

# Digital collections for all: Creating inclusive educational resources with digital natural history collections



Presented by the iDigBio Team



Land  
Acknowledgement:

Adapted from text  
from Jen Bauer and  
Jeanette Pirlo

Natural history collections have historically and currently benefit from colonialism. Specimens shipped on board slave ships, to glorify empires, and to promote exploitation, stolen objects, and so much more. The time for acknowledgement is long overdue. We must acknowledge that through our science, we have and continue to impact Indigenous peoples.

We are all based in different locations today We are joining from Gainesville, Florida, the traditional territory of the Gabrielino-Tongva, Yat'siminoli (Seminole), and Utina (Timucua) tribal lands.

Learn more here: <https://native-land.ca/>



# Digitizing Natural History Collections





Scarlet Macaw (*Ara macao*) by Yeanina Cruz. Photo licensed under CC BY-NC 4.0.

GBIF—the Global Biodiversity Information Facility—is an international network and data infrastructure funded by the world's governments and aimed at providing anyone, anywhere, open access to data about all types of life on Earth.

Coordinated through its Secretariat in Copenhagen, the GBIF network of participating countries and



# Usage matters: not interchangeable

diverse audiences

diverse student pop

diverse populations

diverse representation

diverse communities

underrepresented in scien

diverse new populations

diverse backgrounds

historically underr

# Some Definitions

- **Oppression:** a systemic inequality that is present throughout society, that benefits people with more privilege and harms those with fewer privileges
- **Marginalized person:** a member of a group that is the primary target of a system of oppression

Adapted from Gainesville Ally Skills Network workshop

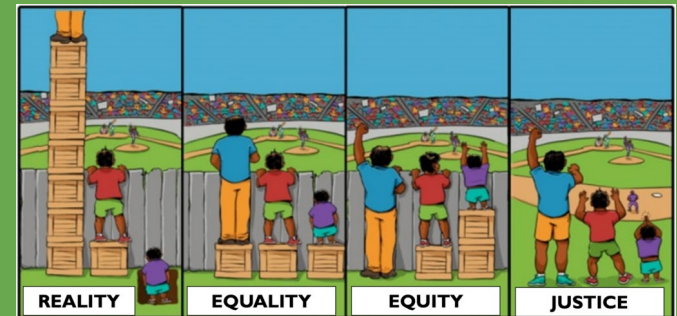
- **Underrepresented:** describes a subset of a population that holds a smaller percentage within a significant subgroup than the subset holds in the general population.
- **Minority:** Refers to a category of people who are fewer in numbers & experience relative disadvantage as compared to members of a dominant social group

# More Definitions

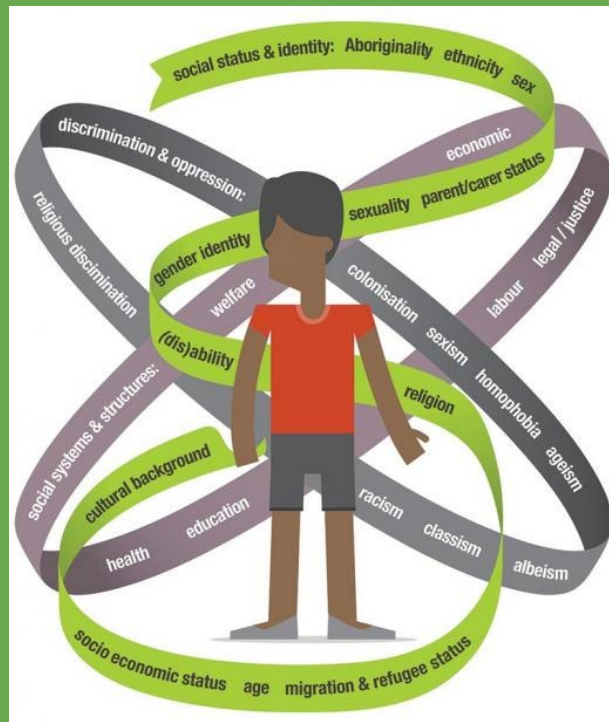
- **Inclusion:** An intentional, ongoing effort to ensure everyone can participate fully in all aspects of organizational work, including decision-making processes
- **Diversity:** The ways in which people are different and the same at the individual and group levels.

