Secure and Trustworthy Cyberspace (SaTC) Town Hall
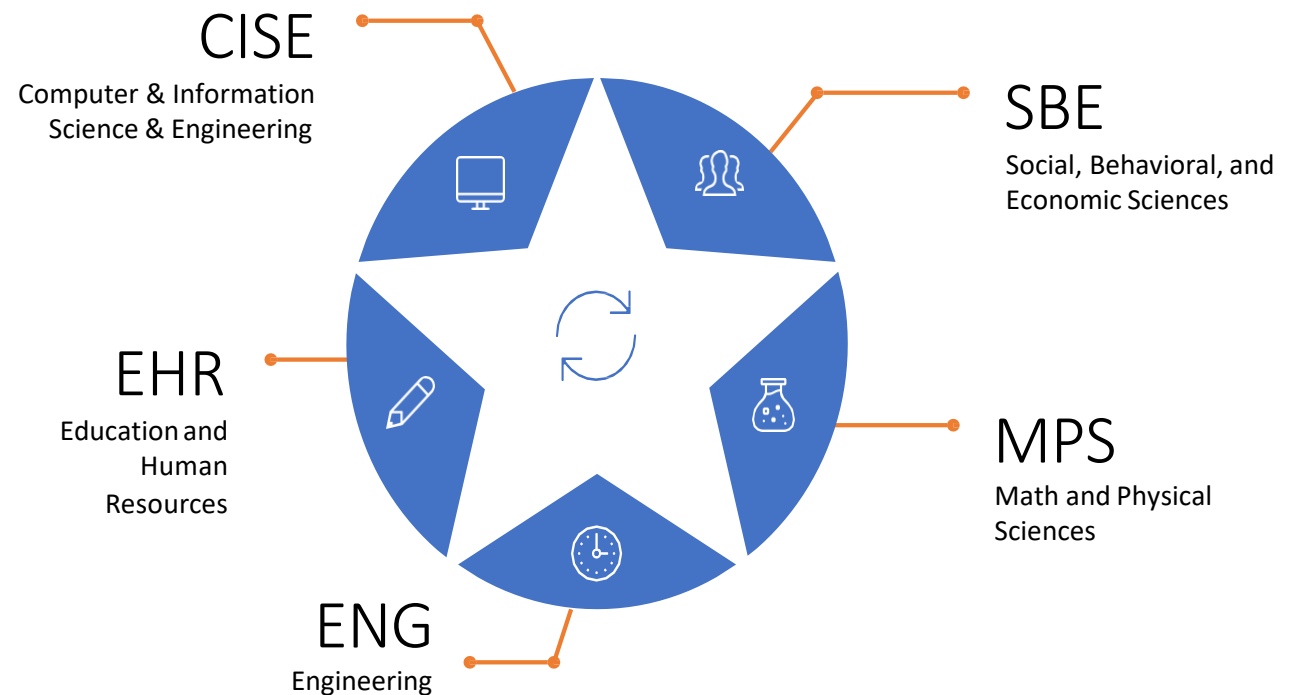
SaTC Team Members

- Jeremy Epstein (lead, systems)
- Mohammod Ali (Engineering)
- Nina Amla (crypto, formal methods)
- Rob Beverly (transition to practice)
- Dan Cosley (usable security)
- Sol Greenspan (software security)
- Lee Jameson (math, crypto)
- Alex Jones (hardware)
- James Joshi (privacy)
- Sara Kiesler (social sciences)
- Wei-Shinn Ku (data science)
- Sandip Kundu (hardware security)

