



National Aeronautics and  
Space Administration



# TOPS

## June 2023

# Community Panel

### **NASA HQ TOPS Core Team**

Dr. Chelle Gentemann, Science Lead

Yvonne Ivey, Equity Lead

Dr. Holly Norton, Content Coordinator

Dr. Malcolm Glover, Community Coordinator

Kevin Murphy, Chief Science Data Officer



# Agenda – Day Two

<i>Thursday June 15th, 2023 Training 20K scientists</i>		
<i>Time (ET)</i>	<i>Agenda Item</i>	<i>Presenter</i>
12:00 PM	Introduction and Review of Code of Conduct	Holly Norton
12:10 PM	Honoraria Q&A	NRESS
12:15 PM	TOPST Update	Steve Crawford
12:30 PM	Open Science 101 Badging	Diana Ly
12:45 PM	Open Science 101 Instructor training	Diana Ly
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3:25 PM	Wrap Up	Chelle Gentemann
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**Welcome!**

We are encouraging people to use  
#ToOPenSci and #IHeartOpenScience





## Submit Feedback or Suggestions

Your inputs are essential to the success of our mission. Throughout this week's panel, please feel free to submit questions, feedback, or suggestions via the feedback tool.

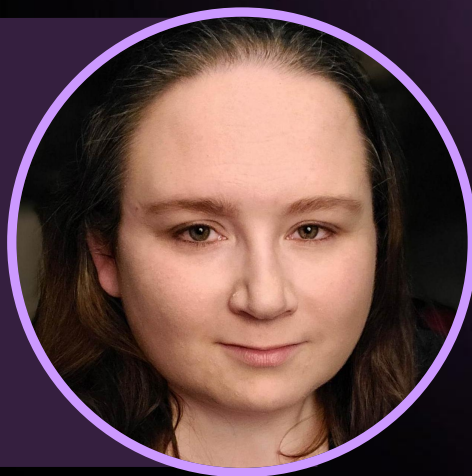
You can use the QR code to access the feedback tool



# Introduction and Review of Code of Conduct

**Holly Norton**

Transform to Open Science  
TOPS Content Coordinator



# NASA Community Panelists

1. James Colliander
2. Kelle Cruz (Hans Guenther)
3. Monica Granados
4. Pen-Yuan Hsing
5. SherAaron Hurt
6. Logan Kilpatrick
7. Brian Nosek
8. Fernando Perez
9. Malvika Sharan
10. Gloria Washington
11. Talitha Washington
12. Lou Woodley
13. Qiusheng Wu



# Code of Conduct

## Expected Behavior

All participants are to...

- Be treated with respect and consideration, valuing a diversity of views and opinions
- Be considerate, respectful, and collaborative
- Communicate openly with respect for others, critiquing ideas rather than individuals
- Avoid personal attacks directed toward other participants
- Be mindful of your virtual surroundings and of your fellow participants
- Alert a host if you notice a dangerous situation or someone in distress
- Respect the rules and policies of the virtual meeting space

## Unacceptable Behavior

- Harassment, intimidation, or discrimination of any form will not be tolerated
- Physical or verbal abuse of any participant
- Examples of unacceptable behavior include, but are not limited to; verbal comments related to gender, sexual orientation, disability, physical appearance, body size, race, religion, national origin, inappropriate use of nudity and/or sexual images in the meeting space or in presentations or threatening or stalking of any participant.
- Disruption of proceedings, panels, discussions, and/or lightning talks.



