



Caltech

Making the Case

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Caltech/IPAC - TMT

On behalf of the Organizing Committee and participants of the April
2017 workshop at Caltech

“Making the Case: Outreach and Communications for Large, International Science Projects”

- Presenting outcomes from the workshop at Caltech/IPAC (Pasadena, California, USA) ; April 11-13, 2017
- <https://conference.ipac.caltech.edu/wepoc2017/>



The screenshot shows a web browser window with the URL <https://conference.ipac.caltech.edu/wepoc2017>. The page features a dark header with a galaxy image and the text "Making the Case 2017" and "April 11, 2017 - April 13, 2017". A navigation menu on the left includes: Home, Registration, Venue, Program, Accommodations, Participants, Organizing Committees, and Abstracts. The main content area has the title "Making the Case: Outreach and Communications for Large, International Science Projects" and a description: "Making the Case" is a workshop to be held April 11-13, 2017 at Caltech/IPAC in Pasadena, CA, USA. Thirty Meter Telescope (TMT) is a co-host for the workshop. This three-day workshop will provide Workforce, Education, Public Outreach and Communications (WEPOC) leaders from high energy physics and astronomy projects a candid forum for considering fundamental questions for large, international science projects:

- What is the value of WEPOC to the projects and their communities?
- How, when and where should WEPOC be defined, developed and implemented?
- What are the barriers and challenges in developing strategic plans and



- Preliminary definition/terminology: WEPOC
 - **W**orkforce (development of STEM-related workforce)
 - **E**ducation (formal, informal ; schools, colleges, universities, life-long learners, etc.)
 - **P**ublic
 - **O**utreach
 - **C**ommunications



Organizing Committee comprised of Workforce, Education, Public Outreach and Communications leaders from high energy physics and astronomy projects from around the world:

- Saeko Okada (co-chair): Head of Communication and Outreach, J-PARC
- Gordon K. Squires (co-chair) Director of WEPOC, Caltech/IPAC-TMT
- Janesse Brewer, 23.4 Degrees
- William Garnier: Director of Communications, Outreach and Education, SKA Telescope
- Masaaki Hiramatsu: Education & Public Outreach Officer, NAOJ Chile Observatory
- Pedro Russo: President of the IAU Commission C2 Communicating Astronomy with the Public
- Hitoshi Yamaoka: Chief of Public Relations Office, NAOJ
- Katie Yurkewicz: Director of Public Relations Office, Fermilab

