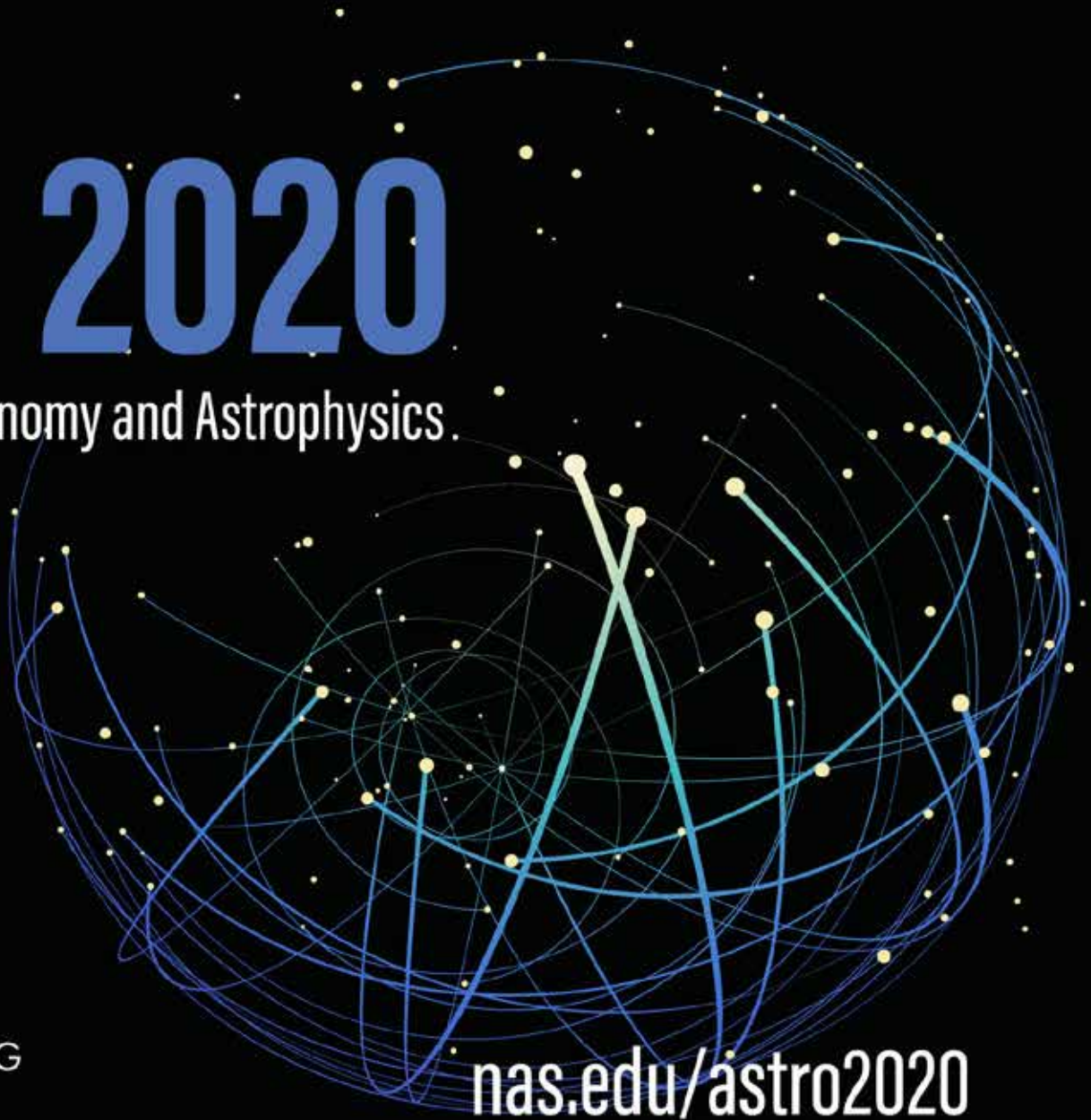
Astro 2020

Decadal Survey on Astronomy and Astrophysics



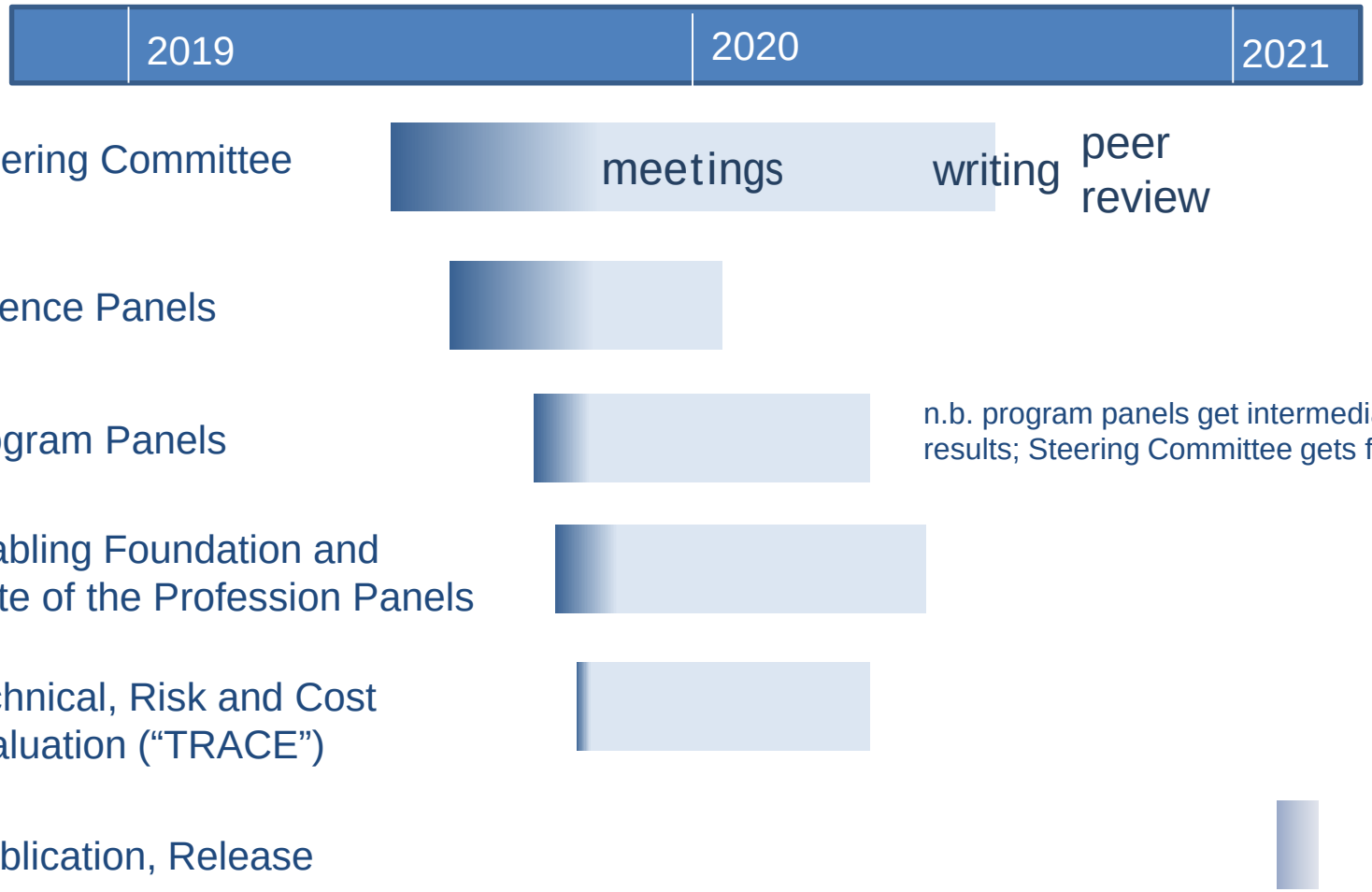
CAA Update

26 November 2019

The National Academies of SCIENCES ENGINEERING MEDICINE

nas.edu/astro2020

Notional Decadal Survey Timeline



Community Input

- White papers are the primary method for community input and drive what the survey considers
- Science whitepapers 590 submissions
  - Submitted in March 2019, all read and discussed by science panels
- Activity and Project, and State of the Profession Consideration (APC) whitepapers
  - 300+ papers submitted July 10
  - ~250 APC white papers assigned to one or more program panels
  - ~70 papers address State of the Profession
- All papers can be viewed at:
  - www.nas.edu/astro2020 à look under community input

1st Steering Committee Meeting (July 15-17)

- All three agencies, NASA, NSF and DOE asked for an ambitious program (i.e., above current funding levels) the agencies also need a strong visionary case to justify the ambitious program
  - The Air Force Office of Science has joined as a co-sponsor since the first meeting
- Agencies reiterated importance of providing decision rules
- Agencies clarified questions about statement of task and nature of advice needed on program components
- Second meeting December 7-9 (reports from science panels, discussions with panel chairs)

Science Panels

- Key goals
  - Provide scientific priorities that will be used to assess proposed missions, facilities, and projects, and develop an overall research strategy
  - Provide a strong scientific case to justify an ambitious strategic plan
- Process and status
  - Two face-to-face meetings, plus telecons as needed
    - 1st meetings completed: white paper reviews, discussions, planning
    - 2nd meetings completed: formulation of key science questions and discovery areas
- Deliverables
  - Identify key science questions and discovery areas (similar to Astro2010)
  - Panel reports, but shorter than 2010