- Victor Piotrowski (education)
- Andy Pollington (math, crypto)
- Balakrishnan Prabhakaran (AI/ML)
- Indrajit Ray (systems)
- Phil Regalia (CPS)
- Pam Shaw (admin team)
- Rich Sheehey (admin team)
- Alex Sprintson (networking)
- Nigamanth Sridhar (education)
- Li Yang (education)
- Annabel Virella (admin team)
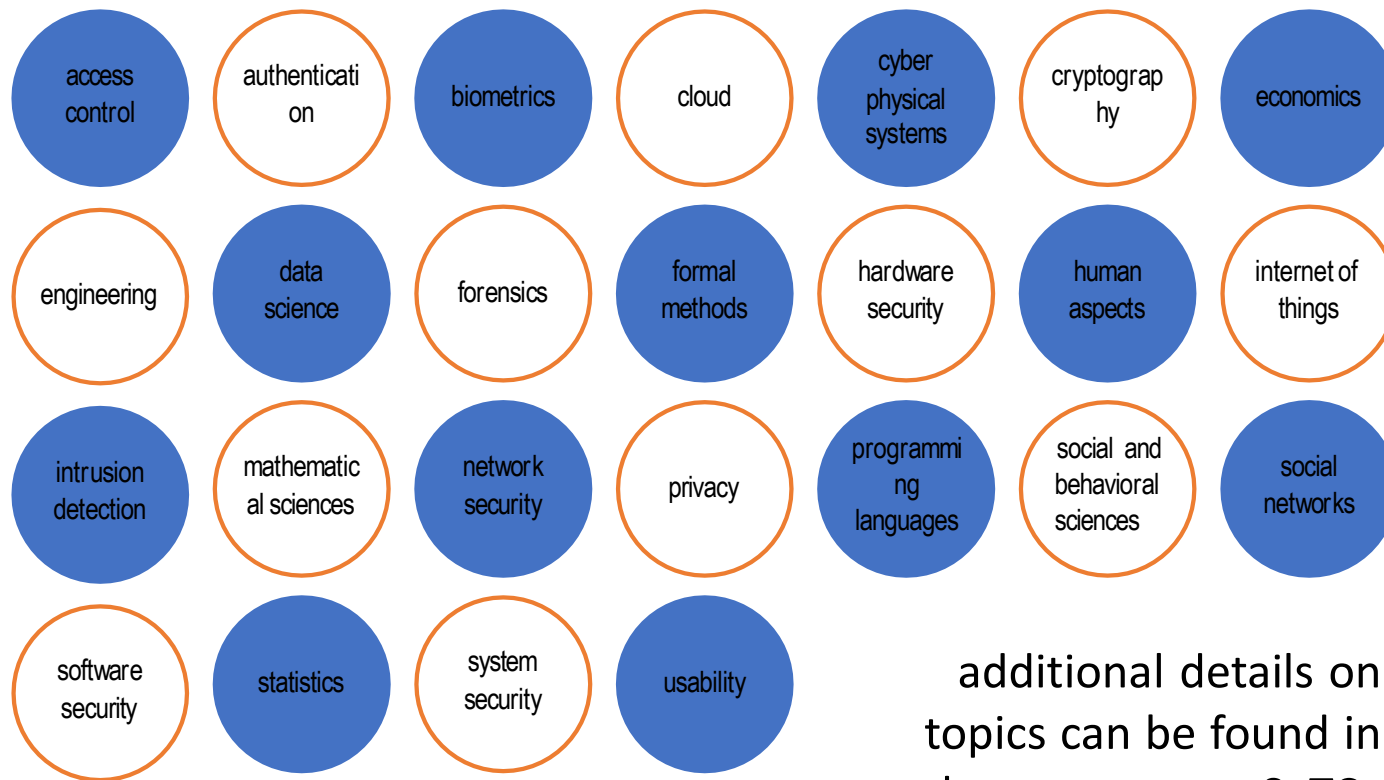
Event Structure

- Brief overviews of SaTC & related items – 2:00-2:30pm
- Then breakouts for discussion/Q&A 2:30pm-3:30pm
  1. Transition to Practice (Rob Beverly)
  2. Education programs including AI+security (Nigamanth Sridhar, Li Yang, Victor Piotrowoski)
  3. International collaborations (Jeremy Epstein)
  4. Broadening Participation in Computing (Michelle Rogers & Jill Denner)
  5. Core research areas (Balakrishnan Prabhakaran and James Joshi)
  6. CAREER/CRII (Wei-Shinn Ku)
  7. Focused research area: Security of next gen networking (Alex Sprintson)
  8. Focused research area: Trust/policy/resilience (Dan Cosley)
  9. Understanding annual/final reports (Rich Sheehey)
  10. Ask a program officer anything #1 (Nina Amla & Phil Regalia)
  11. Ask a program officer anything #2 (Sol Greenspan)
  12. Current & pending / bio sketches (Jean Feldman, Rebecca Keiser, Karen Santoro)
  13. Hallway track (no program officers – talk to other attendees)

Secure and Trustworthy Cyberspace (SaTC): NSF's Largest Research Program

SaTC approaches security and privacy as a socio-technical problem involving deep scientific and engineering problems as well as vulnerabilities that arise from human behaviors