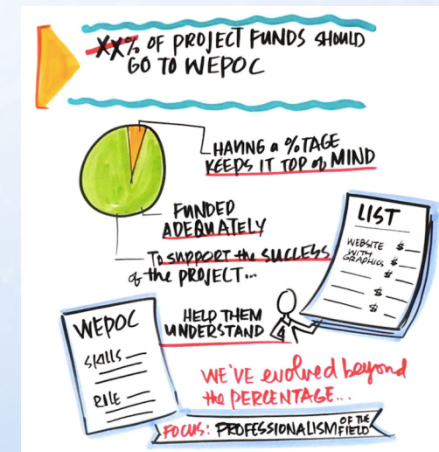
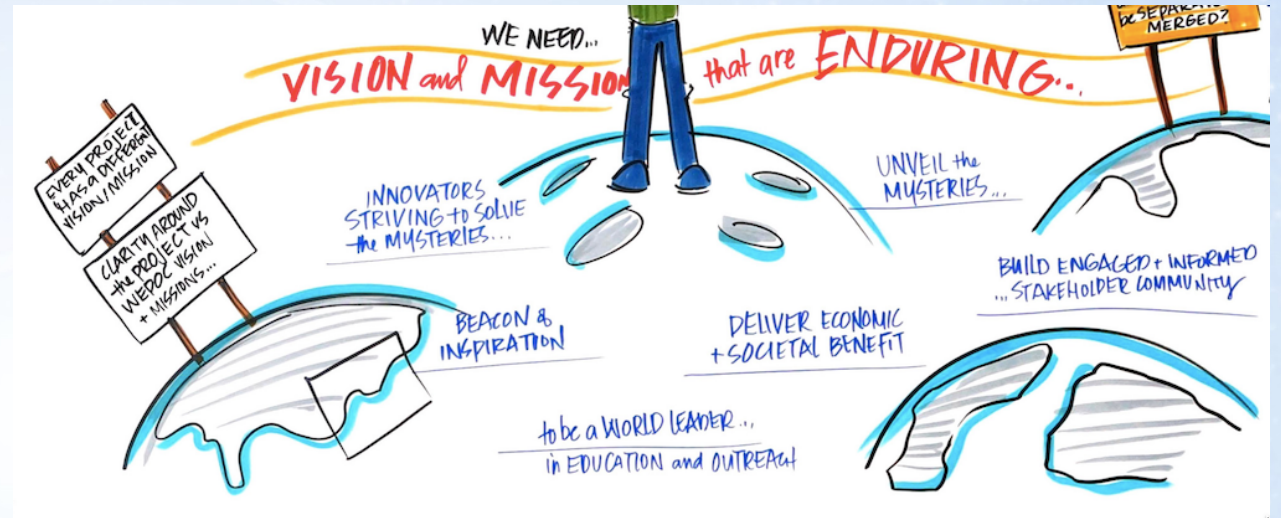
- Amanda Bauer — LSST
- Charles Blue — NRAO
- Janesse Brewer — 23.4 Degrees
- Whitney B. Clavin — Caltech
- Sandra Dawson — TMT Obs. Corp.
- Kristen Erickson — NASA Science
- Valeria Foncea — ALMA
- William Garnier — SKA Organisation
- Anna Godinho — CERN
- Saeko S. Hayashi — Subaru Telescope
- Masaaki Hiramatsu — National Astronomical Observatory of Japan
- Lisa Hunter — UCSC & UH
- Suzanne Jacoby — LSST
- Hussein Jirdeh — Space Telescope Science Institute
- Farnaz Khadem — Caltech
- Mark King — NASA, Marshall Space Flight Center
- Amanda Kocz — Giant Magellan Telescope
- Peter Michaud — Gemini Observatory/AURA
- Terry O'Connor — Science and Technology Facilities Council, UK
- Saeko Okada — J-PARC Center
- Jeff Rich — Carnegie Observatories
- Gordon K. Squires — Caltech/IPAC - TMT
- Kathy Svitil — Caltech
- Michelle Viotti — NASA/JPL
- Megan Watzke — Chandra X-ray Center
- Jon Weiner — Lawrence Berkeley National Laboratory
- Hitoshi Yamaoka — National Astronomical Observatory of Japan
- Katie Yurkewicz — Fermilab

- Provide WEPOC leaders from high energy physics and astronomy a candid forum for considering fundamental questions for large, international science projects:
 - What is the value of WEPOC to the projects and their communities?
 - How, when and where should WEPOC be defined, developed and implemented?
 - What are the barriers and challenges in developing strategic plans and programs?
 - How do you make the case of the value of WEPOC to the international leadership in these projects?
 - For established programs, how do you continue to “make the case” for WEPOC and adapt and adjust for changing priorities, funding cycles, etc?

- Publishable roadmap or whitepaper describing WEPOC potential contributions to large international science projects.
- Presentation to share with other colleagues in current and planned large, international science projects.
- Pathway for extending, and where needed, establishing formal or informal networks for science communication leaders working on international high energy physics and astronomy projects.
- Other TBD