Program Panels

- Key goals, activities, and deliverables
  - Assess proposed projects and activities against science priorities and technical readiness, risk, cost, and forward priority activities for ranking by the steering committee
  - Comment on questions of programmatic balance within its area
- Process and status
  - Three face-to-face meetings, plus telecons as needed
    - October 2019 – March 2020, all have held first meeting
    - Will receive briefings from science panels in December 2019
  - Reports from NASA flagships are available from the project teams, NASA has passed on its independent assessments
  - Panels will also present in-person briefings to steering committee and prepare written reports (shorter than 2010)

Technical, Risk, & Cost Evaluation (TRACE; formerly known as CATE)

- Independent evaluation of project/activity concepts for technical risk, maturity and cost/schedule
- TRACE process will provide an analysis of technology development needs and an independent cost assessment
- Analysis (and the survey) recognizes most concepts evaluated are early stage (pre-Phase A)
- Process is accommodating the varying levels of definition and maturity of implementation plans

New for Astro2020

- An Enabling Foundation for Research (Chair: David Spergel)

laboratory astrophysics; theory, computation, simulation; data collection, archiving, and analysis; facilities, funding, and programs; general technology development

  - emphasis is to identify cross-cutting investments that can advance the overall science program
  - coordinating cross-panel working groups on areas of common interest

- State of the Profession and Societal Impacts (Co-Chairs: Margaret Hanson and Enrico Ramirez-Ruiz)

demographics, diversity and inclusion, workplace climate, workforce development, education, public outreach

  - emphasis for Astro2020 is to produce actionable recommendations
  - open forum + listening session planned for Hawaii AAS

Notional Decadal Survey Timeline