- **Equity:** Fair and just treatment of all members of a community
- **Accessibility:** Giving equitable access to everyone along the continuum of human ability and experience

Adapted from the SPNHC IDEA Committee and American Alliance of Museums (AAM), ELA



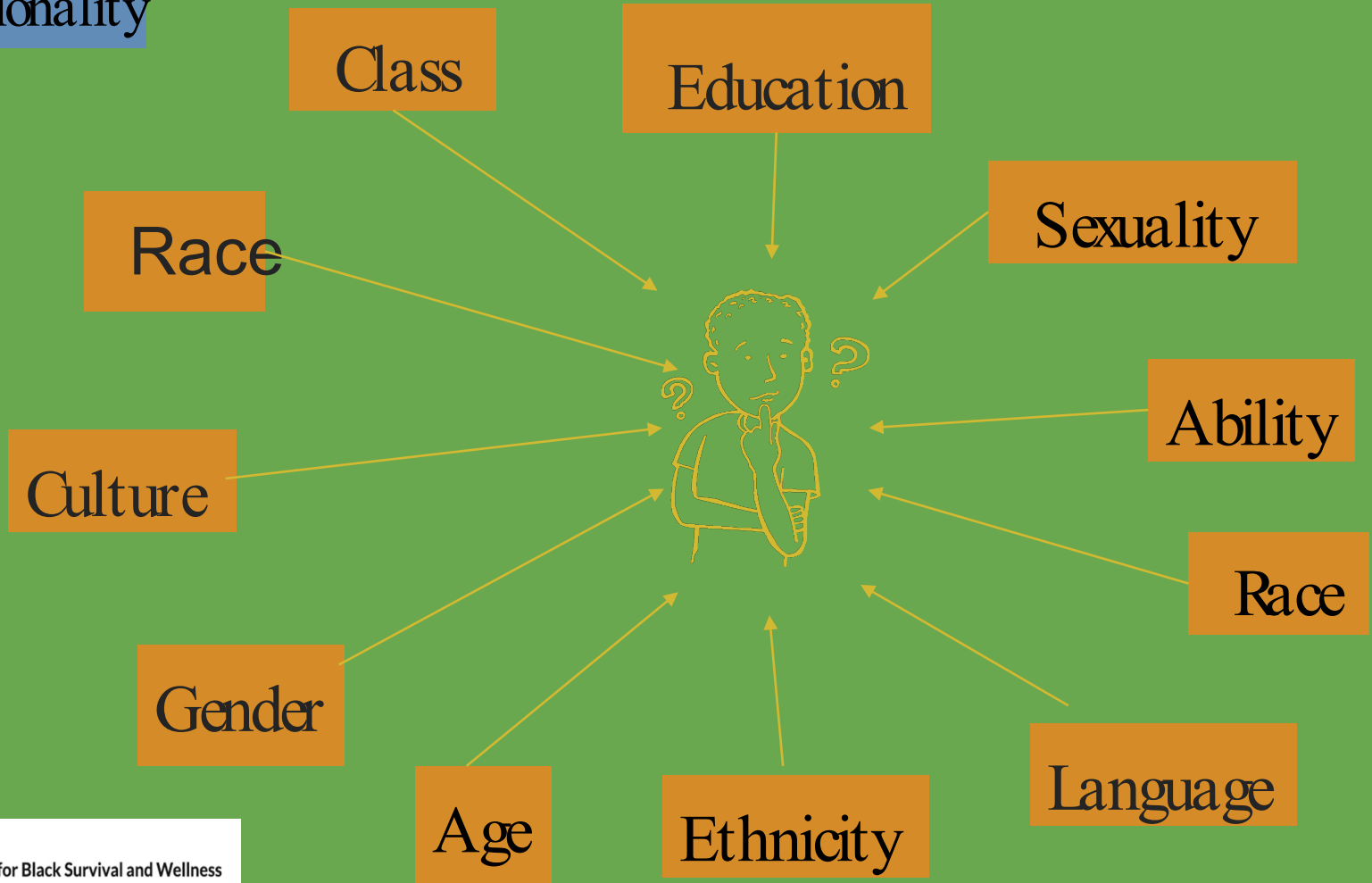
# What is Intersectionality



Academics for Black Survival and Wellness



# Intersectionality



# Colonialism, & natural history collections

## Nature Read in Black and White: decolonial approaches to interpreting natural history collections

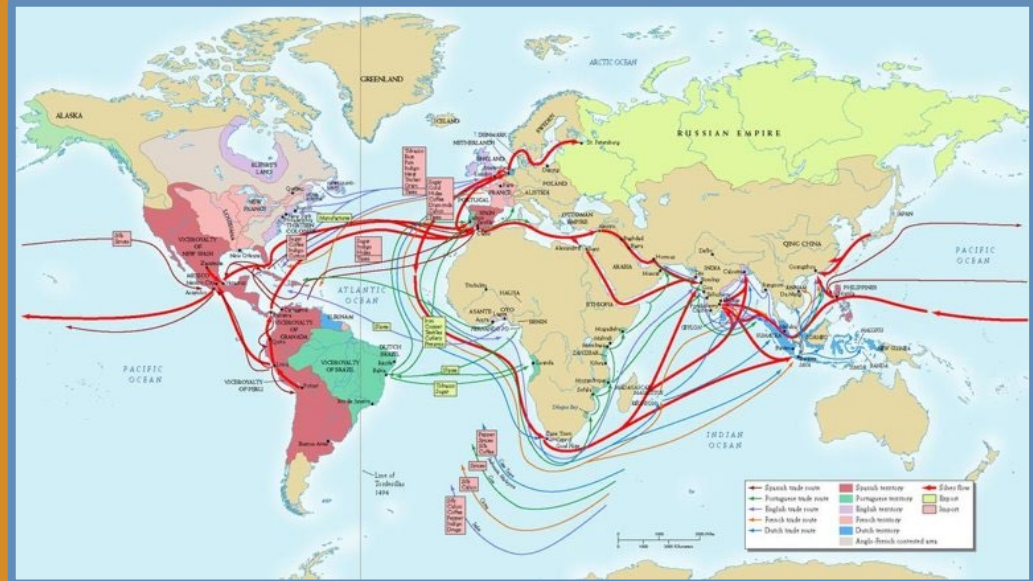
