



Formative Evaluation

Dueling Dinosaurs

PREPARED BY

Kera Collective

FOR

North Carolina Museum of Natural Sciences

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Formative Evaluation: Dueling Dinosaurs



PREPARED FOR

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<https://naturalsciences.org/>
Raleigh, NC

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Table of Contents

- Table of Contents* 3
- 01 Summary and Key Takeaways**..... 4
 - Summary and Key Takeaways*..... 5
- 02 Study background**..... 9
 - About the Study*..... 10
 - About the Space* 11
- 03 Findings: In-depth Interviews** 12
 - Overview* 13
 - Visitor Characteristics*..... 13
 - Prior Knowledge of Paleontology*..... 14
 - DinoLab Tools Prototype* 15
 - Meet the Team Prototype* 23
 - Scientist Questions* 29
- 09 Appendix** 32
 - Appendix A: Interview Guide* 33
 - Appendix B: Prototype Images + Materials*..... 36

01 Summary and Key Takeaways



Summary and Key Takeaways

This section presents key takeaways from a formative evaluation of the upcoming Dueling Dinosaurs exhibition at the North Carolina Museum of Natural Sciences (NCMNS). Findings are based on in-depth interviews with families visiting with at least one child aged 10-14 in August 2022. Interviews focused on gathering visitors’ feedback about two exhibit prototypes—DinoLab Tools and Meet the Team—that serve as an introduction to the exhibition.

Generalized Knowledge of Paleontology

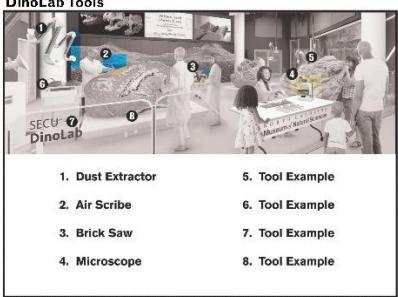

Findings show that most participants had a general or vague understanding of paleontology and what a paleontologist does.

Participants generally understood that paleontologists dig up and/or study fossils but almost one-half discussed the job in general terms, such as the study of “animals” or “the past” rather than specifically dinosaurs. The other one-half of participants did talk about “studying dinosaurs,” and some of those participants elaborated about what paleontologists study specifically, including that they assemble fossils to see what dinosaurs looked like and study fossilized dinosaur bones to understand how old they are and what they eat.

Recommendation: Given that visitors may be entering the exhibition experience knowing few specifics about paleontology and what paleontologists do, NCMNS should consider ways the introductory components can highlight key aspects of the field and paleontologists’ work (e.g., “Since I spend half of my time outside digging for dinosaur fossils ...”).

DinoLab Tools Prototype

Findings show that participants did not have a clear preference for one version of the DinoLab Tools prototype but rather appreciated different elements of each one.

<p>Diorama Version</p>	 <p>DinoLab Tools</p> <ol style="list-style-type: none"> 1. Dust Extractor 2. Air Scribe 3. Brick Saw 4. Microscope 5. Tool Example 6. Tool Example 7. Tool Example 8. Tool Example 	<p>Pros</p> <ul style="list-style-type: none"> • Easy-to-digest, not a lot of text • Provides an orientation to the tools in the lab 	<p>Cons</p> <ul style="list-style-type: none"> • Lacking information about what the tool is used for and how it works
<p>Task Version</p>	 <p>DinoLab Task List</p> <ul style="list-style-type: none"> 1. Use the Dust Extractor to clean up the lab. 2. Use the Air Scribe to mark the brick. 3. Use the Brick Saw to cut the brick. 4. Use the Microscope to examine the brick. 	<p>Pros</p> <ul style="list-style-type: none"> • Easy-to-digest, not a lot of text • Unexpected presentation of information (daily lab tasks) 	<p>Cons</p> <ul style="list-style-type: none"> • Lacking information about what the tool is used for and how it works


Bullet Version		Pros <ul style="list-style-type: none"> Provides information about what the tool is used for and how it works 	Cons <ul style="list-style-type: none"> Too text-heavy for children
Narrative Version		Pros <ul style="list-style-type: none"> Provides information about what the tool is used for and how it works Uses humor 	Cons <ul style="list-style-type: none"> Too text-heavy for children

Participants were hoping for some combination of elements that provided an introduction to the tools but also offered options for learning more about them without too much text to read (i.e., layering information). Based on the exhibit rendering provided in the Diorama version, participants had the expectation that they would see the scientists working with the tools in the lab and would learn more about them by observing or asking scientists questions. However, participants also suggested that if scientists were not available, they would like to have another, more interactive way of learning about the tools (e.g., videos of scientists using the tools).

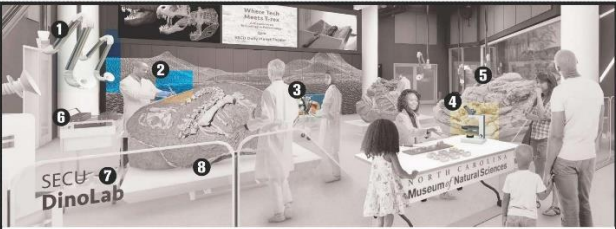
Recommendation: NCMNS should consider combining the Diorama version with a short description of what the tool is used for in the lab. To provide visitors with opportunities to learn more, DinoLab Tools could direct visitors to other areas of the exhibit that highlight how the tools work and/or provide a way for visitors to access additional information (e.g., QR code that links to a video of the tool being used).

A pen-shaped tool used to carefully remove tough rock surrounding fossils.

To learn more, ask one of our scientists or click the QR code to see a video.



DinoLab Tools

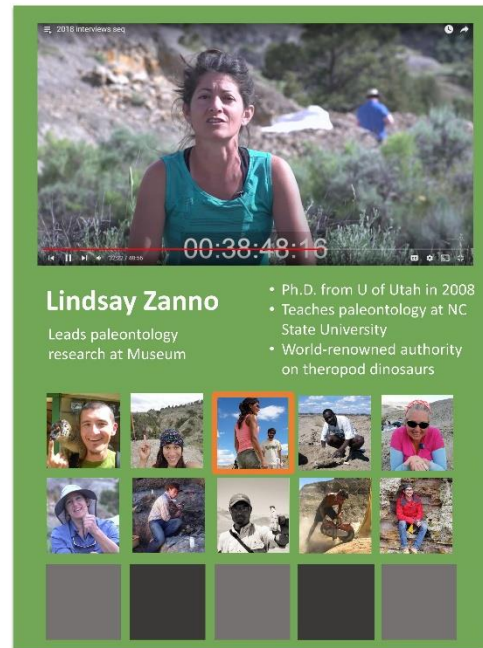


1. Dust Extractor
2. Air Scribe
3. Brick Saw
4. Microscope
5. Tool Example
6. Tool Example
7. Tool Example
8. Tool Example