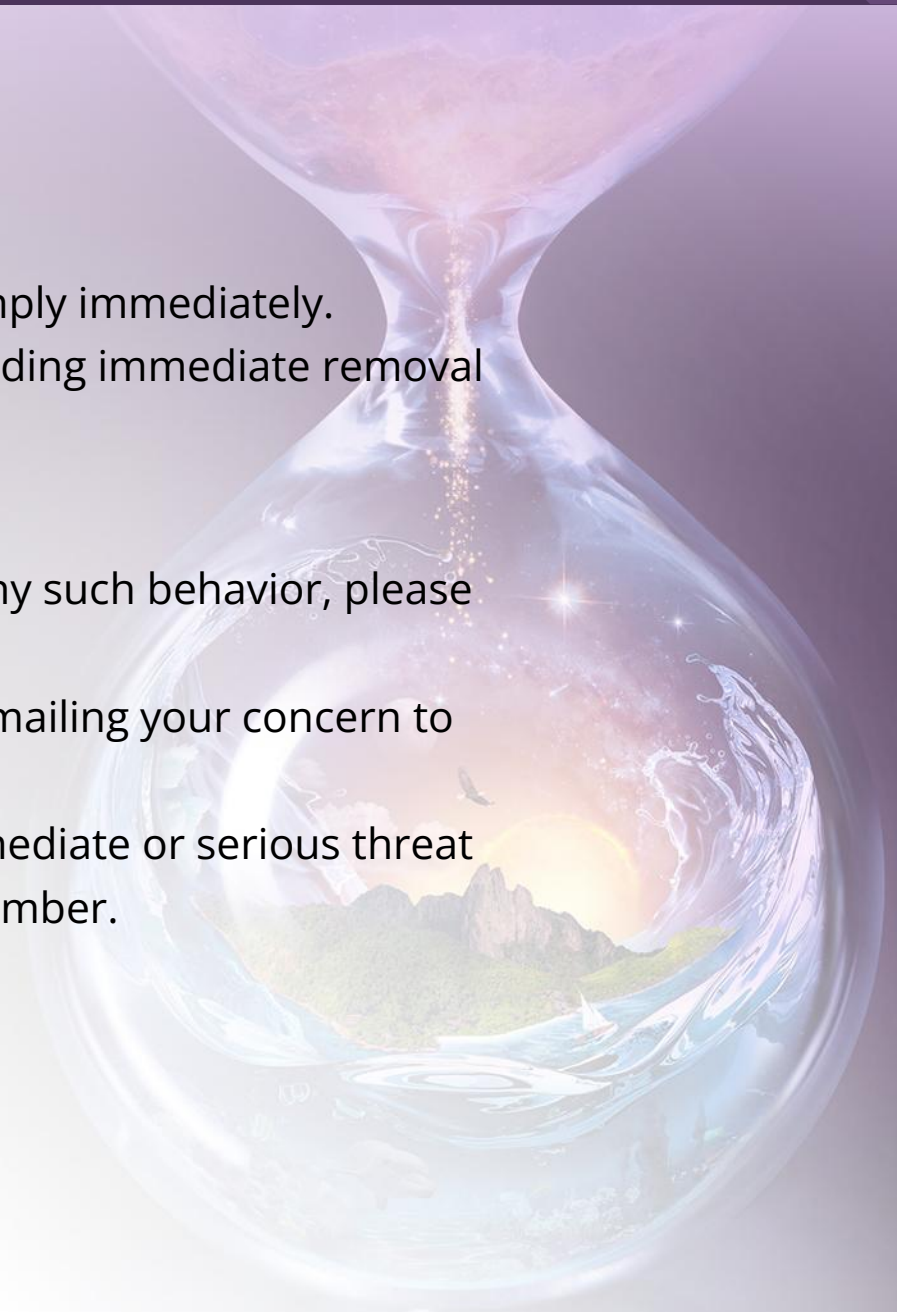
# Code of Conduct (continued)

## Expected Behavior

- Anyone requested to stop unacceptable behavior is expected to comply immediately.
- Hosts may take any action deemed necessary and appropriate, including immediate removal from the meeting without warning.

## Reporting Unacceptable Behavior

- If you are the subject of unacceptable behavior or have witnessed any such behavior, please immediately notify a meeting host.
- Notification should be done by contacting a host via direct chat or emailing your concern to Chelle Gentemann [chelle.gentemann@nasa.gov](mailto:chelle.gentemann@nasa.gov)
- Anyone experiencing or witnessing behavior that constitutes an immediate or serious threat to public safety is advised to contact 911 or your local emergency number.





