



# STEM Education Advisory Panel Committee Meeting

Wednesday, April 15, 2020

**Location:**  
Virtual

**Advisory Committee Members Present:** Vince M. Bertram, Douglas Clements, Lizanne DeStefano, Arthur Eisenkraft, David L. Evans, Gabriela A. González, Jacqueline Huntoon, Aimee Kennedy, Laurie Leshin, Robert D. Mathieu, Ray Mellado, K. Renae Pullen, Larry Robinson, Kimberly Scott, Robert Semper, William Yslas Velez, Bruce Wellman

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## 10:00 – 10:10 am Introductions/Roll Call

**Gabriela A. González, STEM Education Advisory Panel Chair**

Ms. Gabriela González, STEM Education Advisory Panel Chair, called the meeting of the STEM Education Advisory Panel to order. Ms. González acknowledged that these are trying times, thanked all members for calling in, and reminded participants about the charge of the Advisory Panel.

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## 10:10 – 11:30 am Update on Federal Coordination in STEM Education Subcommittee (FC-STEM) Activities

### Committee on STEM Education (CoSTEM) Leadership

Dr. Karen Marrongelle, Assistant Director of the Directorate for Education and Human Resources at NSF and FC-STEM co-chair) provided remarks and updates on NSF leadership. Dr. Marrongelle noted the departure of Dr. Córdoba and the nomination of Dr. Sethuraman Panchanathan by President Trump on December 18, 2019. While NSF awaits his confirmation by the Senate, Dr. Kelvin Droegemeier, Director of the Office of Science and Technology Policy was appointed as NSF's Acting Director.

Ms. Chloé Kontos, Executive Director of the National Science and Technology Council at OSTP, elaborated on Dr. Droegemeier's dual role, noting that he is honored to lead NSF in the interim and that there is precedent for such dual roles. Ms. Kontos also announced that there have been changes in OSTP staff and leadership – the departing of Jeff Weld, Assistant Director for STEM Education at OSTP, and Jon Werner-Allen, an American Association for the Advancement of Science (AAAS) Policy Fellow. OSTP welcomes its newest Assistant Director for STEM Education, Cindy Hasselbring, who was previously the Senior Director for the High School Aviation Initiative at the Aircraft Owners and Pilots Association (AOPA), and an Albert Einstein Distinguished Educator Fellow at NSF. She brings a wealth of experience to her position having worked on the first STEM Education Strategic Plan. OSTP recently also brought on a Deputy Assistant Director for STEM Education, Dr. Marlene Kaplan, who was previously the Deputy

Director of Education at the National Oceanic and Atmospheric Administration (NOAA).

### **Federal Response to COVID-19**

FC-STEM Co-Chairs, Karen Marrongelle and Mike Kincaid, Associate Administrator of NASA's Office of STEM Engagement, shared that FC-STEM has approached the disruption related to COVID-19 in various ways, including: sharing how agencies have been responding to the pandemic; keeping STEM communities in mind as each agency adjusts its internal workforce; and thinking about how FC-STEM can best support the community and everyone impacted. Co-Chairs provided an overview of the federal agency resources available to the public. Mike Kincaid opened the floor for discussion, asking panel members to provide thoughts on the current situation and advise FC-STEM how to best move forward.

Ms. González facilitated the discussion and questions from panel members. Discussion during this period focused on the importance of equity in STEM education and current issues and challenges faced by students, teachers, and families. Panel members noted that the current situation is an opportunity for federal colleagues to think about STEM education differently, including capitalizing on STEM learning at home, supporting family engagement, collaborating with tribal communities, and thinking beyond the K-12 and higher education space. Panel members expressed concerns about the current struggle of museums, and the survival and persistence of small, but crucial, STEM initiatives that are moving STEM Education forward. Members advised that FC-STEM pivot to think about the future of STEM education moving forward. Main guiding questions include how to capture knowledge effectively, how to implement best practices from experiential learning, and how to stay connected to industry partners and anticipate the evolving skills that will be needed in the STEM workforce.

### **CoSTEM: Progress Report**

Cindy Hasselbring provided an update on the next CoSTEM progress report, noting that it will be released less than a year from the last report. There are not many significant changes, though the report has been updated to improve its usefulness to stakeholders. New components include: STEM investments aligned to goals and pathways; agency responses to meeting COVID-19 needs; the development of collaboration between federal agencies; public-private partnership highlights; and a section for collective impact on the broader STEM community. STEM Education Advisory Panel members were asked to provide input about what should be included for the next progress report.