Meet The Team Prototype

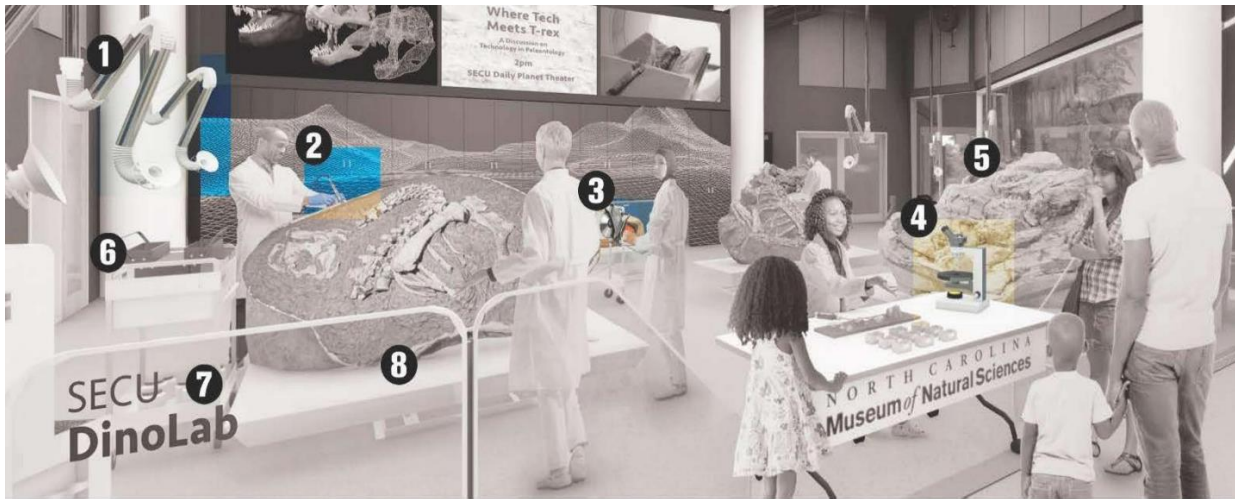
Findings show that many participants preferred the Descriptive Grid version showing scientists working in the field at dig sites.

Participants were drawn to the photographs of scientists in action, doing their work outdoors, and found them inspiring, especially for sparking children's interest in paleontology. Fewer participants liked the photographs in the Formal and Whimsical Grid versions but some children were drawn to the Bitmojis of the scientists in the Whimsical Grid version, and some adults liked that you could see the scientists faces clearly in the Formal Grid version. When asked about the bulleted information that was provided about the scientists in each version, participants leaned towards some combination of the information provided. Participants wanted to know about the scientists' jobs and expertise (i.e., job title, education) but they also appreciated knowing at least one personal fact about the scientists if it was related to paleontology in some way (e.g., favorite dinosaur).



Recommendation: NCMNS should consider using some version of the Descriptive Grid that highlights paleontologists actively working in the field along with a combination of the information offered in all three versions, including scientists' education, a description of their expertise, and a personal anecdote related to paleontology.

Materials and questions that spark an interest in paleontology



The overall concept of the exhibit—seeing paleontologists working to prepare the Dueling Dinosaurs in the lab and being able to interact with them—was highly appealing to participants. Adults and children were excited by the opportunity to observe the scientists and ask them questions about their work. Specifically, participants wanted to hear stories and anecdotes that would reveal how the scientists became interested in paleontology, what their daily work is like (i.e., best and worst parts of their job), and what significant discoveries they have made. Adults and children alike thought hearing these stories would spark their interest in paleontology in general or as a career. Additionally, participants were very curious about the discovery and preparation process of fossils, such as how paleontologists know where to dig, how long it takes them to find and extract fossils, and how they know how to piece them together into whole skeletons.

Recommendation: NCMNS should consider a variety of opportunities for visitors to hear interesting stories and anecdotes from scientists about their work, passions, and accomplishments. For instance, through the Meet The Team videos, by asking scientists questions directly in the lab, or through interactive exhibits that address the process of discovering and preparing fossils.

02 Study background



About the Study

Kera Collective partnered with the North Carolina Museum of Natural Sciences (NCMS) to conduct a formative evaluation of the public lab component of the museum’s upcoming Dueling Dinosaurs exhibition. The goal of the study was to explore visitors’ understanding and preferences for different versions of two exhibit prototypes—DinoLab Tools and Meet the Team.

Study Objectives

The formative evaluation explored:

- Perceptions of paleontology and what a paleontologist does.
- Most and least engaging aspects of the proposed versions of each prototype:
 - DinoLab Tools—bullet point summary, narrative description, task list, & diorama; and
 - Meet the Team—formal grid/headshots, selfie/action shots (“in the field”), cartoon avatars/bitmojis.
- Confusing or challenging aspects of the proposed content or design of each prototype.
- What curiosities or questions visitors have about paleontology and being a paleontologist (open-ended).
- Most and least engaging proposed interview questions for the scientists.
- Which versions of the prototypes pique visitors’ interest in science and being a scientist (i.e., which version(s) make science and being a scientist seem exciting, accessible, and fun?).

Methodology

Kera Collective conducted in-depth interviews with walk-in family groups in August 2022.

In-depth Interviews

Kera Collective conducted 38 in-depth interviews with walk-in family groups visiting with at least one child ages 10-14. Kera showed participants different versions of two exhibit prototypes for DinoLab Tools and Meet the Team and asked them questions about their preferences and understandings (see interview guide in Appendix A and prototype images in Appendix B). Interviewers audio-recorded all interviews with participants’ permission and transcribed them to facilitate analysis.

Interview data are qualitative, meaning that results are descriptive. In analyzing the data, the evaluator studies the interview notes for meaningful patterns and groups similar responses into codes representing trends and themes in the data. Findings are reported in narrative, supplemented with quotations from participants. Trends and themes in the data are presented from most- to least-frequently occurring. When describing the findings, this report uses proportions and qualitative data terms such as “most” and “some”—such descriptive language is intended to provide readers with a sense of the general patterns.

About the Space

Dueling Dinosaurs is a new exhibition at the NCMNS opening in 2023. The exhibition explores questions and mysteries surrounding the Dueling Dinosaur fossils—*Triceratops* and *Tyrannosaurus rex*—that are among the most complete skeletons ever discovered of their kind buried together. The exhibition includes the Secu DinoLab where the *Triceratops* and *Tyrannosaurus rex* will be on display and visitors can interact with scientists as they work on the two specimens. The two prototypes-- DinoLab Tools and Meet the Team—are located just outside the lab and serve as an introduction to the space.