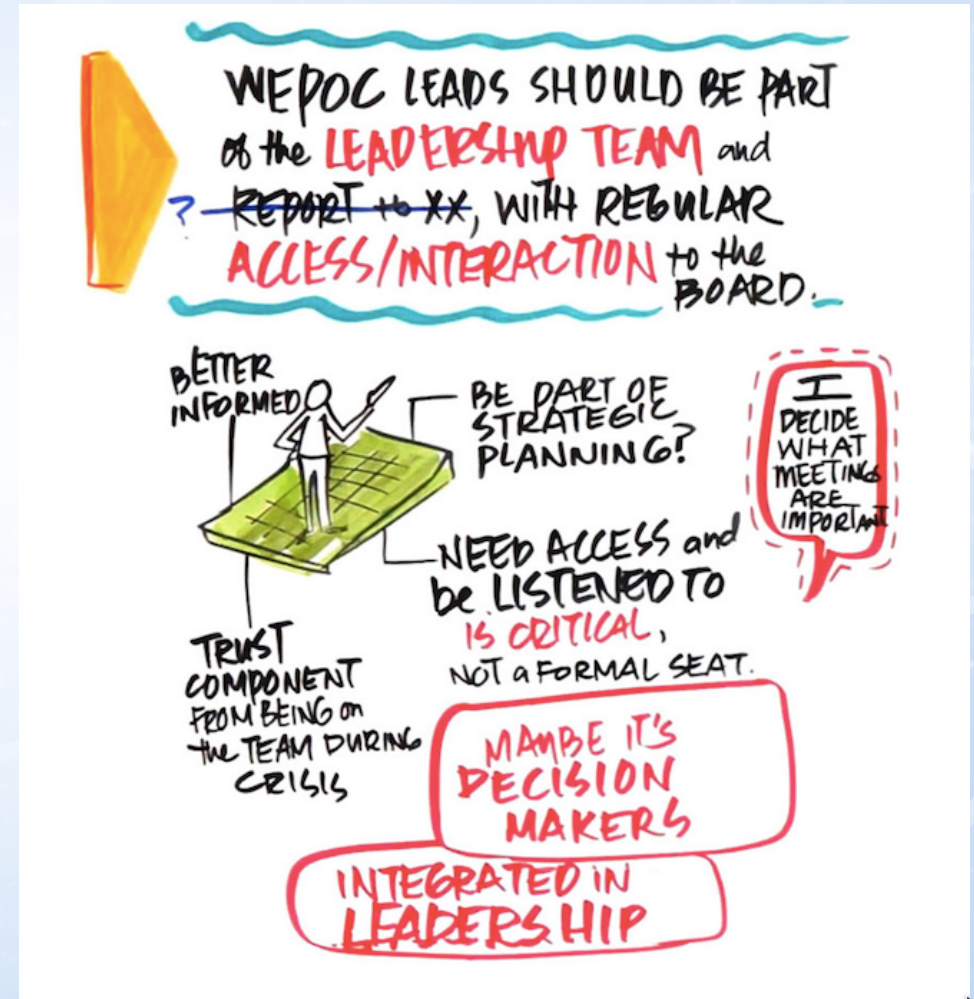
These outcomes are co-authored and endorsed by all of the participants of the workshop

A phased WEPOC strategic plan should be initiated in the conceptual stage of the project, adequately resourced, and be aligned with the vision, mission, and strategy of the project and partners.

