

HANDS-ON, MINDS-ON INSTRUCTIONAL PRACTICES

Name of Submitter: Jennifer Uno

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Presentation Title: *You Be the Scientist: Engineering Discovery in Zebrafish*

What if your students could solve a real genetic mystery? Using zebrafish, participants investigate how genes build the inner ear — analyzing a real developmental pathway with a key piece missing and working in groups to figure out what belongs there. Students design experiments, make predictions and then observe real zebrafish specimens to test their ideas. This session shows how authentic science translates into any high school classroom: a kit-based format that works from standard high school science to AP, no special equipment required, fully aligned to North Carolina standards and scalable from image-based analysis all the way to live specimen observation.

Presentation Target:

High School

Presenter(s):

1. Jennifer Uno, Professor of Biology, Elon University
2. Samuel Ramirez, PhD Student, Duke University