

**Topic: Digitizing fossil preparation and conservation records**

**Date:** 2025 September 25

**Time:** 12 PM Eastern

## In Attendance

Lindsay Walker, Symbiota	Sierra Swenson, DMNS	Adam Kowalczyk
Talia Karim, UCM	Lyndsey Farrar, SNOMNH	Diana Boudreau, NMNH
Alex Lawrence, NMNH	Jared Heuck, YPM	Vanessa Rhue, YPM
Amanda Millhouse, NMNH	Nathan Ong	Christina Byrd, MCZ
Suzanne Mills, Carnegie MNH IP	Marilyn Fox, YPM (retired)	Hillary Ketchum, AMNH
Natalia Lopez Carranza, KUMIP	Scott Johnston, MCZ	Ben Norton
Chrissy Garcia, Stanford	Mariana Di Giacomo, YPM	Holly Little, NMNH
Michelle Pinsdorf, NMNH		

## Resources

- Paleo Data Working Group [Google Folder](#)
-  [20250925\\_paleo-prep-record-examples](#)
-  [20250925\\_paleo-happy-hour\\_slides.pptx](#)
- <https://nhmu.utah.edu/articles/2023/05/citizen-science-comes-alive-through-museum-projects>

## Agenda

- Announcements
  - Website update
- Shareout from Diana Boudreau on efforts to create digital prep records
  - EMu Conservation Module

## Action Items

- Please share a screenshot of what your preparation records currently look like [HERE!](#)

## Notes

- Questions:

- How do you record preparation or conservation of specimens?
    - CU Boulder uses physical sheets
  - Is there a difference depending on the specimen (VP vs IP vs PB)?
  - Where/how do you store the records?
  - Do you have a place in your CMS to enter preparation data?
  - How do you use your preparation data if you do record it?
  - Do you receive research requests that pertain to preparation methods?
  - What information in a preparation record do you think would be helpful to make findable in a database?
  - How do you handle prep records of objects not retained by the museum (like molding and casting objects from elsewhere)?
  - If an object is prepared and then later thin sectioned or mold/cast, would you create a separate record of that work or incorporate it in the previous preparation record?
  - What does maintenance of these digital prep records look like? How often are things imported and cleaned up and by whom?
  - For lithology information that may only be captured by the preparator (who removes matrix for example), how do we ensure that data is also shared/captured in the specimen's catalog record where it may more likely to be searched for?
- 
- Example record for Diana to translate record from the traditionally handwritten form to the EMu Conservation module.
  - Analysis could be a helpful place to list previous testing done on specimen
  - Recommendations for mounting/handling/anything an end user should know about the specimen.
  - Updating the conservation record to mirror the database fields to make it easier to transfer the data
- Christina Byrd: also starting to think about these questions at her institution. Helpful to think about adding analyses in a structured field as it happens often
- How to add previous work to the data?
- Diana: *What information needs to be searchable* is an important question to think about?
  - Analyses,
  - substances used,
  - are there additional materials produced in preparation/treatment (like molds or slides) that are still housed in the collections?
- Carrie and Alyson from Utah use DigiVol to have handwritten notes transcribed by volunteers
- Mariana: Recommends talking to Axiell about developing a prep-specific module that will be able to capture richer data than what can be captured in EMu's Conservation module
  - Example: What happened in the field in addition to what happened in the lab + analyses would be helpful.
  - Adding tabs (Treatment 1 and 2 added to the module at Utah)