CISE
Computer & Information Science & Engineering

SBE
Social, Behavioral, and Economic Sciences

EHR
Education and Human Resources

MPS
Math and Physical Sciences

ENG
Engineering

Over 980 Active Awards in These Topic Areas

access control

authentication

biometrics

cloud

cyber physical systems

cryptography

economics

engineering

data science

forensics

formal methods

hardware security

human aspects

internet of things

intrusion detection

mathematical sciences

network security

privacy

programming languages

social and behavioral sciences

social networks

software security

statistics

system security

usability

additional details on topics can be found in the most recent SaTC solicitation

Designation Summary - NSF 21-500

CORE:	Transition to Practice (TTP):	Education (EDU):
Focus: Fundamental research in one/more of CISE/SBE/MPS/ENG Funding levels: • **Small**: Up to 3 years, $500K • **Medium**: Up to 4 years, $1.2M • **Large**: Up to 5 years, $3.0M (new for FY21) No submission deadlines for **Small** or **Medium**; Jan 21-29 2021 for **Large** Open to universities & non-profits; PI may submit 2 proposals/FY Int'l collaboration programs with Israel & Ireland	Focus: transitioning existing research results to practice Funding levels: • **Small**: Up to 3 years, $500K • **Medium**: Up to 4 years, $1.2M No submission deadlines Open to universities & non-profits; PI may submit 1 proposal/FY	Focus: cybersecurity education Funding levels: • Up to 3 years, $400K • If include both computer scientist and education specialist, up to $500K No submission deadlines Open to universities & non-profits; PI may submit 1 proposal/FY

Changes to SaTC in FY21

- EDU can be up to $500K with interdisciplinary collaborators (cybersecurity researcher/practitioner + education researcher), up from $400K

- BPC language revisions, especially for PIs not in CS/CIS/ECE/etc. departments

- Addition of "Large" class (with a deadline)

A Few FAQs

- How do I become a panelist?
  - Fill out the survey: https://www.surveymonkey.com/r/SatcVolunteer2020

- When is the "best" time to submit my proposal?
  - When it's ready – no "best" time from a funding perspective

- What topics are most of interest to SaTC?
  - The ones you find most exciting – we're driven by the best ideas ("curiosity driven research"), not by a target of particular ideas

- How can I get help writing a good SaTC proposal?
  - Attend CISE CAREER workshops and CRA Career Mentoring Workshop (both in spring 2021 – dates not yet announced for either one)

NSF Convergence Accelerator

WHY: Leverage the science across all fields of NSF research to produce outcomes in an accelerated timeframe, with streamlined operations allowing for nimbleness to support the most innovative results

| Characteristics	Proactively & Intentionally Managed
• Use-inspired research • Clear goals, milestones, high-impact deliverables • Leverages multidisciplinary teams • Larger, national scale • Requires diverse partnerships – industry, non-profits, academia	• Teams and Cohorts—"Tracks" • Cooperation and Competition • Intensive education and mentorship—human-centered design thinking, team science, and customer discovery • Mission-driven evaluation

SaTC-Relevant: (1) 2021 Solicitation in mid-late January
(2) 2022 Workshops in March-May 2021 (for 2022 topics)

Virtual Organization for Computing Research in Pandemic Preparedness and Resilience (PI: Madhav Marathe, UVA)
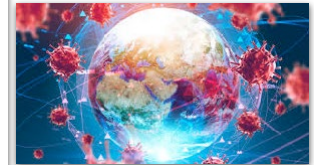
The VO will:

(i) facilitate the *collection and sharin*g of a comprehensive collection of data sets, software tools, and documentation relevant to the pandemic research community;

(ii) identify new research gaps and synergies resulting from the cross fertilization of ideas from various subdisciplines of CISE research -- *coordination* and *collaboration*

(iii) create a *research roadmap* that identifies multidisciplinary research directions that need to be pursued to prepare ourselves for and recover from future pandemics.