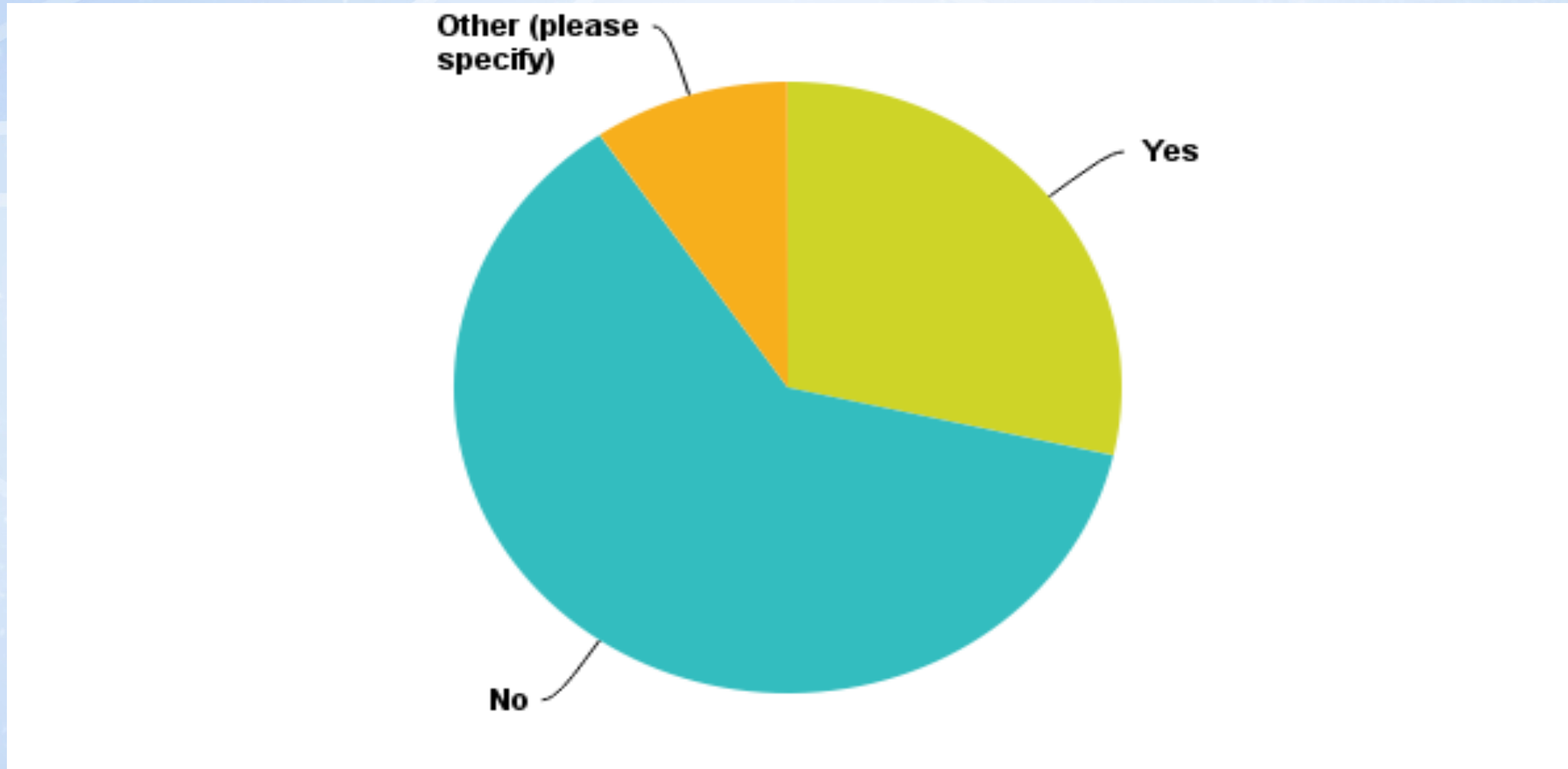


WEPOC leaders should be integrated into the leadership structure with access to the decision-making bodies.

WEPOC staff should hold relevant professional WEPOC qualifications and/or experience and undertake continuous professional development.