- Vanessa: sharing controlled vocabulary for pick lists will help us across institutions with consistency of data documentation
- Ben: isn't there a compromise in recording data for EMu vs the traditional form?
  - None of the data is lost, but may be combined in fields. We'd still attach the form as a pdf
  - Understanding what is important to search can inform what we parse out of the free form text/notes fields
- Suzanne: Carnegie museum's VP uses EMu but IP/PB use an Access database
- Vanessa: How do people record mold and cast data? Is that recorded on the same paper Prep Record form or something different? Have people tried to capture mold and cast data in the EMu Conservation module? A separate Prep module or modification to the Conservation module could help with tasks and treatments and applied materials.
  - Diana: have never filled out a mold/casting prep record beyond in personal notes
  - Talia: CUMNH has a Cast distribution form (not tracked in database)
  - Amanda: Helpful to know materials of molds too! When molds were created? Where are they stored? Is it degraded? Helpful to search on mold/cast data.
- Is molding a conservation or preparation method? \*Treatment\*
- How to record what was done to a specimen when on loan
  - Helpful to provide a form so information provided from the loaner is easily incorporated with our data
- Adding multimedia to the conservation record would be great for annotating what might be missed in a written narrative.
- Digital data capture in a form gaps:
  - work logs have ID numbers and require an image to be captured at the end of each day; does this go into the record?
  - Are the logs specimen specific or treatment specific?
  - Recording purpose of treatments?
- Mariana: For fossils, variability in matrix is a major distinction between prep in paleo vs. biological disciplines that can rely on very standardized/routine methods.
- Chrissy: Prep methods vary by paleo subdiscipline (IP v. VP v. Micropaleo etc.) and through time. Do we need more controlled vocabularies to make this information more interoperable across collections and to make the data more discoverable to researchers?
- Talia: Some collections that many of us share (e.g. Florissant paper shale) share common prep-related issues related to historically applied methods.

## Chat Copy

12:04:25 From Alex Lawrence : shared notes here  
 12:04:53 From Holly Little : shared notes here  
 12:05:23 From Alex Lawrence : shared notes here

12:05:30 From Lindsay Walker : Ah, notes have been shared! Please feel free to add as you like.

12:06:09 From Holly Little : shared notes here

12:06:36 From Nathan Ong : yes!

12:08:43 From Alex Lawrence : shared notes here

12:09:23 From Suzanne Mills : Is it possible to share this form? It is a bit hard to see

12:10:22 From Holly Little : Yes! We will put a copy in the shared folder linked in the notes

12:10:29 From Christina J Byrd : Reacted to "Yes! We will put a c..." with ❤️

12:11:07 From Suzanne Mills : Reacted to "Yes! We will put a c..." with 🙌

12:11:11 From Suzanne Mills : thank you!

12:14:10 From Talia Karim (UCM) : Physical sheets here at CU Boulder

12:15:17 From Ben Norton : Replying to "Physical sheets here..."

Do the original physical sheets get archived after the information has been ingested into Arctos/Specify?

12:15:47 From Talia Karim (UCM) : Replying to "Physical sheets here..."

Not yet

12:18:42 From Vanessa Rhue, YPM VP Collections Manager : You can create a crystal report in EMu that presents data from any module.

12:19:12 From Michelle Pinsdorf : I can't remember the museum, but there's at least one out there using tablets to have direct digital input of notes and photos by the volunteers doing the prep work.

12:19:30 From Alex Lawrence : Reacted to "I can't remember the..." with 🙌

12:19:30 From Talia Karim (UCM) : Reacted to "I can't remember the..." with 🙌

12:19:58 From Holly Little : Reacted to "I can't remember the..." with ❤️

12:20:14 From Nathan Ong : I tried to transcribe paper prep sheets using ChatGPT and Google Vision AI- long story short, Vision had decent transcription capabilities and ChatGPT had the logical acapabilities needed to put marginalia in the right place, but neither could do both well, and the "hand off" from one system to the next was a nightmare. I was developing this for NHMU and at that point, the previously mentioned human transcription service was easier

12:20:15 From Alex Lawrence : Replying to "I can't remember the..."

Alyson did mention that they do have that option at Utah but many volunteers are not comfortable using the tablet

12:20:40 From Suzanne Mills : Reacted to "I tried to transcrib..." with 😳

12:20:42 From Talia Karim (UCM) : Reacted to "I tried to transcrib..." with 😳

12:21:01 From Holly Little : Reacted to "I tried to transcrib..." with 😳

12:22:40 From Vanessa Rhue, YPM VP Collections Manager : sharing controlled vocabulary for pick lists will help us across institutions with consistency of data documentation

12:23:03 From Talia Karim (UCM) : Reacted to "sharing controlled v..." with 💯

12:23:28 From Holly Little : Reacted to "sharing controlled v..." with 💯

12:23:56 From Michelle Pinsdorf : Replying to "I can't remember the..."