Subhadra Das<sup>1\*</sup> and Miranda Lowe<sup>2</sup>

Address: <sup>1</sup>UCL Collections (Science), 223 Wilkins Building, UCL, Gower Street, London, WC1E 6BT, UK

<sup>2</sup> Natural History Museum, Dept of Life Sciences, Invertebrates Division, Cromwell Road, London, SW7 5BD, UK

\*Corresponding author: [subhadra.das@ucl.ac.uk](mailto:subhadra.das@ucl.ac.uk)

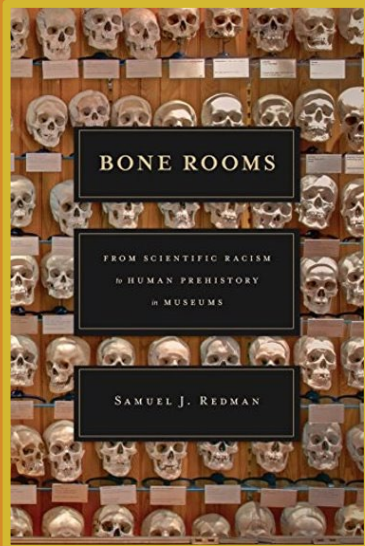
**Citation:** Das, S. and Lowe, M., 2018. Nature Read in Black and White: decolonial approaches to interpreting natural history collections. *Journal of Natural Science Collections*, 6, pp.4-14.