Exhibit Rendering



03 Findings: In-depth Interviews



Overview

Kera Collective conducted 38 in-depth interviews with walk-in family groups visiting in August 2022. In-depth interviews explored participants' understandings and preferences for different versions of two exhibit prototypes—DinoLab Tools and Meet the Team.

Visitor Characteristics

We conducted 38 interviews comprised of 48 adults and 59 children.

- Two-thirds of adults are female; slightly more than one-half of children are male.
- Adult participants' range in age from 19 to 79 years (median = 43 years).
- Child participants' range in age from 4 to 17 years (median = 10 years).
- Three-quarters of participants were repeat visitors.
- Most participants live in North Carolina ; about one-half reside in Wake County.

Prior Knowledge of Paleontology

When asked what they already know about paleontology, participants' responses varied in their specificity.

- **Study animals or fossils:** About one-half said paleontologists “dig for” or study “fossils,” “the past,” or “animals” but they did not specify dinosaurs.
- **Study dinosaur fossils:** One-third said paleontologists “dig up” dinosaur bones and “study them” or “study dinosaur fossils” but did not elaborate on anything further.
- **Analyze dinosaur bones to reveal information:** One-quarter said paleontologists “excavate” and study dinosaur bones or fossils, elaborating about why, including to “piece together” what they “look like,” “how old they are,” and “what they ate.”



“[Paleontologists] dig up dinosaurs. They pick locations, and they dig, and they find dinosaur bones, and they piece the puzzles together to see which bones go to which skeletons and which dinosaurs they belong to.”

Female, age 10

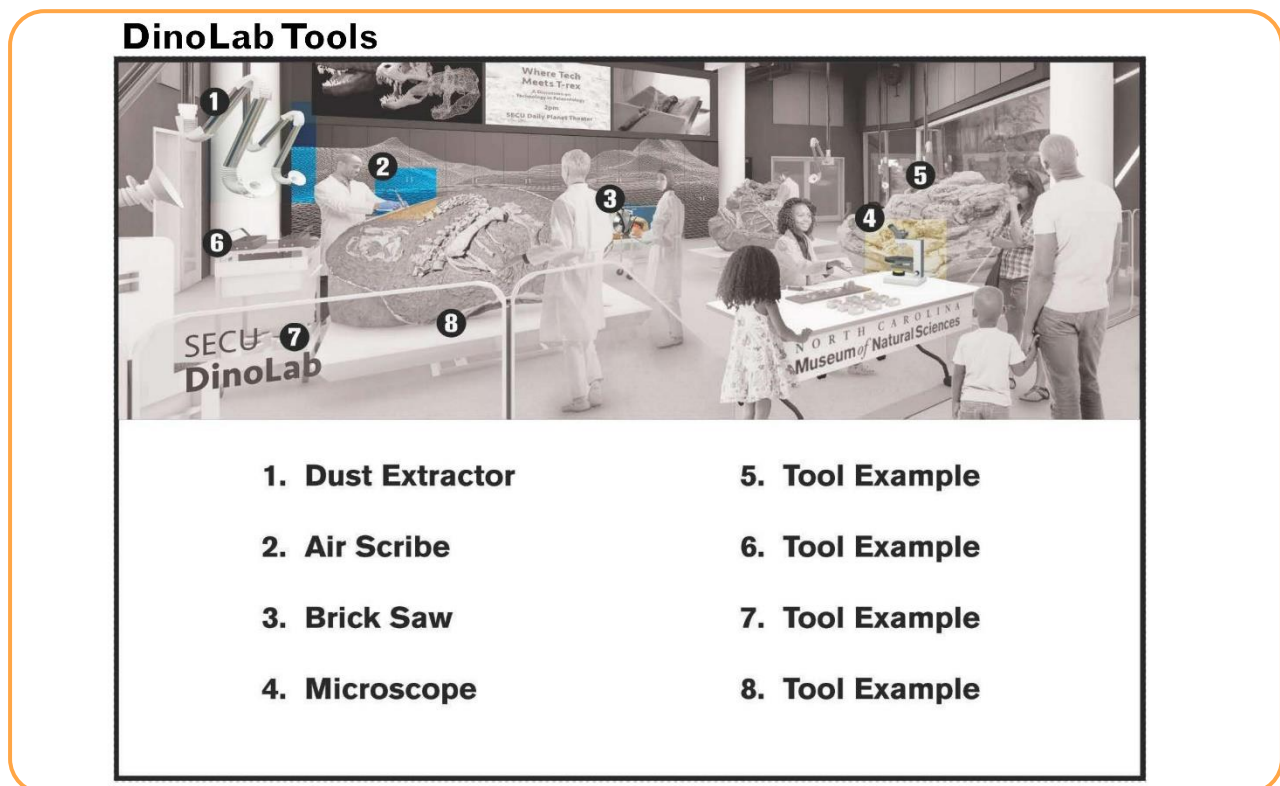


DinoLab Tools Prototype

The DinoLab Tools prototype introduces visitors to tools and techniques paleontologists use in their work. Kera showed visitors four versions of the DinoLab Tools prototype and asked participants to discuss what they liked and did not like about each one.

Diorama Version

The Diorama version shows the names of the tools at the bottom with a number that corresponds to where they are in the lab.



Participants' Reactions

- **Engaging image:** Many participants liked the large photograph showing scientists working in the lab and anticipated they would be able to see scientists working with the labeled tools.
- **Good orientation/overview:** Many participants said the Diorama version provides a good “visual overview” of the tools in the lab and orients visitors to where they are.
- **User-friendly for children:** Many adult participants also liked that the Diorama version was “visual” and a “matching exercise” which makes it user-friendly for most children.
- **Lacking description:** Some participants thought the Diorama version could not stand on its own because it lacks a description of how scientists use each tool and for what purpose. These

participants thought the Diorama version should be paired with one of the more descriptive versions or that the exhibit should have videos or QR codes that show scientists using the tool (especially if scientists are not in the lab or it's crowded and hard to see scientists working).

“

"I like the [Diorama] one because you can see what areas the tools would be in if you have people in there [the lab] to see the tools in action. But, I still like a description so, if I don't have any description, I would like to see them using the tool, or, if they are not using it, then you could have a video of someone using it."










Male, age 14

”

Task Version

The Task version shows the same tools on the left of the image along with a task that the scientist must complete in the lab related to the tool that day.

