

- 1) The talk is about the origin and evolution of plants. Lisa talks about how the evolution of plants and the fossils of plants can be used to learn about past landscapes. Specifically, she talked about how fossil leaves and petrified wood helped her learn about how plants have changed over time and resulted in modern flora.
- 2) The Cretaceous period had higher average temperatures and sea levels than today. This meant the flora landscape was dominated by plants taking up large amounts of space. This included ferns and gymnosperms.
- 3) Angiosperms
- 4) Plant fossils have been found in floodplains or ravines because this is where sediment is able to build up and fossilize the plants. Furthermore, floodplains and ravines have lots of water meaning create mudstone to cover the fossils.
- 5) It was inferred that flowering plants were mostly occurring near disturbed sites. She defines a disturbed site as a site where the environment is constantly disrupted. So, using the example she used, a channel would be constantly changing and lead to plant growth.
- 6) She noticed the cells of the trees that were flowering versus the ones that weren't flowering were different. The trees that had early flowering had larger water-collecting cells. She then hypothesized that the larger water-collecting cells meant that water could be distributed faster and help the tree grow.
- 7) She concluded that the size of early flowering plants was typically smaller than modern plants. She also concluded that the prevalence of early-flowering plants was also smaller than today.
- 8) Sarah studies vertebrates, specifically dinosaurs. She studies South American theropods, which includes the T-rex and birds to find out what color extinct dinosaurs might have been.
- 9) Organelle: A structure in a cell that has one or more specific tasks within the cell
<https://www.genome.gov/genetics-glossary/Organelle>
Melanin: A term for molecules responsible for pigmentation of skin and hair
<https://www.ncbi.nlm.nih.gov/books/NBK459156/>
Melanosome: Intracellular organelles that synthesize and store melanin pigments
<https://ncbi.nlm.nih.gov/pmc/articles/PMC2786984/>
- 10) Using microscopy, Sarah is able to study the melanosomes within fossils. By understanding the melanosomes within a fossil and comparing them to current melanosomes, we can know the coloration of these ancient animals.
- 11) The general conclusion is that these dinosaurs did not have very similar colors but rather had a wide variety of colors and patterns. The idea that dinosaurs had very diverse and vivid appearances helps give a better understanding of what the theropods looked like.