# Honoraria Q&A

NRESS





# TOPS23Panel

NRESS Support Team

Meeting Planner

Kylie Wang [kwang@nasaprs.com](mailto:kwang@nasaprs.com)

Task Lead

Lisa Wallace [lwallace@nasaprs.com](mailto:lwallace@nasaprs.com)



# Email Communication

## You will receive **THREE** emails

- The **FIRST** will be the Welcome Email from the **Kylie Wang** with the Reviewer Portal Logistics Orientation attached.
- The **SECOND** will come directly from the **Kylie Wang** with your honorarium attached for signature and will include instructions about the third email on how to upload and submit your required paperwork. The Meeting Planner will also provide availability to answer any paperwork questions via the Virtual Support Suite.
- The **THIRD** will be generated by the NRESS Administrator, **Gina Banks**, ([noreply@workflownotification.com](mailto:noreply@workflownotification.com)) where you will find the link to the Reviewer Portal to complete and upload your Tax, Electronic Funds Transfer (EFT) and honorarium forms.\*Please check your junk/spam folder for this email





# Honorarium/Portal Information



You are receiving this email because you participated as a peer reviewer or meeting participant for one of NASA's research programs that was supported by NASA Research and Education Support Services (NRESS). The Peer Reviewer Financial Portal is a secure site used to collect the documents required to process honoraria payments and reimburse travel expenses.

To begin this process, please complete and return the following forms: W8/W9, EFT, and Expense Report as applicable.

#### W8/W9

- U.S. residents should click here to access the [W-9 form](#).
- Non-U.S. residents should click here to access the [W-8 form](#).

*Note: These are PDF fillable forms. Depending on your default web browser, the form might not open as a fillable form. You should select the option to "Open with Another Viewer" and select "Adobe Acrobat." Or you can try cutting and pasting the URL into another web browser.*

EFT. After completing and saving an electronic version of the appropriate tax form, click here to complete the [Authorization Agreement for Vendor Automatic Electronic Funds Transfer](#).

*Note: During this step, upload the electronic version of your signed tax form; and if you would like direct deposit, upload an image of a voided check or proof of account.*

*Note to non-U.S. residents: Your Bank Swift ID and IBAN (International Bank Account Number) should be entered in the box labeled "Bank Swift ID/IBAN." If you do not have a separate account number apart from your IBAN, please enter the numeric portion of your IBAN in the field labeled "Account No."*

Expense Report. For your convenience, the expense report is attached.

*Note: The PDF version of the expense report enables users to enter any out of pocket expenses plus the honoraria if applicable. A receipt is required for any item over \$75. If you are unable to electronically sign the form, printing your name in that field will suffice.*

Please note that payment will be sent from Arctic Slope Regional Corporation (ASRC). If you have any questions, please contact Gina Banks of the NRESS Logistics Department at [gbanks@nasaprs.com](mailto:gbanks@nasaprs.com).

Gina Banks  
Quality Assurance Specialist  
NASA Research & Education Support Services  
ASRC - Arctic Slope Technical Services, Inc  
2345 Crystal Drive, Suite #500  
Arlington, VA 22202  
Tel: (202) 479-9030 x319  
Fax: (202) 479-0511

## The THIRD Email

- EFT and W8/9 data only needs to be entered into the portal **ONCE** unless your information changes (address, name, etc.).
- International reviewers **MUST** provide an EFT for EACH panel even if you have submitted it previously.



# Honorarium/Portal Information

## Generation of Honoraria

- The W8/9 **and** Expense Report are required to receive your honorarium.
- Honorariums will be generated after the panel concludes and the level of daily attendance is confirmed.
- If the honorarium amount appears to be incorrect, please contact me to make changes. Please **do not** attempt to change the honorarium amount, as this will invalidate the form and will cause a processing delay by the Business Department.
- You must submit your required documents via the Reviewer Portal within 60 days.
- Please allow up to 45 business days to receive your honorarium.





# Panel Participation Survey

## Customer Service Survey

As part of our contract evaluation by NASA, NRESS is required to distribute and collect a NASA Participant Survey from all meeting participants. The Participant Survey will be sent directly to you via email. The NRESS Team will be available to assist you if you need help. The Participant Survey is used to assess the performance of our NRESS contract relative to the overall meeting support. This offers the opportunity for suggestions for process improvement if applicable.

Questions?