Panel members discussed concerns regarding metrics and inquired about the possibility of an external evaluation about the progress of FC-STEM activities. One panel member commented on Figure 3 of the report, noting that the number of agency actions does not say indicate whether those actions are substantial or peripheral and suggested that FC-STEM think about ways to convey significance and impact. Other discussion revolved around expanding, recognizing, and encouraging strategic industry partnerships and collaborations. Panel members thanked FC-STEM leadership for incorporating their comments into the previous report.

### **CoSTEM: Request for Information**

Cindy Hasselbring provided an update regarding a Request for Information (RFI) from the community related to FC-STEM implementation efforts. Through the RFI, FC-STEM leadership aims to learn from

STEM education providers and stakeholders what resources are needed. The RFI will be posted on the Federal Register but is currently delayed due to COVID-19. STEM Education Advisory Panel members will be notified when the RFI is posted. The public will have 30 days to respond to various questions and topics based on the STEM Education Strategic Plan. All Advisory Panel members are welcome to respond and share the RFI with their community.

### **FC-STEM Collaborators Convening**

Dr. Nafeesa Owens, Senior Advisor to FC-STEM, briefed panel members about the FC-STEM Collaborators' Convening, held at NSF on December 4, 2019 –on the anniversary of the release of the STEM Education Strategic Plan. Over 100 participants attended, representing 18 different agencies/sub-agencies. There were four objectives for the meeting around forming, expanding, and understanding various partnerships (Federal, public-private, etc.). Overall, the meeting was incredibly productive, and FC-STEM leadership is looking at possibly hosting another convening in the near future.

### **FC-STEM Website Tiger Team**

Dr. Nafeesa Owens and Cindy Hasselbring then introduced the concept of FC-STEM Tiger Teams. In addition to five Interagency Working Groups (IWGs), these teams are short-term, task-focused groups. The tiger team that Nafeesa and Cindy co-chair is exploring the idea of providing STEM resources to stakeholders. The team has met several times since the beginning of the year and has worked to identify audiences and needs/priorities. The team is examining models of successful multi-agency supported websites (e.g., youth.gov); has identified ways a resource could support the Federal Strategy for STEM Education; and plans to collect feedback from the RFI and through other means (e.g., roundtables, other agencies, etc.). Advisory Panel members were asked to provide input on who the resource should serve, what resources would be most helpful to serve members' communities, and what websites or technology tools should be considered as a model.

Panel members advised the team to think carefully about the resources needed to create and maintain such a resource, and emphasized the importance of involving people that have experience with creating such websites or similar projects. Panel members also agreed on the importance of involving teachers, especially the Presidential Awardees. A panel member recommended keeping in mind children with disabilities, and suggested looking to the [STEM Innovation for Inclusion in Early Education \(STEMIE\)](#) website or the [LearningTrajectories.org](#) website as models. Other comments included considering a needs assessment, beyond focus groups, to ensure the success of the project. Members noted generational issues in terms of audience, forms of interest, and modes of delivery. A member asked whether the team has considered creating an accessible mobile app instead of a website and whether they have thought about incentivizing or gamifying the website experience.

### **FC-STEM Interagency Working Group (IWG) Progress**

Cindy Hasselbring, co-chair to two of the five IWGs, and Dr. Marlene Kaplan, Deputy Assistant Director for STEM Education at OSTP, co-chair to three IWGs, provided an update on each of the IWGs that are working to support and advance the STEM Education Strategic Plan.

Strategic Partnerships IWG focuses on creating partnerships with industry and foundation partners.

Through this work the group is also supporting and expanding STEM ecosystems as well as work-based learning opportunities. The Convergence IWG focuses on activities, practices, and experiential learning opportunities (e.g., internships, fellowships, and scholarships) that encourage transdisciplinary learning. Computational Literacy IWG focuses on broadening participation of computational literacy. Especially now, the IWG is working to be responsive to the COVID-19 crisis and support the need for computational literacy and expansion of digital platforms. The IWG for Inclusion in STEM focuses on furthering diversity and inclusion in STEM and collaborates with other IWGs to ensure that their scope of work addresses the inclusion of populations that are underrepresented in STEM. The group is putting together a document on best practices for diversity and inclusion in STEM. The Transparency & Accountability IWG focuses on collecting and reporting data to monitor program performance and progress towards the goals of the STEM Education Strategic Plan. The group is working to establish common definitions of “participant” and “rural” to help effectively track and report participation rates and, thus, directly support the goal of increasing diversity, equity, and inclusion in STEM education.

