13.680
Beth Mynatt: Conduct a forum as complicated and as large as this one. So please respect that and we have a number of moderators, to be able to assist us at all times.

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00:54:14.550 --> 00:54:34.140
Beth Mynatt: This meeting is under Chatham House rules will, that means that you can summarize and describe the discussions of what we were talking about today. But you can't attribute it to any particular speaker in general. The purpose of this meeting is to advise and inform the NSF. So it's really

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00:54:35.250 --> 00:54:42.990
Beth Mynatt: Early conversations and to that extent we anticipate having a more public set of discussions later on this summer.

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00:54:43.860 --> 00:54:55.350
Beth Mynatt: So thinking through our goals for today. And you're going to hear from our, our funders. We're here to advise the NSF: what research should and can our communities undertake together?

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00:54:55.890 --> 00:55:07.770
Beth Mynatt: Do we need new programs new capabilities, a new structure within those to support the deep collaboration between the computational and the social behavioral economics sciences?

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00:55:08.310 --> 00:55:17.400
Beth Mynatt: And more importantly, how do we enable this research? As you will hear from our esteemed speakers as well as your knowledge as participants in this Roundtable,

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00:55:17.940 --> 00:55:25.980
Beth Mynatt: These themes are not new. There is tremendous expertise in this room. And in fact, many of the challenges that we're talking about today,

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00:55:28.020 --> 00:55:35.070
Beth Mynatt: unearthing, uncovering, and and addressing disparities on supporting trust within an information ecosystem.

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00:55:35.580 --> 00:55:44.070

Beth Mynatt: Creating an enabling a trained workforce. These challenges have been laid even more visible by the pandemic that we're struggling with today.

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00:55:44.400 --> 00:55:51.270
Beth Mynatt: So we know that these are not new, but we can do much, much more. And the question is, how do we get there?

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00:55:51.600 --> 00:55:59.490
Beth Mynatt: So you're going to be hearing from our speakers and participating in the discussions to talk about what are the barriers that we can anticipate what are the lessons learned.

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00:55:59.790 --> 00:56:08.520
Beth Mynatt: How do we scale efforts from the efforts of a valiant faculty member and coming out of a particular laboratory? How do we scale these nationwide?

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00:56:08.910 --> 00:56:14.280
Beth Mynatt: What is the type of research infrastructure that we need and the types of partnership and training that will be important?

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00:56:14.880 --> 00:56:23.370
Beth Mynatt: So we know this isn't new. We know it is incredibly important for us to make progress. We know that we have the shared enthusiasm from the NSF

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00:56:23.760 --> 00:56:37.740
Beth Mynatt: And we want to initiate a much broader set of conversations, starting with this roundtable today. So please, you'll hear this invitation at the end of the day: let's keep the discussions going and, in particular, the one page responses will be available to us

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00:56:38.760 --> 00:56:49.380
Beth Mynatt: Through the end of this week, which really means to the end of the holiday weekend. So if you're inspired by the discussion today please Dash off that one page response and that will also go into our deliberations.

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00:56:49.920 --> 00:57:01.590
Beth Mynatt: So at this point, and I want to hand it over to Margaret and to Skip to give us their perspective on today's roundtable and to welcome us as well. So Margaret, you're next

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00:57:02.880 --> 00:57:13.440

Margaret Martonosi: Thanks very much. Beth and Hi, everyone. I want to apologize. There's about five or 10 minutes of noisy work going on outside my window that exactly corresponds with the five or 10 minutes of

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00:57:13.860 --> 00:57:18.060
Margaret Martonosi: Time when my mic is muted. But anyway, I'll talk over it, I hope

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00:57:18.870 --> 00:57:27.810
Margaret Martonosi: So just to briefly introduce myself. I'm Margaret Martonosi, and three months ago, I began leading NSF's Computer and Information Science and Engineering (or CISE) directorate

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00:57:28.350 --> 00:57:33.870
Margaret Martonosi: And while rotating at NSF, I'm on leave from Princeton, where I've been on the faculty since 1994

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00:57:34.500 --> 00:57:40.710
Margaret Martonosi: So who am I, I'm a computer architect and a lot of my early research was on making computer hardware more power efficient.

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00:57:41.370 --> 00:57:50.700
Margaret Martonosi: So if you look at that narrowly, you don't expect much socio technical implications there, but in working on power efficiency, I started working on mobile computing

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00:57:51.210 --> 00:58:01.770
Margaret Martonosi: And initially, we were designing a wildlife tracking system called zebra net. But from there, my research group shifted to humans, and in particular to mobile systems for low cost rural conductivity

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00:58:02.340 --> 00:58:10.230
Margaret Martonosi: So digital divide issues. And then we pivoted from there to also looking at region scale mobility modeling and issues that location privacy.