Thank you and have a great meeting!



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# TOPST Update

**Steve Crawford**  
Transform to Open Science  
TOPST Program Officer





## F.14 TOPST Objectives



Advance open science literacy for all who do research relevant to NASA's SMD through **training** and **workshops** targeting audiences from undergraduate students to established scientists and managers

Activities supported under this element are expected to form key parts of the **2023 Year of Open Science**

**Total Budget over 3 years: ~\$6.5 Million**

# This element solicited proposals for:

- 1) the development of **ScienceCore**, a discipline specific scientific use cases curriculum,
- 1) implementation of **Summer Schools** to teach **OpenCore**, and
- 1) implementation of **Virtual Cohorts** to help complete **OpenCore**

The **training material** as well as the design of the learning activities should be **targeted to audiences from undergraduate students to established scientists and managers** from all science disciplines supported by SMD.

# F.14 TOPST: ScienceCore Curriculum

## ScienceCore Focus:

- How to access and analyze NASA science data including cloud-based data.
- Core open-source data, analysis, and visualization libraries both general and discipline-specific libraries.
- Creation, management, and sharing of reproducible science workflows and results.

## General Description:

- Modules may **extend *OpenCore*** concepts or cover SMD foundational discipline-specific themes leveraging, where possible, existing NASA cloud-based datasets.
- Modules will either be **integrated into the TOPS *Open edX*** platform or be executable [Jupyter Books](#) hosted on the [TOPS GitHub](#).
- Modules will align with ***OpenCore's*** learning style and format.

**Accessible**

**Built Openly**

**Collaborative**

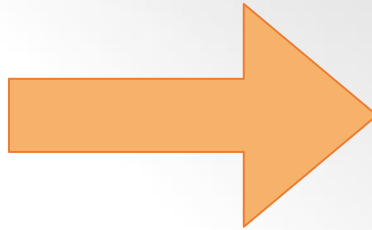
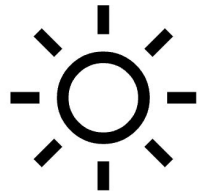
**Multilingual**

**Interactive**

# F.14 TOPST: Summer Schools

## Summer Schools should be designed to:

- Train NASA's SMD science teams in Open Science (***OpenCore***), and
- Increase opportunities for participation in science team activities by a diverse community.

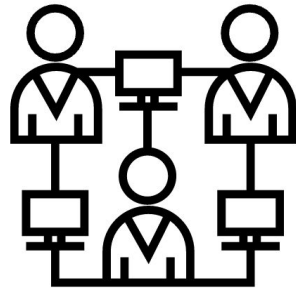


Priority will be placed on proposals that hold activities at or heavily involve [non-R1](#) **Historically Black Colleges and Universities (HBCU)**, **Hispanic Serving Institutions (HSI)** and **Tribal Colleges and Universities (TCU)** or have previously held similar activities that have documented participation and sustained engagement by **underrepresented communities**.

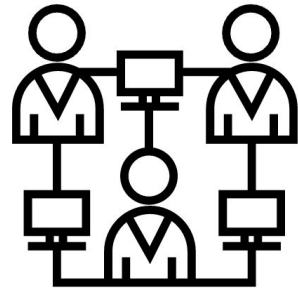
# F.14 TOPST: Virtual Cohorts

**Additional Support to:**

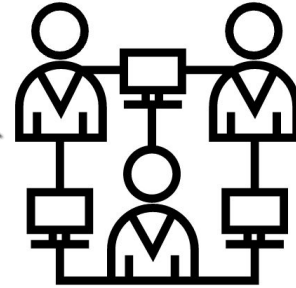
**Encourage  
Completion**



**Facilitate**



**Community  
Building**



**Virtual Cohorts** → Groups of participants completing TOPS **OS101** together online over a specific period of time.

**5 - 8 times (25 - 40 virtual activities per year)**



## F.14 TOPST Submitted Statistics

In total, 34 proposals were submitted to the call and 16 were selected. Proposals were reviewed under Dual Anonymous Proposal Review process and the summer schools/virtual cohorts included an equal access plan.