@Alex Lawrence We'd have similar reservations at NMNH, and also because of the potential for inconsistencies across a large number of people generating data.

12:24:55 From Christina J Byrd : Reacted to "sharing controlled v..." with 

12:26:11 From Vanessa Rhue, YPM VP Collections Manager : How do people record mold and cast data? Is that recorded on the same paper Prep Record form or something different? Have people tried to capture mold and cast data in the EMu Conservation module? A separate Prep module or modification to the Conservation module could help with tasks and treatments and applied materials.

12:26:31 From Marilyn Fox : Reacted to "How do people reco..." with 

12:26:36 From Nathan Ong : As an interim solution, a data entry interface using R could work and interface nicely with EMU's ecosystem while a proper tab is made:

<https://github.com/Nathanong101/data-entry-interface>

12:27:00 From Nathan Ong : I think Proficio has just general "Conservation Notes"

12:29:16 From Amanda Millhouse (she/her) : Replying to "How do people record..."

It is currently in our "preparations" table - which has nothing to do with like prep work/conservation. The field is for like the nature of the specimen (think different zoology preps like fluid, etc). But it's something that we are working on revising. But certainly for molds/casts we create, Conservation would be helpful for those specifics (or external if we know)

12:29:16 From Michelle Pinsdorf : We have a spreadsheet inventory of molds (those made by the prep lab at least!) at NMNH in addition to what's in EMu. Would be useful especially for those who track where casts get distributed to.

12:30:06 From Vanessa Rhue, YPM VP Collections Manager : Reacted to "It is currently in o..." with 

12:30:09 From Vanessa Rhue, YPM VP Collections Manager : Reacted to "We have a spreadshee..." with 

12:30:21 From Christina J Byrd : For databases where the conservation/prep table is the same, is there an effort to clearly note or number the treatments between conservation and prep?

12:31:02 From Mariana Di Giacomo she/her : Reacted to sharing controlled v... with 

12:31:26 From Mariana Di Giacomo she/her : Reacted to How do people record... with 

12:31:26 From Vanessa Rhue, YPM VP Collections Manager : Of note JVP has an ethics statement, "We will document our collection, preparation, and conservation methods to the greatest extent practical, including any materials applied to specimens and their surrounding matrix." We should think about how we capture data digitally so that it can be made available to researchers as well.

12:31:30 From Lindsay Walker : Symbiota has basic capabilities, but they were developed for zoological prep (like taxidermy). The basic metadata are published to GBIF as Material Sample data, e.g. <https://www.gbif.org/occurrence/2620844511> (shows up at the bottom of the record)

12:31:47 From Mariana Di Giacomo she/her : Reacted to Of note JVP has an e... with "🙌"

12:31:49 From Christina J Byrd : Reacted to "Of note JVP has an e..." with 🙌

12:31:59 From Jared Heuck : Reacted to "Of note JVP has an e..." with 🙌

12:32:54 From Talia Karim (UCM) : Reacted to "Of note JVP has an e..." with 🤗

12:34:26 From Christine Garcia : Hemphill "conserved" his fossil inverts/shells with arsenic

12:34:37 From Holly Little : This HH is also a good opportunity for NMNH Paleo to compare notes 😊

12:34:42 From Talia Karim (UCM) : Reacted to "Hemphill "conserved"..." with 😞

12:34:46 From Lindsay Walker : Reacted to "Hemphill "conserved"..." with 😞

12:34:51 From Natalia Lopez Carranza : Reacted to "Hemphill "conserved"..." with 🤗

12:34:51 From Mariana Di Giacomo she/her : Replying to "Hemphill "conserved"..."

Spicy!