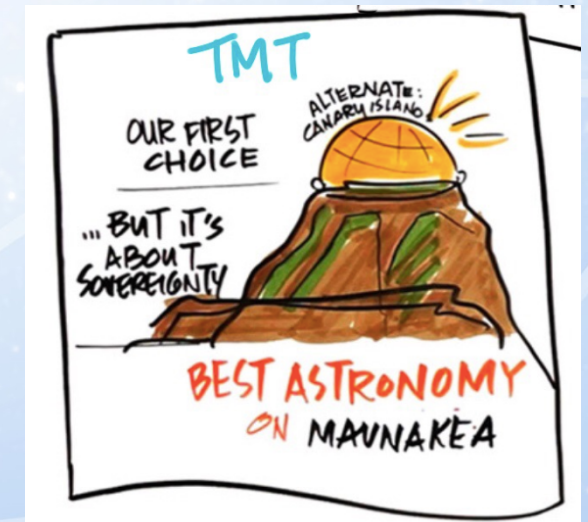
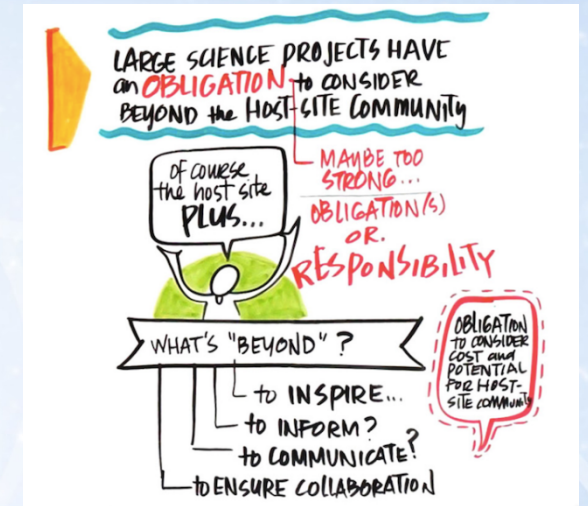


Workshop Survey: Are you a part of the science project's leadership team?



The project has a responsibility to consider the WEPOC requirements of all of its partners and the wider community.

WEPOC enables the project to fulfill an obligation to be respectful, responsive and an integral part of the site community.



Holding to a similar standard as the other elements of the science project, WEPOC programs should be reviewed by peers.

To improve performance and to ensure evidence-based outcomes, WEPOC should include evaluations appropriate to the individual WEPOC activities.

Successful WEPOC activities are inclusive and promote diversity.



ra·tion·ale (*noun*)

a set of reasons or a logical basis for a course of action or a particular belief.

Synonyms: reason(s), reasoning, thinking, logic, grounds, sense;
principle, theory, argument, case;
motive, motivation, explanation, justification, excuse;
the whys and wherefores

Consider the following to be a menu of ways to “make the case”

Critical to establish an evidence base for these rationales: you can help here!



Our project/organization is uniquely positioned to make a positive impact on science, technology and society through professional WEPOC programs



- Our role in the scientific ecosystem, our collection of scientists and skilled professionals, our technology, and our scientific goals and results place us in a unique position to inspire and attract new students to STEM careers; educate learners about and engage the public in our science and technology; and raise public awareness of science and its role in and impact on society. Professional WEPOC staff members trained and experienced in carrying out successful programs can most effectively address organizational needs and leverage our unique capabilities.



World-class science projects and organizations carry out world-class WEPOC programs; it's part of our organizational culture

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- Science not shared is science not done: the journey of science is not complete until the results have been shared with the public. There is public demand for information about our projects and people as the questions we address about our universe and humankind's place in it are shared by all members of society. All major scientific organizations and projects carry out WEPOC activities; we must engage in these programs to remain competitive for support.

- Successful global collaborations focused on peaceful scientific endeavors are valuable and important. Showcasing how large international science collaborations are able to work together and look beyond politics and geography extends the value of the project beyond scientific results to global cooperation, economic returns, and international collaboration.

From the CERN Communication Strategy:

“Communicating CERN’s mission and achievements has been core to the Organization’s strategy for over a decade. The 2017-2020 Communications Strategy thus builds on over well-established and highly successful communication, education and outreach programmes at CERN, which have:

- contributed to CERN being recognised as not only a world-leading research laboratory in particle physics, but also a centre of excellence in science, engineering and computing, and an example of multinational collaboration;
- established CERN as one of the first ports of call for international media;
- confirmed CERN as a source of inspiration and learning for teachers and students;
- set CERN as part of popular culture, inspiring scientific curiosity amongst citizens across the globe;
- confirmed CERN as one of the best global models for scientific collaboration for peace.”

- History has shown that having an effective WEPOC program strengthens an organization, allowing it to weather a crisis. Investing early and intentionally in WEPOC builds good will that be leveraged during difficult times. Proactively telling our story ensures we tell our story before someone else does.