Proposals were due on Dec 8, 2022. PIs were informed in March and [selections were announced](#) on Apr 11, 2023.

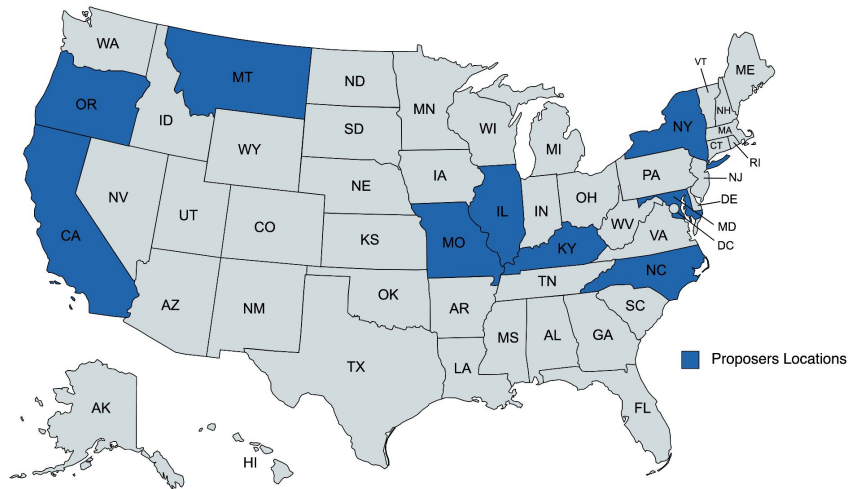
A call for volunteers for the review panel received over 160 expressions of interest were received. We had three panels reviewing the proposals composed of diverse expertise and experiences.

# Total Budget (3 years) ~ \$6.5M

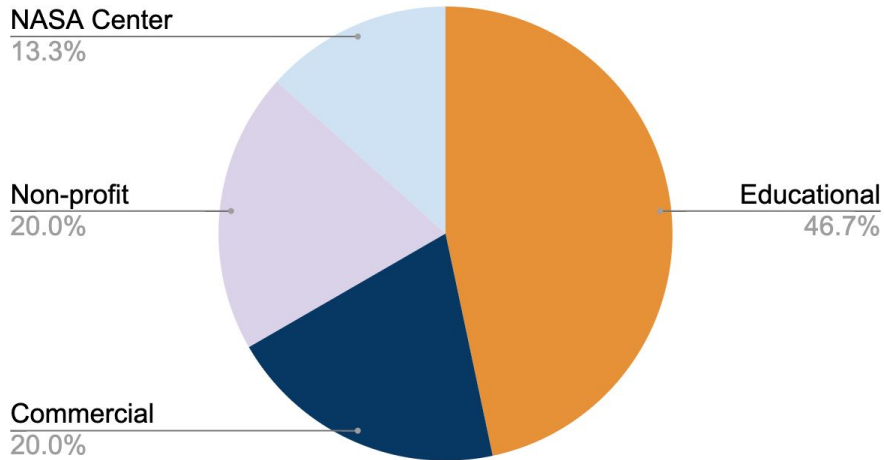
	<i>ScienceCore</i>	Summer Schools	Virtual Cohorts
<b># of Projects</b>	6-12	3-4	2-3
<b>Duration</b>	Max 2 years	Max 3 years	Max 3 years
<b>Total Budget projections over 3 years***</b>	<b>10 projects</b> <b>\$2.7M</b>	<b>3 projects</b> <b>\$2M</b>	<b>3 projects</b> <b>\$1.8M</b>

# Selection Statistics

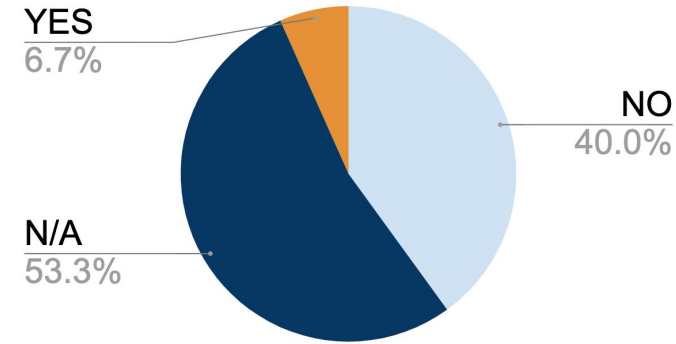
Estimated number of people to be trained by Summer Schools and Virtual Cohorts over 3 years = **~3,040 participants**