Das, S. and Lowe, M., 2018. Nature read in black and white: Decolonial approaches to interpreting natural history collections. *Journal of Natural Science Collections*, 6, pp.4-14.

<https://imperialglobalexeter.com/2014/03/02/imperial-globalization-the-presence-of-the-past-and-the-crucible-of-empire/>

# Race & natural history collections



SCIENCE NEWS

## Are natural history museums inherently racist?

By Josh Davis  
First published 16 July 2019

Many natural history collections throughout Europe and the western world have their origins in colonialism. Their early specimens were often shipped on board slave ships and trading missions.

How these institutions now engage with this history is crucial in how they move forward to make their collections more accessible.

The history of colonialism is reflected in the collections held in natural history museums.

Museums have a history of glorifying empire. In the nineteenth century, they were used to showcase the empires built by western powers as they seized control of other countries.

They displayed not only the cultures and curios found in these faraway places, but also the wealth of natural resources that those in power believed were ripe for exploitation.

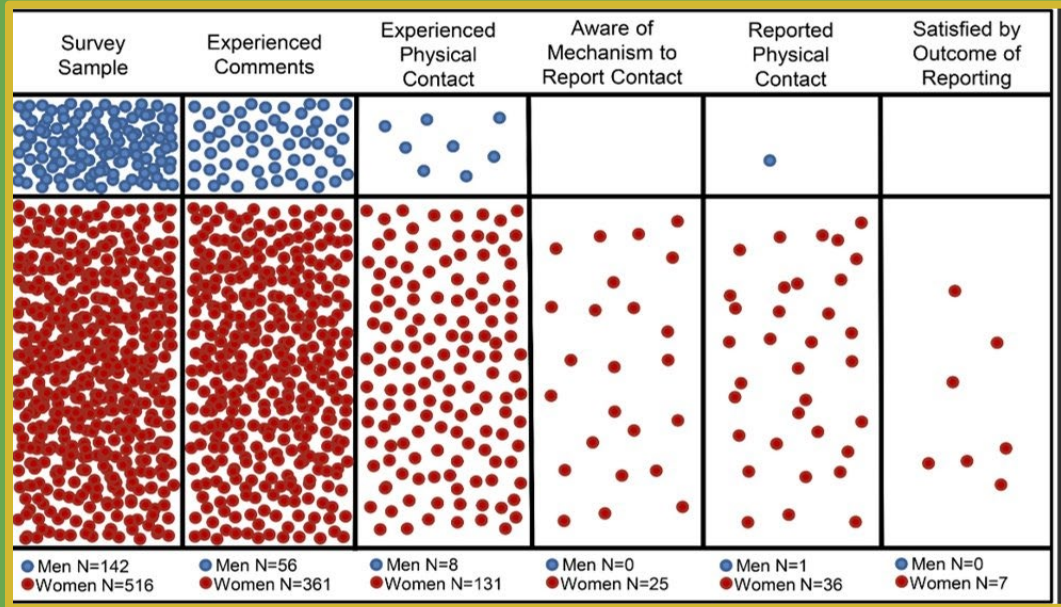
Wynn-Grant, R., 2019. On reporting scientific and racial history. *Science*, 365(6459), pp.1256-1257.

Das, S. and Lowe, M., 2018. Nature read in black and white: Decolonial approaches to interpreting natural history collections. *Journal of Natural Science Collections*, 6, pp.4-14.