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00:58:10.830 --> 00:58:20.610
Margaret Martonosi: So why did I take you through all that? I said all that to underscore the degree to which all aspects of competing research, even hardware folks like me,

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00:58:21.000 --> 00:58:33.870

Margaret Martonosi: Are now deeply intertwined with societal implications and expectations. CISE's socio-technical frontier has been rich and important for years. So over the years we funded focused efforts.

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00:58:34.410 --> 00:58:39.840
Margaret Martonosi: The intersection of computing and economics cyber security smart connected communities, to name a few.

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00:58:40.320 --> 00:58:47.730
Margaret Martonosi: So, but the key is that socio technical issues and that frontier right now is is both profoundly and increasingly visible.

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00:58:48.690 --> 00:58:58.950
Margaret Martonosi: So in terms of my new role at NSF, it's a great opportunity to advocate for this broad set of research ideas and set the direction for future funding.

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00:58:59.580 --> 00:59:09.870
Margaret Martonosi: And I'm really excited about the plan topics today: information and disinformation disparities, empowering and diversify the technical workforce, and other topics so

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00:59:10.470 --> 00:59:24.270
Margaret Martonosi: I think the key from CISE's point of view is the degree to which we feel strongly. It's super important to build research communities where these issues can be studied in concert by experts from social and behavioral sciences as well as from the CISE arena.

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00:59:25.710 --> 00:59:36.690
Margaret Martonosi: Because by creating common scholarly vocabularies and techniques and communities is pressing issues at the CISE-SBE boundary can be identified and addressed more effectively.

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00:59:37.080 --> 00:59:49.080
Margaret Martonosi: And so that's where you come in. And that's why today matters. So I want to say a huge thanks to Beth, Duncan, Willie, Rob, Frankie, Alexis and all the work to make today possible

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00:59:49.470 --> 00:59:57.090
Margaret Martonosi: This isn't the face to face discussion we initially envisioned. And yet we're thrilled to be here and we're thrilled by the vibrant turnout.

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00:59:57.420 --> 01:00:03.390

Margaret Martonosi: And we're thrilled by by what looks to be a great discussion, led by an amazing line up of speakers and panelists.

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01:00:03.960 --> 01:00:07.110
Margaret Martonosi: I also want to say thanks to the NSFers who helped make this happen.

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01:00:07.740 --> 01:00:19.410
Margaret Martonosi: And finally, thanks to all of you for taking time out of your schedules and from the strange reality of today's world to join us. We know you have a lot going on, including new challenges on your plates that you didn't have before.

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01:00:20.010 --> 01:00:35.190
Margaret Martonosi: And we really appreciate your time and attention to these important issues and as predicted my speaking is over, as is the noise outside, but I wish you a great day and I'm going to hand this off next to Skip, my counterpart in SBE. Thanks.

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01:00:36.690 --> 01:00:45.810
Arthur Lupia: Hello, good morning everyone and thanks so much for being here. On the screen, you'll see my name is Arthur Lupia, but my friends call me Skip, and so I hope that you all do the same.

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01:00:47.310 --> 01:00:55.860
Arthur Lupia: The first thing I wanted to just lay out is just the priorities of the day. It's a challenging time so please accept our best wishes for your health,

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01:00:56.580 --> 01:01:03.960
Arthur Lupia: For your families, and for your communities. What we have in front of us right now is a challenge where we really need everyone

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01:01:04.500 --> 01:01:12.450
Arthur Lupia: We need dynamic collaborations. We need people sort of leveraging the amazing things we've done in the past, but trying to think of dynamic new ways.

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01:01:12.780 --> 01:01:20.010
Arthur Lupia: To both deal with the challenges we have and seize the opportunities that are before us. So I appreciate that.

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01:01:20.910 --> 01:01:29.970

Arthur Lupia: The potential collaboration between social behavioral scientists and computer scientists is really an incredible thing. I mean, we have, we have a lot of things in common, right?

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01:01:30.810 --> 01:01:44.550
Arthur Lupia: In many respects, what we do isn't glamorous. We spend a lot of hours in the labs or in classrooms or, you know, just trying to solve problems that just seem impossible and you, you know you work on them, and you hit dead ends and so forth.

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01:01:45.780 --> 01:01:49.560
Arthur Lupia: But part of what drives it is the joy of discovery and part of that is

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01:01:50.370 --> 01:02:00.000
Arthur Lupia: That what we study can really be of service to people, it can provide clarity and it can be a key ingredient improving for improving quality of life for people

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01:02:00.360 --> 01:02:07.170
Arthur Lupia: Including people that we'll never meet people who are in desperate or vulnerable situations we have, you know, amongst us

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01:02:07.830 --> 01:02:15.480
Arthur Lupia: Folks have the ability to make a real impact and so very grateful for that. As, as we all are at NSF, um,

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01:02:15.990 --> 01:02:26.250
Arthur Lupia: You know, we also share some other things like if you think about like code or an algorithm or like the typical design of a social science style say it's a model or statistics or something like that.