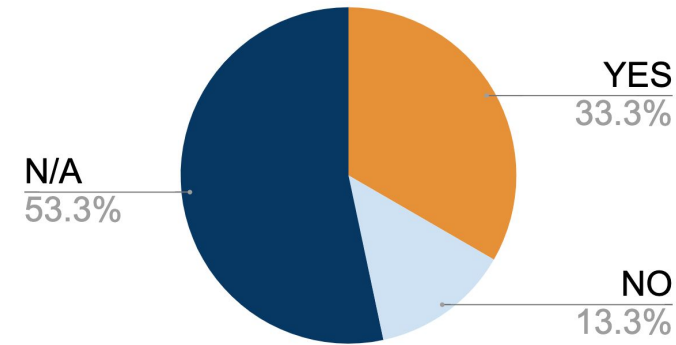
## Institution Type



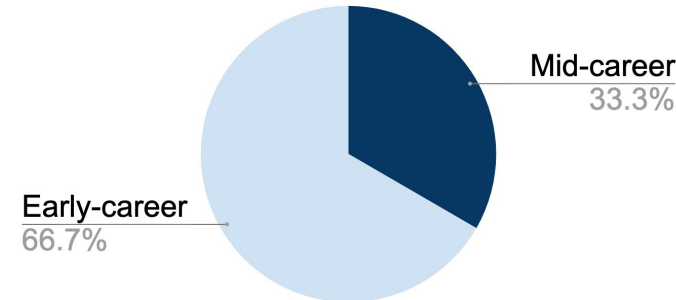
## MSI



## R1



## PI Career Stage





# Summer Schools & Virtual Cohorts

Moncrief	Ensuring Culturally Responsive Practices and Community Building in Open Science	National-Louis University
Halper	An Open, Community Supported, Accessible Summer School for Climate Science	Neuromatch, Inc.
Munk	Bringing Together Open Science and Research Software	University Of Illinois, Urbana-Champaign
Acion	Ciencia Abierta Accesible: Community-Based Teaching of the TOPS OpenCore Online in Spanish	Code For Science And Society, INC.
Yehudi	Teaching TOPS OpenCore by Embedding Community Values	Code For Science And Society, INC.
Riddell	Virtual Cohorts: Developing Lifelong Committed Interaction With Open Science	Dontusethiscode LLC

# ScienceCore

Barry	ETHOS: Exoplanets in the epoch of Open Science	NASA Goddard Space Flight Center
Daylan	ExoCore: An open science curriculum for enhanced reproducibility and equity in exoplanet research	Washington University
Brown	Knowing the Sky: Building Open Science Skills through Native Knowledge Practices	Million Concepts LLC
Winston	Heliophysics ScienceCore curriculum development with emphasis on knowledge representation techniques to increase usability of NASA cloud-based datasets.	Polyneme, LLC
Sanders	Training in Artificial Intelligence and Machine Learning for Space Biological Sciences Using NASA Cloud-Based Data	NASA Ames Research Center
MacManus	Science Core Heuristics for Open Science Outcomes in Learning (SCHOOL)	Columbia University
Endsley	Satellite observations and models informing agriculture: Training for open science under climate change	University of Montana
Lowe	Building a framework for ScienceCore Carpentry from a Marine Sciences Lab	North Carolina State University
Boettiger	Examining Environmental Justice through Open Source, Cloud Native Tools	UC Berkeley
Munroe	Reproducibly Analyzing Wildfire, Drought, and Flood Risk with NASA Earthdata Cloud	Code for Science and Society, Inc.