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### **11:30 – 11:45 am Committee and Subcommittee Deliverables**

Ms. González opened the session by noting that the purpose was to discuss next steps for the committee and subcommittee. She provided an update regarding new Executive Secretary assignments – with the help of Dr. Jennifer Lewis, Dr. Mark Pauley, and Dr. Narcisha Norman, the panel looks forward to receiving updates from each subcommittee at the next meeting. Ms. González opened the floor for discussion, asking members if there is anything they would like to learn more about to inform their recommendations. Panel chair reminded members that there are three subcommittees under the STEM Education Advisory Panel – Evaluation, Diversity and Inclusion, and Best Practices.

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### **11:45 – 11:55 am Membership Terms, Next Meeting**

Ms. González congratulated Dr. Robert Mathieu who was recently named a Fulbright Scholar and will spend a semester in Chile. Ms. González acknowledge departing members, whose term is ending at the end of July 2020 – Dr. David Evans, Dr. Aimee Kennedy, Dr. Ioannis Miaoulis, and Dr. Kimberly Scott. Ms. González noted that while David and Aimee are leaving the panel, they had agreed to stay on their respective subcommittees.

Nominations for the STEM Education Advisory Panel are currently open:

<https://www.federalregister.gov/documents/2020/03/13/2020-05129/request-for-recommendations-for-membership-on-directorate-and-office-advisory-committees>

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### **11:55 –12:00 pm Closing Remarks**

Ms. González thanked everyone for joining the STEM Education Advisory Panel Meeting and reminded members that there is an active poll to coordinate the date for the next meeting.

## Appendix: COVID-10 Agency Resources (shared during the STEM Education Advisory Panel Meeting)

### Office of Science and Technology Policy

- OSTP/Software & Information Industry Association-supported site of virtual learning resources during the COVID-19 outbreak, <https://www.techforlearners.org>

### Department of Agriculture:

- <https://www.usda.gov/coronavirus>

### Department of Defense:

- Wizards of Wright! WOW DIY Videos/Lessons for Parents, Students, and Teachers [http://wpafbstem.com/pages/wow\\_diy.html](http://wpafbstem.com/pages/wow_diy.html)
- Wizards of Wright! WOW Tv Videos for Teachers [http://wpafbstem.com/pages/wow\\_tv.html](http://wpafbstem.com/pages/wow_tv.html)

### Education:

- Blog Post: Activities for Students and Families Stuck at Home: <https://ies.ed.gov/blogs/research/post/activities-for-students-and-families-stuck-at-home-due-to-covid-19-coronavirus>

### EPA: From EPA's EnviroAtlas:

- Building a Greenway: Case Study - <https://www.epa.gov/enviroatlas/building-greenway-case-study>
- Connecting Ecosystems and Human Health: <https://www.epa.gov/enviroatlas/connecting-ecosystems-and-human-health>
- Introduction to Ecosystem Services: <https://www.epa.gov/enviroatlas/introduction-ecosystem-services>
- Explore Your Watershed: <https://www.epa.gov/enviroatlas/exploring-your-watershed>

### NASA:

- NASA STEM @ Home for Students
- Grades K-4: <https://www.nasa.gov/stem-at-home-for-students-k-4.html>
- Grades 5-8: <https://www.nasa.gov/stem-at-home-for-students-5-8.html>
- Grades 9-12: <https://www.nasa.gov/stem-at-home-for-students-9-12.html>

### NOAA:

- NOAA's Resource Collections: <https://www.noaa.gov/education/resource-collections>
- Data in the Classroom: <https://dataintheclassroom.noaa.gov/>

### NSF:

- COVID-19 webpage ([https://www.nsf.gov/news/special\\_reports/coronavirus/](https://www.nsf.gov/news/special_reports/coronavirus/))
- Blog post: Seven NSF-supported STEM resources that are perfect for at-home learning: <https://beta.nsf.gov/science-matters/seven-nsf-supported-stem-resources-are-perfect-home-learning>
- Blog post: Seven ways to help your kids with math homework <https://beta.nsf.gov/science-matters/7-ways-help-your-kids-math-homework>
- Blog post: Seven NSF-funded museums and science centers offering virtual experiences to enjoy from your home <https://beta.nsf.gov/science-matters/7-nsf-funded-museums-and-science-centers-offering-virtual-experiences-enjoy-your>

### Smithsonian:

- Smithsonian Learning Lab: <https://learninglab.si.edu/distancelearning>

## **Appendix: COVID-10 Agency Resources (Continued)**

### **USGS:**

- USGS Learn from Home – Updated weekly with new content: [www.usgs.gov/learnfromhome](http://www.usgs.gov/learnfromhome)
- Planetary Learning that Advances the Nexus of Engineering, Technology, and Science - <https://planets-stem.org/>

### **USPTO:**

- Blog Post: Expanding Innovation Hub: <https://www.uspto.gov/blog/director/entry/uspto-launches-the-expanding-innovation>