12:35:10 From Amanda Millhouse (she/her) : Reacted to "This HH is also a go..." with 💯

12:35:49 From Christine Garcia : Replying to "Hemphill "conserved"..."

Many of us have his specimens

12:36:54 From Hilary Ketchum : Reacted to "Hemphill "conserve..." with 😞

12:37:30 From Christina J Byrd : Reacted to "Hemphill "conserved"..." with 😊

12:39:28 From Suzanne Mills : Reacted to "Symbiota has basic c..." with 😊

12:43:30 From Michelle Pinsdorf : Reacted to "Of note JVP has an e..." with 🤗

12:45:49 From Christine Garcia : Do folks have database modules for conservation reports, which potentially capture very different information from conservation actions? I am thinking of reports created by exhibits teams as specimens go onto/come off of display.

12:46:19 From Talia Karim (UCM) : I love the idea of "treatments" It sounds like the specimen is going in for a spa day

12:46:25 From Holly Little : Replying to "Do folks have databa..."

We are also looking into that side as well actually.

12:46:26 From Amanda Millhouse (she/her) : Reacted to "I love the idea of "..." with 😂

12:46:27 From Christine Garcia : Reacted to "I love the idea of "..." with 😂

12:46:28 From Christina J Byrd : Reacted to "I love the idea of "..." with 😂

12:46:29 From Natalia Lopez Carranza : Reacted to "I love the idea of "..." with 😂

12:46:43 From Lindsay Walker : Reacted to "I love the idea of "..." with 💙

12:46:47 From Natalia Lopez Carranza : Reacted to "I love the idea of "..." with 💙

12:46:50 From Christina J Byrd : Reacted to "I love the idea of "..." with 💙

12:46:51 From Holly Little : Reacted to "I love the idea of "..." with 😂

12:46:54 From Christine Garcia : Reacted to "We are also looking ..." with 😍

12:47:08 From Amanda Millhouse (she/her) : ....would you include plaster jacket information in Conservation?

12:47:31 From Suzanne Mills : Reacted to "I love the idea of "..." with 🧑

12:48:19 From Vanessa Rhue, YPM VP Collections Manager : a housing tab could be useful...

12:48:37 From Christina J Byrd : ...hmmm...I could see that in both. We just finished a prep project and the specimen needed a jacket before storage. Alternatively, we are going to make jackets for specimens that have been in storage for years. I like the "housing tab" idea

12:49:25 From Michelle Pinsdorf : Replying to "....would you includ..."

Or storage and housing in general, right? The preparator crew here builds jackets and housing as part of the prep process, and if we were taking notes for ourselves that would be captured as part of that instance of preparation and in what was requested by the PI.

12:49:39 From Amanda Millhouse (she/her) : Reacted to "Or storage and housi..." with 

12:49:51 From Hilary Ketchum : Reacted to "I love the idea of ..." with 

12:51:47 From Sierra Swenson : I've got to head to another meeting, but thank you everyone for the discussion! DMNS is pretty inconsistent on all of this, so it's been helpful to listen in. See you next time!

12:51:54 From Talia Karim (UCM) : Reacted to "I've got to head to ..." with 

12:51:55 From Christina J Byrd : Reacted to "I've got to head to ..." with 

12:52:05 From Lindsay Walker : Reacted to "I've got to head to ..." with 

12:52:08 From Suzanne Mills : Reacted to "I've got to head to ..." with 

12:52:34 From Michelle Pinsdorf : Running to another meeting too. Thanks all for the great discussion!

12:52:46 From Suzanne Mills : Reacted to "Running to another m..." with 

12:53:21 From Christina J Byrd : Reacted to "Running to another m..." with 

12:53:30 From Talia Karim (UCM) : Great discussion and food for thought

12:53:46 From Suzanne Mills : Reacted to "Great discussion and..." with 

12:53:52 From Suzanne Mills : Thanks for leading this, Diana!

12:53:54 From Christina J Byrd : This was a great conversation. Thank you for leading it Diana!

12:53:58 From Christine Garcia : Thank you!

12:54:02 From Hilary Ketchum : Thank you so much!