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# Open Science 101 Badging

**Diana Ly**

Transform to Open Science  
OS101 Project Manager



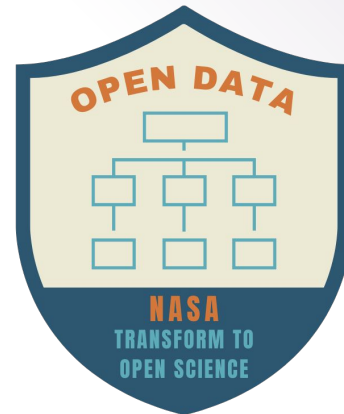
# TOPS Open Science Badging



Learners will receive a micro-badge after completing each module and a NASA TOPS Open Science badge after completing all 5 modules

OS101 team evaluated vendors based on the following criteria: credibility, compatibility, customization, and cost

Will be working with [Credly](#) for the NASA TOPS Open Science badging



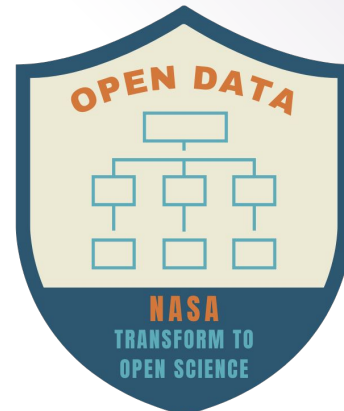
# TOPS Open Science Badging



Instructor-led Training (in-person or virtual) learners will log into the LMS to obtain their micro-badge

Learners have the option to display their badges on their social/professional media accounts

MOOC developers utilizing RG analytics to track progress and could deploy incentives to encourage learners to complete all 5 modules to earn the TOPS Open Science badge



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# Open Science 101 Instructor Training

**Diana Ly**

Transform to Open Science  
OS101 Project Manager





# OS101 Instructor Training

Instructor Workshops through The Carpentries has the following goals:

- Introduce you to evidence-based teaching practices.
- Teach you how to create a positive environment for learners at your workshops.
- Provide opportunities for you to practice and build your teaching skills.
- Help you become integrated into the [Carpentries](#) community.
- Prepare you to use these teaching skills in teaching [Carpentries workshops](#).

Held 2 workshops specifically for OS101 trainers in May - future training workshops will be integrated with other Carpentries instructor workshops

After completing the Carpentries instructor training, follow-up with OS101 content training workshop to be OS101 certified!

# OS101 Instructor Training

## Carpentries Instructor Workshops

- Initially purchased 80 slots and have utilized 30 for the HQ team, OS101 team, Leads/Champions, and TOPS-T instructors.
- Check with your institution to see if they have The Carpentries instructor workshop available.

## OS101 Content Training Workshops

- Will be held monthly for the first year, once the curriculum is finalized (July/August timeframe)
- Provides teaching guides for the 5 modules

**Working with The Carpentries to scale instructor and content training for all interested instructors**

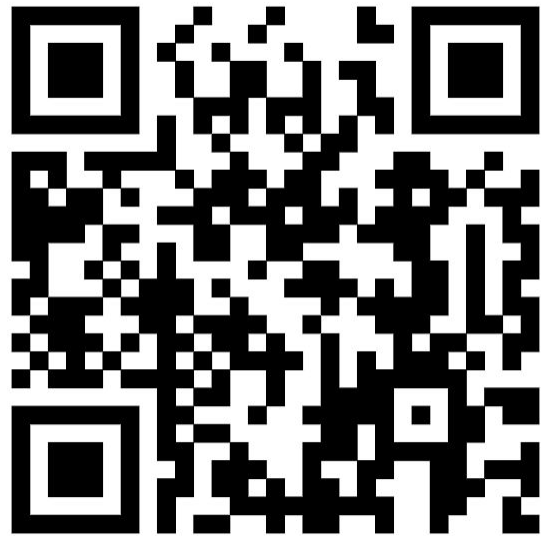
# Community Forum (Public Q&A)

Moderator:  
Amanda Adams  
TOPS Communications Lead



# Live Q&A

We want to hear from you! Use the QR code below to submit your questions for the panelists.