DinoLab Task List

	<p><i>Lubricate Airscribe</i></p> <p>Add a drop or two of oil to the airscribe motor to prevent it from seizing during fossil prep today.</p>		
	<p><i>Change Brick Saw Blade</i></p> <p>Current blade is a bit dull after repeated use on our <i>T. rex</i> femur and needs to be replaced.</p>		
	<p><i>Clean Dust Collector</i></p> <p>Change filter and clear duct openings. Both are clogged after work on the Trike skull yesterday.</p>		

Participants' Reactions

- **Authentic photographs:** Some participants liked that the tools in the images looked more authentic than what they considered “stock photographs” of the tools used in other versions (i.e., they looked “recently used” and “dirty”).
- **Tasks reveal “unexpected” work of paleontologists:** Some participants liked that the tasks described real things that paleontologists need to do in their day-to-day work in the lab (i.e., tasks you would not readily think of).
- **Less text-heavy:** Some participants liked that there was some description of the tools without using a lot of text.
- **Lacking description of tool’s purpose:** Some participants said that while the task list provides some information about the tools, it still lacks clarity about the tool’s purpose (i.e., what does it do?).

“










"I like the grittier pictures because some of the other pictures are stock images but these pictures show what you would see in the exhibit [the lab] so it's more real. I like how it's written out [in a list] but it could just give a bit more information about what the tool itself does. You already have the tasks listed out; why not throw some descriptors on the other side of it?"

Male, age 19

”

Bullet Version

The Bullet version shows the same tools with a description of how each tool is used in bullets.

DinoLab Tools		
		
Air Scribe <ul style="list-style-type: none">• Used to carefully remove the tough rock surrounding fossils• Relies on compressed air to pulse a small metal needle thousands of times per minute• Resembles an ordinary writing pen and functions like a tiny jackhammer	Brick Saw <ul style="list-style-type: none">• Used to slice large fossils up into thin sections for further analysis• Often the first step in a process known as "histology" that studies the inside of bones• No different than the types of Brick Saws used on construction sites	Dust Collector <ul style="list-style-type: none">• Used to gather atmospheric dust and debris created during fossil preparation• Includes a centralized vacuum system and individual "elephant trunks" at each station• Helps to prevent staff members from inhaling harmful particulate matter
		
		

Participants' Reactions

- **Description of tool's purpose and function:** Some participants liked that the bulleted list under each tool had a basic description of what the tool does (e.g., carefully removes tough rock surrounding fossils) and how it works (e.g., includes a centralized vacuum system)—information that was missing in the two previous versions they had seen (Diorama and Task).
- **User-friendly bulleted layout:** Some participants compared the bulleted version to the narrative version (next section), describing the bulleted one as easier to read because it is "broken up" into sections.
- **Text-heavy:** Some participants said the amount of information and text looks like "too much to read" and that children (and some adults) would be likely to skip over it.

“

"I like this one [Bullet Version] because all the facts are there, and they are not all bunched together. So, the text is broken up rather than being in a big paragraph."








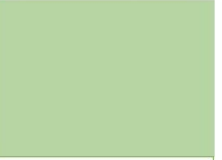

Female, age 40

”

Narrative Version

The Narrative version shows the same tools with a story-like/whimsical description of how each tool is used underneath.

DinoLab Tools

		
Air Scribe <p>Paleontology can be delicate work. So sometimes we have to shrink our tools! This aircsibe works like a tiny jackhammer, using compressed air to drive a small metallic stylus or needle. We often use these devices to help remove the tough rock surrounding our fossils.</p>	Brick Saw <p>To prepare the biggest bones, paleontologists often have to break out the heavy metal! This brick saw could be seen on a construction site, but here in the lab we use it to help slice through tough fossils so that we can study them under a microscope.</p>	Dust Collector <p>Sometimes paleontology sucks. Literally! Here in the lab we use dust collectors such as this one to vacuum up dirt and debris produced during the fossil preparation process. This helps to keep our tables clean and ensures that we don't breathe in too many pesky particles.</p>
 	 	 

Participants' Reactions

- **Appreciated humor:** Some participants liked that the narrative version employed humor and jokes, which they thought would draw the reader in and make the content more interesting (e.g., “Sometimes paleontology sucks. Literally!”).
- **Text-heavy:** Some participants said there was too much text for children (similar to comments made about the Bullet version) and did not think they would stop long enough to read it.
- **First-person approach:** A few participants mentioned that they liked the narrative, first-person approach because it was easier to digest the information about the tool (e.g., “Paleontology can be delicate work. So, sometimes we have to shrink our tools!”).

“

"I like that we have some humor in the narratives. You are telling me more about what the tools are, and we have a picture of [can visualize] what they are."

Female, age 42

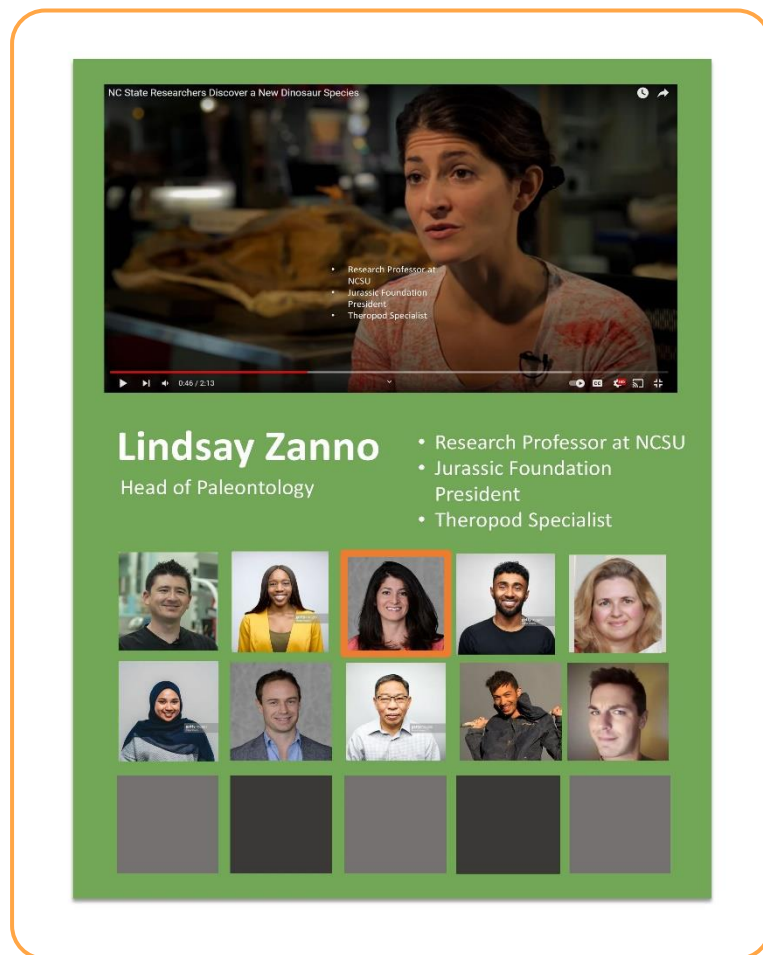
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Meet the Team Prototype

The Meet the Team prototype introduces visitors to NCMNS paleontologists and the work they do. Kera showed visitors three versions of the Meet the Team prototype and asked participants what they liked and did not like about each one.