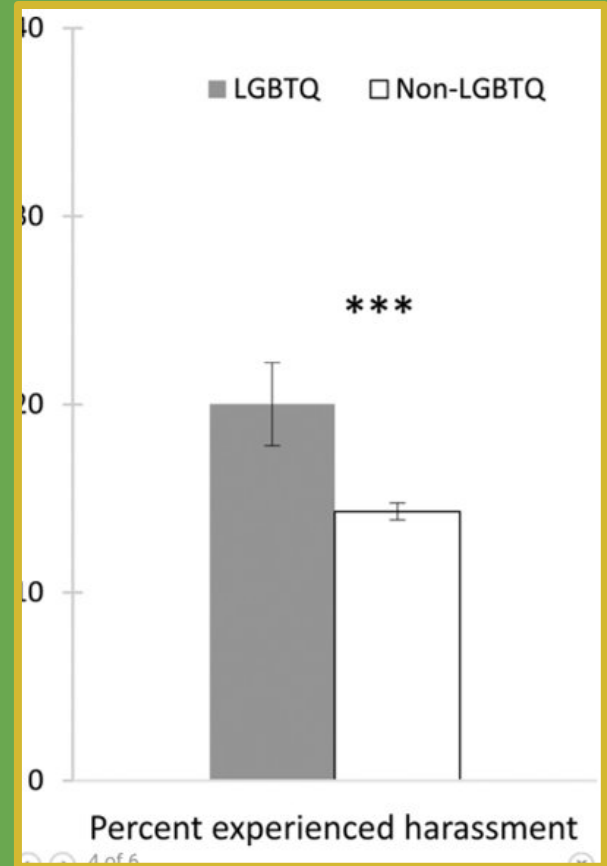
Redman, S.J., 2016. *Bone Rooms*. Harvard University Press



# Natural History Collections & Gender/Sexuality



Clancy, K.B., Nelson, R.G., Rutherford, J.N. and Hinde, K., 2014. Survey of academic field experiences (SAFE): Trainees report harassment and assault. *PLoS one*, 9(7), p.e102172.



Cech, E.A. and Waidzunas, T.J., 2021. Systemic inequalities for LGBTQ professionals in STEM. *Science Advances*, 7(3), p.eabe0933



# Digital Natural History Collections and Accessibility



<https://advisor.museumsandheritage.com/features/accessibility-in-museums-creating-a-barrier-free-cultural-landscape/>

Online accessibility applies to all disabilities that affect access to the web, including:

- Auditory
- Cognitive
- Neurological
- Physical
- Speech
- Visual

**So how do we make our collections more inclusive, diverse, equitable and accessible?**

[http://bit.ly/iDigBioDEI\\_reading](http://bit.ly/iDigBioDEI_reading)

# Collections-level actions

- Collect demographic data on users of physical and virtual collections (Are their biases in who is using and interacting with your collection? If so, what are you going to do about it?)
- Create partnerships communities/countries from which specimens derived.
- Stop allowing people to deposit specimens without permits
- Stop allowing people to deposit specimens without proper acknowledgment of people that contributed to collecting the specimens

# Institutional-level actions

- Hire BIPOC faculty and staff
- Paid research and curation experiences for students, especially low-income, first-generation, and BIPOC
- Support training of scientists and students in countries from which specimens were obtained (do you highlight specimens from a particular country? If so, focus on those countries!)
- For university-based museums, engage undergraduate and graduate students directly in conversations about the history of collections as part of courses in biology, anthropology, etc.