Kick-Off Meeting on Dec 15-16
RAPID talks + Breakout Sessions

- Dr. Margaret Martonosi, NSF Assistant Director for CISE: Welcome and Overview of NSF and CISE's Response to COVID-19 and its Impacts on the Research Community (Day 1 at 12 noon)
- Dr. Gurdip Singh, NSF Division Director of CNS: Opening Remarks (Day 2 at 12 noon)
- Dr. Erwin Gianchandani, Senior Advisor to NSF Director & NSF Deputy Assistant Director for CISE: Closing Remarks (Day 2 at 5pm)
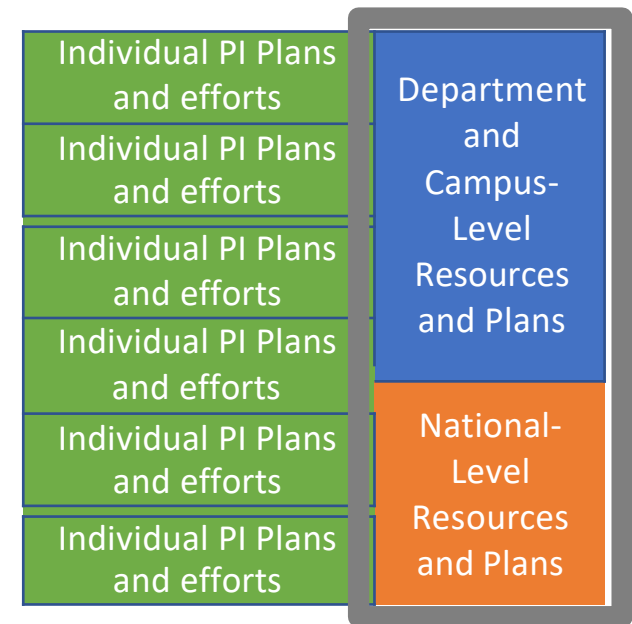
SaTC Transition to Practice (TTP)

- "Development, implementation, and deployment of later-stage and <u>applied</u> security or privacy research into an <u>operational</u> environment"

- "Demonstrable <u>advancement</u> of the technology's readiness, robustness, validation, or functionality."

> Bridge the gap between research and production

- **Breakout** will cover FAQs and any audience questions:
  - What is appropriate for a TTP effort?
  - Differences with e.g., SIBR, Convergence Accel, CICI
  - What makes a successful TTP project?
  - Evaluation criteria
  - Available TTP resources

Broadening Participation in Computing

- In 2018, the CISE directorate began a 3-year Broadening Participation in Computing (BPC) pilot. This pilot requires every **Medium**, **Large**, and **Expedition/Frontier** proposal to have an approved BPC plan prior to award in all **CISE core** programs, the **SaTC** program, and the **Cyber-Physical Systems** program.

- **Resources for CISE PIs (**https://bpcnet.org**)**
  - Best and promising practices: Evidence-based and vetted resources
  - Not just *What* but *How*

Individual PI Plans and efforts

Individual PI Plans and efforts

Individual PI Plans and efforts

Individual PI Plans and efforts

Individual PI Plans and efforts

Individual PI Plans and efforts

Department and Campus-Level Resources and Plans

National-Level Resources and Plans

BPCnet
RESOURCE PORTAL

NSF Current & Pending Support and Biosketches

*Everything you've ever wanted to know
but haven't known whom to ask*

Margaret Martonosi
Assistant Director
Computer and Information Science and Engineering
December 15, 2020

NSF recently issued new guidance

- New NSF-approved format requirements for **current and pending support (C&PS)** and **biosketches** effective October 5, 2020
- Clarifications on what C&P support must be reported as of December 9, 2020

- **Of particular interest to the CISE community**

WE WANT TO HEAR FROM YOU

• We want to learn about the "edge" cases in our field

• We want to try to answer your questions

• Your questions will inform future FAQs clarifying our guidance

NSF Experts are here to
Listen to your Input and answer your questions

- Jean Feldman, Head, Policy Office
  Office of Budget, Finance & Award Management

- Rebecca Keiser, Chief of Research Security, Strategy and Policy & Office Head,
  Office of International Science and Engineering

- Karen Santoro, Assistant General Counsel (Ethics)
  Office of the General Counsel

Staying connected to SaTC

To join the SaTC mailing list: Send "subscribe SaTC-announce" to listserv@listserv.nsf.gov and then respond to the confirmation message.

