



Science Buzz Cafe # 561

Monday 6 PM • January 26th, 2026

The HopMonk 'Abbey'

230 Petaluma Ave. Sebastopol, CA

Host, Daniel Osmer (daniel@economicbuzzcafe.com)

6 PM • Come Early for Food & Drink • RSVP \$7 • DOOR \$10

eDNA Technique

Environmental Monitoring for the Klamath
River Dam Removal

Cheryl Dean, Molecular Ecologist

Examining Changes to the Environment
through a Molecular Lense

In 2023-2024, four dams were removed from the Klamath River restoring access to 400 miles of free-flowing river. Before the dams were demolished, a team of Molecular Ecologists sampled the system to establish a baseline of DNA so we could monitor population changes in response to restoration actions. Using the Klamath River restoration as a backdrop, Cheryl will examine the use of molecular ecology as a tool to monitor system-wide habitat change. **Cheryl will give a brief history describing how changes to the tools used by geneticists to visualize DNA have allowed us to "see" all species (bacteria, fungi, plants, animals) living within a stream from a water sample.** Cheryl will explain water sample collection of environmental DNA – eDNA – and how it enables development of a Molecular Library that categorizes all life using genetic code. The presentation will then explain the Klamath dam removal process and how the Molecular Library is being created to track the return of salmon and changes to other species populations in the Klamath River.

Cheryl Dean is a molecular ecologist and population geneticist with 29 years in the laboratory working on all things DNA. She started her career at UC Davis Bodega Marine Lab, where she did the initial work demonstrating that genetics could be used for real-time monitoring of endangered winter-run chinook salmon. Currently the lab manager for Cramer Fish Sciences and Genidags Laboratory, Cheryl has worked on fish, bats, birds, bugs, even smaller "bugs", plants and fungi, and has given up having a favorite species and simply asks, "is it a Eukaryote or Prokaryote"? Even then, it doesn't matter, she will use DNA to find it.

"The Purpose of Capital is to Fund the Development and Application
of the Talents and Skills of Youth of All Ages!"

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