Formal Grid Version

The Formal Grid version shows the paleontologist and brief bullets about them, including their job title and specialties. The images along the bottom are headshots of all the paleontologists.



Participants' Reactions

- **Job titles:** Many participants liked that the Formal Grid version had scientists' job titles and specialties so they could understand more about what they do (i.e., their area of focus).
- **Visible faces:** Some participants liked that you could see the scientists' faces and might be able to identify them if they are working in the lab.

- **Too formal:** Some participants thought this version was too formal with the professional, school-like headshots and the videos set in a lab.

“

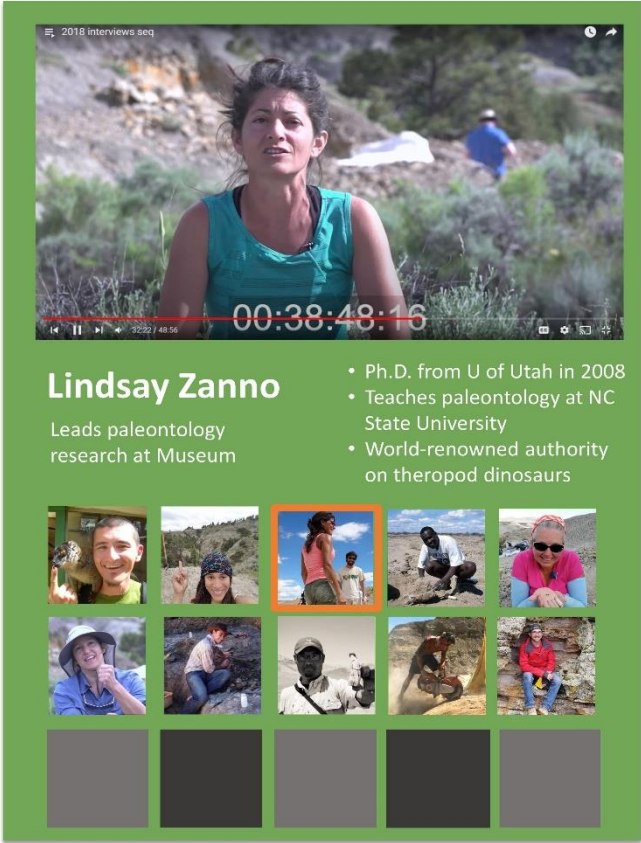
"This one [Formal Grid version] looks so professional, so serious, and some people might relate professional and serious to boring."

Female, age 19

”

Descriptive Grid Version

The Descriptive Grid version shows the same paleontologists with additional information about their education, expertise, and roles. The images along the bottom show each paleontologist in the field.



Lindsay Zanno

Leads paleontology research at Museum

- Ph.D. from U of Utah in 2008
- Teaches paleontology at NC State University
- World-renowned authority on theropod dinosaurs

The image below the text is a grid of 10 small photographs of paleontologists in the field, arranged in two rows of five. The third image in the top row is highlighted with an orange border.

Participants' Reactions

- **Inspiring action shots:** Many participants liked the images of the paleontologists working “in the field” because they give context to the work that they do and spark an interest in learning more about paleontology in general or as a career for young people.
- **Useful information about education and expertise:** Some participants liked the more descriptive bullets about the scientists’ education and expertise since that could help children see what pathways are available for paleontology.
- **Desire for clear images:** A few participants cautioned that it could be hard to see and identify scientists fully in the “action” shots (versus the Formal Grid headshots, which were more consistent).

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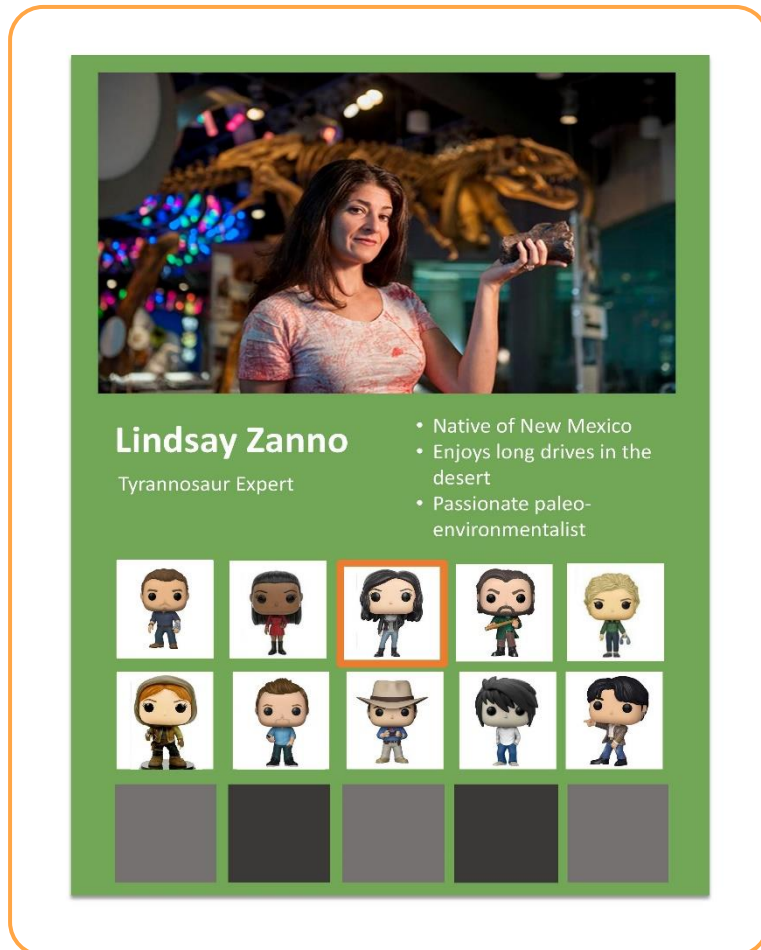
"I think when people think of scientists, they think of the lab, and you already have that going on with the exhibit. So, reminding people that this is an outdoor discipline would fire the imagination of kids and make them think, 'Maybe I don't always want to work in a building, maybe I want to be out in the world."

Female, age 43

”

Whimsical Grid Version

The Whimsical Grid version shows the same paleontologists with brief details about their personal interests and passions and uses more whimsical language to describe what they do. The images along the bottom show each paleontologist as a Bitmoji.



Participants' Reactions

- **Personal information is intriguing:** Many participants said that the personal information about the scientists was intriguing but that it should not be the only thing listed and that it should relate in some way to paleontology (i.e., not just any kind of personal information).
- **Bitmojis appeal to children:** Some participants (children and adults) said they liked the Bitmoji representations of the scientists because they were “fun” or “silly,” although some children could not articulate why they liked them, and adults said they are just “what kids are used to.”
- **Bitmojis are not authentic:** Some adult participants said the Bitmojis were “childish” and were not a true representation of the scientists (i.e., if you were looking for someone to connect with or relate to).