Serving on a SaTC Panel

 https://www.surveymonkey.com/r/SatcVolunteer2020
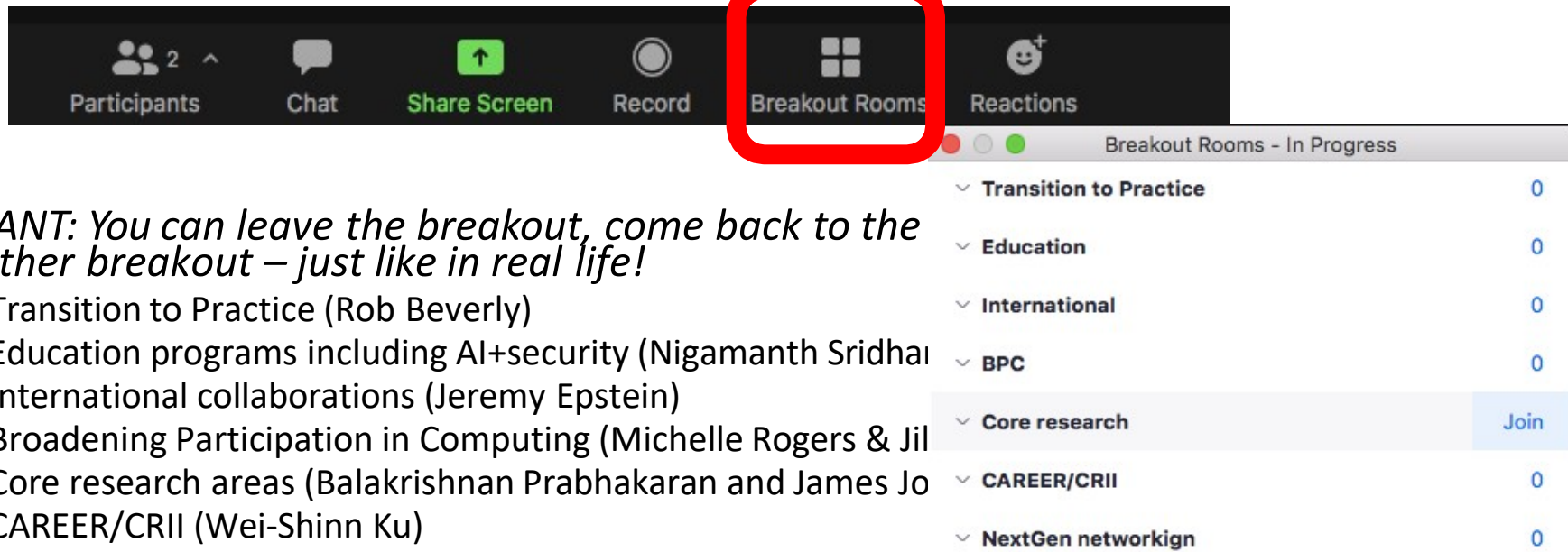
What if my question doesn't get answered today?

- We'll try to answer as many as we can!

- Send your question to satc@nsf.gov and we'll respond promptly

- If you want feedback on whether your idea is in scope, send a 1-page (NOT LONGER) description
  - Do not send your full project description!

- If you want to know the status of your proposal:
  - NSF goal is ~75% response in six months

- Look for a survey after this event!

Let's Go To Breakouts (until 330pm Eastern)!

IMPORTANT: You can leave the breakout, come back to the join another breakout – just like in real life!

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Backup slides

Breakout room Zooms

- 1 (TTP):
  https://nsf.zoomgov.com/j/1604567590?pwd=WnZnOWdPNVkrQjhCQXU1WmhCcGxsQT09

- 2 (Education):
  https://nsf.zoomgov.com/j/1607727536?pwd=QVBaeUFZNThsRU5peHBaMWEyeCtVUT09

- 3 (intl):
  https://nsf.zoomgov.com/j/1603399396?pwd=L0ZrRXRwOWcrcDZ3MlhEZE82aWsyQT09

- 4 (BPC):
  https://nsf.zoomgov.com/j/1603382245?pwd=V3JHeWFSeUFVWXcyNmRMb2t4eGxNdz09

- 5 (Core):
  https://nsf.zoomgov.com/j/1609779567?pwd=a2ZvR0htbmhUV3ZKYUlPd1plK054dz09

- 6 (CAREER/CRII):
  https://nsf.zoomgov.com/j/1614341994?pwd=eHJ4UEpxM0ZmdXBSWGhzdEdjQnlvQT09

- 7 (NextGen):
  https://nsf.zoomgov.com/j/1603200925?pwd=cEpTRDBhaTJWVWJMb3k5QmpDUUsrQT09

- 8 (Trust):
  https://nsf.zoomgov.com/j/1600106487?pwd=WXh2cm0xa21hbXJkUFdQVG0rcEdRUT09

- 9 (Reports):
  https://nsf.zoomgov.com/j/1603545884?pwd=dXJPZTZrVEVVQkdRTTZTajlybHROUT09

- 10/11 (AMA):
  https://nsf.zoomgov.com/j/1614216416?pwd=eEZvaHo3YWczL1laU1E3ZVh0ODJFUT09

- 12 (C&P):
  https://nsf.zoomgov.com/j/1615516301?pwd=c2NxMHdLN0w0SFlzK1VreWVKcEp2Zz09

- 13 (Hallway):
  https://nsf.zoomgov.com/j/1615794634?pwd=RjZSeDJVTVduNjEvU2tNMFIrOXhGdz09