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01:02:26.820 --> 01:02:35.190
Arthur Lupia: Now every time you make an assumption or write a line of code or write a line of theory, you're taking, you know, some sort of symbolic construct

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01:02:35.640 --> 01:02:43.830
Arthur Lupia: And you're trying to represent something could be a person could be a feeling the group of people situation a collective endeavor environment.

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01:02:44.280 --> 01:02:48.030
Arthur Lupia: You know, you're thinking about intersections and conditionality and outcomes.

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01:02:48.570 --> 01:02:56.250
Arthur Lupia: And it's an incredible thing. And so many of our so many of us are motivated to do this because of like the human element, you know, we're trying to solve human problems.

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01:02:56.850 --> 01:03:04.500
Arthur Lupia: And so, you know, we're trying to think about adaptation and how that mixes with perception and incentives and there's so much that we don't understand

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01:03:05.100 --> 01:03:09.420
Arthur Lupia: About intentionality and identity and incentives and things of that nature.

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01:03:09.840 --> 01:03:16.050
Arthur Lupia: But the cool thing is is that in the social behavioral sciences and the computer sciences, people are working on these things and really dynamic ways

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01:03:16.410 --> 01:03:21.480
Arthur Lupia: And so there's a question about what can we do together that'd be hard for either of us to do on our own?

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01:03:22.140 --> 01:03:30.390
Arthur Lupia: These three topics really reflect that right? When you think about disparities and at one level disparities are built into systems, if I'm trying to build a program to like

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01:03:30.750 --> 01:03:39.510
Arthur Lupia: identify whether the thing in a picture as a dog or a cat. I'm writing in a disparity I'm writing in sort of a privilege for a certain pattern over another.

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01:03:39.780 --> 01:03:45.750
Arthur Lupia: And if a pattern emerges we identify it as a dog or a cat and social systems are, they are the same.

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01:03:46.200 --> 01:03:51.180
Arthur Lupia: And so part of what we're trying to do is build systems that have that kind of differentiation

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01:03:51.480 --> 01:04:01.380

Arthur Lupia: But how can we make it so that it doesn't cause other types of discrimination other types of damage that are perhaps unforeseen by the discriminates we need

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01:04:01.830 --> 01:04:14.280
Arthur Lupia: To create social efficiency and understanding and so forth. So disparities really matter. Trust you know trust is the basis of any human relationship, whether it's with a spouse or a child with the vast networks over

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01:04:14.700 --> 01:04:29.700
Arthur Lupia: Over which we're having increasing amounts of social activity, you know, we get these signals and how do we interpret them and what you know it's it's so critical for interpersonal relationships for business for cyber security for military strategy.

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01:04:30.750 --> 01:04:38.340
Arthur Lupia: So a big question for all of us, we stated in different ways, is how can we build context where recipients receive signals.

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01:04:39.360 --> 01:04:47.190
Arthur Lupia: And they can see something about the signal or something about the environment that helps them interpret the signals in ways that help them solve a problem or improve quality of life.

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01:04:47.730 --> 01:04:54.960
Arthur Lupia: So that's, that's a huge issue for all of us in place where collaboration can make a huge difference. And then empowering workforce is another thing we're talking about

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01:04:55.260 --> 01:05:06.480
Arthur Lupia: You know, in the workforce changes the constant, although we can argue that there's been a recent this continuity and the rate of change of what's happening to workforces. How do we understand correspondences between human ability

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01:05:07.710 --> 01:05:17.790
Arthur Lupia: Physical or cyber contexts and possible outcomes between us and and you know with all of us working together, we have a real chance to both empower individuals and benefit the nation.

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01:05:18.150 --> 01:05:23.610
Arthur Lupia: So I just want to thank you for agreeing to spend some time with us for for working in the NSF environment.

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01:05:24.000 --> 01:05:37.170
Arthur Lupia: And our values, you know, have had to do with service and rigor and all of its forms, but principally collaboration and this one is so exciting. So I just want to thank all of you on behalf of the folks that I work with, and represent for

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01:05:37.830 --> 01:05:43.290
Arthur Lupia: Giving us an opportunity to give a life to this potentially world changing collaboration. Thank you.

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01:05:46.650 --> 01:05:55.650
Beth Mynatt: Thank you, Skip. Thank you, Margaret. Um, it's just, it's really exciting to see everyone together today. We had no idea when we switch to this format.

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01:05:56.130 --> 01:06:08.730
Beth Mynatt: How in that so many of you would be here. I'm thrilled to hand this off to my co chair in these efforts, Duncan Watts who will kick off our first panel so Duncan off to you, and we are off!

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01:06:10.530 --> 01:06:11.880
Duncan Watts: Thanks Beth, let me just

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01:06:13.830 --> 01:06:15.660
Duncan Watts: share my screen here.