“

"It is good to see that they are real people, and they have other hobbies, which makes them more relatable rather than he is in the lab 24/7. But, I would want a combination because you want to see them in the field and know about their job, schooling too."

Male, age 13

”

Scientist Questions

Kera asked participants what questions they would have for scientists about paleontology or being a paleontologist. Then, we showed visitors a list of questions that they might ask scientists and asked them to choose the ones they were most curious about.

Curiosities About Paleontology and Paleontologists

- **Fossil discovery and preparation:** Many participants were curious about how paleontologists know where to look for fossils and the process of digging them up (e.g., How long does it take? How do you extract them?), preparing them (e.g., How do you piece them together?), and studying them (e.g., What can fossils tell you? How do you name a new dinosaur?).
- **Specific discoveries:** Some participants were curious which fossils scientists had personally found and why they are important (i.e., big discoveries they have made).
- **Dinosaur facts:** A few child participants had questions about what killed the dinosaurs, when did they go extinct, and what did they eat.



"I want to know how often you find something because I am sure there are a lot of nights where you are digging and digging and nothing is there."

Female, age 14

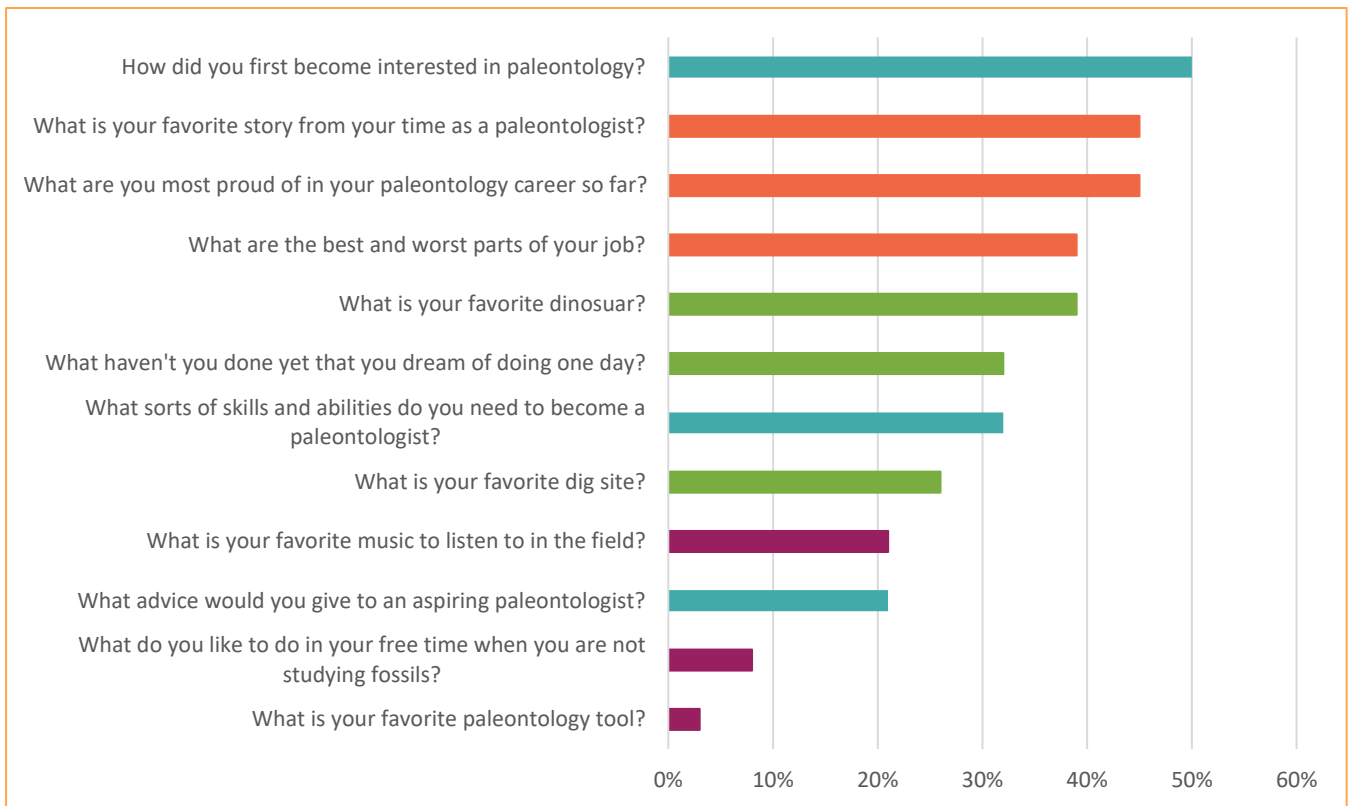


Questions Participants are Most Curious About

After seeing a list of questions they could ask scientists, Kera asked participants which questions they were most curious about and why (see Appendix B for the list of questions). The figure below shows the most- to least-frequently picked questions.

Popularity of Questions

- The most-frequently picked questions were “How did you first become interested in paleontology?”, “What is your favorite story from your time as a paleontologist?” and “What are you most proud of in your paleontology career so far?”



Participants' Reasons for Choosing Questions

Participants had similar reasons for choosing certain questions. The bar for each question in the figure above is color-coded to the reason for choosing the question below.

- **Spark interest in paleontology:** Most participants who chose “How did you first become interested in paleontology?”, “What sorts of skills and abilities ...?”, and “What advice would you give ...?” thought these questions would spark interest in paleontology (especially among children) and help them decide if it was a career they would like to pursue one day.
- **Interested in stories:** Most participants who chose “What is your favorite story ...?”, “What are you most proud of ...?” and “What are the best and worst parts ...?” expected to hear unique

and engaging stories. Some also chose these questions because they are relatable questions that “apply to most jobs” and would reveal what it is like to be a paleontologist.

- **Learn more about the field of paleontology:** Most participants who chose “What is your favorite dinosaur?”, “What is your favorite dig site?”, and “What haven’t you done yet ...?” wanted to know more about the current and future field of paleontology, including the different types of dinosaurs and dig sites as well as scientists’ hopes for future discoveries.
- **Other “personal” questions:** Most other questions, such as “What is your favorite music ...?” and “What do you do in your free time ...?” were chosen by a smaller number of participants and usually because they were personal questions that everyone could relate to on some level.

“

“I want to know what they think their best achievement was [most proud of], and that goes along with wanting to know the best and worst parts of their job and what is their favorite story. Those would be interesting because you can learn firsthand what it feels like to be a paleontologist.”

