

Summit VI : Citizen Science

Thursday, November 3, 2016, 10:30-11:45am : Main Space

iDigBio Lead(s): Austin Mast, Libby Ellwood

TCN Lead(s): Andre Poremski

Overview: Engaging the public in collections-centered digitization and research has the potential to simultaneously advance science, STEM literacy, and sustainability. We will begin with an opportunity for participants to provide 2-minute introductions to their existing or planned citizen science activities and resources. Then, we will identify common themes and opportunities for shared advancement of goals. Finally, we will brainstorm future innovations that would benefit the group. Topics might include the Worldwide Engagement for Digitizing Biocollections (WeDigBio) event and citizen science cyberinfrastructure, but we will be flexible to the interests of those present.

Working Groups:

Augmented Reality Public Education/Outreach Working Group (ARPEO)
Education & Outreach (E&O)
Interoperability for Public Participation in Digitization (CitSciInterop)
User Engagement for Public Participation in Digitization (CitSciEngage)

Link back to the [ADBC Summit VI Wiki](#)

Time: 10:30-11:45

Participants

Libby Ellwood (discussion leader)
Andre Poremski (discussion leader)
Austin Mast (discussion leader)
Michael Denslow
Lena Struwe
Erica Krimmel
Randy Singer
Rick McCourt
John Hall
David Zelagin
Joey Shaw
Molly Phillips
Jillian Goodwin

Chris Neefus
Katelin Pearson
Kevin Love
Cynthia Hong-Wa
Jason Best
Ashley Morris
Mike Webster
Pam Soltis
Bruce MacFadden
Roland Roberts
Elizabeth Martin

Discussion Notes

- Michael Denslow - SERNEC TCN and Notes from Nature, citizen scientists transcribing herbarium specimen labels
- Lena Struwe - personal BioBlitz (record all species you see through iNaturalist), trying to get people to see species where they are and use modern tools (e.g., social media) to enhance skills
- Andre Pomenski - Field guide, "shortcut" for identification using image recognition, useful for identification and for education that you can't always identify species from images, bigger data issues: does not need to be limited to image data, interested in applications of data cleansing (e.g., autosuggesting entries into data fields to enhance data quality)
- Ashley Morris - (w/ Erica Krimmel) collectionseducation.org, online module for teaching best practices for collecting plant specimens, integrates iNaturalist in curriculum; direct ingestion of iNaturalist data into collections data
- Erica Krimmel - citizen scientist tools (such as iNaturalist) to improve collections manager efficiency
- Mike Webster - Macaulay library, app to report and identify birdsongs (audio and video), using crowdsourcing to improve data quality
- Libby Ellwood - (w/ Austin Mast) Worldwide Engagement for the Digitization of Biocollections (WeDigBio) annual event, engage classrooms and informal education settings in transcription of collections data, onsite and online events
- Austin Mast - also interested in building local support for collections through WeDigBio
 - Joey Shaw - What about utilizing universities from across the country to participate in WeDigBio by developing a one hour class around the event. What if WeDigBio could provide materials for this?
 - Austin Mast - Would be a great way to scale up what WeDigBio is already doing (as in there are already some educational materials that have been created)
- Erica Krimmel - How many TCNs have citizen science written into their broader impacts?
 - Lena Struwe - Rutgers has some events for teaching e.g., Master Gardeners (MAM TCN)
- Austin Mast - is anybody using citizen science not only for digitization/creation of data, but also for the formation and answering of scientific questions?

- Lena S - what are citizen scientists? Some people may trip on the notion of a “citizen scientists,” but they are interested in knowing what is out there. There may be several levels of engagement.
 - Austin M - broad idea, everyone with an interest
 - Jillian Goodwin - also depends on their interest
 - Lena - although you can teach/discover interest
 - Ashley - it may depend on what the person gets out of it
 - Randy - people become citizen scientists
- Mike W - whether or not volunteers are “citizen scientists” is perhaps not as important. We do need to think more about what the volunteers want to do, not what we can “get them to do.” Example: eBird “what do birders want to do?” Local competitions and tools to organize observations. Then we can get data from what they provide.
- Michael D - the notion of citizen science is not new...amateurs have made contributions for years; there’s a difference between citizen science and crowdsourcing, how much are you willing to engage the people who are doing work for you?
 - Libby - e.g., Megalopolis group had “non-social” transcribers, they wanted different things from their experience
- David Zelagin - Tool/app using Lucid platform for the Fossil Insect Collaborative, identification to order
 - Erica Krimmel - much like LepSnap?
- Andre P - citizen scientist incentives, push-notification framework to communicate other things the volunteer can do related to that, how do you organize this to be informational?, how do you connect citizen scientists with projects similar to their own objectives?
 - Lena S - iNaturalist is not good for push notifications, sadly
 - Randy - iNaturalist needs an achievement system
 - Mike W - and individual profiles
 - Austin M - there are also small classroom exercises similar to that
- Austin M - how do we open the window to scientific processes a little more so that citizen scientists can contribute more directly to specific research questions?
 - Lena S - we also want to get people to care about science, nature, etc. and this could be just as important as the scientific questions
 - Austin - true, though we are also pressed with the need to justify ourselves/our goals, so we should also be careful to apply citizen science to science that will change the world
 - Mike W - citizen science has two parts: getting citizens engaged and the actual science, and it seems that the science aspect has not been as well emphasized in the recent past
 - (Elizabeth Martin) We may be able to link these together by e.g., partnering with management agencies
 - John H - There is a not-for-profit that connects volunteers with projects in Maryland that match their individual interests. Maryland Biodiversity Project

- Austin M - I want us all to leave feeling empowered to do stuff. Remember about the resources ADBC provides: working groups
- Austin M - is there interest in starting an observations working group? Focus on how to do observations well. Who wants to lead this group? (Andre, Lena is okay with co-leading)
 - Chris Neefus - observational data is still important, e.g., you wouldn't want to collect endangered species, the sheer volume of data is important
 - Lena S - how can ADBC contribute to this? Perhaps by providing standards for observational data
- Andre - what is the anatomy of scientific contribution? Inventory vs. new research questions. How do we define the benefits of citizen science?
- Jen Hammock - FreshData can provide notifications for uses of your data
- Lena S - broadening citizen science? Accidental citizen science?

Main Points / Action Items

- Observations are valuable. We do need to keep in mind how these are related to digitization of biocollections. (Observational Data Working Group)
- WeDigBio is a resource for everyone