# Digital Accessibility

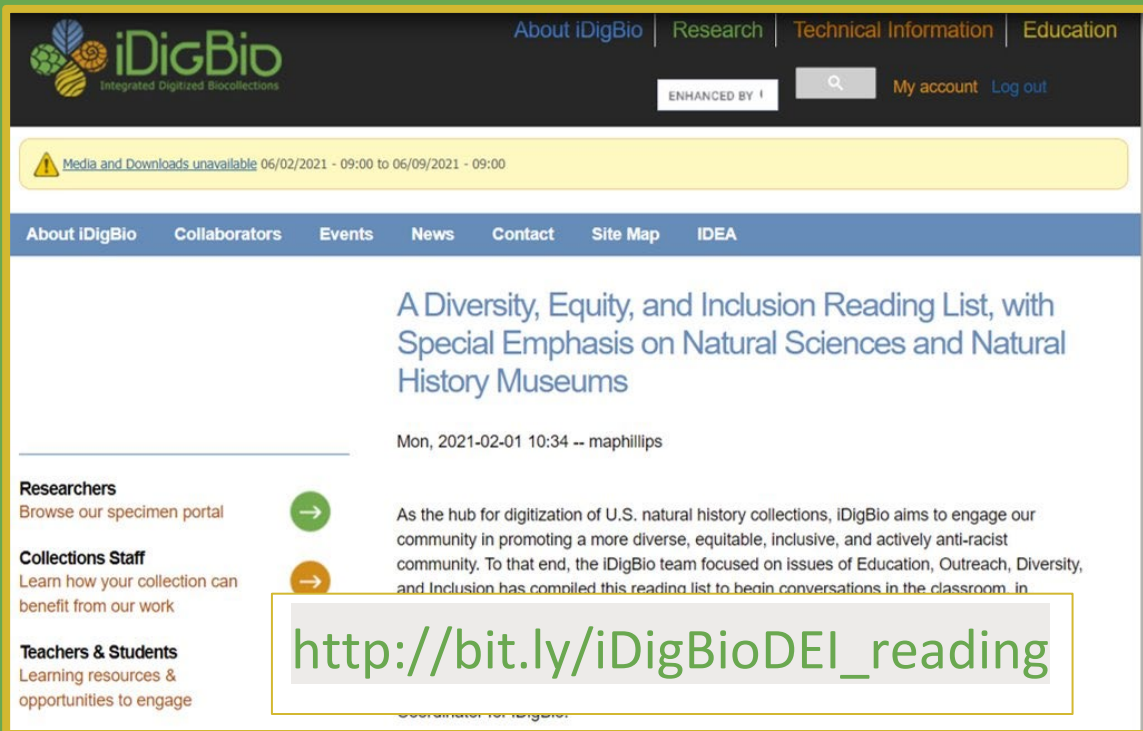
- Translate documents related to accessing the collections into multiple languages
- Use alt-text for images and captions for audio
- Add keyboard navigation and use descriptive urls
- Collaborate with communities to identify and create relevant resources that support use of collection for education, research, and more



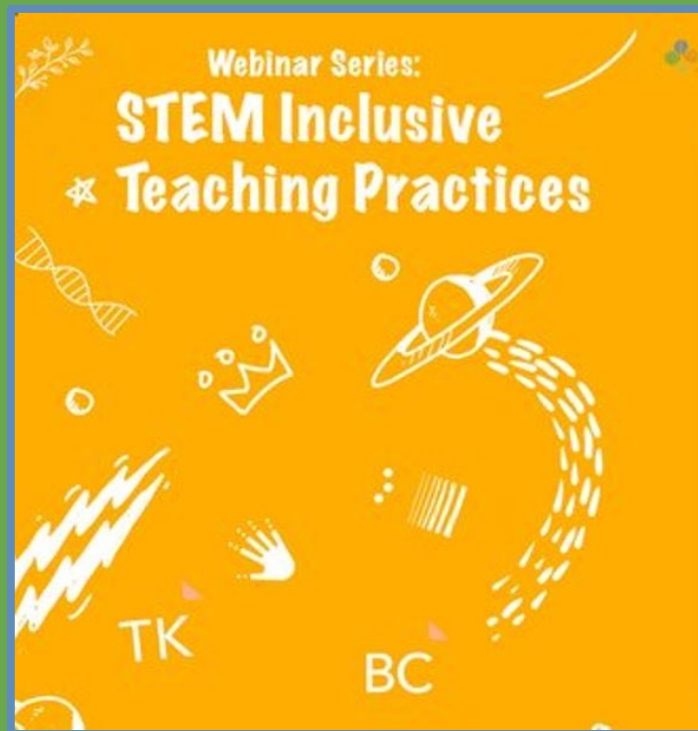
# Further Considerations for Digital Natural History Collections