Male, age 11

”

“

“I want to know how they became interested in paleontology because you get a feel for how and why they got involved, and it feels like a good icebreaker to me because that is about the first spark that got them interested. And, if somebody else who enjoys dinosaurs and fossils would like to know what skills and abilities they need to become a paleontologist, it would also be good to know the answer to that question.”

Male, age 44

”

09 Appendix



Appendix A: Interview Guide

Recruitment Script

Hello, the Museum is working on their new Dueling Dinosaurs exhibit where you will meet paleontologists and learn about what they do all day. If you have a few minutes, I would like to show you some designs for this exhibit and hear your feedback. **[If visitor agrees, take the visitor(s) to the testing location. If not, record refusal information.]**

Verbal Consent

Thank you for agreeing to share your feedback. Before we begin, I just want to let you know that I will be audio-recording this interview to record your feedback. However, your responses are anonymous—your name or contact information will not be requested or recorded. Your participation is completely voluntary, and we can stop at any time.

Part 1. Background Knowledge

[Turn on recorder and announce ID #]. Today, you are going to review two prototypes that are part of the exhibit, one at a time. But, before we begin looking at the prototypes, I am wondering if you can tell me anything you already know about paleontology. This is not a test. I am just curious:

What do you think a paleontologist does all day? Can you give me an example?
Who do you think can be a paleontologist?

Part 2. DinoLab Tools prototype

Both prototypes I am going to show you are from the introductory area of the exhibit. The first one highlights some tools and techniques that paleontologists use in their work. **[Show the exhibit rendering and the highlighted portion for “tools and techniques”].** The museum has a few different versions of how they might present information about tools and techniques.

[Show Diorma version]

Here is the first version. It shows the names of the tools at the bottom and the image at the top shows where they are in the lab. **[Give participant a minute to look/read]**

What are your initial thoughts about this version?
What do you like/dislike? Why?
Anything confusing or unclear? [Probe for specific aspects]

[Show DinoLab Task List version]

Here is the second version. It shows the same tools on the left along with a task for the scientist. **[Give participant a minute to look/read]**

What are your initial thoughts about this version?
What do you like/dislike? Why?
Anything confusing or unclear? [Probe for specific aspects]

[Show DinoLab Tool Bullets]

Here is the third version. It shows the same tools across the top with descriptive information about each tool in bullets below. **[Give participant a minute to look/read]**

What are your initial thoughts about this version?

What do you like/dislike? Why?

Anything confusing or unclear? [Probe for specific aspects]

[Show DinoLab Tool Narrative]

Here is the last version. It shows the same tools across the top with descriptive information about each tool presented in a different way. **[Give participant a minute to look/read]**

What are your initial thoughts about this version?

What do you like/dislike? Why?

Anything confusing or unclear? [Probe for specific aspects]

Overall questions and comparisons:

Which version did you like the best? Why is that?

Which version did you like the least? Why is that?

Which (if any) version makes being a paleontologist seem fun and/or exciting? Which part(s) specifically? Why is that?

Part 3. Meet the Team prototype

This second (and final) prototype introduces you to some paleontologists and the work they do. **[Show the overall video template and highlight the three parts—video clip, text about the scientist, and image of scientist]**. The museum also has a few different versions of how they might present these videos of scientists.

[Show Formal Grid of all 3 scientists]

Here is the first version. It shows three scientists and some bulleted information about them. The images at the bottom are headshots of different scientists you can choose.

[Give participant a minute to look/read]

What are your initial thoughts about this version?

What do you like/dislike? Why?

Anything confusing or unclear? [Probe for specific aspects]

[Show Descriptive Grid of all 3 scientists]

Here is the second version. It shows the same scientists with information about them presented in a different way. The images at the bottom are different as well.

[Give participant a minute to look/read]

What are your initial thoughts about this version?

What do you like/dislike? Why?
Anything confusing or unclear? [Probe for specific aspects]

[Show Whimsical Grid of all 3 scientists]

Here is the last version. It shows the same scientists with information about them presented in a different way than the first 2 versions. The bottom images are also different. **[Give participant a minute to look/read]**

What are your initial thoughts about this version?
What do you like/dislike? Why?
Anything confusing or unclear? [Probe for specific aspects]

Overall questions and comparisons [show an example with all 3 versions together]:

Which version did you like the best? Which photograph type did you like best? Why?
Which version did you like the least? Which photograph type did you like least? Why?
Which (if any) version made being a paleontologist seem fun and/or exciting? Which part(s) specifically? Why is that?

Part 4. Scientist questions + wrap-up questions

If you could ask the scientists about paleontology or being a paleontologist, what would you want to know? Why is that?

I have a list of questions that you might ask these scientists. Can you look at the questions and put a sticky note next to the three you are most curious about?

Why did you pick X? [probe about the 3 questions they chose]

Did anything you see today make you feel like you could be a paleontologist? What specifically? Why is that?

Thank you so much for your time. I just have a few background questions.

1. Is this your first time visiting NCMNS?
 - a. [If not] Have you visited within the last two years?
2. What is your zip code or country of residence?
3. May I ask your genders and ages?
4. Who did you come with today (note ages and genders of non-participant group members)?

Appendix B: Prototype Images + Materials

Introduction






DINOLAB TOOLS

DinoLab Tools

		
Air Scribe <ul style="list-style-type: none">• Used to carefully remove the tough rock surrounding fossils• Relies on compressed air to pulse a small metal needle thousands of times per minute• Resembles an ordinary writing pen and functions like a tiny jackhammer	Brick Saw <ul style="list-style-type: none">• Used to slice large fossils up into thin sections for further analysis• Often the first step in a process known as "histology" that studies the inside of bones• No different than the types of Brick Saws used on construction sites	Dust Collector <ul style="list-style-type: none">• Used to gather atmospheric dust and debris created during fossil preparation• Includes a centralized vacuum system and individual "elephant trunks" at each station• Helps to prevent staff members from inhaling harmful particulate matter

DinoLab Tools

		
Air Scribe <p>Paleontology can be delicate work. So sometimes we have to shrink our tools! This airscribe works like a tiny jackhammer, using compressed air to drive a small metallic stylus or needle. We often use these devices to help remove the tough rock surrounding our fossils.</p>	Brick Saw <p>To prepare the biggest bones, paleontologists often have to break out the heavy metal! This brick saw could be seen on a construction site, but here in the lab we use it to help slice through tough fossils so that we can study them under a microscope.</p>	Dust Collector <p>Sometimes paleontology sucks. Literally! Here in the lab we use dust collectors such as this one to vacuum up dirt and debris produced during the fossil preparation process. This helps to keep our tables clean and ensures that we don't breathe in too many pesky particles.</p>

DinoLab Task List



Lubricate Airscribe

Add a drop or two of oil to the airscribe motor to prevent it from seizing during fossil prep today.



