

Workshops

by EDVOTEK®

CAST

Dallas

THURS • FRI • SAT
NOV. 20 - 22, 2014

THURSDAY

Case of the Missing Records

Explore genetic diversity with a cutting edge forensic science experiment! Your students become crime scene investigators as they analyze biological evidence using DNA fingerprinting, a technique that identifies people via genetic differences. Gel electrophoresis is used to create unique DNA fingerprints from crime scene and suspect samples. A match between samples provides evidence that a certain suspect committed the crime.

Receive a 4GB flashdrive and be entered for a T-shirt drawing.

Thursday • 8:30 am - 9:30 am • Emerald Room

Thursday • 10:00 am - 11:00 am • Emerald Room

Wait! Were the Chips I Ate Genetically Modified?

For centuries, man has used selective breeding and conventional hybridization to produce desirable qualities and to increase crop yields. Today, scientists use genetic engineering to directly manipulate the DNA, quickly producing these desirable traits. Due to controversy, some companies have decided to remove GMOs from their foods. In this workshop, snack food DNA is extracted and analyzed using the PCR and Gel Electrophoresis.

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Thursday • 11:30 am - 12:30 pm • Emerald Room

Thursday • 1:30 pm - 2:30 pm • Emerald Room

Detecting the Silent Killer: A Simulation of the Clinical Detection of Diabetes

Over 380 million people worldwide are afflicted by diabetes mellitus, a chronic disease that leads to high blood sugar. Due to genetic predisposition and high-calorie, low-activity lifestyles, that number continues to grow. Without early detection and treatment of diabetes, severe medical complications can occur. In this exploration, you will diagnose diabetes in three patients using simulated urinalysis and ELISA tests.

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Thursday • 3:00 pm - 4:00 pm • Coral Room

Thursday • 4:30 pm - 5:30 pm • Coral Room

FRIDAY

Biotechnology Basics

Feeling overwhelmed by the wide array of topics, protocols and equipment used in biotechnology labs? If so, join us for some hands-on experimentation! In this workshop, you will explore biotechnology techniques commonly used in research labs (DNA isolation, PCR & gel electrophoresis). Once these experiments are incorporated into your curriculum, your students can relate how abstract concepts like generic engineering work in a real-world context.

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Friday • 8:30 am - 9:30 am • Coral Room

SATURDAY

Teaching STEM Using Agarose Gel Electrophoresis

In this hands-on workshop, you will explore four hot topics in biotechnology using Gel Electrophoresis: DNA Fingerprinting, Paternity Testing, Medical Diagnostics, and Genetically Modified Organisms. Brightly colored dyes simulate DNA fragments, eliminating post-electrophoresis staining and saving you valuable classroom time! Results are analyzed using a semi-logarithmic plot, which fosters critical thinking skills and STEM-learning techniques.

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Saturday • 8:30 am - 9:30 am • Emerald Room