- Highlight hidden figures (and nameless figures) that collected specimens or served the museum in other ways
- Tell stories with digital natural history collections outside of the ahistorical “hard sciences” lens.
- Talk about race and include historical context about the scientific history of race and racism in online resources & center Black, Indigenous, and other People of Color’s stories and contributions to science.
- When you do talk about well-known, white scientific figures like Darwin and Linnaeus include information about their roles in race and racism or how they benefited from the institutional racism of their times.

# Resources



The screenshot shows the iDigBio website header with navigation links: About iDigBio, Research, Technical Information, and Education. A search bar and user account links (My account, Log out) are also visible. A yellow banner indicates a media and downloads unavailability period from 06/02/2021 to 06/09/2021. The main navigation bar includes links for About iDigBio, Collaborators, Events, News, Contact, Site Map, and IDEA. The featured article is titled "A Diversity, Equity, and Inclusion Reading List, with Special Emphasis on Natural Sciences and Natural History Museums" and is dated Mon, 2021-02-01 10:34 -- maphillips. The article text states: "As the hub for digitization of U.S. natural history collections, iDigBio aims to engage our community in promoting a more diverse, equitable, inclusive, and actively anti-racist community. To that end, the iDigBio team focused on issues of Education, Outreach, Diversity, and Inclusion has compiled this reading list to begin conversations in the classroom in". A sidebar on the left lists "Researchers" (Browse our specimen portal), "Collections Staff" (Learn how your collection can benefit from our work), and "Teachers & Students" (Learning resources & opportunities to engage). A URL is highlighted in a box: [http://bit.ly/iDigBioDEI\\_reading](http://bit.ly/iDigBioDEI_reading).



The poster features a bright orange background with white line-art illustrations of a DNA double helix, a crown, a hand, a planet with rings, and a lightning bolt. The text reads "Webinar Series: STEM Inclusive Teaching Practices". At the bottom, the letters "TK" and "BC" are visible, likely representing Tribal Knowledge and Best Practices.

# Resources



HOME ABOUT LABELS NOTICES LICENSES LOCAL CONTEXTS HUB

REGISTER

SIGN IN

CONTACT

## TK Labels

The TK and BC Labels are an initiative for Indigenous communities and local organizations. Developed through sustained partnership and testing within Indigenous communities across multiple countries, the Labels allow communities to express local and specific conditions for sharing and

The Biocultural Labels / Notices being tested in the pilot projects include:

### Labels applied by communities

Provenance



Consent Verified



Multiple Communities



Open to Collaboration



Open to Commercialization



Research Use



### Notices applied by researchers

Biocultural Notice



Traditional Knowledge Notice



### Notices applied by institutions

Open to Collaborate



Attribution Incomplete



Nagoya Compliant

TBD

# Resources

Powered by QUBES



Biological,  
Universal,  
and Inclusive Learning in Data Science

[Resources](#) [Ontologies](#) [Members](#) [Announcements](#) [Collections](#) <sup>1</sup> [Forum](#) <sup>20</sup>

A community for the exchange of ideas and resources supporting biological and environmental data science education, grounded in practices of universal design for learning and inclusive pedagogy.