# Open Science 101 Rollout - Year 1 & Beyond

**Paul Bremner**

Transform to Open Science  
Project Scientist



## Year 1 - 2023 Goals

- 1,500 Open Science 101 badges issued
  - Includes completion of all 5 Open Science 101 modules
- Spread the word about the Year of Open Science and build momentum for the curriculum and excitement for Open Science

## 3 Strategies to Reach Goals

1. Attending society meetings during the Year of Open Science
2. Online Open Science 101 course
3. TOPST Activities



## 1. Attending society meetings during the Year of Open Science

# Presence at society meetings and other events

- Advertise the federal Year of Open Science through talks, posters, townhalls, keynotes, and sessions dedicated to different aspects of open science and DEIA
- Build a community of practice around open science
- Advertise TOPS' upcoming 5-module curriculum
- Present the first module “Ethos” through in-person training workshops. Project greater than 1000 people will have earned module 1 badge by year's end
  - Elicit community feedback both immediately and via post-workshop surveys
- Anticipate this will account for greater than 500 badges for all 5 modules in 2023

1. **Attending society meetings during the Year of Open Science**
2. **Online Open Science 101 course**

# Online Course through MOOC

Massive Open Online Courses (MOOC) serves as an avenue to reach many and will be used in some capacity by some TOPST teams

MOOC provides:

- Pathway for people who have completed an in-person module 1 workshop to complete the remaining four modules
- Pathway for people to take and complete all 5 modules that are unable to attend in-person workshops or TOPST summer schools or virtual cohorts
- Pathway for supportive commercial or non-profit groups associated with NASA science to complete all 5 modules
- Pathway for students to complete all 5 modules
- A centralized standard for curriculum and knowledge assessment for all activities (in-person, TOPST, or online), as well as, with Credly badging, provide a single badging location

Anticipate people badged through MOOC-only curriculum to exceed 500 for completion of all 5 modules in 2023



1. **Attending society meetings during the Year of Open Science**
2. **Online Open Science 101 course**
3. **TOPST Activities**

# TOPST reaches large and diverse audiences

## Summer Schools

- Beginning this summer, teaching all 5 modules

## Virtual Cohorts

- Beginning late summer / early fall, teaching all 5 modules
  - Piloting with NASA programs

## ScienceCore

- Builds upon Open Science 101 to address follow-on needs and specialties

During 2023, TOPST combined activities could reach or exceed 500 people to earn badges for completion of all 5 modules

# 2024 and Beyond: Scaling to 20K

- Continue offering in-person workshops at select society meetings
  - Provides a pathway for continued community feedback and discussion
- Engage with NASA centers and research groups
  - TOPS Champions have transitioned from curriculum development and can engage with local NASA centers for training workshops
- Intentional engagement with underrepresented communities such as [non-R1](#) Historically Black Colleges and Universities (HBCU), Hispanic Serving Institutions (HSI), and Tribal Colleges and Universities (TCU).
- Promote the online Open Science 101 course (MOOC)
- Continued development and rollout of the TOPST activities

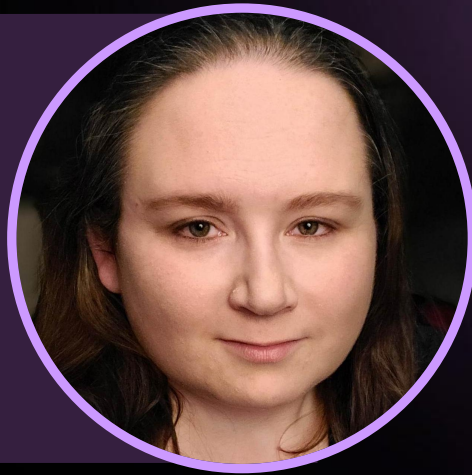
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# Open Discussion

**Holly Norton**

Transform to Open Science  
TOPS Content Coordinator



## Progress

- ✓ TOPST Update
- ✓ Open Science 101 Badging
- ✓ Open Science 101 Instructor training
- ✓ Open Science 101 Implementation
- ✓ Scaling the curriculum to 20K

## Open Discussion: Potential

Feedback on the open science curriculum, lessons learned so far and challenges presented?

*You can use the QR code to access the feedback tool*



# Closing Remarks

**Chelle Gentemann**  
Transform to Open Science  
TOPS Science Lead





National Aeronautics and  
Space Administration



# TOPS

## June 2023

# Community Panel

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