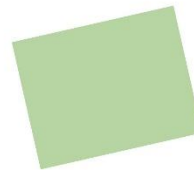
Change Brick Saw Blade

Current blade is a bit dull after repeated use on our *T. rex* femur and needs to be replaced.

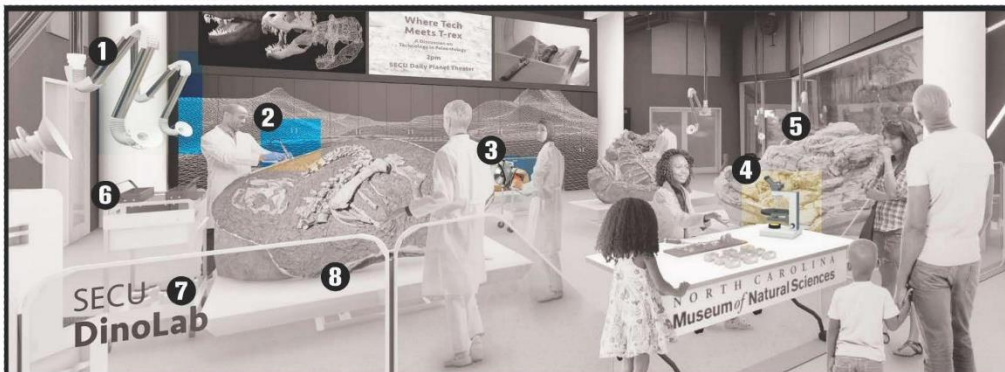


Clean Dust Collector

Change filter and clear duct openings. Both are clogged after work on the Trike skull yesterday.



DinoLab Tools



1. Dust Extractor

5. Tool Example

2. Air Scribe

6. Tool Example

3. Brick Saw

7. Tool Example

4. Microscope

8. Tool Example

Meet the Team (Lindsay Zano Example, 1 of 3 scientists shown)



Video clip of scientist (about 20-30 seconds, with audio)

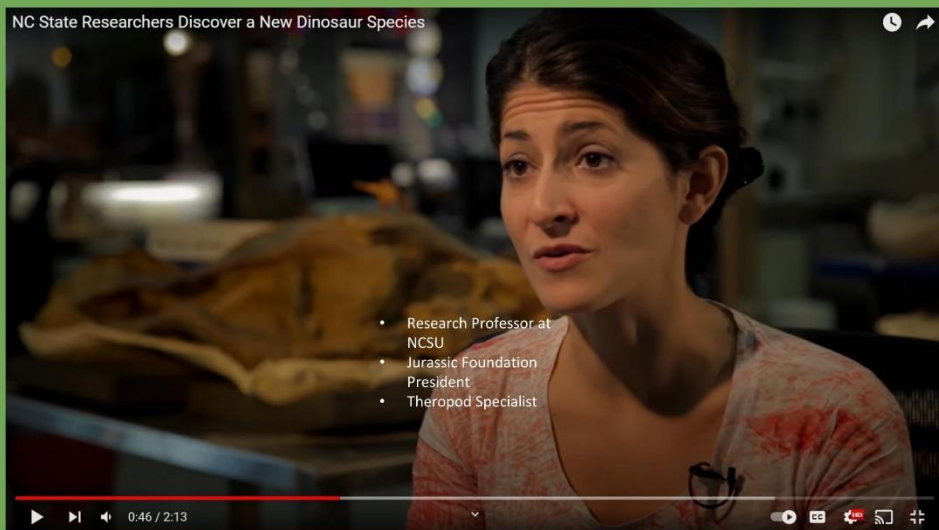


Name, title, and text about scientist



Images of scientists who work in the lab
The scientist speaking in the video clip above is highlighted in some way.

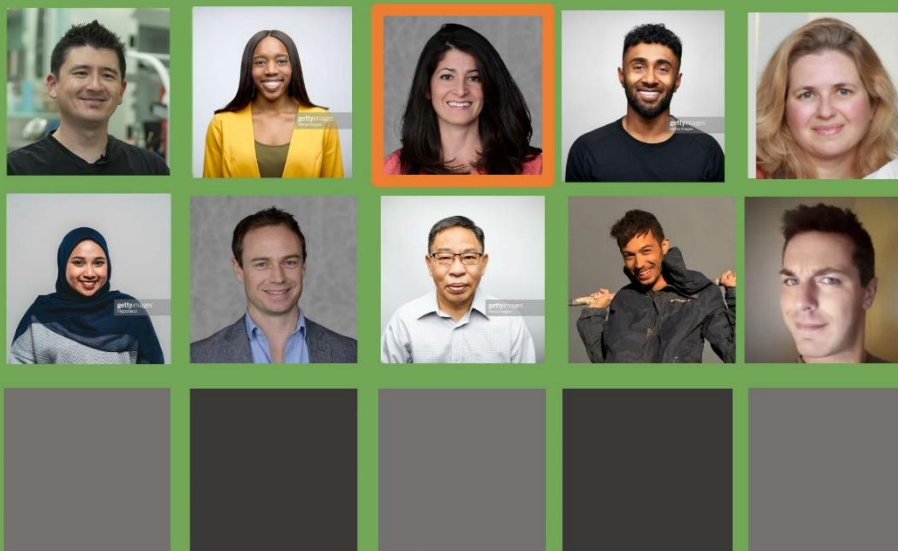




Lindsay Zanno

Head of Paleontology

- Research Professor at NCSU
- Jurassic Foundation President
- Theropod Specialist





Lindsay Zanno

Leads paleontology research at Museum

- Ph.D. from U of Utah in 2008
- Teaches paleontology at NC State University
- World-renowned authority on theropod dinosaurs





Lindsay Zanno

Tyrannosaur Expert

- Native of New Mexico
- Enjoys long drives in the desert
- Passionate paleo-environmentalist



SCIENTIST QUESTIONS

Potential Interview Questions for Paleontologists

1. How did you first become interested in paleontology?
2. What advice would you give to an aspiring paleontologist?
3. What sorts of skills and abilities do you need to become a paleontologist?
4. What are you most proud of in your paleontology career so far?
5. What is your favorite dinosaur?
6. What is your favorite dig site?
7. What is your favorite paleontology tool?
8. What are the best and worst parts about your job?
9. What is your favorite music to listen to in the field?
10. What is your favorite story from your time as a paleontologist?
11. What do you like to do in your free time when you are not studying fossils?
12. What haven't you done yet that you dream of doing one day?

With gratitude, Kera Collective thanks NCMNS for the opportunity to learn more about visitors in the context of the new Dueling Dinosaurs exhibition.

Our doors are always open—don't hesitate to reach out with anything that's on your mind!

kera
COLLECTIVE

Kera Collective explores, measures, and furthers the meaning-making that occurs between museums and people.

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