Powered by QUBES

LOGIN



EDSIN: Environmental Data Science Inclusion Network

[About Us](#) [Code of Conduct](#) [CREEDS Workshop](#) [Funding Partnerships](#) [EDSIN Working Groups](#) [Open Education Fellows](#) [2019 Conference](#)

## A Call to Action

The Environmental Data Science Inclusion Network (EDSIN) is dedicated to facilitating and supporting diversity, equity, and inclusion within the environmental and data science fields. We do this through activities that support progress in nine priority areas.

# Ongoing Initiatives

[Home](#) [2022 Conference](#) [About Us](#) [Code of Conduct](#) [2021 Conference](#)

## iDigTRIO

Biological Career Conference & Fair

There's No Formula For Being A Scientist!



Advancing Chicano/Hispanic  
& Native Americans in Science

[Member Login](#) [Conference](#) [Donate](#)

[Who We Are](#) [What We Do](#) [Our Stories](#) [Take Action](#)



Achieving True Diversity  
in STEM



# Ongoing Initiatives



Black in Natural History Museums

[Home](#)

[Events](#)

[Contact](#)



# Ongoing Initiatives



Our Mission +

Get Involved +

Resources

News +

Contact Us

## For a Racially Just, Inclusive, and Open STEM Education

The RIOS Institute exists to kickstart the implementation of Open Education (OE) and social-justice, equity, diversity, and inclusion (S-JEDI) practices in STEM higher education. We provide support and resources for STEM organization leaders to bring S-JEDI-centered Open science pedagogy, materials, and resources to the members of their academic organizations and by extension to the institutions where their members teach and do research. Read more about [Our Mission](#) here.

---

As we work towards equity and justice in STEM Education, the RIOS Institute promotes collaboration among the network of leaders we serve. We offer two primary opportunities, open to our network, [Working Groups](#) and [Professional Learning Communities](#).

**We are currently accepting proposals for new Working Groups!** These groups receive a \$2000 budget to develop a tangible product aligned with the [RIOS mission](#). Proposals are accepted on a rolling basis until Feb 15th, 2022. For more details, and to apply, [see the full call here](#).



Resources



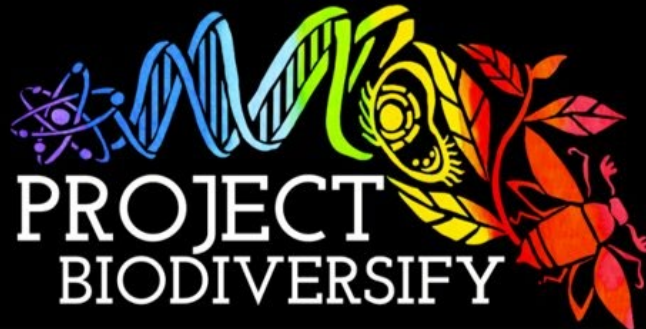
Academics for Black Survival and Wellness

MASS ACTION

MUSEUM AS SITE FOR SOCIAL ACTION

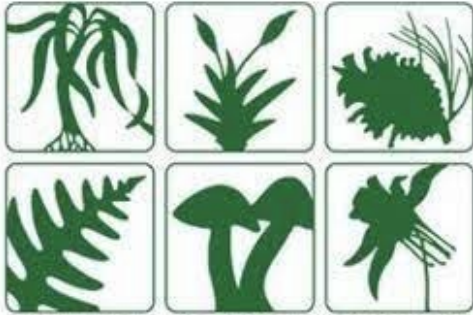


MUSEUM  
DETOX



Tools for promoting diversity & inclusivity  
in biology classrooms

# Organize



BOTANICAL SOCIETY OF AMERICA



Work with a society or build a working group on a topic you are passionate about with other collections professionals!



# iDigBio can help!

- Host/facilitate working groups
- Promote your IDEA work
- Support workshops, webinar and other events
- Event planning resources
- Partner on new initiatives/grants (or help you find a partner)

## In Summary

- Museums are amazing places!
- Past and **current** systems exclude and harm people.
- We have to change the systems first to truly "broaden representation"
- Listen, learn, and find partners for action!