House of Commons
Innovation, Universities,
Science and Skills Committee

Science Budget Allocations

Fourth Report of Session 2007–08

Volume I

Report, together with formal minutes

Ordered by The House of Commons
to be printed 23 April 2008

<https://www.publications.parliament.uk/pa/cm200708/cmselect/cmdius/215/21502.htm>

UK: Science & Technology Facilities Council (STFC)

- Created in 2007 by merging Particle Physics and Astronomy council with another running large labs.
- New body inherited £80m shortfall, and was pushed by government for immediate decisions.
- Management decisions to cut projects and staff, but with little consultation, and poor communication internally or externally.
- A “public relations disaster” – massive negative media coverage, which led to a parliamentary committee enquiry

“We deplore STFC’s failure to consult.....a failure that has cost it the trust of the scientific community. We conclude that STFC’s communications are inadequate, particularly its internal communications, which are deficient both in terms of top down communication (for example, alerting staff to proposed changes) and bottom up communication (for example, engaging the community over decisions). We recommend that STFC pursue urgently the appointment of a permanent Communications Director with appropriate skills and experience.”

- WEPOC programs build public and stakeholder support that helps ensure the availability of funding for the next generation of science projects. Such programs inspire and train a high-quality, diverse STEM workforce to work on the next generation of science projects. WEPOC activities build positive relationships with the local, national and international community members necessary to support future collaborative large-scale science projects.



Our project/organization is mandated to carry out some or all aspects of WEPOC

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- There is a law, policy, rule or contractual obligation that mandates or requires that our project or organization carry out workforce development, education, public outreach and/or communication activities.



Projects that receive public funds have an obligation to inform, inspire, and involve the public

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- Outcomes from publically funded projects belong to and are in service to the greater public good. These outcomes must be shared with the public through WEPOC activities in an equitable, inclusive manner.

CERN

- CERN is mandated by the CERN Convention to provide information for and keep the high energy physics community (Articles II.1, II.3(c)) and Member States (Article V.2(f)) regularly updated.
- “There is nothing more enriching and gratifying than learning.” [Fabiola Gianotti, CERN Director-General]
CERN’s Teacher programmes are supported by CERN Council
- The Teacher and Student Forum was established in 2016, to bring CERN and Member State delegates together to discuss best practices in teacher and student engagement.
- EPPCN – European Particle Physics Communications Network, was born in 2006 as part of the European Strategy for Particle Physics.
“Council will establish a network of closely cooperating professional communication officers from each Member State, which would incorporate existing activities, propose, implement and monitor a European particle physics communication and education strategy, and report on a regular basis to Council.”

NASA Mandate:

NASA Flight Programs and Projects are governed by NASA Procedural Requirements (NPR) 7120.5 “NASA Space Flight Program and Project Management Requirements.”

- The standardized Work Breakdown Structure (WBS) for a project is defined in Appendix H.3 “Project Plan Template” as Figure H-2 (see below):



Definition of the WBS elements are contained in the NASA WBS Handbook, NASA/SP-2010-3404 and defines:

- 11 Education and Public Outreach - Provide for the education and public outreach (EPO) responsibilities of NASA's missions, projects, and programs in alignment with the Strategic Plan for Education. This element includes management and coordinated activities, formal education, informal education, public outreach, media support, and website development.



WEPOC programs increase our competitive edge when recruiting the best young staff, who often value a commitment to such activities

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- Strong WEPOC programs increase our project's name recognition among the pool of potential applicants, increasing the chance that the best people will apply for our jobs. In addition, students and early career professionals increasingly view a commitment to WEPOC as part and parcel of their job and are heavily motivated to engage in such activities. Projects and organizations with active WEPOC programs can be an added incentive for a potential new hire.

- Join the group of worldwide astronomy, physics WEPOC leaders endorsing the principles, rationales, roadmap
- Help us build the evidence base for the rationales
- Help us understand how we can help you “make the case”
- Share your horror stories (confidentially OK)

"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has."