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**Integrating AI Machine Learning into the Teaching of Paleontology Using Fossil Shark Teeth in Middle Schools**

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**NSF Award Number**​: 2147625 (University of Florida) Dates: 2022 to 2025

Project type:​ DTI (Development and Testing Innovations)

**Project URL**: <https://www.floridamuseum.ufl.edu/earth-systems/sefs-summer-pd-sail-stimulating-ai-learning-in-k-12-with-fossil-sharks/>

**Project Overview**: We will collaborate with 3 annual teacher cohorts (80 teachers total) from Florida Title I middle schools to develop innovative STEM curriculum. This will be done via week-long summer PDs, scientist-teacher partnerships, periodic virtual sharing and planning meetings, and standards-based curricular instruction during the school year. Our project activities integrating fossil sharks and AI will reach at least ~2K to 4K students each year.

**New Challenges & Next Steps**

* Earlier recruitment of teachers for full Cohort 2 group (2023-2024)
* Different levels of technology and related resources in schools.
* We presented too much new content and likely expected too much from the Cohort 1 teachers; we will have to modify and reconsider for Cohort 2.
* Our concerns about a sustained learning community have been alleviated by the development of a teacher-initiated “safe” IM space to support one another and share ideas. We plan to encourage this in future cohorts as well.

**Equity:** Our ITEST Project--

* Promotes diversity through representation in our project staff and other collaborators (e.g., speakers).
* Is committed to broadening participation by primarily focusing on engaging teachers, and indirectly via their students, from Title I schools throughout Florida.

**Lessons Learned & Insights Gained**

During our first week-long PD in July 2022 teachers gained knowledge about fossil sharks and AI with varying degrees of self-efficacy. Supported by scientist role-models, we expect that project lessons will be implemented in the classroom and evaluated over the next six months. This will thus conclude the first cohort. Cohort 1 developed an innovative way of fostering communication (see below).

Our Cohort 1 teachers are motivated to teach AI concepts. Their teaching self-efficacy and knowledge of integrating AI and science curricula have improved.

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